International Agency for Research on Cancer
World Health Organization
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International Incidence of Childhood Cancer Vol. III



Edited by E. Steliarova-Foucher, M. Colombet, L.A.G. Ries, F. Moreno, A. Dolya, H.Y. Shin, P. Hesseling, and C.A. Stiller

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Volume III

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Foreword

The International Agency for Research on Cancer (IARC) has been committed to disseminating information on childhood cancer incidence across populations covered by registries that generate comparable data since the 1970s. This third volume of the International Incidence of Childhood Cancer series (IICC-3) extends the temporal coverage of such data up to the early 2010s. It also expands the age range previously covered (0–14 years) to include adolescents aged 15–19 years and broadens the population coverage to include more regions, particularly in transitioning countries.

Compared with well-resourced countries, where information on childhood cancer distribution has been available for several decades, many countries in Africa, Asia, and Latin America and the Caribbean still lack reliable population-based cancer registries. As a result, estimates of the childhood cancer burden in these regions often rely on extrapolations from data collected elsewhere. However, accurate information on the distribution of cancer cases is essential for effective cancer control planning and policy-making.

Therefore, strengthening cancer registries is a priority action. It reinforces the evaluation and monitoring pillar delineated by the Cure*All* framework of the World Health Organization (WHO) Global Initiative for Childhood Cancer. IICC-3 contributes directly to this effort by providing comparable data on childhood cancer incidence, thus highlighting variations in cancer distribution across populations defined by country, area, ethnicity, age, and sex. This volume presents data from 308 registries operating in 82 countries and territories, spanning approximately two decades from the 1990s to the 2010s.

Childhood cancers are rare and diverse. Thus, compiling individual cancer records from many populations is essential for setting the standards of comparability, improving the value of the information generated, and interpreting variations in incidence in relation to socioeconomic and environmental conditions. The IICC series respects the specificities of cancers occurring at young ages. Hence, each volume redefines the International Classification of Childhood Cancer to reflect advances in tumour pathology and modernization in medical record collection. The information presented here serves as a vital resource both for research and for the development of national and global cancer control policies.

Data protection regulations have precluded the participation of some registries in IICC-3. However, IARC applies the highest standards of data protection, and these safeguards provide a strong foundation for renewed collaboration with these partners in the future, ensuring that valuable data can continue to inform global understanding.

IICC-3 represents IARC's enduring dedication to advancing research on childhood cancers on a global level. IARC is proud to lead and support efforts that contribute to international cancer surveillance. In 2025, IARC marks its 60th anniversary, celebrating six decades of leadership in international cancer surveillance, driving knowledge and action to inform effective cancer control strategies. Through the Targeting Childhood Cancer through the Global Initiative for Cancer Registry Development (ChildGICR) programme, jointly led by IARC and St. Jude Children's Research Hospital, childhood cancer registration is being promoted globally, particularly in regions where data remain scarce. This initiative will undoubtedly lead to increasingly robust and comprehensive data resources, benefiting future generations of children and their families across the globe.

Dr Elisabete Weiderpass
Director,
International Agency for Research on Cancer

Foreword

Cancers diagnosed in children younger than 15 years are estimated to account for just more than 1% of the total cancer incidence around the world each year, and a further 0.4% of cancers are diagnosed in the age group 15–19 years. Cancers in children differ from those that occur in adults, not only in their rarity but also in their biology and system of classification. Whereas adult cancers are generally grouped based on the body site where the cancer occurs, childhood cancers are classified according to the tissue type of origin, because this is often the better predictor of prognosis. Therefore, it is important that childhood cancer has its own platform for global surveillance and reporting. In this publication, the editors and the International Agency for Research on Cancer (IARC) have met that challenge by collating and publishing the latest available data on new cases of childhood cancer classified according to the International Classification of Childhood Cancer, third edition, 2017 update (ICCC-3-2017).

The data reported here comprise a unique and valuable resource that demonstrates the power of international cooperation and information-sharing in the study of these rare diseases. This collaboration has produced an almost complete picture of childhood cancer incidence around the world, showing us the extent of childhood cancer by type of malignancy and cancer registry. Compiling this information on a global scale has the potential to yield new insights for service planning and evaluation of cancer control programmes, as well as providing a clearer understanding of the burden of this disease on health-care systems in every country. Such insights empower advocacy for increased research and allocation of resources for the timely provision of treatment and support.

Another compelling reason to study childhood cancer incidence across countries is to identify patterns and trends that could help uncover potential risk factors. Little is known about the causes of most childhood cancers. By comparing data between different regions, researchers have the opportunity to study variations in cancer rates and pinpoint commonalities or disparities. This may help to reveal factors that contribute to the development of childhood cancers and guide efforts to mitigate risks.

The information presented in this publication has been made possible by the dedicated efforts of cancer registry staff in every part of the world. I acknowledge and thank the contributing members of the International Association of Cancer Registries (IACR) for their support of this project. The role of population-based cancer registration is central to the provision of accurate and unbiased data on all children diagnosed with cancer. The growing presence of population-based cancer registries in low- and middle-income countries has shone new light on the distribution and burden of childhood cancers in these areas. Sharing of data to support this joint project has also come with the advantage of improving the quality and consistency of the information collected across all cancer registries through a centralized process of feedback and knowledge transfer.

Childhood cancer has a far-reaching impact on the lives of affected children, their families, and communities. Ultimately, we all hope that childhood cancer will be better understood and that increased awareness of this rare disease will improve early diagnosis and outcomes for patients and families. This latest volume of the International Incidence of Childhood Cancer series is another step towards that goal and demonstrates the need for continued sharing of childhood cancer data from registries across the globe.

Joanne F. Aitken
Past President,
International Association of Cancer Registries

Foreword

Remarkable treatment advances over the past decades have resulted in survival of more than 80% of children diagnosed with cancer in high-income settings. However, in low- and middle-income countries, childhood cancer is often detected too late for treatment to be effective, and life-saving medicines and technologies are neither available nor affordable. For these children, survival can be out of reach.

Fortunately, this bleak picture is changing. The World Health Organization (WHO) Global Initiative for Childhood Cancer has had as its goals to save the lives of 1 million children with cancer before 2030, to give all children with cancer the possibility to live full and abundant lives and to live and die without suffering.

We at the Union for International Cancer Control (UICC) have been encouraged by the response from governments, international organizations, civil society, and the private sector to join WHO in meeting these goals to support children and their families and caregivers around the world. These efforts include bringing childhood cancer services within national universal health coverage packages, pushing through legislation for employers to put in place paid leave for parents to care for children diagnosed with cancer, supporting the supply of high-quality medicines and devices, and other key policy, service delivery, and community-based actions.

The collection and analysis of cancer incidence data is the foundation upon which to build effective strategies to deliver the treatment and care that can save lives. These data need to be population-based, so that the observed patterns can be generalized to an entire country or world region. The data need to be comparable, so that observed differences can be ascribed to differences in occurrence rather than differences in data collection mechanisms or coding. And the data need to describe patterns of incidence among populations, to discover inequities and the distribution of childhood cancers both within and across national borders. All of these requirements are met within this volume. Therefore, the information gathered within this publication can be considered as the single most authoritative and reliable source of data on childhood cancer incidence worldwide.

This volume reveals that there are still many gaps, especially in low- and middle-income countries, where either data on childhood cancer are not collected or comparable methods of collection, coding, and quality control are not used. Action is required to fill these gaps and to support the development of population-based cancer registries globally. More complete data strengthen our knowledge and offer insights that can shape policies and interventions and help governments develop, fund, and implement national cancer control plans that meet the needs of their people. Data allow governments to monitor the impacts of their decisions and evaluate them. Data deserve our attention, because every child's life is precious and every family's journey with cancer knows no borders.

UICC is proud to have supported this publication. It is an invaluable resource that has already played a pivotal role in shaping our understanding of the global burden of childhood cancer. With this wealth of data in our hands, we, as a global community, are better equipped to improve the survival and quality of life for children with cancer. Through our collective efforts, we can achieve a brighter future for generations to come regardless of where they live.

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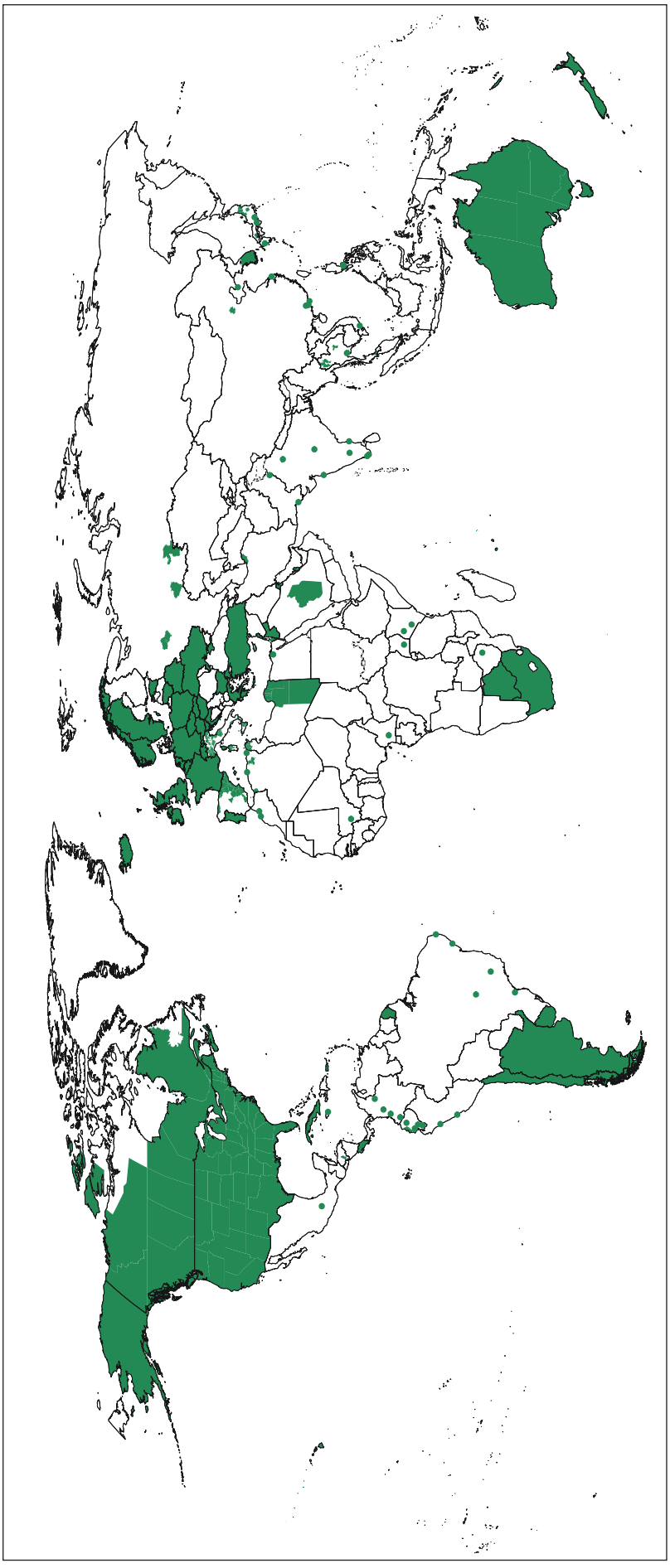
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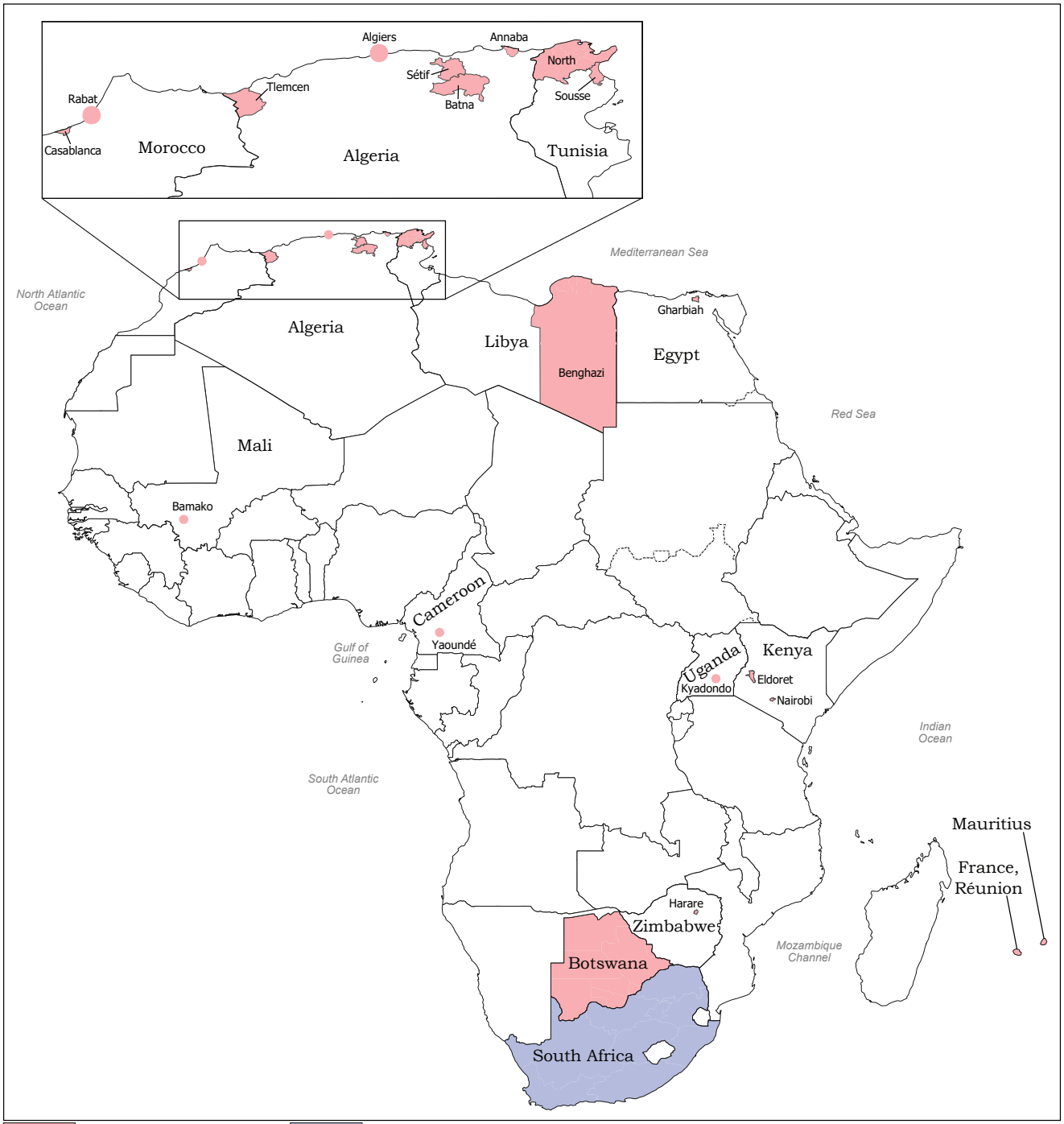
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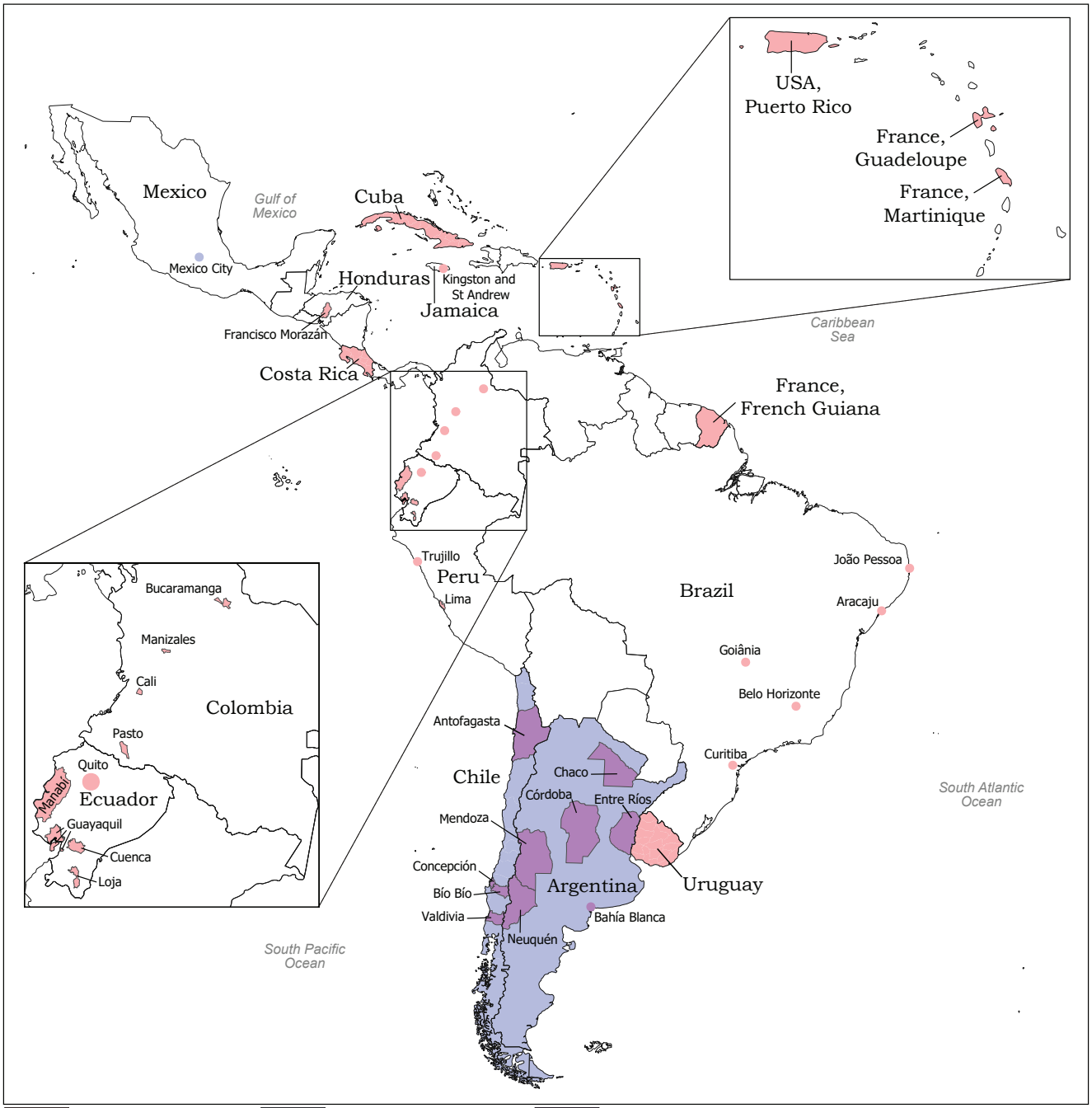
Areas covered by cancer registries contributing to IICC-3



Africa


Algiers
Annaba
North
Sétif
Batna
Sousse
Rabat
Tlemcen
Casablanca
Morocco
Algeria
Tunisia
Mediterranean Sea
North Atlantic Ocean
Algeria
Libya
Benghazi
Gharbiah
Egypt
Red Sea
Mali
Bamako
Cameroon
Yaoundé
Gulf of Guinea
Uganda
Kyadondo
Kenya
Eldoret
Nairobi
Indian Ocean
South Atlantic Ocean
Mauritius
France, Réunion
Harare
Zimbabwe
Mozambique Channel
Botswana
South Africa
General registry
Paediatric registry

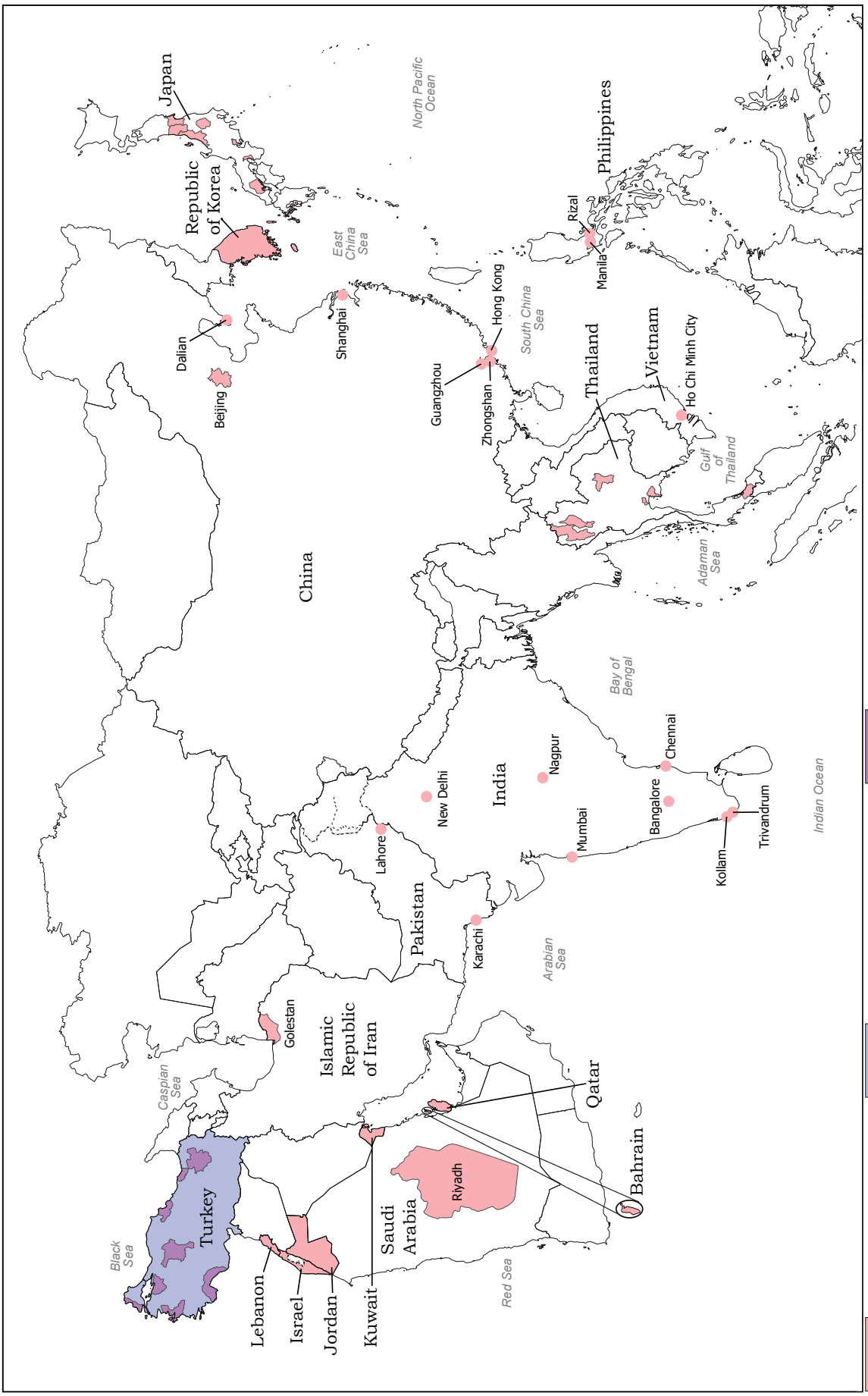
Latin America and the Caribbean



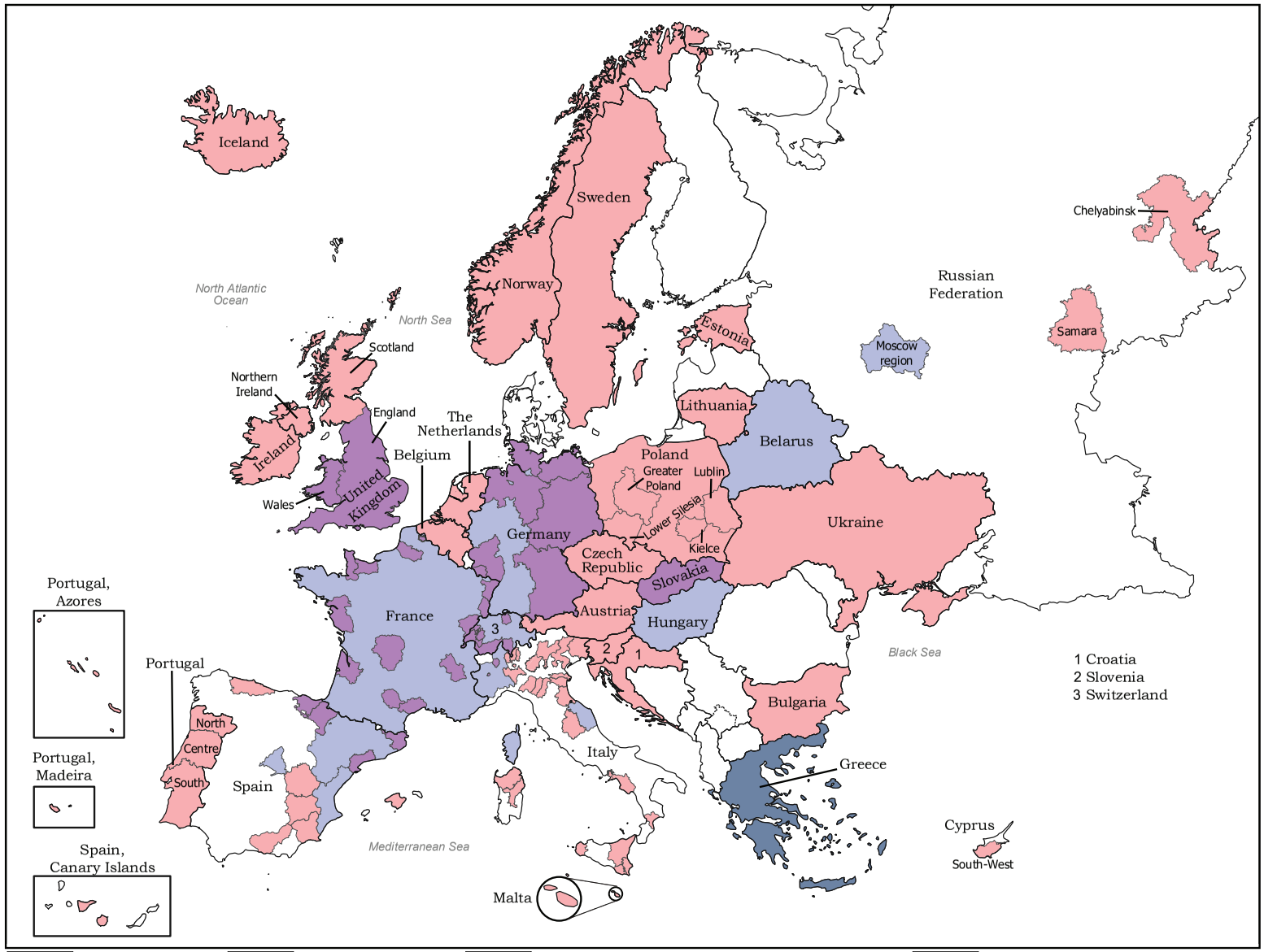
North America



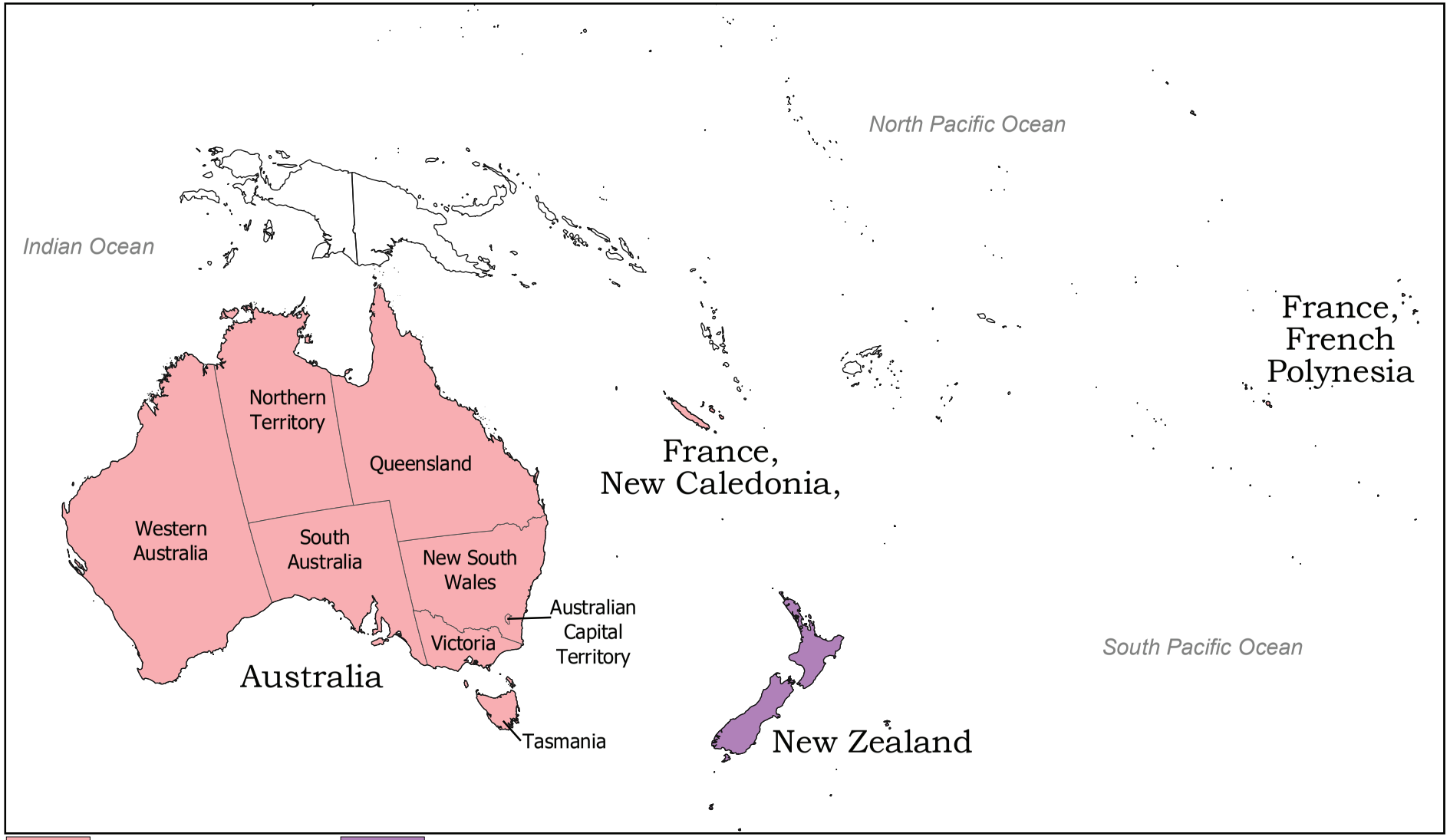
Asia


Japan
Republic of Korea
Philippines
North Pacific Ocean
East China Sea
South China Sea
Rizal
Manila
Dalian
Beijing
Shanghai
Guangzhou
Hong Kong
Zhongshan
Thailand
Vietnam
Ho Chi Minh City
Gulf of Thailand
Adaman Sea
China
Bay of Bengal
Nagpur
Chennai
New Delhi
India
Bangalore
Mumbai
Lahore
Kollam
Trivandrum
Indian Ocean
Pakistan
Karachi
Arabian Sea
Golestan
Islamic Republic of Iran
Caspian Sea
Qatar
Bahrain
Riyadh
Saudi Arabia
Black Sea
Turkey
Lebanon
Israel
Jordan
Kuwait
Red Sea
General registry
Paediatric registry
General and paediatric registry (overlapping)

Europe


Iceland
Sweden
Norway
Chelyabinsk
Russian Federation
North Atlantic Ocean
North Sea
Estonia
Samara
Moscow region
Scotland
Northern Ireland
England
Ireland
Wales
United Kingdom
The Netherlands
Belgium
Lithuania
Belarus
Poland
Greater Poland
Lublin
Lower Silesia
Kielce
Ukraine
Germany
Czech Republic
Slovakia
Austria
Hungary
France
Black Sea
Portugal, Azores
Portugal
North
Centre
South
Portugal, Madeira
Spain
Spain, Canary Islands
Mediterranean Sea
Italy
Bulgaria
Greece
Cyprus
South-West
Malta
1 Croatia
2 Slovenia
3 Switzerland
General registry
Paediatric registry
General and paediatric registry (overlap.)
Specialized paediatric registry

Oceania


North Pacific Ocean
Indian Ocean
France,
French
Polynesia
Northern
Territory
Queensland
France,
New Caledonia,
Western
Australia
South
Australia
New South
Wales
Australian
Capital
Territory
Victoria
South Pacific Ocean
Australia
Tasmania
New Zealand
General registry
General and paediatric registry (overlapping)

Abbreviations

ACCIS	Automated Childhood Cancer Information System
ACT	Australian Capital Territory
AIDS	acquired immunodeficiency syndrome
AIEOP	Italian Association of Pediatric Hematology and Oncology
AIIMS	All India Institutes of Medical Sciences
AIRTUM	Italian Association of Cancer Registries
AJCC	American Joint Committee on Cancer
ALL	acute lymphoblastic leukaemia
APCR	Australian Paediatric Cancer Registry
API	Asian or Pacific Islander
ASR	age-standardized incidence rate
BC	British Columbia
CanReg	IARC software for cancer registration and management
CCRP	Childhood Cancer Registry of Piedmont
CDC	United States Centers for Disease Control and Prevention
CHILD-CHECK	IARC software for checking and classifying childhood cancer data
CI5	Cancer Incidence in Five Continents
CNS	central nervous system
CT	computed tomography
DCN	death certificate notification
DCO	death certificate only
DCO%	percentage of cases registered on the basis of death certificate only
DEPedits	IARC software for data quality control
ECLIS	European Childhood Leukaemia–Lymphoma Incidence Study
ENCR	European Network of Cancer Registries
EPIC	European Prospective Investigation into Cancer and Nutrition
EUROCARE	European Cancer Registry Based Study on Survival and Care of Cancer Patients
EUROCHIP	European Cancer Health Indicator Project
EUROCIM	European Cancer Incidence and Mortality
FRANCIM	French Network of Cancer Registries
GCCR	German Childhood Cancer Registry
GDP	gross domestic product
HDI	Human Development Index
HIV	human immunodeficiency virus
HPV	human papillomavirus
IACR	International Association of Cancer Registries
IARC	International Agency for Research on Cancer
IARC-CHECK	IARC software for checking internal consistency of variables in a cancer cases file
IARCcrgTools	IARC software for checking a cancer cases file (new edition)
ICCC	International Classification of Childhood Cancer
ICCC-2	International Classification of Childhood Cancer, second edition
ICCC-3	International Classification of Childhood Cancer, third edition
ICCC-3-2017	International Classification of Childhood Cancer, third edition, 2017 update
ICD	International Classification of Diseases

ICD-7	International Statistical Classification of Diseases, Injuries and Causes of Death, seventh revision
ICD-8	International Statistical Classification of Diseases, Injuries and Causes of Death, eighth revision
ICD-9	International Statistical Classification of Diseases, Injuries and Causes of Death, ninth revision
ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10th revision
ICD-11	International Classification of Diseases, 11th revision
ICD-O	International Classification of Diseases for Oncology
ICD-O-1	International Classification of Diseases for Oncology, first edition
ICD-O-2	International Classification of Diseases for Oncology, second edition
ICD-O-3	International Classification of Diseases for Oncology, third edition
ICD-O-3.1	International Classification of Diseases for Oncology, third edition, first revision
ICD-O-4	International Classification of Diseases for Oncology, fourth edition
ICMR	Indian Council of Medical Research
IICC	International Incidence of Childhood Cancer
IICC-1	International Incidence of Childhood Cancer, Volume I
IICC-2	International Incidence of Childhood Cancer, Volume II
IICC-3	International Incidence of Childhood Cancer, Volume III
INCA	Brazilian National Cancer Institute
INCa	French National Cancer Institute
INE	National Statistics Institute of Spain
INSEE	French National Institute of Statistics and Economic Studies
InVS	French National Institute for Public Health Surveillance
IRB	institutional review board
ISTAT	Italian National Institute of Statistics
KCCR	Korea Central Cancer Registry
LMICs	low- and middle-income countries
M/F	male-to-female sex ratio
MECC	Middle East Cancer Consortium
MOTNAC	Manual of Tumour Nomenclature and Coding
MRI	magnetic resonance imaging
MV	microscopically verified
MV%	percentage of microscopically verified cases
NAACCR	North American Association of Central Cancer Registries
NCI	United States National Cancer Institute
NCRP	National Cancer Registry Programme (India)
NH	Non-Hispanic
NHIC	National Health Insurance Corporation (Republic of Korea)
NHS	National Health Service (United Kingdom)
NICER	National Institute for Cancer Epidemiology and Registration (Switzerland)
NOS	not otherwise specified / unspecified morphology
NPCR	National Program of Cancer Registries (USA)
NRCT	National Registry of Childhood Tumours (United Kingdom)
NSW	New South Wales
NZCR	New Zealand Cancer Registry
PanCareSurFup	PanCare Childhood and Adolescent Cancer Survivor Care and Follow-Up Studies

PET	positron emission tomography
RARECARE	Surveillance of Rare Cancers in Europe
RENCI	National Registry of Childhood Cancer (Chile)
RETI-SEHOP	Spanish Registry of Childhood Tumours
ROHA	Argentinian Paediatric Oncology Registry
SAR	Special Administrative Region
SEER	Surveillance, Epidemiology, and End Results
SEREMI	Local Health Authority (Chile)
SNOMED	Systematized Nomenclature of Medicine
SPF	Public Health France
SQL	Structured Query Language
TNM	tumour–node–metastasis (staging system)
UICC	Union for International Cancer Control
WHO	World Health Organization

Preface

Data on childhood cancer incidence in clinical practice

Historically, physicians relied on anecdotal cases on which to base developments in care and management, but this clearly did not contribute to an understanding of disease occurrence in the population, and priority needed to be given to any specific illness. For any clinical illness, what is needed is a precise diagnosis, based on good evidence, followed by reliable documentation of incidence and mortality. Nowhere has that been shown to be more relevant and crucial than in cancer medicine, for adults and especially in children, given the relative rarity of childhood cancer. An excellent study, coordinated by the Section of Cancer Surveillance at the International Agency for Research on Cancer (IARC) and using data from high-quality, high-ascertainment population-based cancer registries, showed that cancer incidence rates in children aged 0–14 years, age-adjusted using the world standard population, increased significantly between the 1980s and the 2000s, from 124.0 per million person-years in the 1980s to 140.6 per million person-years in 2001–2010 [1]. This increase is part of a trend for all cancer types worldwide, which all those involved in cancer care, health planners, governments, and both the United Nations and the World Health Organization (WHO) should take keen notice of. The study also described considerable variation in incidence between and within world regions and by tumour type, sex, and race and ethnicity [1].

Information on cancer incidence is important for individual patients and their families, the population of each country, physicians and nurses who care for children with cancer, hospital administrators, health-care planners, and governments. Researchers in epidemiology and etiology are keen to explore all of these trends and geographical differences.

How can anyone determine the appropriate priority to give to any disease, especially a life-threatening cancer, let alone ensure that the resources, facilities, equipment, medicines, and staff needed to manage and treat that disease are available, without knowing how common it is in each region or country?

As a result of considerable efforts and financial investment, there has been a large reduction (> 50% in the past 20 years) in childhood deaths worldwide, especially from infectious diseases. In higher-income countries from the 1950s onwards, the incidence of childhood cancer, especially of acute lymphoblastic leukaemia (ALL), has increased, and the peak age of occurrence in high-income countries has gradually shifted from 4–6 years to 2–3 years. As the economic and health conditions in low- and middle-income countries (LMICs) improve, the pattern of childhood cancer is changing as well. In sub-Saharan Africa, the predominant childhood tumour has historically been Burkitt lymphoma, with its well-documented association with malaria, Epstein–Barr virus infection, and other environmental co-factors. However, in those countries where there has been a considerable reduction in childhood infectious diseases, especially with improved malarial control, and where there has been national economic progress, the proportion and the overall incidence of Burkitt lymphoma have decreased and, simultaneously, the relative frequency of ALL has increased in some countries. Burkitt lymphoma is a very curable tumour using relatively cheap and short-course therapy, but ALL treatment is by necessity longer and consequently rather more expensive. These observations emphasize the need for careful recording of childhood cancer incidence at a total population level. Another observed phenomenon in countries with a high prevalence of HIV/AIDS, especially in areas where Kaposi sarcoma is endemic, has been the reduction in the incidence of sarcomas and other immune-associated malignancies after the introduction of anti-retroviral therapy.

As the data in this book show, there are undoubtedly far too few high-ascertainment cancer registries worldwide, especially in LMICs. Nevertheless, IARC has been able to include in this study almost 775 000 incident cases of cancer in those aged 0–19 years occurring in more than 5.34 billion person-years.

Worldwide, cancers in childhood and adolescence (ages 0–19 years) account for less than 2% of all cancers, with an estimated 215 000 new cases per year in the age group 0–14 years and 85 000 new cases per year in the age group 15–19 years [2]. Such figures must remain estimates because of the paucity of reliable, consistent population-based cancer registries in LMICs. These cancers are predominantly distinct malignancies of childhood, are mostly embryonic tumours, and, unlike most adult cancers, are very sensitive to specific chemotherapy protocols developed over the past 50–60 years in high-income countries. At least 50% can be cured with the use of generic, off-patent essential medicines, all of which are on the 2015 WHO essential medicines list.

There is a pressing need to increase the coverage of truly population-based, reliable cancer registries to assess the most accurate incidence of tumours, so that a valid estimate can be made of the resources needed to fund such care, no matter who is paying for treatment. Ultimately, with universal health coverage, payment will be by each country from national budgets. In most LMICs, families still bear the full financial burden of cancer treatment, although many lower-income countries are now being assisted by international twinning partners from higher-income countries. Some of these partnerships provide subsidies for essential medicines and support cancer registration. Many of the tumours that are easiest to treat and/or prevent are those – such as Burkitt lymphoma, Kaposi sarcoma, and hepatic carcinomas – that are linked to communicable diseases, especially malaria, HIV/AIDS, and hepatitis B. Worldwide awareness of early signs and symptoms of tumours, for example retinoblastoma, would and should lead to higher survival rates. Awareness of cancer signs and symptoms among the public and medical and nursing personnel, combined with good epidemiological data from accurate registries, can and do lead to better medical practice. There is a great need to increase the collection of accurate cancer survival, incidence, and mortality data.

This book has helped to identify variations in relative and absolute incidence of specific tumours, which may assist in understanding causation, as has been demonstrated by the pattern of tumours related to communicable diseases. However, there are other variations for which there are understandable but still unacceptable reasons. Most obvious is the huge sex bias in too many countries, where boys are treated but girls are not, especially where families are living on very low incomes and carry the financial burden and disruption of family income to cover costs of treatment. This is a result of poverty not just at the family level but also at the national level in the absence of universal health coverage. There is an overwhelming need for a major worldwide programme to ensure that all children with cancer have access to reliable and, above all, affordable essential medicines. The information unearthed by this study provides good evidence of the needs of children with cancer and their families and points towards ways to try to solve the variations in care.

The editors of this book have been meticulous in ensuring data comparability throughout this study, because not to do so could lead to false conclusions about both absolute and relative frequencies. However, there is a pressing need also to increase the number of such reliable registries, especially in LMICs. All clinicians who are in contact with a child with cancer should document precisely the patient's personal demographics, evidence supporting the diagnosis, and, of course, the outcome for the child. This can be done at a hospital level and linked with other hospitals until a network is created across a country and then evolves into a reliable national registry. IARC can and does assist in providing advice on the details required for true population-based registration of incidence and outcomes, including mortality, in a standardized way. This is the pathway that higher-income countries followed from the pioneering days of the 1960s and 1970s, and thereafter reliable national or regional population-based cancer registries were increasingly created.

This volume presents the most complete incidence data produced from 515 subpopulations in 82 countries and territories and is essential reading for epidemiologists, etiologists, health-care providers, and all who truly care for children with cancer no matter where they live.

Tim Eden

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2. IARC (2016). International Childhood Cancer Day: Much remains to be done to fight childhood cancer. IARC Press Release No. 241, 15 February 2016. Available from: https://www.iarc.who.int/en/media-centre/pr/2016/pdfs/pr241_E.pdf.

Chapter 1. Introduction

Eva Steliarova-Foucher, Lynn A. G. Ries, Florencia Moreno, Hee Young Shin, Peter Hesseling, and Charles A. Stiller

RATIONALE FOR THIS PUBLICATION

Cancer is predominantly a disease of older people. The risk of developing cancer is about 1 in 500 by age 15 years and about 1 in 5 by age 75 years. Although cancer is rarer in children than in adults, it is the leading cause of disease-specific deaths for children in many countries. The types of cancer that occur in childhood are quite different from those that are typical in adulthood. The major cancer types, when reported for all ages combined, are carcinomas of the breast, prostate, lung, colorectum, cervix uteri, and stomach [1], whereas in children the most commonly affected sites are the haematopoietic system, the central nervous system (CNS), and embryonal tissues [2].

The young age and the differences in the frequency of occurrence and in the spectrum of tumours suggest distinctive etiological paths for these tumours. About one third of the total cancer burden is thought to arise as a result of exposure to external factors, such as smoking, viruses, or diet, most of them modifiable. The proportion of cancers that are due to known causes in children probably does not exceed 5–10%, and the causes include heredity, ionizing radiation, and viral infections [3, 4, 5]. Other exposures have also been studied, such as parental factors, non-ionizing radiation, environmental pollution, and diet, but the evidence is not conclusive.

Large population-based studies have shown a steady annual increase of 0.6% in the incidence of childhood cancer over the past 20–30 years [2, 6, 7]. Although some of this increase may be ascribed to improved detection and registration of tumours [8], the persistence of these trends over the decades compels scientists to search for other contributing causes.

International Incidence of Childhood Cancer, Volume III (IICC-3) provides the most complete, standardized data on childhood cancer incidence around the world. This publication was specifically designed to appropriately address the particular features of childhood cancers, such as low frequency of occurrence, distinctive cancer types, variation between populations, patterns by age and sex, and diversity of data sources.

HIGHLIGHTS OF THIS VOLUME

Numbers of cases and incidence rates are presented by diagnostic categories of the updated International Classification of Childhood Cancer (ICCC), as described in Chapter 3. This classification defines the types of tumours included in the statistics and comprises all malignancies, as well as non-malignant tumours of the CNS.

The childhood age range considered includes adolescents (the age group 15–19 years), in accordance with previous large-scale studies [6, 9, 10], to enable the presentation in detail of incidence rates that are inadequately represented in statistics produced for all ages. The choice of the age range 0–19 years for IICC-3 enabled description of the tumour types that are common before age 15 years but whose incidence further increases or peaks in the age group 15–19 years, such as bone tumours, germ cell tumours, and thyroid carcinomas. ICCC is arguably well adapted to classify tumours occurring in adolescence [11], especially compared with the International Classification of Diseases (ICD) coding system [12], which is used for the presentation of cancer data in publications that are not focused on the childhood age range, such as the *Cancer Incidence in Five Continents* series (https://ci5.iarc.who.int/). The trend of including the age group 15–19 years with childhood cancer data has been to a large extent motivated by the discovery of less-favourable treatment outcomes in adolescents compared with children and the ensuing need for a specific focus on this neglected population. In response to these findings, several paediatric cancer registries have extended the covered population up to age 19 years, as evidenced in the current volume. However, the IICC-3 age range remains 0–14 years for those paediatric cancer registries that did not collect data on patients aged 15 years or older. For the sake of comparisons, data are provided as much as possible for the age groups 0–14, 15–19, and 0–19 years. To address variability of tumour types and incidence rates over the childhood age range, the incidence statistics for the registries are also presented for infants (age < 1 year) and the age groups 1–4, 5–9, and 10–14 years.

A set of customized criteria was developed to evaluate the quality and comparability of each submitted dataset. The datasets selected for publication in IICC-3 complied with the requirements of the peer-review process established by the editors of this volume, as described in Chapter 2. More than 300 registries operating in 82 countries and territories on five continents provided data deemed to be of high enough quality, and 65 registries were also able to supply cancer and population data for two or more ethnic groups. In total, information on 774 549 unique cancer cases from non-overlapping areas and time periods is available in IICC-3 (Table A.5), including 556 628 cases in the age range 0–14 years and 217 921 cases in the age range 15–19 years. Of these cases, about 40% were registered in Europe, 32% in North America, 17% in Asia, 7% in Latin America and the Caribbean, and less than 5% each in Africa and Oceania (Table 1.1).

Table 1.1. Scope of IICC-3: total absolute numbers (N) and percentage contribution (%) of cancer cases from non-overlapping areas and periods, non-overlapping population covered by contributing cancer registries in 2010, estimates of 2010 world population by age and continent [17], and estimated IICC-3 coverage in 2010

	Cases total period						Population in 2010					
Age (years)	0–19		0–14		15–19		0–14			15–19		
Continent	(N)	(%)	(N)	(%)	(N)	(%)	IICC-3 (N)	Continent (N)	Coverage (%)	IICC-3 (N)	Continent (N)	Coverage (%)
Africa	28 820	3.7	23 178	4.2	5 642	2.6	23 164 247	434 762 176	5.3	2 881 990	110 058 813	2.6
America, Latin and the Caribbean	54 380	7.0	43 917	7.9	10 463	4.8	25 961 422	165 059 645	15.7	5 100 519	55 333 040	9.2
America, North	250 549	32.3	168 954	30.4	81 595	37.4	65 996 816	67 910 619	97.2	23 933 182	24 388 039	98.1
Asia	129 129	16.7	91 560	16.4	37 569	17.2	67 771 204	1 073 983 845	6.3	19 642 721	369 273 598	5.3
Europe	286 686	37.0	212 764	38.2	73 922	33.9	75 627 558	113 899 254	66.4	19 897 016	43 155 104	46.1
Oceania	24 985	3.2	16 255	2.9	8 730	4.0	5 237 261	8 808 596	59.5	1 823 095	2 817 777	64.7
Total	**774 549**	**100.0**	**556 628**	**100.0**	**217 921**	**100.0**	**263 758 508**	**1 864 424 135**	**14.1**	**73 278 523**	**605 026 371**	**12.1**

The estimated coverage of the world population by the registries selected for inclusion in IICC-3 was 14% for children aged 0–14 years and 12% for adolescents aged 15–19 years in 2010, the year with the largest number of person-years, but the proportion covered varied extensively between the continents (Table 1.1; Fig. 1.1) and over time (Fig. 1.2). Registries in Africa contributed the largest annual number of person-years in 2006, those in Europe in 2004, those in the Americas and Asia in 2010, and those in Oceania in 2011.

IICC-3 includes the most up-to-date data that each registry could provide in the framework of data collection for this study, starting by default with 1990. Although the period of contribution varied by registry, the largest number of registries contributed data for 2010 (Fig. 1.2). The starting year of contribution was most often 1998 (56 registries), and the final year of contribution was most often 2012 (184 registries). The average length of the registration period included in IICC-3 was 15.8 years, and 108 registries provided data for 20 or more years. The long study period enabled the accumulation of a sufficient number of cases to provide relatively stable incidence rates even for small registration areas.

The variety and quantity of data available enabled the production of 518 tables showing incidence statistics for 515 different datasets and 116 comparative tables in which incidence statistics from the contributors are compared for each selected diagnostic category. Given the space limitations of a book to be printed, a great deal of material is available online only at https://iicc.iarc.who.int/. The contents of both the book and the online resources are described in Chapter 5.

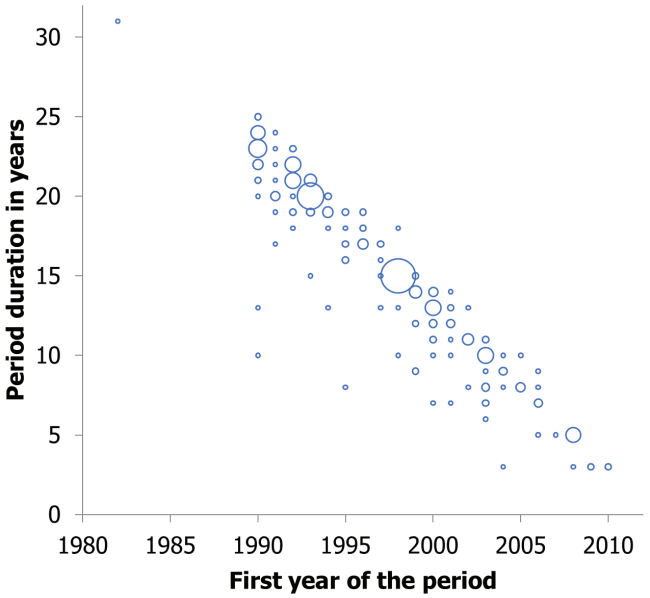


Fig. 1.2. Variation in the length and timing of the periods contributed by the registries to IICC-3. The areas of the bubbles represent the number of registries (ranging between 1 and 52) for each combination of the first year and the duration of the contributory period.

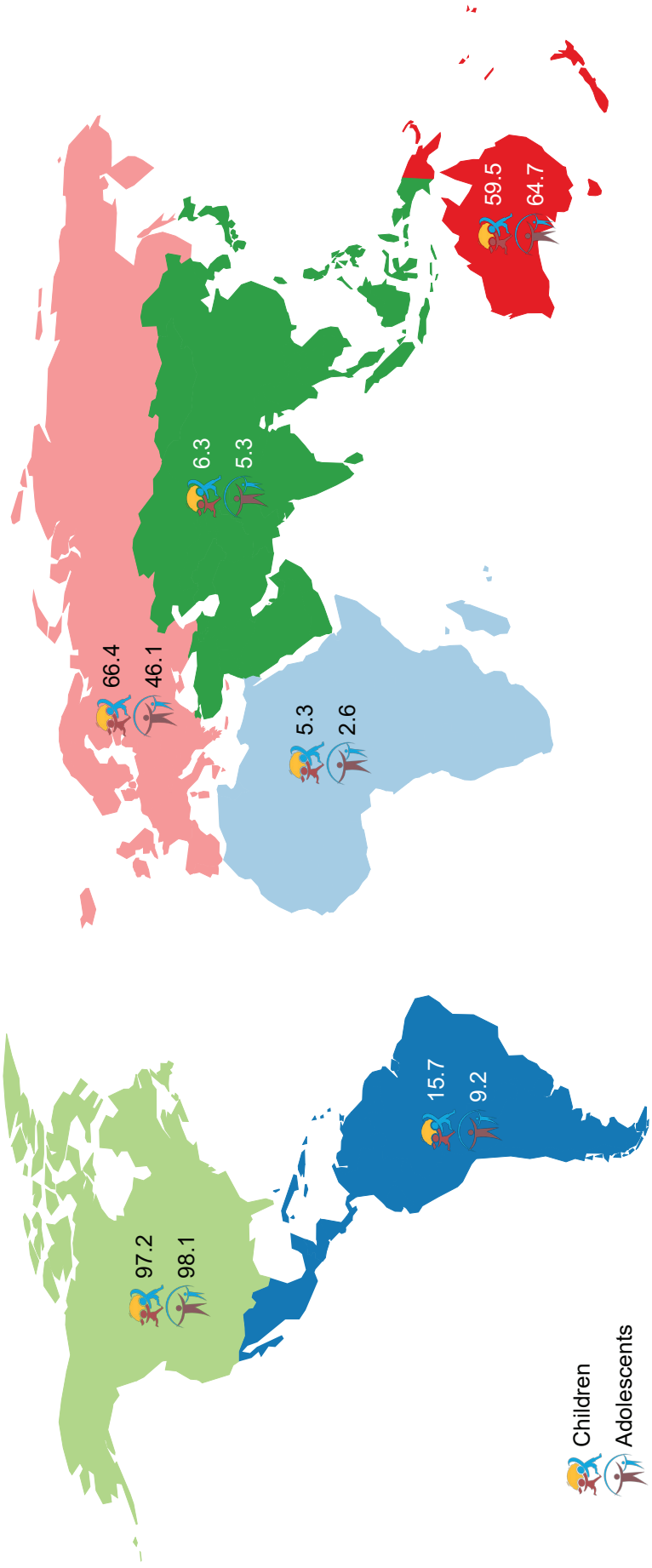


Fig. 1.1. Percentage of the population of children (age 0–14 years) and adolescents (age 15–19 years) covered by the registries contributing to IICC-3 in 2010, by continent.

THE IICC SERIES

IICC-3 is the third volume in a series, in which the first volume (IICC-1) targeted the decade of the 1970s [13] and the second volume (IICC-2) covered roughly the 1980s [14]. In all three volumes, the methodology of data collection, validation, analysis, and evaluation was supported by international standards recommended by the International Association of Cancer Registries (IACR). Although IICC-3 was conceived with the same principles as the two previous volumes, this publication is enriched by several novel attributes, one of which is the inclusion of adolescents, as mentioned above.

Only population-based cancer registries were invited and accepted to contribute to IICC3. This decision reflects the growing registration coverage, including in low-income countries, and the aim to describe the occurrence of childhood cancers for use in prevention and public health research. Because of much sparser registration coverage, the earlier volumes included case series from hospital or histopathology databases without a link to any underlying population; 18 such datasets were published in IICC-1 and 8 in IICC-2 (Table A.1).

The third edition of ICCC (ICCC-3) [11], which is based on the coding system of the third edition of the International Classification of Diseases for Oncology (ICD-O-3) [15], was modified for the purposes of this publication, taking into account ICD-O-3.1 [16] and several successive new editions of the WHO Classification of Tumours series (https://whobluebooks.iarc.who.int/), as described in Chapter 3. Despite an effort to maintain comparability with the classification of childhood cancer used in the previous volumes of IICC, some differences in the reported rates between the volumes and registries could reflect, to some extent, changes in classification.

The IICC series is produced by the International Agency for Research on Cancer (IARC) in collaboration with IACR. All contributors to IICC-3 were encouraged to join IACR to ensure the continued international coherence of the data collected in their cancer registry.

Table 1.2. Number of countries and territories, registries, and datasets included in each of the three volumes of IICC, by continent and overall

Continent	Countries and territories			Registries			Datasets		
	IICC-1	IICC-2	IICC-3	IICC-1	IICC-2	IICC-3	IICC-1	IICC-2	IICC-3
Africa	9	9	14	10	9	21	13	11	29
America, Latin and the Caribbean	6	8	16	8	9	38	8	9	42
America, North	2	2	2	21	26	70	11	31	241
Asia	13	13	17	20	27	58	22	33	69
Europe	15	21	29	25	55	109	24	55	113
Oceania	4	3	4	5	11	12	7	10	21
Total	**49**	**56**	**82**	**89**	**137**	**308**	**85**	**149**	**515**

As shown in Table 1.2, the number of countries and territories represented in IICC-3 has increased by almost 50% since IICC-2. The number of registries has grown 3.5-fold compared with IICC-1 and has doubled since IICC-2. The number of tables presenting different datasets has increased across the volumes, from 85 in IICC-1 to 515 in IICC-3 (Table 1.2). A dataset refers to a single cancer registry, to one of the ethnic groups defined within the registry, or to a pool of several registries operating in one country. Although the number of datasets expanded most in North America – specifically, the ethnically diverse datasets that constituted the National Program of Cancer Registries (NPCR) and the Surveillance, Epidemiology, and End Results (SEER) Program in the USA – the number of datasets presented also increased considerably in the other continents, compared with the previous volumes (Fig. 1.3).

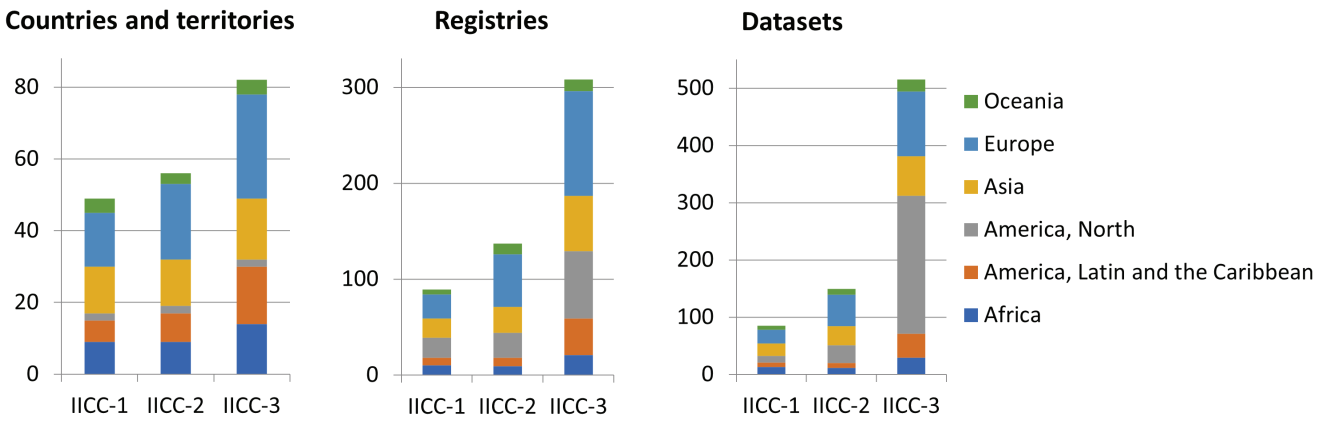


Fig. 1.3. Number of countries and territories, registries, and datasets included in each of the three volumes of IICC, by continent.

Among this large number of contributing entities, relatively few were present in all three volumes (Fig. 1.4; Table A.1). The contributors that are no longer present include the hospital or pathology case series reported in the first two volumes, primarily from Africa, Asia, and Oceania; also, some population-based cancer registries have ceased to exist. In several registries, the data were available but could not be shared because of the introduction of national laws on data protection that could not be complied with in the framework of an international study of this global scope. It is hoped that continued international collaboration will stimulate the development of mechanisms that would enable the sharing of these data in the future.

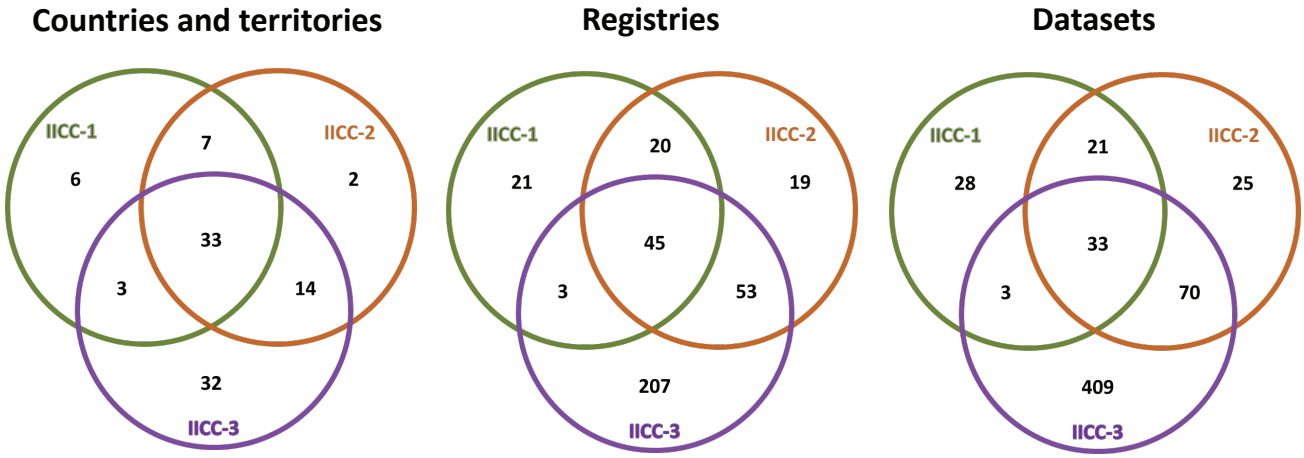


Fig. 1.4. Numbers of contributions to the three volumes of IICC.

With the publication of this third volume of IICC, an expectation may emerge to evaluate time trends using the IICC data from the three volumes. However, such assessment would be possible only after careful reprocessing of the databases from the three volumes, for several reasons. First, the tumours were classified according to a slightly different classification in each of the three volumes, which affects the comparability of the resulting rates. Second, some registries will have continued to modify the data they hold after records for the relevant years were submitted for the respective volumes of IICC, and the extent of the introduced changes is likely to differ between the calendar years and registries. Furthermore, improved registration processes and greater centralization of care for children with cancer have probably resulted in more complete case ascertainment and thereby an apparent increase in incidence rates. Readers should also be aware of possible changes in the proportions of unspecified diagnoses across volumes. Finally, the length of the periods covered by individual registries in the three volumes may be very different or, exceptionally, overlapping. For all these reasons, great caution should be exercised in making all but the most informal comparisons of the published incidence rates across the three volumes.

In the following chapters, the methods of data collection, processing, analysis, and presentation are described and the strengths and limitation of the released data are highlighted, to enable informed readers to make the best use of the results of this wide international collaboration, to the advantage of current and future generations of children.

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Chapter 2. Editorial process

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CALL FOR DATA

The IICC-3 study was coordinated by IARC. Potential contributors were identified in the IACR membership list, through relevant publications, and through personal communication. They were invited in a personalized letter to contribute to the study. The content of the call for data was also released on a dedicated website (https://iicc.iarc.who.int/).

The target period for IICC-3 included all calendar years starting with 1990, until the last complete year available in a registry by 2013 or 2014. If a registry had participated in previous volumes of IICC, the first required calendar year was to immediately follow the last year contributed to a previous volume whenever possible. The target age range was 0–19 years, but it was 0–14 years for the paediatric cancer registries covering a population younger than 15 years. All primary malignancies, together with non-malignant primary tumours of the CNS, were eligible for inclusion.

Prospective contributors were asked to supply three sets of documents: (1) cancer case records, (2) population data, and (3) a registry profile.

Cancer case records

The file of cancer data consisted of one record for each cancer, containing coded information on the 12 variables described below. Most of these variables were mandatory, and their absence resulted in the exclusion of a given record from the dataset.

Patient identification number

Any format of identification number was accepted. The only requirement for the identification number was the possibility of a linkage of the submitted and registered information on each case by the registry, to enable verification if a query was generated at IARC. This was a mandatory variable.

Tumour sequence number

For this mandatory variable, the recommended coding was as follows:

0 A single tumour in an individual
1 First tumour of two or more in an individual
2 Second tumour in an individual
3 Third tumour in an individual
etc.

Using the combination of the patient identification number and the tumour sequence number, all neoplasms diagnosed in a single individual could be grouped and the occurrence of multiple primaries could be verified.

Date of birth and date of incidence

Coding was required for date of birth and date of incidence in the YYYYMMDD format of the Gregorian calendar, where YYYY is the four-digit calendar year, MM is the two-digit month, and DD is the two-digit day. Year of incidence was a mandatory data item.

Age

Age was defined as the last completed year of age reached by the patient at the date of incidence. Age was a mandatory item unless complete date of birth and date of incidence were provided.

Sex

For this mandatory variable, three values were defined: female, male, and unknown.

Ethnic group

This variable denotes any substantial subpopulation within the registration area, defined by race, ethnicity, religion, or nationality. This optional item was only relevant when a registry could categorize all the cases and the population data in the same way.

Topography, morphology, and behaviour

These three mandatory variables describe the primary neoplasm, and the requested coding scheme was ICD-O-3 [1]. If registries were not already using ICD-O-3, they were encouraged to convert their data before submission.

Grade of diagnosis

This optional variable was to be coded according to ICD-O-3 [1].

Basis of diagnosis

The most valid basis of diagnosis was a mandatory variable, which conveys the level of certainty of the reported diagnosis. The recommended coding scheme was ICD-O-3; however, for the purposes of IICC-3, all codes were converted into four values: microscopically verified (MV), clinical observation (including imaging and biochemistry), diagnosis on the basis of death certificate only (DCO), and unknown.

Laterality

Laterality was requested as an optional variable for the tumours occurring in certain paired organs, i.e. the eyes, kidneys, and gonads. Registries were asked to distinguish between unilateral and bilateral tumours.

Population data
The contributors were asked to supply information on the composition of the population resident in the area from which the cases were drawn. The mid-year population estimate was requested for each calendar year of the covered period, separately by sex and single year of age between 0 and 14 years or between 0 and 19 years for the total covered population and for each defined subpopulation. The sources of the population data and any methods of data production other than those provided by the official statistical institutions were also to be reported.

Registry profile
In addition to data on cancer cases and population data, each registry was requested to supply information describing its registration practices and context in predefined ways.

Questionnaire
In a questionnaire, the registries were asked about the covered area and population, starting year of data collection, definition of reportable cases, coding practices, data sources, and information collected on each case. The source of population data was to be cited. The existence of any screening programmes during the study period was to be reported. Updated contact details and a formal agreement to participate in the study were also included.

Narrative
A short text (with a maximum of 500 words) was requested, describing the registration area, the nature of medical services available for children with cancer, the data sources, and the registry background and operations, according to a standard outline. Specific notes on the presented data and one or two references for further reading could be included.

Map
Each registry covering a subnational population was required to provide a map locating its registration area within the country.

DATA SUBMISSION AND PROCESSING
All contributions were submitted in electronic format through the Registries Portal at https://cinportal.iarc.fr. Connection to the portal required a registry-specific username and password. The username served as an automatic pointer to the registry-specific folder on an internal secured server and constituted a part of the renamed filename of each submitted item. In addition, the registries were asked to specify the type of information that each uploaded file contained, such as cancer cases, population, introductory text, or some others. Subsequently, the filename of each uploaded file was completed with a relevant extension describing the file contents and the date of submission.

The submissions were coordinated by national networks in several countries. Some of these networks were contributors themselves and were therefore counted as contributing registries (NPCR and SEER), whereas others acted as facilitators (Chile, China, Japan, France, Italy, and Poland). The network submissions had the advantage of easing the burden on the individual registries and encouraging participation of the constituent registries, although the follow-up communication was often conducted directly with the individual registries.

The data flow is schematically illustrated in Fig. 2.1.

Cancer data
After the cancer data were received, each file of the cancer records was scanned for the mandatory variables, the eligibility criteria, the coding systems used, and the format. New variables were created for the purposes of data checks or analyses. The age was calculated from the provided date of birth and date of incidence and compared with the provided age at incidence. If the tumour sequence number was missing or inconsistent, it was created using the patient identification number, sex, and dates of birth and incidence. Any discrepancies were discussed with the submitting registry, and the final values were confirmed by the registry.

The next step included conversions into standard coding schemes if required. Topography, morphology, and behaviour coded according to other systems were converted to ICD-O-3 [1] using IARCcrgTools, version 2.10 [2]. The records that could not be converted were listed and sent back to the registry for validation or correction. This list included the cases with behaviour coded to 6 (metastasis) or 9 (unknown whether primary site or metastasis), which were excluded from the analyses if they were not resolved. More information on the coding systems used and any conversion that was done centrally for each registry can be found in the narratives, in the Editors' comments, and in Table A.10.

The records with complete ICD-O-3 codes were then converted according to ICCC-3 [3], modified as described in Chapter 3. The conversion code was written in Stata/IC 12.1 [4].

At the next stage, the dataset was run through specific routines developed at IARC for this purpose in Stata/IC 12.1 [5] and R-3.3.1 [6], based on international standards [2] and additional checks, described in Chapter 4. These routines also produced editorial material and feedback files for the registries. The feedback files contained lists of excluded records and of queried records.

Types of excluded records:
- Records with any mandatory variable missing.
- Multiple records with identical combination of the patient identification number and the tumour sequence number.
- Records that it was not possible to classify into the 2017 update of ICCC-3 (ICCC-3-2017), described in Chapter 3.
- Records considered as multiple primaries according to the IARC/IACR rules, updated in accordance with the European Network of Cancer Registries recommendations on coding haematological malignancies [6].
- Second or further subsequent records of unilateral retinoblastoma, nephroblastoma, or gonadal tumour in one patient; the laterality of the remaining record was recoded to bilateral in the IICC-3 database.

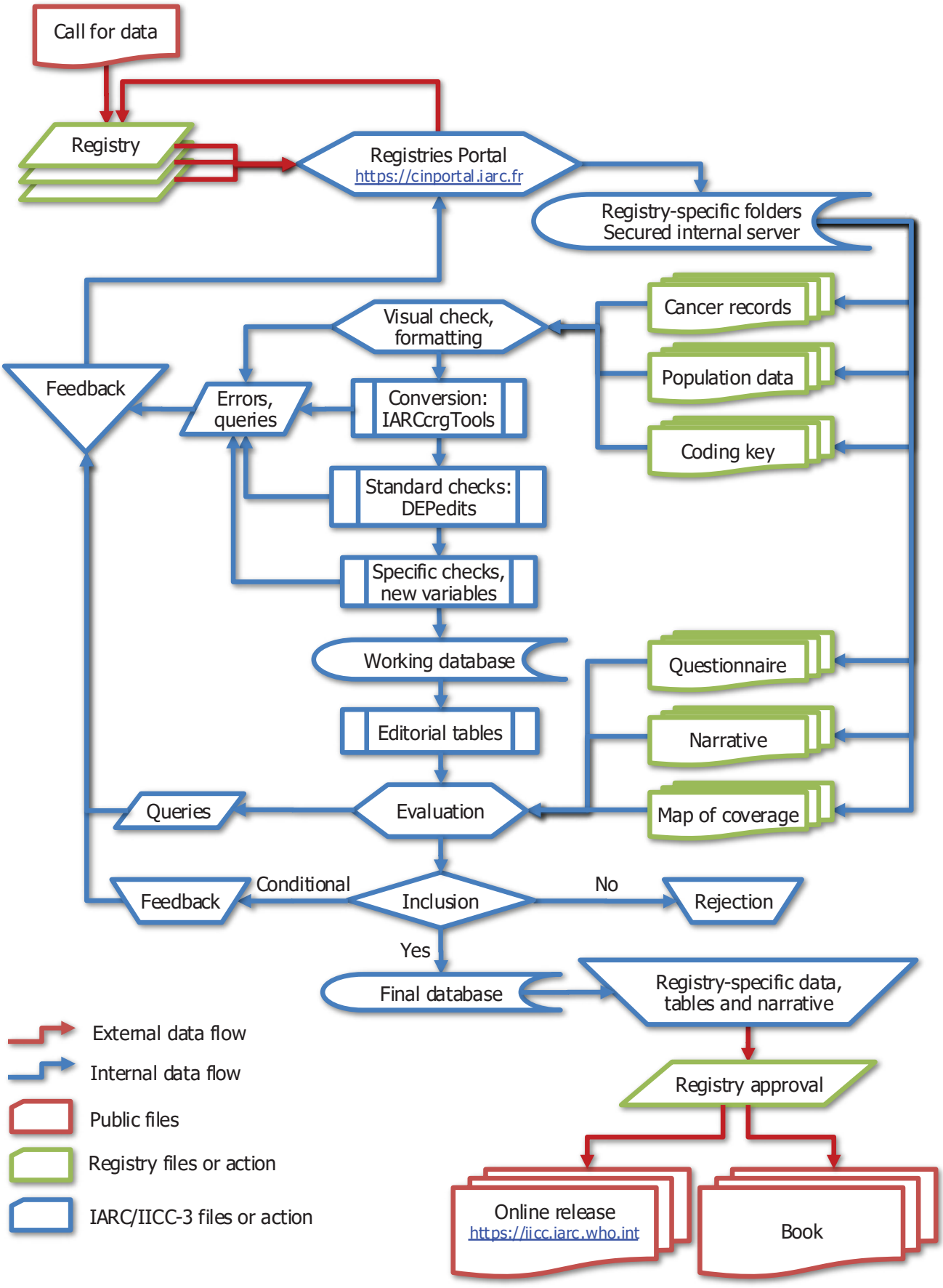


Fig. 2.1. IICC-3 data flow and editorial process.

Types of queried records:

- Provided age at incidence different from the age calculated from the provided date of birth and date of incidence.
- Tumour sequence number indicating:
  - more than one tumour in a patient, with an absence of the matching record(s) of the other primary tumour(s) in the same patient in the dataset;
  - only one tumour in a patient, whereas several were found in the dataset;
  - a missing value.
- Unknown basis of diagnosis.
- Unlikely combination of histology, site, or both with age, according to IARCcrgTools [2].
- Unlikely combination of site with histology, using the morphological families described in IARCcrgTools [2] and updated with new morphology codes described in Chapter 3.
- Unlikely combination of histology with basis of diagnosis, assuming that the specific morphology codes must be supported by diagnosis using microscopic verification, with described exceptions [1].
- Unspecified morphology codes, as defined in Chapter 4.
- Carcinoma in the brain (other than those allowed by ICCC-3-2017), as an implausible combination.
- Neuroblastoma in the brain, as a very rare entity that may be a metastasis.
- Carcinoid, as a rare morphology before age 20 years with a wide variation in occurrence because of the local practices in coding the behaviour of this tumour.
- Carcinoma of the appendix, colon, or small intestine, as rare entities in the target age range.
- Other and unspecified carcinomas (XIf diagnostic subgroup of ICCC-3-2017) in infants, which almost never occur and may be a result of miscoding of age or histology.
- Rare tumours of the bone and soft tissues.

The above-mentioned queries were based on definitions described in Chapter 4.

Population data

The submitted population data file was first checked for the available details. If a population count was not provided for any combination of calendar year, sex, single year of age, and ethnicity, additional official data sources accessible from IARC to complement the submitted data were sought. Subsequently, data were estimated for any missing combinations of categories, as described in the "Statistical methods" section below.

When the data were complete for all relevant combinations, they were examined for consistency in tables and graphs showing the annual population by calendar year, sex, and age group and the evolution of counts across single years of age for each sex, separately in each ethnic group. Unusual patterns were discussed among the editors and with the registries. This may have resulted in a resubmission of population data, additional explanations (e.g. a change in the registration area), or a restriction of the period included in IICC-3. Thus-processed population data were used for the calculation of incidence rates.

IICC-3 database

The consolidated list of cancer records of a registry was appended to a working IICC-3 database, which was designed in Microsoft Structured Query Language (SQL) server 2000 (https://msdn.microsoft.com/en-us/library/ee796613(v=cs.20).aspx). The file containing the detailed split of population counts was also added to the database. Several registry-specific tags characterizing a given registry were also added. They included information on the eligible age range, the instructions for using the provided age or the calculated age, and any ethnic subdivisions. The content of the working database was regularly updated with corrected or additional datasets.

The final version of the registry cancer data and population data that were accepted for publication constituted the final IICC3 database. The final database was frozen and stored on an internal server, and it was used to produce the output for the book and the online resources. It will also be used in ensuing approved specific projects in collaboration with the contributing registries.

Questionnaire

The online questionnaire was developed on classic Active Server Pages (ASP 3.0, released in November 2000 as part of IIS 5.0; https://support.microsoft.com/en-us/help/2669020/active-server-pages-asp-support-in-windows). The contributors could access the questionnaire through the Registries Portal, and it remained open for updates throughout the period of the study. A copy of each version of the questionnaire was sent automatically to the registry and recorded at IARC in PDF format. The responses were stored in an SQL database (Microsoft SQL Server 2000; https://msdn.microsoft.com/en-us/library/ee796613(v=cs.20).aspx). The completed questionnaires were reviewed and assessed for consistency with the other material received, and selected information is tabulated in several Annex tables.

STATISTICAL METHODS

Population at risk

The population data from each registry were arranged into a matrix containing a population count for each combination of calendar year of the study period, sex, and single year of age. A separate matrix was constructed for each subpopulation defined by ethnic group or other group. Data for missing combinations were estimated using all other available details. In instances of conflicting figures, the priority for use of data source followed a defined order. Population data from a census were considered to be the most reliable, followed by official estimates, followed by other estimates. The extent of detail of the population data provided and estimates made centrally for each registry was reported in the "Population at risk" section of the registry narratives, and it was summarized in Table A.8.

Missing counts for calendar years

If population counts were missing for some of the calendar years of the study period, these were estimated by linear interpolation of trends between two years with known counts. The linear interpolant is a straight line between two known points, each defined by their coordinates x_i and y_i. If the two known points have the coordinates

(x_1, y_1) and (x_2, y_2), then the y_i value for a point x_i is $y_i = y_1 + (x_i - x_1) \times [(y_2 - y_1)/(x_2 - x_1)]$.

If calendar years with provided population data lay within, but did not include, the first or last year(s) of the IICC-3 period, the data for such missing years were estimated by linear extrapolation as described above, using the coordinates of the farthest points on the trend line.

The above-mentioned linear trends were derived within the relevant subcategories (e.g. sex and age group), and the resulting estimates were summed across the categories to obtain the totals for the missing years. A known population growth rate was used in the absence of other relevant data.

Missing counts for sex or age strata

Sometimes the population data for the registration area were not split by sex or age. In such instances, the closest possible data source was sought to provide information on the representation of each sex and age category within a total. If the national data were split by sex and age, their sex- and age-specific proportions were applied to the regional data. If sex- and age-specific counts were provided for only some calendar years, their proportions were applied to the other calendar years, either as mean proportions for the intermediate years or as the proportions in years closest to the years at the extremes of the available period. If the sex ratio was provided only in official figures, it was used to calculate the counts by sex. If only totals for all ages were provided, published proportions of 5-year age groups within that population were used to derive the counts in the age groups. The sex- and age-specific proportions were also used to estimate population counts for some or all of the calendar years of the study period.

Missing counts for individual years of age

The counts for single years of age were the most frequently missing information. Usually, data were provided for the 5-year age groups (and exceptionally for the age groups 0, 1–4, 5–9, 10–14, and 15–19 years) instead of for single years of age. If the counts for single years of age were provided for some calendar years or for some overarching population, their proportions were used to calculate the counts for the missing single years of age. Often, the proportions of the population in individual years of age were derived from the preceding or succeeding calendar years with the relevant data or extracted from the data for census years. Alternatively, the United Nations estimates (available from https://unstats.un.org/unsd/demographic/products/dyb/dybcens.htm) were used. If no details were available, the population counts for age groups were split equally to obtain the population counts for single years of age for each sex and calendar year.

Missing counts for categories within subpopulations

The year, age, or sex distribution of the population within the subpopulations of a registration area was not always available, and the estimates of the missing figures were based on the same principles as described above. In the absence of relevant information for a given ethnic group, the year, sex, and age composition of the overall population was applied to the totals for the ethnic group.

Implications of the estimations

The above-mentioned methods were based on various assumptions, which may have been more or less valid. Usually, a stable population growth for the total population or within the subcategories and an identical age–sex constitution over time, across a country, or within subpopulations was assumed. In general, the precision of the estimated population counts decreased with distance from the known data points and with increasing number of data points that needed to be estimated.

Population data tables

The population data used to calculate incidence rates are tabulated along with the standard incidence tables for each dataset in the book or on a page that follows the standard incidence tables displayed online.

In population tables, the average annual population is the result of the division of the total number of person-years by the number of calendar years covered.

The population at risk for combined datasets was constructed as the sum of all person-years contributed by all the registration areas within the period, sex, and age categories. The period reported in the tables for each such pool includes the first and last calendar years covered by any of the contributing registries. For combined datasets, the average annual population was only reported when all the constituent registries covered the same time period. Similarly, if the definition of the registration area changed during the IICC-3 period, the average annual population was not reported. Any change in the registration area is described in the narrative for the relevant registry in Chapter 6.

Percentage

Percentages are reported in several types of tables. In the standard incidence tables, the percentage of cases within the total or within a main diagnostic group is calculated as follows:

Percentage All = $(n_{ij}/N) \times 100$

Percentage Group = $(n_{ij}/n_i) \times 100$.

In the formulas above, n_{ij} is the number of cases in a diagnostic subgroup *ij*, n_i is the number of cases in the main diagnostic group *i* containing subgroup *ij*, and *N* is the total number of cases in the dataset. For each percentage, n_{ij}, n_i, and *N* refer to the same age range and sex.

Unless otherwise specified, the percentages of microscopically verified cases (%MV), cases registered on the basis of death certificate only (%DCO), and tumours with unspecified morphology or topography (%NOS; "not otherwise specified") reported in various tables refer to the accompanying total number of cases.

Sex ratio

The sex ratio is provided in comparative tables for some diagnostic entities in this book and in the online version of the standard incidence tables. The male-to-female sex ratio (M/F) is calculated as n_m/n_f, where n_m is the number of males and n_f is the number of females in the same group of cases defined by the row heading in a given table. In Table A.9, the sex ratio is calculated from the age-standardized incidence rate (ASR) as ASR_m/ASR_f, where ASR_m is the ASR for males and ASR_f is the ASR for females, and therefore compares the incidence rate in males with that in females.

Incidence rates

The incidence rate λ expresses the frequency of cancer in a defined population over a defined time period. It is calculated by dividing the number of cases *n* characterized by a given period, sex, age, diagnostic group, and so on by the person-years *PY* that give rise to those cancers. Thus, both the cases and the person-years used in the formula refer to the same calendar period, the same sex, the same age group, and the same ethnic group. To avoid reporting very small numbers, the resulting number is multiplied by 1 million, so that the incidence rates reported in this publication are always expressed per million person-years, according to the formula

$\lambda = (n/PY) \times 1\,000\,000$.

Age-specific incidence rates refer to the incidence within a specified age group.

The ASRs are calculated by direct standardization as a weighted average of the age-specific incidence rates for 5-year age groups, where the weights are derived from the world standard population [7] within the 5-year age groups younger than 20 years. The world standard population and the notation for the age-specific rates are shown in Table 2.1. Using the notation of Table 2.1, the ASRs were calculated for the age ranges 0–14 years (ASR_{0-14}) and 0–19 years (ASR_{0-19}) as follows:

$ASR_{0-14} = [(r_1 \times 12) + (r_2 \times 10) + (r_3 \times 9)] / 31$

$ASR_{0-19} = [(r_1 \times 12) + (r_2 \times 10) + (r_3 \times 9) + (r_4 \times 9)] / 40$

The formula for the age range 0–14 years differs slightly from that used in IICC-2, in which weights of 2.4 for age 0 years and 9.6 for ages 1–4 years were used to calculate the ASR for ages 0–14 years [8].

Table 2.1. Composition of the world standard population for age groups younger than 20 years [7] used in the calculation of standardized incidence rates in IICC-3

Age (years)	World standard population	Age-specific rate per million
0–4	12 000	r_1
5–9	10 000	r_2
10–14	9 000	r_3
15–19	9 000	r_4
0–14	31 000	
0–19	40 000	

Source: Compiled from Segi et al. (1960) [7].

The cumulative rate [9] is the sum of the age-specific incidence rates in all 5-year age groups, where each age-specific rate is given the same weight, corresponding to the number of years in each age group. Thus, using the notation of Table 2.1, the cumulative rate is calculated as follows:

$Cumulative_{0-14} = (r_1 \times 5) + (r_2 \times 5) + (r_3 \times 5)$

$Cumulative_{0-19} = (r_1 \times 5) + (r_2 \times 5) + (r_3 \times 5) + (r_4 \times 5)$

The cumulative rate approximates the cumulative risk of a person developing a cancer of a particular type before the upper age limit (15 years or 20 years in the respective formulas above). Because the age-specific rates are expressed per million, so are the cumulative rates.

EVALUATION OF THE DATASETS

The data processed at IARC were used to generate (1) editorial material for the IICC-3 editors, (2) feedback files for the contributors, and (3) tables of comparable datasets for dissemination.

Editorial material

Registry-specific editorial material had a standard structure, but the extent of information compiled for the editors may have differed considerably. On average this material contained about 50 pages for each individual dataset and included a standard set of tables and graphs, the questionnaire, the narrative, the map, and a variable amount of additional ad hoc information provided by the registry on request. Separate editorial material was prepared for each ethnic group defined and for the combined datasets of registries operating in a single country. Each dataset was discussed by the editors according to a specific standard form developed and completed for this purpose. A decision was made about whether to include a given dataset in the study or to request additional information from the registry to address specific editors' comments.

Occasionally, the editors may have suggested an extension or a reduction of the period covered by the submitted data, a restriction of the covered area to a smaller region or to a specific subpopulation, a review of a specific subset of data, and so on. The underlying goal was to include as many datasets as possible over the longest available time period, so that a maximum temporal, geographical, and ethnic variety is represented while ensuring the best quality indicators.

Feedback for the contributors

On the basis of the editors' evaluation, each registry received feedback detailing specific features of the dataset, suggestions for further correction or verification of the data, and ad hoc questions to clarify specific patterns. Typically, the feedback fuelled a resubmission of modified files and responses to queries, leading in turn to a new round of data validation until a decision about inclusion or exclusion of the dataset was reached, sometimes despite insufficient responses or no response. This communication to the registries consisted of several elements, as described below.

Follow-up letter

A standardized letter informed the registry about the evaluation of the dataset and the registry status with respect to contribution to IICC-3. The letter contained a description of the submission route, the contents of the files received, any desirable additions to the submission, comments on the observed patterns of incidence and an invitation for their interpretation, a description of missing data items, and a structured account of the data quality indicators. The registries may also have been asked complementary questions on coverage, registration criteria, data sources, actions taken to ensure data completeness and quality, assessment of ethnic status, links with other cancer registries, and population data.

Summary of results
The results were presented for each subpopulation separately and included charts showing the annual distribution of numbers of cases by sex, age group, and diagnostic group; the age-specific distribution of 18 selected tumour types; the proportional distribution of cases according to the four values of the basis of diagnosis by calendar year and age; the distribution of CNS tumours by behaviour, calendar year, and age; the distribution of laterality by calendar year and age for the selected tumour types; the annual distribution of population counts by sex and age group; the age-specific distribution of population counts by sex; and the annual incidence rates by sex and age, overall and for selected diagnoses. A set of six tables laid out similarly to the standard incidence tables presented in this volume and showing the overall numbers, proportions, incidence rates, and quality indicators for all diagnostic categories defined in ICCC-3 for both sexes combined and separately completed this account. This standard output was presented on 20 pages for each dataset.

Files of selected records
Several files of cancer records were prepared, each addressing a different type of query and targeting a specific item of a record; therefore, some records may have been included in several feedback files. Standard naming of the feedback files helped to identify the type of checks required to correct the data, and all queries were described in the follow-up letter. The files were made available for download from the Feedback page on the Registries Portal, and the registry was notified automatically when the file became available. Errors or queries were grouped as follows.

1. Conversion queries
Conversion queries were the records that required validation after a conversion from the coding system used in the submitted data (e.g. ICD-10 site code + ICD-O-2 morphology code) into the ICD-O-3 codes (morphology and topography). Many of these records were haematological malignancies, and they were excluded from the analyses unless they were corrected in a resubmitted file.

2. Ineligible records
Ineligible records were excluded from the analyses because of a problem with one or more mandatory variables. The principal problems, identified in the error file, comprised topography coded to an ICD-10 code that does not correspond to any ICD-O-3 topography code, missing histology code, missing behaviour code, and occasional registrations from years outside the study period or age range, among others.

3. Unclassified records
Unclassified records were not included in the analyses because they could not be classified according to ICCC-3-2017 (described in Chapter 3). Typically, this file included non-malignant tumours occurring outside the CNS, tumours with behaviour code > 3, or records with coding errors. The registries were also provided with hints for possible recoding of the unclassifiable records in a detailed document called “ICCC-3 unclassifiable records”, placed at the disposal of the registries on the Registries Portal.

4. Queried records
Queried records were included in the analyses but contained items that needed to be confirmed or modified. Many of the listed problems related to systematic coding habits. The registries were supplied via the Registries Portal with a complete guide to “IICC-3 queried records”, which suggested the amendments.

5. Duplicate records
Sets of duplicate records with identical combination of the patient identification number and the tumour sequence number were excluded from the analyses until they were corrected and resubmitted.

6. Missing laterality
Records with missing laterality information were listed for all the relevant cancer cases for which laterality was requested but was unknown, so that the registries could focus on obtaining the missing information for the listed records if possible.

7. False multiple primaries
Sets of records pertaining to neoplasms found in the same patient, considered as a single tumour according to the IARC/IACR rules for multiple primaries, were listed as false multiple primaries. Each set of such records was replaced with a consolidated record, combining the best information from the other records and included in the analyses. The other records of the same set were excluded. If any of the listed sets were cases of retinoblastoma, nephroblastoma, or gonadal tumours, the laterality may have changed in the consolidated record, so that two unilateral cases were recorded as a single bilateral case. The registry was invited to modify the original records as appropriate and resubmit a corrected dataset.

Selection of datasets
The two guiding principles for the selection of the datasets were maximum data availability and maximum data comparability. Both principles needed to be satisfied for a dataset to be selected, although the availability principle prevailed when deciding about the inclusion of registries operating in world regions with a dearth of cancer data. The data quality criteria may have been relaxed slightly with respect to the proportion of MV cases, unconfirmed underreporting or overreporting, lack of specific details (such as precision of the dates), and so on, because they were conditioned by dynamics external to the registry.

Many registries demonstrated keen cooperation and improved their data considerably. There were 125 datasets that were not considered acceptable on first submission and were included in IICC-3 by the end of the editorial process (Table 2.2). The implemented improvements included completion of missing information, adding more recent or earlier years of data, attending to missed data sources, correcting coding errors, improving age calculations, including non-malignant CNS tumours, replacing population data, and explaining queried patterns in the data. The quality of a response and the interpretation of the observed shortcomings by a registry constituted an important element in the evaluation process.

Table 2.2. Overview of the participation of registries in IICC-3

Continent	Invited (N)	Submitting (N)	Total evaluations (N)	Quality improved (N)	Included (N)	Initially not included (N)	Success rate* (%)
Africa	70	29	100	17	21	15	72.4
America, Latin and the Caribbean	91	54	169	26	38	17	70.4
America, North	85	78	242	7	70	2	89.7
Asia	157	103	270	44	58	25	56.3
Europe	214	149	438	70	109	63	73.2
Oceania	19	12	20	3	12	3	100.0
Total	**636**	**425**	**1239**	**165**	**308**	**125**	**72.5**

N, number of registries.
*Success rate is defined as the ratio of Included to Submitting.

The most common reasons for rejection included large fluctuation in numbers of cases or in annual incidence rates over time, rates that were too high or too low (overall or by diagnostic group), many unlikely cases for the age at diagnosis, an unlikely case mix, a large proportion of DCO cases, a low proportion of MV cases, a large proportion of cases with unspecified morphology or topography (NOS), too few cases to provide a reasonably stable national estimate of incidence, and lack of response about the notified shortcomings. Multiple deficiencies were almost always the basis for a rejection.

The invitations to join the study were sent to more than 600 registries, of which more than 400 submitted their data. The submitted material generated more than 800 datasets (accounting for subpopulations and combined datasets), which were evaluated separately in more than 1200 instances. However, the painstaking editorial process bore fruit, with data quality improved in 165 registries (39% of the submitting registries), including 125 of those included in IICC-3 (40% of 308). On average, 72.5% of the submitting registries were included, but this proportion differed across continents (Table 2.2). The significant improvement in data quality testifies to the importance of participation in international studies for the improvement of local data. Improved data quality benefits not only the IICC-3 study but also all studies conducted using the childhood cancer data, whether locally or internationally.

DESIGN OF THE OUTPUT

The content, format, and layout of the study results were inspired by other international projects, such as previous IICC volumes and the *Cancer Incidence in Five Continents* series (e.g. [10]), but IICC-3 also includes certain novel features, notably a dual publication (book and online versions) and novel comparative tables presenting input and output data.

Because of the large number of datasets included in IICC-3, it proved impractical to present in a book the results for many more registries with the same detail as was done in the two previous volumes. A selection was required to present the maximum available data in the limited space offered by a book to be printed. In response, combined national datasets were constructed for many participating countries, and these were selected for display in the book. In countries where the contributors included paediatric registries or the data could be presented by ethnic group, additional datasets were included in the book. However, all tables produced for all eligible datasets were made available online. The availability of all registry-specific tables is mapped in Table A.12.

Tables

IICC-3 contains a large number and variety of tables. The standard registry-specific incidence tables (Chapter 6) and the comparative tables showing the data for all eligible datasets (Chapter 7 to Chapter 13) were developed using Stata/IC 12.1 [4] in association with MiKTeX (https://miktex.org) and complemented by LaTeX (https://www.latex-project.org). The other tables, notably the Annex tables, were constructed in Microsoft Excel.

Narratives

The editors reviewed the registry narratives for content, structure, and style and edited them to ensure as much coherence and standardized content as possible. For the countries represented by a combined dataset, the editors also prepared a country overview as a brief introduction, describing the country location, the demographics, the health-care system, and the combined dataset produced for IICC-3. Any common features with respect to data sources or data quality were also integrated into this introductory part of the narrative and omitted in the registry-specific sections. The "Population at risk" section describes the data sources and the detail with which population data were provided. The resulting registry-specific narrative section is based on the submitted text, the completed questionnaire, the actual data received, and additional information from the registry or other publicly available sources accessed by IARC. The content of the narratives was approved by the listed contributors.

Editors' comments

The Editors' comments draw attention to the features in the data that may affect data completeness and comparability, as an aid to interpreting the results. Unlike in the two previous volumes, asterisks were not assigned to the datasets with perceived reduced comparability. Such a binary index was considered to be of limited usefulness for data interpretation and garnered little attention in derived studies. Therefore, the "Editors' comments" section should be regarded as an integral part of the presented results and should guide the selection of registries for ensuing detailed studies. These comments are complemented by the extensive Annex tables, in which summary statistics may be compared across all registries.

Maps

The maps indicating the location and coverage of the submitting registries were checked for consistency with the questionnaire, the narrative, and the data and then used as a model for developing the maps displayed in this publication. The colour scheme distinguishes the type of contributing registry (general or paediatric), and the coloured area enables recognition of national or regional coverage. The R language and environment was used to generate the maps [5], using the ggplot2 data visualization package for R (https://www.r-project.org). The ggplot2 package facilitated the creation of maps by superposing multiple layers from different data sources and automatically adjusting common scales [11]. Shape files and map templates were based on the standard operating procedures for the creation of maps by WHO standards. The maps were further improved with Inkscape software (https://inkscape.org), which enabled splitting the frames and adding titles and legends.

Online resources

The development of the online resources at https://iicc.iarc.who.int/ required specific attention to the content, design, and technical details. The online resources offer a large amount of additional data, which was arranged for intuitive access. A specific IICC logo was designed to accompany the online material and brand its source. The page displaying the study results was developed using hypertext preprocessor (PHP; https://secure.php.net). The contents of the online resources are described in Chapter 5.

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Chapter 3. Classification of tumours

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INTERNATIONAL CLASSIFICATION SYSTEMS OF CHILDHOOD NEOPLASMS

The types of cancers that affect children are different from those that occur most commonly in adults. Malignancies of the haematopoietic system are most common; they comprise about 40% of cases before age 20 years and less than 10% of cases after age 20 years [1]. Among all cancers, the proportion of tumours of the CNS before age 20 years is more than 10 times that in the population older than 20 years [1]. A range of tumours arising from embryonal tissues (various blastomas) occur almost exclusively in young children, and neuroblastoma is the most common cancer in the first year of life in high-income countries.

In general, most cancers occur among mature adults [2], and most of them develop in epithelial tissues as carcinomas [1]. The common sites that constitute the major cancer burden in the total population are carcinomas of the breast, prostate, lung, colorectum, cervix uteri, and stomach. It is usual to present the overall cancer burden in a population according to the primary site of the tumour, in agreement with the major categories defined in the successive revisions of the International Classification of Diseases (ICD) [3]. Presenting childhood cancer data for the same categories holds little interest, because very few cases would be reported for these sites that are common in adults, whereas a large proportion of childhood cancers would not be reported with enough detail.

The spectrum of cancers changes rapidly during the first few years of life [4]; therefore, the overall cancer incidence in each year of age reflects the representation of individual tumour types. The young age of patients and the different histological appearance of tumours may also suggest different etiology of these tumours, which highlights the need for a specialized classification.

In the mid-1970s, a need to describe tumours more specifically than in the ICD series resulted in the publication of the International Classification of Diseases for Oncology (ICD-O) [5]. In ICD-O, the neoplasms chapter of ICD was expanded into more detailed information on the primary site and very detailed information on the morphology (histology, behaviour, and grade). For cancers in children, this information needed to be grouped into meaningful categories describing the disease burden characteristic of the childhood population.

Efforts to appropriately classify childhood cancers appeared as far back as the late 1950s [6–8]. The first internationally adopted classification, proposed by Birch and Marsden in 1987 [9], grouped the tumours coded according to ICD-O [5]. It was used with some modifications [10] in IICC-1 [11] and was revised as the International Classification of Childhood Cancer (ICCC-2) [12] using the ICD-O-2 coding system [13] in IICC-2 [14]. After the publication of the third edition of ICD-O (ICD-O-3) [15], a third edition of the International Classification of Childhood Cancer (ICCC-3) was published in 2005 [16] and used internationally. The first revision of ICD-O-3 (ICD-O-3.1) [17] and the requirement to present international childhood cancer data in IICC-3 stimulated a review of ICCC-3.

Simultaneously, IARC coordinated revisions of the WHO Classification of Tumours [18–32]. In these successive editions, advances in pathological methods and molecular typing of tumours resulted in more up-to-date terminology, the introduction of new entities and ICD-O histology codes, and the removal of obsolete ones. Some of these changes are reflected in ICD-O-3.1 [17].

INTERNATIONAL CLASSIFICATION OF CHILDHOOD CANCER, 3RD EDITION, 2017 UPDATE (ICCC-3-2017)

Based on ICCC-3, which was published in 2005 [16], ICCC-3-2017 was developed to group cancers in IICC-3. This 2017 update incorporates ICD-O-3.1 [17], as well as the new morphology codes proposed in the several publications of the WHO Classification of Tumours series [25–32], although the newly proposed codes may not have been fully integrated in cancer registries by 2017. The principles of ICCC-3-2017 can be summarized as follows.

1. The original coding system with three-level hierarchical organization of the classification categories was retained as far as possible to enable comparisons with previously published data.
2. Newly proposed morphology codes, listed in Table A.4, were incorporated, to anticipate their classification.
3. Classification of all morphology types was reviewed, to align ICCC-3-2017 with the internationally recognized diagnostic and classification advances mentioned above.

The ICCC-3-2017 classification system is shown in Table A.2 and Table A.3. The specific major modifications adopted, compared with ICCC-3, are summarized briefly below and include the following.

1. In addition to maintaining all morphology codes defined in ICD-O-3 [15], the new morphology codes proposed in ICD-O-3.1 [17] and in the WHO Classification of Tumours volumes published in 2010–2017 [25–32] were included. The new morphology codes classified by ICCC-3-2017 are tabulated in Table A.4 if their numerical values were not used in ICCC-3 in 2005 [16].

2. All identified histology codes were classified within ICCC-3-2017, irrespective of the behaviour associated with these codes in the reference publications, in accordance with the matrix rule F of ICD-O [17]. However, outside the CNS, the tumours are classifiable by ICCC-3-2017 only if reported with malignant behaviour.
3. In accordance with the progressive removal of the distinction between leukaemias and lymphomas, in favour of distinguishing the neoplasms by cell of origin [24], the previously unrestricted subgroups Ia and IIb are now restricted for topography, to enable the relevant morphologies to be classified as either leukaemia or lymphoma, depending on their presentation and characterization by a pathologist. Therefore, the relevant morphology types in combination with sites of blood (C42.0), bone marrow (C42.1), reticuloendothelial system (C42.3), and haematopoietic system (C42.4) are classified as lymphoid leukaemias (Ia), whereas in combination with all other sites they are classified as non-Hodgkin lymphoma (except Burkitt lymphoma) (IIb). Both categories comprise precursor lymphoid neoplasms, mature B-cell neoplasms, and mature T- and NK-cell neoplasms as grouped by Swerdlow et al. in 2008 [24].
4. Peripheral neuroectodermal tumour (M-9364) of kidney was transferred from the subgroup of nephroblastoma and other non-epithelial renal tumours (VIa) to the subgroup of other specified soft tissue sarcomas (IXd), so that this histological type is classified in a single tumour group irrespective of the site of occurrence; including skin sites [33] and CNS sites [34].
5. The subgroup of hepatoblastoma (VIIa) was expanded to include mesenchymal tumours of liver (malignant rhabdoid tumour (M-8963) and embryonal sarcoma (M-8991)), which are of considerable clinical and epidemiological interest. The subgroup is renamed as “hepatoblastoma and mesenchymal tumours of liver” and is split into three divisions, separating hepatoblastoma (VIIa1), rhabdoid hepatic tumour (VIIa2), and embryonal sarcoma of liver (VIIa3). M-8991 and M-8963 are now classified in the subgroups rhabdomyosarcomas (IXa) and other specified soft tissue sarcomas (IXd), respectively, only if they occur in sites other than liver and kidney.
6. The changes described in points 4 and 5 resulted in a reduction of the number of divisions from four to three in subgroup VIa, whereby the fourth division defined in ICCC-3 (VIa4, peripheral neuroectodermal tumour of kidney) was abolished in ICCC-3-2017. Simultaneously, three new divisions of the previously undivided subgroup VIIa (point 5) were created; thus, there are two more divisions in ICCC-3-2017 than in ICCC-3.
7. The subgroups of carcinomas (renal (VIb), hepatic (VIIb), gonadal (Xd), adrenocortical (XIa), thyroid (XIb), nasopharyngeal (XIc), skin (XIe), and other and unspecified (XIf)) were modified by including newly defined codes and removing codes inconsistent with the given topography. Some of these changes are specifically mentioned below if they merit a justification; the others are unlikely to have an important impact on the resulting incidence rates.
8. Hepatoid (adeno)carcinoma (M-8576) was removed from kidney carcinomas (VIb), because it was not found as arising from kidney. It is included in the subgroups of gonadal carcinomas (Xd) [35] and other carcinomas (XIf), because it has been described in several sites of the digestive tract (e.g. [36]), lung [37], adrenal gland [38], and endometrium [39], among others.
9. Myxoid chondrosarcoma (M-9231) could be used to describe chondrosarcomas of bone or extraskeletal chondrosarcoma. Therefore, this morphology was added to the subgroup of chondrosarcoma (VIIIb) if occurring in bone and to the subgroup of other specified soft tissue sarcomas (IXd) if occurring in other sites.
10. Melanotic neuroectodermal tumour (M-9363 if malignant) may arise in various sites, including nasal cavity, neurocranial dura of brain, skin, uterus, mediastinum and paratesticular structures; therefore, it is now placed in the subgroup of other specified tumours (XIIa) for all sites.
11. Malignant forms of trophoblastic teratoma (M-9102), partial hydatidiform mole (M-9103), placental site trophoblastic tumour (M-9104), and trophoblastic epithelioid tumour (M-9105) were added to the subgroup of malignant gonadal germ cell tumours (Xc). Simultaneously, M-9102 was removed from the subgroup Xb of extracranial and extragonadal germ cell neoplasms.
12. Several changes in the subgroup of gonadal carcinomas comprised the addition of newly defined codes, the restriction of some codes to ovary or gonads, and the inclusion of the morphologies known to occur only in gonads without a topography restriction.
13. Skin sites of genital organs (C51.9, C60.9, and C63.2) were allowed in the subgroup of skin carcinomas (XIe).
14. Pleomorphic carcinoma (M-8940/3) is placed in the subgroup of other specified tumours (XIIa) irrespective of the primary site.
15. Myoepithelial carcinoma (M-8982/3) is now regarded as a mixed tumour [40]; therefore, it was placed in the subgroup of other specified tumours (XIIa) without a restriction on the primary site.

ALLOCATING NEOPLASMS TO ICCC-3-2017 CATEGORIES

The classification framework outlined in Table A.2 and Table A.3 conveys the classification rules for cancers that were correctly coded. The following summary rules apply to this classification.

1. ICCC-3-2017 can only be used for morphology coded according to ICD-O-3, ICD-O-3.1, or, if needed, the morphology codes listed in Table A.4.
2. Only the codes listed in ICD-O-3 and ICD-O-3.1 and those shown in Table A.4 are classifiable. For example, a code M-8483, which would fall within the range 8480–8586 in XIf, is not classifiable, because it is not recognized in any of these lists.
3. In Table A.2 and Table A.3, the ranges of codes were used for convenience. There may be some histology codes within a range that would not occur in the primary sites listed and some primary site codes within a range that would not have the listed histology

codes. Similarly, the individual morphology codes may not necessarily occur in all listed sites, especially in the diagnostic categories that include many morphology or site codes, such as the subgroup of other and unspecified carcinomas (XIf).

4. Only malignant primary tumours are classifiable within ICCC-3-2017 for all categories except the CNS tumours (main group III and subgroup Xa in Table A.2 and Table A.3), which are classifiable also with non-malignant behaviour.
5. A combination of histology with behaviour not listed in ICD-O-3, ICD-O-3.1, or any of the WHO Classification of Tumours publications referenced in Table A.4 should be classified only if the coding accuracy was double-checked in medical records and confirmed by a pathology report.
6. Despite the great flexibility of the ICD-O system, unlikely combinations of two or more variables, including site, morphology, behaviour, basis of diagnosis, age, sex, and grade, should be double-checked and confirmed by comparison with medical records.
7. To analyse the incidence of primary neoplasms, cases registered with behaviour /6 or /9 should first be recoded to behaviour /3, with appropriate changes to the site and morphology codes, and then classified, using information on the primary tumour of the diagnosis.

IMPACT OF CHANGES IN CLASSIFICATION ON DATA COMPARABILITY

The data in this publication span the period of use of ICD-O-2, ICD-O-3, and ICD-O-3.1, so that registries had to deal with new terminology not included in ICD-O-3 and a choice of histology codes for the case. Different registries have implemented the different ICD-O revisions in different years (Table A.10). These changes will be reflected in the cancer data to a varying extent in different settings and need to be considered when interpreting time trends and geographical variations.

The most pertinent to the target age range of IICC-3 is the change in the coding of behaviour for pilocytic astrocytoma (ICD-O-3 M-9421), which may represent about 20% of CNS tumours before age 15 years [41]. The coding of behaviour for this neoplasm changed from malignant in ICD-O-2 [13] to uncertain in ICD-O-3 [15], and this change may have affected the completeness of registration of this tumour, especially in the registries that exclude non-malignant tumours. The differences in coding of behaviour for pilocytic astrocytoma are combined with differences in coding practices for optic nerve glioma (M-9380, C72.3), which is almost always a pilocytic astrocytoma with behaviour /1 in ICD-O-3.1, although a proportion of them may be coded to a glioma, implying malignant behaviour. It should be borne in mind that a behaviour code for pilocytic astrocytoma probably reflects more the coding practices than the actual way the tumour acts within the body.

In contrast, myelodysplastic syndromes (MDS, M-998) were coded to non-malignant (uncertain) behaviour in ICD-O-2 [13] and to malignant behaviour in ICD-O-3 [15]. This change in the coding practice would have affected the completeness of registration of these neoplasms during the study period.

New histology codes may have extended the previously defined range of histology codes; for example in IXb, the range 8813–8815 in ICCC-3 became 8813–8817 in ICCC-3-2017. A new code may also have been defined within an existing range, in which case no change would show between the classification tables of ICCC-3 and ICCC-3-2017. Sometimes, an ICD-O-3 morphology code changed its meaning in the new edition of the WHO Classification of Tumours series, as in the following example. In ICD-O-3, 9975/1 coded “myeloproliferative disease, NOS” and 9960/3 coded “chronic myeloproliferative disease, NOS”. In ICD-O-3.1, codes 9975/1 and 9960/3 were harmonized into 9960/3 under the header term “myeloproliferative neoplasm, NOS” and included both “myeloproliferative disease, NOS” and “chronic myeloproliferative disease, NOS” as synonyms. In addition, in ICD-O-3.1 a new entity – 9975/3 – was added, to code “myeloproliferative neoplasm, unclassifiable”. This entity is reserved for a clinical diagnosis where there has been a definite diagnosis of myeloproliferative neoplasm but it fails to meet the specific criteria of any of the other myeloproliferative neoplasms. These changes may imply a modification of eligibility for registration, because the new entities mentioned are all malignant, whereas “myeloproliferative disease, NOS” was previously listed with uncertain behaviour.

Often a change concerned only the behaviour code, which was either added to the listed codes or changed. For example, instead of the uncertain behaviour associated with “Langerhans cell histiocytosis, NOS” (9751/1) in ICD-O-3, the same morphology and term is listed only with malignant behaviour (9751/3) in ICD-O-3.1, and the other morphology codes for unifocal (9752/1), multifocal (9753/1), and disseminated (9754/3) Langerhans cell histiocytosis were removed [17]. Changes in the behaviour code may have an impact on reportability, especially in the registries that exclude non-malignant tumours from registration. For example, serous (8442) or mucinous (8472) neoplasms of the ovary with borderline malignancy were registered and coded as malignant (/3) in ICD-O-2, but the associated behaviour code changed to uncertain (/1) in ICD-O-3, and thus their registration may have stopped in some registries. Because both histology codes were linked with a single behaviour code in both editions of ICD-O, a conversion from ICD-O-2 to ICD-O-3 would eliminate these cases to conform to ICD-O-3.

Progress in the recognition and characterization of new morphological entities leads to changes in classification, which may also affect reportability, especially in the registries with restricted eligibility criteria. Examples that could markedly influence variations in incidence rates between registries and over time include pilocytic astrocytoma, myelodysplastic syndromes, skin carcinoma, and carcinoid of appendix, as discussed in the “Eligibility for reporting” section of Chapter 4.

The full impacts of these and other changes in the classification of tumours on incidence rates are difficult to evaluate in individual registries, and even more so on an international level. Specific studies will need to be undertaken to correctly interpret detailed spatial and temporal variation in incidence trends.

FUTURE UPDATES

ICCC-3-2017 was developed to classify all cases submitted to IICC-3 using the latest then-available knowledge in classification of tumours. In this respect, the proposed classification was anticipating the needs, because many of the changes proposed in ICD-O-3.1 or in the WHO Classification of Tumours series may not have been taken up by the pathologists characterizing the tumours for the registries in the data presented in this book and beyond. However, since the 2017 update of ICCC-3, additional changes to histological classification have been proposed, for endocrine tumours [42] and haematopoietic malignancies [43] and several others (https://whobluebooks.iarc.who.int). A second revision to ICD-O-3 (ICD-O-3.2) was released in 2019 and recommended for use as from 2020 [44]. The ICD system was also revised, and ICD-11 was released in 2019 and officially came into effect in 2022 [45]. In addition, a double volume dedicated to paediatric neoplasms has been published for the first time in the WHO Classification of Tumours series [46]. ICD-O-4 was in preparation in 2025 [44].

Although it will take time for these new standards to be implemented by cancer registries, a new update of ICCC-3-2017 is planned to reflect the above-mentioned and forthcoming changes, and the IICC-3 website may serve as an appropriate platform for dissemination.

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Chapter 4. Data quality and comparability

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The cancer registries selected for IICC-3 have complied with the inclusion criteria. The reported frequencies, proportions, and rates from these registries are partly dependent on the structures for health-care provision in their respective countries and the legal and administrative status of the registry, which determine the case-finding sources and data collection routines. The availability and quality of national statistical services have an impact on the possibility of case ascertainment from death certificates and the precision of the population estimates. The density and accessibility of health-care facilities influence the timeliness and precision of diagnosis and the extent of underdiagnosis. Social customs and preferences may cause reporting bias for some population subgroups (e.g. infants, girls, ethnic groups) or impede the collection of selected data items (e.g. exact date of birth).

At the registry level, the practices may also differ. The reportable cases may be defined with respect to the behaviour of the neoplasm (e.g. only malignant tumours), tumour type (e.g. exclusion of skin carcinomas), definition of eligible residents (based on origin, place of birth, or length of residence), data items collected (e.g. grade, laterality), the precision of the reported information, and the extent of its validation using multiple data sources.

All these background factors can influence the observed incidence rates. Therefore, this chapter is devoted to a description of the underlying differences that need to be considered when interpreting geographical variations reported in IICC-3.

POPULATIONS COVERED

The annual populations of people younger than 20 years covered by the registration areas included in IICC-3 varied in size by more than 1000-fold, ranging from less than 50 000 (e.g. Neuchâtel, Switzerland) to more than 50 million (USA, NPCR). The larger the population at risk, the more reliable the incidence rates are likely to be, assuming similar data quality. In the registration areas described in IICC-3, the proportion of people younger than 20 years within the total population ranged from 11% (China, Shanghai) to 63% (Cameroon, Yaoundé). The registry-specific proportions of childhood population are compared with the equivalent values for the whole country or territory in Table A.6.

Based on the 2010 United Nations estimates of national populations [1], the contributing registries covered between less than 1% and 100% of the childhood population within the represented countries or territories. Combining data from regional cancer registries into a pooled dataset helped to increase the coverage of the country and the national representativeness of the dataset (Table A.6). The larger the proportion of the national population covered, the more representative the presented incidence rates are of the country, and the same is true of the representativeness of a continent or any geographical entity.

Two or more racial or ethnic subgroups were distinguished within the total population of children covered in some countries (Table 4.1). Differences in cancer occurrence between population subgroups within the same country may indicate differences in cancer susceptibility or in exposure to risk factors, but also in access to health care.

ACCESS TO DATA SOURCES

Population at risk

As a rule, the resident population is counted by national statistical services at regular intervals, usually by means of a population census. For the years between two censuses, the population is estimated taking into account births, deaths, and migration. The population counts are usually split by sex and age and are often provided for constituent administrative units. The age categories may be provided as 5-year groups, as single years of age, or occasionally as a different age grouping. The census data usually provide the most detailed information and may also be considered the most accurate. The availability of accurate population data representing the registration areas is usually associated with other indicators, such as the Human Development Index. The national statistical services customarily also provide official estimates for subnational administrative units covered by cancer registries. Where this is not done, the resident population in the covered areas may be estimated by the registry using official sources (e.g. USA, Hawaii, Hawaiian). Correct population counts, including within subcategories, are as important as the completeness and quality of data on cancer. Population sizes and census years in the countries included in IICC-3 are shown in Table A.7.

Despite the clear guidelines in the data submission instructions, registries were not always able to supply the population data in the required detail (sex and single year of age) for each calendar year to match the years of diagnosis submitted. There was a wide variety in the extent and detail with which the population counts were provided, and this may have varied by calendar years or in population subgroups. The details of the submitted population data and the contribution of estimates to the data used in the analyses are indicated in Table A.8. The “Population at risk” sections in Chapter 6 provide further information on data sources and availability for

Table 4.1. Overview of multiple populations occupying the same geographical unit, included in IICC-3

Country, registry, ethnic group	Population counts in the reference year**			Reference year	Data source for total population***
	Age 0–14 years	Age 15–19 years	Total population		
SOUTH AFRICA, paediatric	15 100 089	5 003 477	51 770 560	2011	2
SOUTH AFRICA, paediatric, Asian	258 602	98 556	1 286 930	2011	2
SOUTH AFRICA, paediatric, Black	12 702 324	4 171 450	41 000 938	2011	2
SOUTH AFRICA, paediatric, Coloured	1 311 811	431 263	4 615 401	2011	2
SOUTH AFRICA, paediatric, White	771 187	284 896	4 586 838	2011	2
USA	61 227 213	22 040 343	308 745 538	2010	3
USA, API	3 422 656	1 173 201	16 993 326	2010	3
USA, Black	10 102 891	3 775 192	42 065 334	2010	3
USA, Hispanic White	12 773 847	4 027 899	45 295 968	2010	3
USA, Native American	1 144 526	393 320	4 263 538	2010	3
USA, White NH	33 783 293	12 670 731	200 127 372	2010	3
USA, Hawaii, Hawaiian	86 418	27 160	290 580	2010	1
ISRAEL	2 071 599	577 400	7 623 507	2010	1
ISRAEL, Jews	1 489 100	414 800	5 752 170	2010	1
ISRAEL, Non-Jews	582 499	162 600	1 871 337	2010	1
KUWAIT	747 579	197 471	3 566 437	2010	1
KUWAIT, Kuwaitis	434 303	120 333	1 133 214	2010	1
KUWAIT, Non-Kuwaitis	313 276	77 138	2 433 223	2010	1
SAUDI ARABIA, Saudi Arabia*	7 188 313	2 630 062	27 236 156	2010	4
SAUDI ARABIA, Saudi Arabia, Saudis*	5 550 117	2 206 355	18 776 510	2010	4
SAUDI ARABIA, Saudi Arabia, Non-Saudis*	1 638 196	423 707	8 459 646	2010	4
SAUDI ARABIA, Riyadh	2 030 288	566 626	6 777 146	2010	4
SAUDI ARABIA, Riyadh, Saudis	1 591 669	472 836	4 296 745	2010	4
SAUDI ARABIA, Riyadh, Non-Saudis	438 619	93 790	2 480 401	2010	4
AUSTRALIA	4 198 698	1 460 048	22 031 750	2010	5
AUSTRALIA, Indigenous*	239 857	70 905	656 735	2010	5
AUSTRALIA, 3 registries*	1 379 418	472 622	6 925 367	2010	5
AUSTRALIA, 3 registries, Indigenous	123 925	35 656	339 687	2010	5
NEW ZEALAND	894 405	322 275	4 367 510	2010	1
NEW ZEALAND, Maori	225 940	67 920	662 840	2010	1
NEW ZEALAND, Pacific peoples	88 850	27 505	279 095	2010	1

API, Asian Pacific Islander; NH, Non-Hispanic.
*Population not described in IICC-3.
**The population counts for ages < 20 years are reported as submitted for IICC-3.
***Source of population data for all ages:
1. Cancer Incidence in Five Continents, Volume XI [10].
2. https://www.statssa.gov.za/census/census_2011/census_products/Census_2011_Census_in_brief.pdf
3. https://www.census.gov/data.html
4. https://www.stats.gov.sa/en/
5. https://www.abs.gov.au/

each contributing registry. The lower the quantity and the detail of the provided data, the more estimates were required to complete the missing information and the greater the risk of the estimates not being representative. The most serious errors may result from extrapolation of population for missing years, followed by interpolation for missing years and by splitting the overall annual data into various subgroups. The impact on the incidence rates varies according to the nature of the missing information. For example, missing years of data will influence the annual rates both overall and in sex and age subgroups, as well as the rates for the entire period. Lack of age details may bias the age- and sex-specific incidence rates. The first year of life may be affected most, because

the proportion of infants is higher than the proportion of children in each subsequent year of age in all populations with positive growth and especially in low- and middle-income countries. Therefore, estimating the population of age 0 years as one fifth of the population of the age group 0–4 years may result in overestimation of rates in infants and overall.

Death certificates

The collection of mortality data is outside the scope of cancer registry functions. Death certification is legally required and conducted in most, but not all, countries. The data contained in death certificates may be centralized at a subnational or national level, may be stored on paper or in an electronic format, and may be identifiable or anonymized. Cancer registries may or may not have access to these data. The availability (http://www.who.int/healthinfo/statistics/mortality_rawdata/en) and quality [2] of mortality statistics in the countries represented in IICC-3 are shown in Table A.7.

Cancer registries access information recorded in death certificates with two aims. The first aim is to ascertain cancer cases that had not been registered from other data sources, and the second is to update the vital status of the patients already in the registry. The extent of ascertainment of new cancer cases from death certificates was assessed in IICC-3. Ideally, all causes of deaths recorded at a national level should be reviewed, and any mention of cancer should lead to a record in a cancer registry, whether national or regional. The next best situation is access to regional databases of deaths from all causes. The accessible data must be identifiable to enable matching of the deceased individuals with those in the registry. If the death certificates can only be reviewed for registered patients, the extracted information is useful for their follow-up, and possibly for ascertainment of new primary tumours, but not for identification of unregistered patients. Non-identifiable death certificates are not useful for identification of new cases, although it may still be possible to compare the frequencies of incident cases with the tabulated mortality data to assess the completeness of ascertainment by the registry for cancers with high case fatality, provided that the tumour category is defined in the mortality statistics.

When a cancer is found on a death certificate, it may either be registered as a new case or an existing record can be updated with the date and cause of death. If a new record is established, the registry searches for evidence of this diagnosis in other data sources. If additional information is found, the relevant record is updated with more precise data on diagnosis and date of incidence. However, if no other information is found, the record remains "death certificate only" (DCO) and becomes part of the DCO statistic. A high percentage of DCO cases suggests that the registry failed to register a proportion of cases between the diagnosis and the death. It can therefore be assumed that a similar proportion of cases may have escaped both registration and cancer appearing on a death certificate. Such cases artificially reduce the reported cancer incidence and mortality rates. A high proportion of DCO cases also affects the quality of the diagnosis, which is less accurate for DCO cases than for cancers ascertained from medical records. However, a complete absence of DCO cases from a registry may mean that death certificates do not constitute a source for data ascertainment, and as a result the reported incidence rates may be underestimated. A full account of the role of the DCO statistic in the assessment of data quality and completeness can be found elsewhere [3, 4].

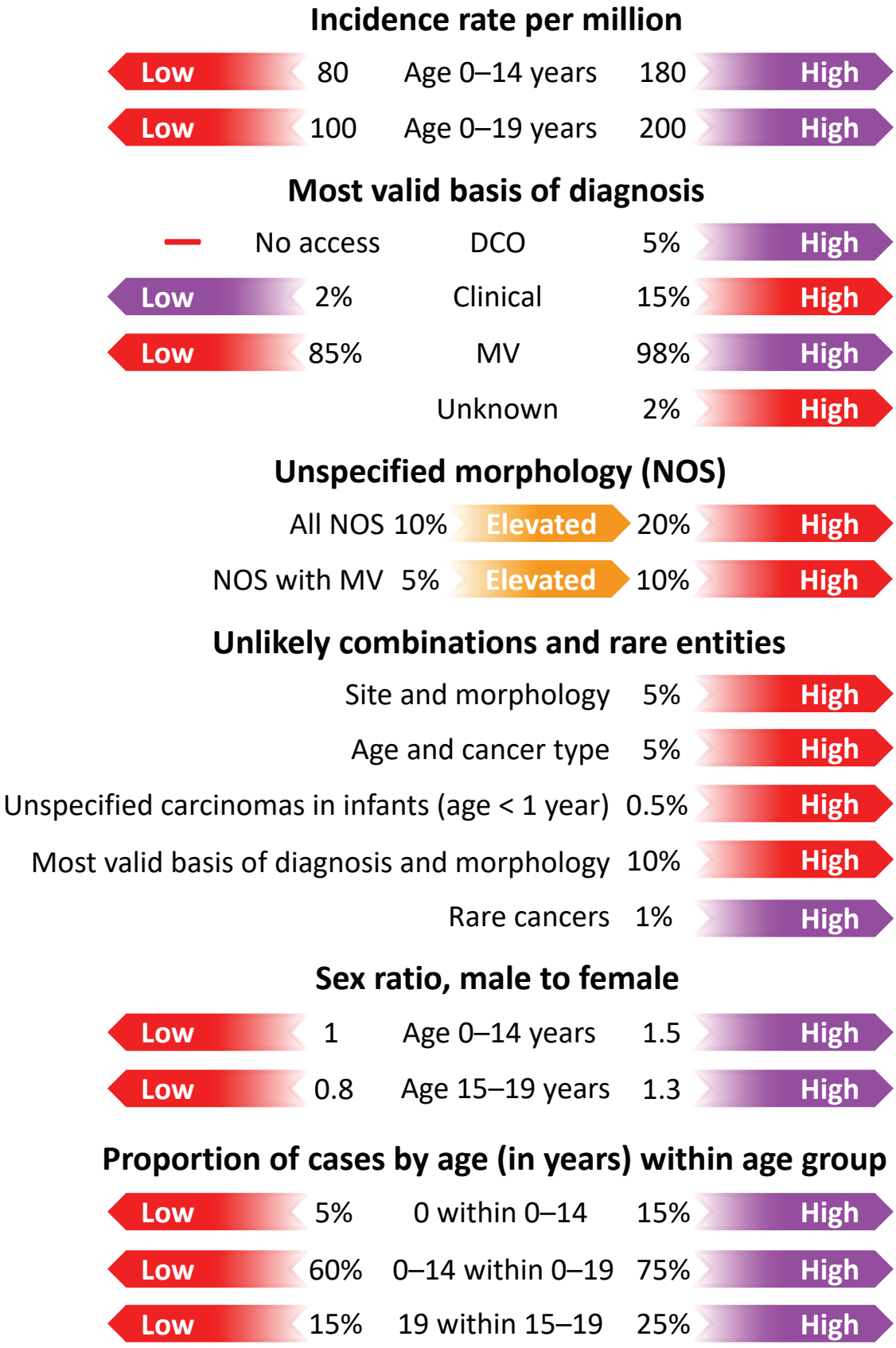
It may be argued that cancer is such a serious condition that it is unlikely for a child with cancer not to have any diagnostic record before death, and therefore that the proportion of DCO cases in children is close to zero. Although this may be true in populations that benefit from a high level of health care and excellent access to diagnostic and therapeutic facilities, a cancer death without a diagnosis, even in a child, is an established fact in many low-income countries. Therefore, the percentage of DCO cases is shown for each diagnostic category in the registry-specific tables. The overall percentage of DCO cases can be compared among the datasets in Table A.9. For the registries that reported no access to death certificates, this item is represented by a red dash in the relevant column. The value 0.0 means either that no cancer cases were identified from examined death certificates or that all identified cases were successfully traced back and additional information was found in medical records. The percentage of DCO cases is highlighted in purple if it is greater than 5% (Fig. 4.1). The percentage was not provided for the pooled datasets, except when all constituent registries reported accessibility to death certificates.

Clinical records

Information on cancer diagnosis is generated by public hospitals, private clinics, paediatric departments, specialized treatment centres, laboratories, and other institutions. In some countries, notification of all cancer diagnoses to the registry is mandatory; in others, the registries mostly visit the relevant institutions and search actively in medical records. Except for DCO cases, all registered cases should be based on at least one medical record. However, registries usually compile each case record from several data sources.

Information on the most valid basis of diagnosis is one of the mandatory data items, and the coding is defined in ICD-O-3 [5]. Based on this standard, in IICC-3 a clinical basis of diagnosis was coded for all cases that were not known to be based on microscopic examination of tumour tissue, except for the DCO cases and those for which the basis of diagnosis is unknown. The proportion of cases defined solely by a clinical diagnosis is relatively low in children with cancer, although some such diagnoses, which may be made unequivocally without tissue examination, do occur in children (Table 4.2).

The overall percentage of cases that are based solely on clinical records can be found in Table A.9 for all datasets that are presented in a separate table. The arbitrary limits of the reasonable range were set to 2–15% and are colour-coded in Table A.9 as indicated in Fig. 4.1. A very low percentage suggests that some cases with only clinical diagnosis may be missed by the registry, whereas a high percentage usually indicates inadequate pathology services or an inability of the registry to access the pathology records.



Note: Certain indicators are not highlighted for specialized paediatric datasets.

Fig. 4.1. Arbitrary cut-off values defining the colour code used for selected indicators displayed in Table A.9 and Table A.11. The listed indicators were not evaluated for the specialized paediatric cancer registries unless otherwise specified. DCO, death certificate only; MV, microscopically verified.

Table 4.2. Neoplasms for which a specific morphology code can be assigned without microscopic examination [9]

ICD-O-3 [5] / ICD-O-3.1 [8]			
Morphology		Topography	
Code	**Term**	**Code**	**Term**
8000	Neoplasm, NOS		
8150–8154	Islet cell tumours, gastrinomas		
8170	Hepatocarcinoma		
8270–8281	Pituitary tumours		
8720	Melanoma of the eye	C69.*	Eye
8720	Melanoma of skin	C44.*	Skin
8800	Sarcoma, NOS		
8960	Nephroblastoma, NOS		
9100	Choriocarcinoma, NOS		
9140	Kaposi sarcoma		
9350	Craniopharyngioma		
9380	Glioma		
9384/1	Subependymal giant cell astrocytoma		
9500	Neuroblastoma, NOS		
9510	Retinoblastoma, NOS		
9530–9539	Meningioma		
9590	Lymphoma, NOS		
9732	Multiple myeloma		
9761	Waldenström macroglobulinemia		
9800	Leukaemia, NOS		

*Applies to the whole range of valid codes that start with the digits shown.
Source: Compiled from Fritz et al. (2000) [5], Fritz et al. (2013) [8], and Ferlay et al. (2005) [9].

Pathology records

Microscopic confirmation of diagnosis

With the current state of knowledge and diagnostic advances, the examination of tumour tissue under a microscope and the ensuing pathology report are considered the most reliable basis of diagnosis, although the pathology assessment is increasingly supplemented by genetic studies. As a result, the high proportion of microscopically verified (MV) diagnoses increases the credibility of the tumour-specific incidence rates. Microscopic verification includes histology (examination of tissue sections from biopsy of the primary tumour or of a metastasis, or of tissue obtained at operation or autopsy) and cytology (haematological examination of peripheral blood specimens).

Although a high proportion of MV cases is desirable, values close to 100% should be regarded with caution because, depending on the registry context, these may suggest that some clinically diagnosed cases were missed. In Table A.9 the percentage of MV cases is shown for all the datasets that are presented in separate tables. Values greater than 98% or less than 85% are highlighted, as shown in Fig. 4.1. The percentage of MV cases is also shown for all the diagnostic categories in the standard registry-specific tables.

Table A.9 displays the percentage of diagnoses with an unknown basis of diagnosis, and values greater than 2% are highlighted (Fig. 4.1). A high percentage of cases with unknown basis of diagnosis reduces the confidence placed on the reported rates.

Unspecified morphology

Another quality indicator, partly related to the proportion of MV cases, is the proportion of cases with unspecified morphology (NOS). For the purposes of IICC-3, all records that are classified in the subgroups of ICCC-3-2017 that gather the neoplasms in the unspecified categories of the main diagnostic groups (Ie, IIe, IIIf, VIc, VIIc, VIIIe, IXe, XIIb), those with unspecified histology codes M-8000 to M-8005 in Xe, and the ill-defined and unspecified sites (C76 to C80.9 only) in the subgroup XIf were included in the overall percentage of NOS cases displayed in Table A.9. The percentage represented by the subgroups of unspecified tumour types can also be assessed in the registry-specific tables. A high proportion of NOS cases indicates a reduced quality of the data and raises

questions about the reliability of the tumour-specific incidence rates; therefore, values greater than 10% of the total cases are highlighted, as indicated in Fig. 4.1.

A high proportion of NOS cases was not always correlated with a low proportion of MV cases. Therefore, in Table A.9 the percentages of NOS cases with microscopic verification are also shown, and high values are highlighted according to the thresholds shown in Fig. 4.1.

A particular subset of the NOS cases includes all those classified in subgroup XIIb with the morphology codes M-8000 to M-8005 and topography codes indicating a possibility of a more appropriate ICCC category; examples are leukaemia (C42), skin carcinoma or melanoma (C44), soft tissue sarcoma or neuroblastoma (C49), retinoblastoma (C69 or C69.2), thyroid carcinoma (C73), neuroblastoma or adrenocortical carcinoma (C74), and lymphoma (C77). Although these cases would still fall within an unspecified subgroup, the overall rates of the main diagnostic groups (e.g. leukaemia, lymphoma, or unspecified) would be more correctly estimated. Following the recoding of some of these cases, to enable them to be reassigned into more specific subgroups, the residual numbers of these tumours are shown in Tables 11.5.a and 11.5.b.

Demographic information

Dates and age

Recording accurate date of birth and date of incidence is necessary to calculate the age at diagnosis with an accuracy of 1 day. Because the spectrum of tumours varies rapidly during early years of age, age should be defined and calculated in the same way in all compared registries. However, as shown by the data on incomplete dates in Table A.8, age may have been marginally biased in some registries. Most importantly, India and some other countries lack customary usage of birth date, because it may not be recalled or reported accurately. Therefore, age is recorded as reported by the family, but no validation of its value is possible in the registry or in IICC-3. In other settings, registries may have decided to collect part of the date only (e.g. month and year), which may have an impact on the exactness of age. Other registries were unable to submit full dates because of data confidentiality considerations. Although these registries may have collected accurate dates and used them to calculate age, it was not possible to review the completeness of the recorded dates and validate the age calculation centrally. In some registries the dates were seemingly complete, but the days or months were not distributed as expected. For example, there may have been an excess of days 1, 15, or 30 in a month or an excess of January or July in a year. Except in small datasets, such excesses almost certainly indicate that the real dates were unknown for some cases and that the registry completed the dates with some agreed or random dummy values. Thus, the percentage of incomplete dates in Table A.8 includes, in addition to the dates with values coded as unknown, also the percentages greater than 5% for a given day in a month and the percentages greater than 10% for a given month in a year.

Whenever both date of birth and date of incidence were provided, the age of the patient was calculated by a standard algorithm with a precision of 1 day for all cases and compared with the provided age. In the absence of complete dates, the exact age could not be confirmed. However, for records with a missing date element the calculated age was required to lie within an adequate interval of the provided age. All records with an inconsistency between the provided age and the calculated age were listed for verification and correction by the registry, and the remaining proportion of such records in the final dataset is shown in Table A.8. Use of the calculated age, as opposed to the provided age, in the analyses is also indicated in Table A.8.

Inexact age recorded by a registry may have affected the overall incidence rates, because one of the selection criteria of the data for the IICC-3 study was the age restriction (cancer incident before age 20 years). By extension, the age-specific incidence rates would also be biased. A particularly strong effect could have been exercised on the incidence rates for the extremes of the age range: age 0 years and age 14 years or 19 years. For example, rates in infants in the registries with incomplete or imprecise dates may be underestimated, as documented in some registry-specific tables and Editors' comments. A high proportion of infants may indicate opportunistic screening for neuroblastoma or early diagnosis of other embryonal tumours, and if this is accompanied by an unlikely case mix, the presence of adult cases with unknown age coded to 0 may be suspected, although such cases should have been eliminated through verification of unlikely combinations of age with tumour (Table 4.3). Extreme values of the proportion of cases aged 19 years in the age group 15–19 years or of the proportion of cases aged 0–14 years in the age group 0–19 years in Table A.9 may also suggest biased age, dates, or other data items. Although such bias was detected and corrected in the course of the editorial process in some registries, an unexpected age pattern is highlighted in Table A.9, using the arbitrary limits defined in Fig. 4.1.

Sex

In the areas where cancer registration is considered complete, the overall male-to-female sex ratio of cancer cases in a population younger than 15 years is about 1.2 [6], i.e. boys with cancer are registered about 20% more frequently than girls. However, in several low- and middle-income countries the proportion of registered boys was consistently higher. A high sex ratio may be explained by a high occurrence of cancer types that are more frequent in boys than in girls, such as lymphomas in the Mediterranean countries. However, where the case mix alone cannot explain the excess of registered boys, a sex-based inequity may be suspected. As mentioned by some registries, sick boys may be more likely to get medical attention than sick girls. Such unequal treatment thus reduces the comparability of the incidence rates, both for the two sexes combined and for the undertreated sex (usually girls). In Table A.9, the sex ratios for the age range 0–14 years and the age range 15–19 years that are outside the limits outlined in Fig. 4.1 are highlighted accordingly. Sex ratios are also reported in the registry-specific tables displayed online and in some comparative tables (see Chapter 5). As noted in Table A.8, sex was not recorded for a very small percentage of cases in a few registries; these cases were excluded from sex-specific analyses.

Table 4.3. Definition of the queried combinations of age with cancer type in IICC-3

ICD-O-3 [5] / ICD-O-3.1 [8]		ICCC-3-2017 (see Chapter 3)	Entity	Unlikely age in years
Morphology	Topography	Subgroup**		
9823		(Ia)	B-cell chronic lymphocytic leukaemia / small cell lymphocytic lymphoma	0–19
		IIa	Hodgkin lymphomas	0–2
9732		(IIb)	Multiple myeloma	0–19
		IVa	Neuroblastoma and ganglioneuroblastoma	10–19
951*		(V)	Retinoblastoma	6–19
		VIa	Nephroblastoma and other non-epithelial renal tumours	10–19
		VIb	Renal carcinomas	0–4
		VIIa	Hepatoblastoma and mesenchymal tumours of the liver	10–19
8970		(VIIa)	Hepatoblastoma	5–19
		VIIb	Hepatic carcinomas	0–4
		VIIIa	Osteosarcomas	0–3
		VIIIb	Chondrosarcomas	0–4
		VIIIc	Ewing tumour and related sarcomas of bone	0–3
8991		(IXa)	Embryonal sarcoma	16–19
		Xb	Malignant extracranial and extragonadal germ cell tumours	5–9
		Xd	Gonadal carcinomas	0–4
9072		(Xa, Xb, Xc)	Polyembryoma	0–19
		XIb	Thyroid carcinoma	0–2
		XIc	Nasopharyngeal carcinomas	0–4
		XIe	Skin carcinomas	0–4
		XIf	Other and unspecified carcinomas	0–2
905*		(XIIa)	Mesothelial neoplasms	0–19
8981		(XIIa)	Embryonal carcinosarcomas	0–19
	C15*		Oesophageal cancers	0–19
<9590	C17*		Cancer of small intestine other than lymphoma	0–19
	C19*		Rectosigmoid junction cancers	0–19
	C20*		Rectum cancers	0–19
	C21*		Anal cancers	0–19
	C23*		Gallbladder cancers	0–19
	C24*		Biliary tract cancers	0–19
	C38.4		Pleural cancers	0–19
	C50*		Breast cancers	0–19
	C53*		Cancer of uterus (cervix)	0–19
	C54*		Cancer of uterus (corpus)	0–19
	C55*		Cancer of uterus (NOS)	0–19
814*	C61*		Adenocarcinoma of prostate	0–19
≠824*	C33*		Cancer of trachea (except for carcinoid tumours)	0–19
≠824*	C34*		Cancer of lung (except for carcinoid tumours)	0–19
≠824*	C18*		Cancer of colon (except for carcinoid tumours)	0–19

*Applies to the whole range of valid codes that start with the digits shown.
**If the code is enclosed in parentheses, only the morphology codes shown are subjected to the check.
<Applies to all numerically inferior morphology codes.
≠Applies to all morphology codes that differ numerically from the values shown.
Source: Compiled from Fritz et al. (2000) [5] and Fritz et al. (2013) [8].

ELIGIBILITY FOR REPORTING

The principal mission of a population-based cancer registry is to record all cases of cancer that occur in a defined resident population. All malignant tumours as well as non-malignant intracranial and intraspinal CNS tumours (categories III and Xa of ICCC-3-2017) are classified by ICCC, and all classifiable tumours were eligible for inclusion in IICC-3, as specified in the call for data.

Although most cases that are eligible for IICC-3 are recorded in all registries, some groups of neoplasms are excluded or are recorded only sporadically in some registries. The eligibility criteria may be resource-driven, but other considerations, related to disease specification or confidentiality principles, may also play a role. The most common exclusion criteria are linked to the assessed behaviour of tumours.

Non-malignant CNS tumours

Within the target age range of IICC-3, brain tumours constitute a major tumour group. In complete datasets, about one third of these tumours are non-malignant. Non-malignant tumours are those that grow in place but do not spread (benign, code /0), and the term also includes uncertain behaviour (uncertain whether benign or malignant, code /1). Although in situ behaviour, which is also non-malignant, is not coded in ICD-O-3 for the morphologies associated with CNS tumours, the behaviour code /2 was also eligible for inclusion in IICC-3 if reported. Non-malignant CNS tumours can produce similar health effects and require similar therapeutic intervention as malignant tumours. They have an impact on mortality rates, because of their location. Non-malignant CNS tumours were included in the previous IICC volumes.

The reporting of non-malignant CNS tumours by the registries varied, with registries including all of them, selecting only some of them (typically pilocytic astrocytoma), recording them occasionally (non-systematic), or recording none of them. Some registries chose not to submit data on non-malignant CNS tumours to IICC-3, although they collected these data. Table A.9 shows the eligibility for registration of non-malignant CNS tumours, as well as their proportion in each dataset tabulated in IICC-3.

A major contributor to the geographical differences in the incidence rates of CNS tumours may have been the change in the coding of behaviour for pilocytic astrocytoma (ICD-O-3 M-9421) from malignant (code /3) in ICD-O-2 [7] to uncertain (code /1) in ICD-O-3 [5] in 2000. This change resulted in variation in reporting of this tumour. Some registries had stopped collecting information on this tumour if only malignant CNS tumours were eligible for reporting in their registration area (e.g. Australia, South Australia). Others continued collecting this morphology even if no other non-malignant tumours were reportable (e.g. Poland, Kielce). Most registries that continued collecting pilocytic astrocytoma had changed the behaviour code to /1; in others, the behaviour depended on the year of diagnosis: behaviour /3 until implementation of ICD-O-3 and /1 afterwards. The registries in the USA continued to report pilocytic astrocytoma with malignant behaviour, for comparability with older data. Therefore, the number of non-malignant cases, as defined by the behaviour code, may not be comparable across registries or with earlier published data, such as in IICC-2. As can be assessed from Table 10.4, pilocytic astrocytoma may increase the incidence of CNS tumours by up to one third.

The registry-specific tables provide the number of non-malignant CNS cases using the behaviour supplied by the registry, separately for group III and subgroup Xa. In the narratives or in the Editors' comments, further details are provided, such as changes in eligibility criteria during the study period. In Table A.9 the percentage of non-malignant tumours (non-malignant %) relates to the sum of all tumours classified in the diagnostic group III (CNS and miscellaneous intracranial and intraspinal neoplasms) or the subgroup Xa (intracranial and intraspinal germ cell tumours) of ICCC-3-2017. A value of 0.0% of non-malignant tumours should be read in conjunction with information on the collection shown in the adjacent column; it indicates that non-malignant tumours were not eligible, that they were not submitted, or that none were encountered during the study period.

The inclusion of non-malignant CNS tumours results in higher incidence rates. The availability of non-invasive diagnostic techniques, such as computed tomography (CT), magnetic resonance imaging (MRI), or magnetic resonance spectroscopy (MRS), and diagnostic intensity can influence the proportion of non-malignant tumours, so that the incidence rates of non-malignant tumours have a tendency to vary geographically to a greater extent than the incidence rates of malignant tumours.

Myelodysplastic syndromes

Myelodysplastic syndromes (MDS, M-998) were coded to non-malignant (uncertain) behaviour in ICD-O-2 [7] and to malignant behaviour in ICD-O-3 [5]. This change in the coding practices would have affected the completeness of registration of these neoplasms during the study period, in the opposite direction to the pattern described for pilocytic astrocytoma, although the expected impact on the rates would be small because of the rare occurrence of these diseases in the young population.

Carcinoid of appendix

As with other carcinomas, carcinoid tumour is rare in childhood, although its proportion of all neoplasms may start to rise slightly in teenagers. Most carcinoids have malignant behaviour. Carcinoid of appendix (M-8240/1 C18.1) was assigned uncertain behaviour in ICD-O-2 [7] and ICD-O-3 [5]. However, in ICD-O-3.1 [8] the behaviour was changed to malignant. Even before this official change, carcinoid of appendix was coded as malignant by pathologists in some countries (in agreement with the matrix rule F of ICD-O [5, 7]), which may have inflated their incidence rates, not necessarily reflecting differences in cancer risk. The impact of these changes on the presented data may be minimal because this tumour represented much less than 1% of cases in most registries. Percentages that are greater than 1% of the total dataset are highlighted in Table A.11, as indicated for rare cancers in Fig. 4.1.

Skin carcinomas

The subgroup of skin carcinomas (XIe) includes basal and squamous cell carcinomas of the skin. The reluctance of many registries to record these neoplasms springs from the difficulty of ensuring their complete ascertainment, the disproportionate increase in the number of such

tumours with age, and the relative innocuousness of these neoplasms. Therefore, the differences in incidence rates observed in Table 8.29 do not necessarily reflect varying incidence of these cancers, but rather the eligibility criteria applied. These included no registration, non-systematic registration, registration of all except basal cell carcinomas, registration of all except basal or squamous cell carcinomas, registration only if the skin of genitals was the primary site, or complete registration. Table 11.3 shows the distribution of skin carcinomas by primary site.

COLLECTION OF INDIVIDUAL DATA ITEMS

The submitted datasets varied with respect to the coding systems used and the inclusion or completeness of non-mandatory variables.

Coding of tumours

During the registration periods included in IICC-3, the registries may have used one or more coding systems (Table A.10). Most registries submitted cancer data coded to ICD-O-3 [5], and the conversion was done at IARC for other datasets or some records, as indicated in Table A.10. Entire datasets were converted for the registries for which ICD-O-2 [7] is indicated in the column "Coding system submitted", and between 1 and 44 individual histology codes were converted for the registries for which "ICD-O-2" is enclosed in parentheses in Table A.10. The original coding represents the best available information on a given tumour at the time of incidence. A conversion to a later system may influence the eligibility of a tumour for registration; one example is pilocytic astrocytoma, as described above. Sometimes the original code can be converted into more than one new category, and a review of the original medical records is required to recode the case correctly. For example, melanoma coded as M-8742 in ICD-O-2 could be converted either to M-8742/3 or to M-8746/3 in ICD-O-3. Rhabdomyosarcoma coded to M-8900/3 in ICD-O-2 could be converted into three different codes in ICD-O-3: M-8900/3, M8912/3, or M-8921/3. New terms may be introduced, or the behaviour of the existing entities may change from non-malignant to malignant (myeloproliferative neoplasm in ICD-O-3 or Langerhans cell histiocytosis in ICD-O-3.1 [8]). Such changes may affect the comparability of incidence rates over time and between registries, depending on the timing of the uptake of the new classification scheme.

Table A.10 shows the first year of use of a given classification system, as reported by the registries in the IICC-3 questionnaire. These responses were matched with other information (data or supplementary communication with the registries) and modified accordingly if required. Only the classification systems used during the period contributed to IICC-3 are reported, so that the periods over which they were actually used in the individual registries may have been truncated.

Grade

Grade was requested in the call for data as an optional variable. However, because the analyses of the submitted data showed considerable incompleteness, no results are presented for this variable.

Laterality

Cases of retinoblastoma, nephroblastoma, and gonadal tumours were to be optionally provided with an indication of whether they occurred in one side of these paired organs (unilateral tumours) or in both sides (bilateral tumours). Laterality was not collected in many contributing registries and was often incomplete when collected. During the editorial process, multiple diagnoses in the same patients with different laterality were matched using the patient identification number, tumour sequence number, date of birth, and sex of relevant records to identify cases with corresponding diagnoses indicating that both sides were involved in the same patient. If applicable, they were then converted into a single bilateral case and confirmed by the registry. Tables 13.1 to 13.4 show the distribution of laterality by age for the index malignancies in the registries with less than 5% of the cases with missing information. More details can be consulted in the corresponding tables online, in which the laterality distribution is shown for all eligible registries. Thus, comparison of the book and online versions of the laterality tables also indicates the completeness of collection of this data item.

Internal consistency of a cancer record

During the editorial process, the registries were sent lists of records showing various types of queries related to a combination of tumour with age, site with histology, histology with basis of diagnosis, or various rare entities. The choice of validation rules was based on a previous publication [9], with modifications if needed, and additional routines, as described below.

Unlikely combinations of values

Site and morphology

To check for unlikely combinations of site with morphology (histology), a morphological family was assigned to each histology code as in IARCcrgTools [9]. Morphological families group the morphology codes according to the primary sites in which they are likely or unlikely to occur. Every morphology code is classified into a single morphological family. The new morphology codes, created after the definition of morphological families in IARCcrgTools, were also assigned into these families, as shown in Table A.4. In Table A.11, high proportions of cases with unlikely combinations of site and morphology are highlighted (Fig. 4.1). The proportion of unlikely combinations is less than 1% in almost all datasets and does not exceed 5% except in two registries: Libya, Benghazi (10%) and Kuwait. The proportion of cases with unlikely combinations of site and morphology is extraordinarily high in Kuwait (> 50%), as described in the Editors' comments on this dataset in Chapter 6.

Two specific combinations are tabulated separately in Table A.11: carcinomas or neuroblastoma occurring in the brain, as defined in Table 4.4.

Age and cancer type

The provided or calculated age was compared with site, histology, or ICCC-3-2017 category, and the records of cases too young or too old for a given tumour type were sent to registries for verification. The complete set of

Table 4.4. Definition of unlikely or rare entities in IICC-3

ICD-O-3 [5] / ICD-O-3.1 [8]		ICCC-3-2017 (see Chapter 3)	Entity
Morphology	**Topography**	**Subgroup**	
8981			Embryonal carcinosarcoma
8991			Embryonal sarcoma
9072			Polyembryoma
9732			Multiple myeloma
9823			B-cell chronic lymphocytic leukaemia / small cell lymphocytic lymphoma
905*			Mesothelial neoplasms
9500	C70–C71		Neuroblastoma in brain
8810, 8811, 8823, 8830, 8850, 8890, 9120	C40–C41		Rare bone tumours
9180, 9210, 9220, 9240	C49		Rare soft tissue sarcomas
	C70–C72, C75.1–C75.3	XIf	Carcinomas in brain
824*			Carcinoid

*Applies to the whole range of valid morphology codes that start with the digits shown.
Source: Compiled from Fritz et al. (2000) [5] and Fritz et al. (2013) [8].

age–tumour checks is shown in Table 4.3. The proportion of such unlikely records is shown in Table A.11 and is highlighted in red if it represents more than 5% of cases in an individual dataset. The proportion of unspecified carcinomas recorded in infants (age < 1 year) is shown separately and is highlighted if it exceeds 0.5% of the total number of cases, as indicated in Fig. 4.1.

Basis of diagnosis and morphology

The microscopic examination of tissues is required to assign a specific morphology code for a neoplasm. The specific morphology codes that can be assigned on the basis of clinical diagnosis only are shown in Table 4.2 [9]. The proportion of cases with inconsistency between morphology and basis of diagnosis is shown in Table A.11 and is highlighted if it represents more than 10% of cases in each dataset (Fig. 4.1).

Rare entities

The tumour types that are considered to be sufficiently rare to require double-checking for a potential error in recording or coding are listed in Table 4.4, and the proportions in each dataset are shown in Table A.11. Values are highlighted if they represent more than 1% of cases in an individual dataset (Fig. 4.1).

Other validation rules

Other internal consistency rules, listed in Table 4.5, were also applied and resulted in listing the records for validation or correction by the registry. Some of the identified inconsistencies were resolved before data were included in the analyses; the remaining ones were reported, according to Table 4.5.

Incidence rates

The incidence rates were assessed for plausibility overall and by age, sex, and tumour groups, in conjunction with all other information provided by a registry or derived from data. In Table A.9 the overall incidence rates outside the expected limits are highlighted, separately for ages 0–14 years and 15–19 years, as indicated in Fig. 4.1. The incidence rates should be examined in view of all the characteristics of the registry, the eligibility criteria for registration, the data quality, and potential sources of bias, as documented in the registry narratives and Editors' comments in Chapter 6 and summarized in the cited Annex tables.

Conclusions

As presented in this chapter, data users must be aware of the inherent residual differences between the datasets documented in this publication, because they may explain some of the observed variations. While cancer registries continue to harmonize their registration principles and methods to produce internationally comparative results, this volume offers the most complete, timely, and comparable data on the global incidence of childhood cancer.

Table 4.5. Miscellaneous internal consistency checks used in IICC-3

Variables involved	Issue	Management
Age	Inconsistent with dates of birth and diagnosis	Reported in Table A.8
Basis of diagnosis	Unknown	Reported in Table A.9
Behaviour	Metastatic (/6) or unknown (/9)	Resolved
Dates	Incorrect sequence	Resolved
Dates	Missing or incomplete	Reported in Table A.8
Histology	Not listed in ICD-O-3	Resolved
Histology and behaviour	Not listed in ICD-O-3	Included if confirmed
Identification number	Not unique, or missing	Resolved
Laterality	Unknown	Reported in tables in Chapter 13
Sequence number	Unmatched records for a single patient	Resolved
Sex	Unknown	Reported in Table A.8
Sex and morphology	Morphology linked with opposite sex [9]	Resolved
Sex and site	Male with C51–C58 or female with C60–C63	Resolved
Site	Not listed in ICD-O-3	Resolved
Site and behaviour	In situ behaviour (/2) in sites C70–C72	Included

Source: Compiled from Fritz et al. (2000) [5], Fritz et al. (2013) [8], and Ferlay et al. (2005) [9].

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Chapter 5. Data presentation

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IICC-3 brings together the largest collection of high-quality data on childhood cancer incidence available worldwide. All possible efforts were undertaken to make the presented datasets comparable. However, there are inherent differences in the data sources, outlined below, which needed to be considered when presenting the results.

1. **Period of contribution.** The registration periods ranged from 3 years to 31 years (Fig. 1.2). Although this fact did not modify the way the dataset is presented, the selection of a registry for IICC-3 may have depended on the length of the registration period. The most relevant example is the registry of Kingston and St. Andrew in Jamaica, which would not have met the criterion of the minimum number of cases if the included period had started in 1990, the first year of the IICC-3 target period. This registry had contributed to IICC-1 until 1981; therefore, a unique exception was made to include data for all the subsequent years from 1982 onwards. To be included in IICC-3, a registry had to provide data for at least three consecutive calendar years of registration.
2. **Pooled datasets.** Some registries covered small populations, and even a prolonged time period did not suffice to accumulate enough cases to estimate stable incidence rates. Such a dataset could still contribute to IICC-3 through a national pool for its country.
3. **Ethnic populations.** Cancer and population data were available for two or more groups defined by other than geographical criteria in registries in seven countries (Table 4.1). Ethnicity-specific tables were produced for 191 subpopulations complying with the other quantitative and qualitative inclusion criteria.
4. **Paediatric cancer registries.** Among the contributing registries, 19 collected their data exclusively in a paediatric population and all except one of them had recorded information only on children aged 0–14 years for at least part of the period included in IICC-3. The restriction of their contribution to the age range 0–14 years is reflected in the design of the tables and in the selection of registries in tables and pools.
5. **Specialized cancer registries.** Two national paediatric registries in France and one in Greece collected data only on selected cancer types. These selective registration criteria were reflected in the design of the tables.
6. **Reportability.** The definition of reportable cancers differed between registries, as described in the "Eligibility for reporting" section of Chapter 4. Therefore, specific comparative tables were constructed to expose some such differences.
7. **Available detail.** All required detail was not always available, so that some registries could not contribute to some tables, for example those showing the distribution of cases by laterality.

This chapter provides a roadmap to the available IICC-3 output and describes its contents, with an emphasis on the presentation of results. The rationale and methodology are summarized in Chapters 1–4.

GENERAL PRINCIPLES

Dual dissemination routes

With the growing number of cancer registries capable of providing data for international comparative studies, the wealth of available information overflowed the capacity of a printed publication following the model of the two previous IICC volumes. However, the true variability of the data can only be explored if all the data are fully accessible. To address both these considerations, two complementary channels of distribution of the IICC-3 results were developed, each offering somewhat different contents. The aim of the book was to present IICC-3 in a condensed portable package, while maintaining as much variability in data representation as possible. The online version aims to provide complementary detail, expected to be of use to researchers and policy-makers looking for detailed comparisons.

As a result, data from 308 registries operating in 82 countries and territories are presented in 123 registry-specific tables in Chapter 6 of the book and online resources. With additional tables available online only, a total of 515 datasets are presented in 518 tables online, including in 60 abbreviated tables. These datasets are compared in 116 comparative tables in Chapter 7 to Chapter 13 of the book; some of the corresponding tables available online provide additional detail.

In the book, a table is presented for a single registry if the registry is national or paediatric, or if it is a single registry for a given country. For most countries represented by two or more registries, only a combined national dataset is presented. Additional tables for a subnational dataset were also allowed for registries of specific interest. For example, a history of contribution to IICC and a distinct cancer registration practice or health-care system justified the inclusion of the Hong Kong Cancer Registry, in addition to the national pool for China.

The IICC website (https://iicc.iarc.who.int/) enables the publication of tables for all contributing registries, as long as they complied with the relevant eligibility criteria. Both dissemination channels are an integral part of IICC-3 and should be cited accordingly. The differences between the book and online versions are described below for each type of output.

Combined datasets
For countries represented by several subnational cancer registries, combined pools were prepared, to serve multiple aims. First, the pooled datasets can facilitate international comparison by smoothing out the regional differences within a country. Second, small datasets could contribute to a combined dataset, whereas they could not be included separately. Third, a pooled dataset satisfactorily represents the contributing subnational datasets in the book; a list of the contributing registries is displayed next to the table showing a pooled dataset.

Registry listings
In all lists, the registries are sorted by alphabetical order of the English names of the continent, the country, and the covered area. The naming conventions used for the geographical entities were guided by the United Nations standards (https://unstats.un.org/unsd/methodology/m49) applicable at the time of data collection. Each population label includes the name of the country, the name of the region (if the registry is not national), an indication of a specialization in registration of childhood cancers (identified as "paediatric") or specific tumour types ("specialized"), the name of the subpopulation (such as a racial or ethnic group, if applicable), and the time period of data contribution.

Within a country, a specific order of listing was respected. A general national cancer registry was listed first, followed by a national paediatric cancer registry, subnational combined paediatric datasets, individual paediatric registries in alphabetical order, subnational datasets combining general cancer registries, individual general cancer registries, and any subpopulations, in alphabetical order. The subpopulations are sorted alphabetically within the registry, and more-specific ethnicities are listed before less-specific ethnicities (e.g. "Saudi" precedes "non-Saudi").

Citing IICC-3 sources
The data released in the framework of the IICC-3 study will generate knowledge on cancer burden and control in the childhood population. The online publication of these data enables any interested reader to compare cancer rates across all diverse populations described by the contributing registries, without restriction of access. This data resource is the fruit of collaboration among thousands of people worldwide over many years, striving for common standards and a common cause. Without their hard work and dedication, this information could not be made accessible. The only reward expected by the IICC-3 collaborators is the acknowledgement of their efforts through the appropriate citation of these unique resources by all data users (see https://iicc.iarc.who.int/results/online-resources/).

ORGANIZATION OF THE AVAILABLE MATERIAL
Contributors
This section contains the list of IICC-3 editors and all other individual contributors. All contributing registries are listed, whether or not their dataset is shown separately in the publication. Both the official registry name and a short registry label used in tables are included in the list. The names of individuals listed in this section correspond with the authors' list within the registry-specific narratives, and all individuals are shown as contributors on behalf of the relevant registry at the time of their contribution, even if they may be also affiliated with another institution.

The contribution of two registries in the USA to the national pools is acknowledged in the list of contributors, although they did not wish their data to be presented separately.

Maps
Areas covered by the cancer registries are shown on the world map and by continent near the beginning of the book. If the coverage of a country is insufficiently portrayed on the continental maps, a country map is provided in greater detail in Chapter 6, next to the narrative for that country.

Methodology
Chapter 1 introduces the rationale and specific characteristics of the IICC-3 study and provides an overview of the evolution of the contributions to the IICC series. Chapter 2 covers the methods of data collection and the editorial process. Chapter 3 describes the classification of neoplasms used to group and present the results. Chapter 4 addresses data quality and comparability issues, and this chapter (Chapter 5) explains how the results are organized and made available. A total of 13 tables in which the data coverage, collection, availability, classification, and quality are described are included as Annex tables.

Results by registry
The registry-specific material constitutes Chapter 6. It contains a narrative describing the country, the specifics of the registration area and process, and the sources of population data. This is followed by Editors' comments. The purpose and content of these sections are described in the "Design of the output" section of Chapter 2.

Person-years
Each presented dataset is supplied with a table showing the person-years and average annual population by sex covered during the contributed period. If the registration area and the covered population changed significantly over the reported period, the average annual population is not shown.

Standard incidence table for a single dataset
Each dataset with at least 200 cases in the age range 0–14 years or at least 300 cases in the age range 0–19 years is presented in a standard descriptive table.

Standard tables are not numbered; they can be identified by their titles, as described in the "Registry listings" section above. A complete list of the available tables is shown in Table A.12; 123 standard tables are included in the book.

In a standard incidence table, the main diagnostic groups and subgroups are listed in the first column using the code and a short label for each category of ICCC-3-2017. The full names of all diagnostic categories can be found in Table A.2 and Table A.3. In the tables of the specialized paediatric cancer registries of France and Greece, data are shown only for the tumour types that were eligible for registration during the study period shown in the title.

The next seven columns show the numbers of cases observed in each defined diagnostic category in the age groups 0, 1–4, 5–9, 10–14, 15–19, 0–14, and 0–19 years over the period shown in the title. The percentage of the number of cases for each diagnostic category either within the total number of cases across all categories ("All") or for a subgroup within the main group ("Group") are also displayed, separately for the age ranges 0–14 years and 0–19 years.

The subsequent columns show the age-specific average annual incidence rates per million for each diagnostic category in the age groups 0, 1–4, 5–9, 10–14, and 15–19 years and the age-standardized incidence rates (ASRs) for the age ranges 0–14 years and 0–19 years. Cumulative incidence rates for these two age ranges are also provided. The calculation of the rates is described in Chapter 2.

The last two columns show the percentages of microscopically verified (MV) cases and death certificate only (DCO) cases in the total age range for each diagnostic category. The interpretation of these quality indicators can be found in Chapter 4, and their overall values are compared between the registries in Table A.9.

A table for a paediatric registry has the qualifier "paediatric" in its title. If data for the age group 15–19 years were not collected by a paediatric cancer registry, the columns for 15–19 years and 0–19 years are not shown in the standard dataset-specific tables, and the quality indicators are calculated for the age range 0–14 years. If data for the age range 15–19 years were collected by a paediatric registry (for the full period in Belarus or for a part of the covered period in the two paediatric cancer registries in Italy), data are displayed in all columns like for the general cancer registries.

Combined (pooled) datasets

Where two or more registries were included from a single country or where the presented dataset is a combination of data from several subnational registries or ethnicities, the narratives lead to the table showing the data pertaining to each individual registry (the period of contribution, the numbers and percentages of the contributed cases, and the numbers and percentages of the contributed person-years). In addition, the person-years in the pooled population are summarized in another table, in which the average annual number of person-years is only shown if all registries contributed data for the same calendar years to the pool.

The title of the combined table has the name of the country, the number of registries included in the presented pooled dataset (unless the contributing registries cover the entire country), the ethnic group if relevant, and the study period, composed of the earliest and latest calendar years covered by any of the contributing datasets. The layout of the combined table is the same as that of the standard tables. The datasets were pooled only if they covered the same age range: either 0–14 years or 0–19 years. For the registries that include only the age group 0–14 years, the data for age groups 15–19 years and 0–19 years are not shown in the tables presenting combined paediatric datasets.

A combined table was not created for two countries with multiple datasets: Pakistan and Peru. Two datasets were accepted from each country, but their study periods were far apart and one of the two registries in each country was no longer operating (Karachi in Pakistan and Trujillo in Peru). For these reasons, combining the datasets was deemed misleading. A total of 50 combined tables were created for 28 countries or territories, including tables for 7 ethnic groups (Table 5.1), and 38 combined tables were included in the book.

Table 5.1. Composition and characteristics of combined datasets (pools) presented in IICC-3

Pool	Constituent registries	Pool coverage	Pool type
AFRICA			
ALGERIA, 5 registries (1996–2014)	Algiers, Annaba, Batna, Sétif, Tlemcen	Regional	General
KENYA, 2 registries (2000–2012)	Eldoret, Nairobi	Regional	General
MOROCCO, 2 registries (2005–2012)	Casablanca, Rabat	Regional	General
TUNISIA, 2 registries (1993–2007)	North, Sousse	Regional	General
AMERICA, LATIN AND THE CARIBBEAN			
ARGENTINA, 6 registries (1991–2013)	Bahía Blanca, Chaco, Córdoba, Entre Ríos, Mendoza, Neuquén	Regional	General
BRAZIL, 5 registries (1995–2012)	Aracaju, Belo Horizonte, Curitiba, Goiânia, João Pessoa	Regional	General
CHILE, 4 registries (1998–2012)	Antofagasta, Bío Bío, Concepción, Valdivia	Regional	General
COLOMBIA, 4 registries (1992–2013)	Bucaramanga, Cali, Manizales, Pasto	Regional	General
ECUADOR, 5 registries (1993–2013)	Cuenca, Guayaquil, Loja, Manabí, Quito	Regional	General
FRANCE, 3 registries (1990–2012)	French Guiana, Guadeloupe, Martinique	Regional	General

Table 5.1. (Contd) Composition and characteristics of combined datasets (pools) presented in IICC-3

Pool	Constituent registries	Pool coverage	Pool type
AMERICA, NORTH			
CANADA, 9 registries (1992–2013)	Alberta, British Columbia, Manitoba, Northwest Territories, Nova Scotia, Ontario, Quebec, Saskatchewan, Yukon	Regional	General
USA (1998–2012)	See Table 6.1.	National	General
USA, API (1998–2012)	See Table 6.1.	National	General
USA, Black (1998–2012)	See Table 6.1.	National	General
USA, Hispanic White (1998–2012)	See Table 6.1.	National	General
USA, Native American (1998–2012)	See Table 6.1.	National	General
USA, White NH (1998–2012)	See Table 6.1.	National	General
USA, NPCR (1998–2012)	See Table 6.1.	Regional	General
USA, NPCR, API (1998–2012)	See Table 6.1.	Regional	General
USA, NPCR, Black (1998–2012)	See Table 6.1.	Regional	General
USA, NPCR, Hispanic White (1998–2012)	See Table 6.1.	Regional	General
USA, NPCR, Native American (1998–2012)	See Table 6.1.	Regional	General
USA, NPCR, White NH (1998–2012)	See Table 6.1.	Regional	General
USA, SEER 18 (1993–2012)	See Table 6.1.	Regional	General
USA, SEER 18, API (1993–2012)	See Table 6.1.	Regional	General
USA, SEER 18, Black (1993–2012)	See Table 6.1.	Regional	General
USA, SEER 18, Hispanic White (1993–2012)	See Table 6.1.	Regional	General
USA, SEER 18, Native American (1993–2012)	See Table 6.1.	Regional	General
USA, SEER 18, White NH (1993–2012)	See Table 6.1.	Regional	General
USA, SEER 9, Black (1993–2012)	See Table 6.1.	Regional	General
USA, SEER 9, White (1993–2012)	See Table 6.1.	Regional	General
ASIA			
CHINA, 6 registries (1990–2013)	Beijing, Dalian, Guangzhou, Hong Kong, Shanghai, Zhongshan	Regional	General
INDIA, 7 registries (1990–2013)	Bangalore, Chennai, Kollam, Mumbai, Nagpur, New Delhi, Trivandrum	Regional	General
JAPAN, 8 registries (1990–2013)	Aichi, Hiroshima, Miyagi, Nagasaki, Niigata, Osaka, Tochigi, Yamagata	Regional	General
PHILIPPINES, 2 registries (1993–2012)	Manila, Rizal	Regional	General
THAILAND, 6 registries (1993–2013)	Bangkok, Chiang Mai, Chonburi, Khon Kaen, Lampang, Songkhla	Regional	General
TURKEY, 8 registries (1992–2012)	Ankara, Antalya, Bursa, Edirne, Erzurum, İzmir, Samsun, Trabzon	Regional	General
EUROPE			
FRANCE, 13 registries (1993–2012)	Bas-Rhin, Calvados, Doubs, Gironde, Haut-Rhin, Haute-Vienne, Hérault, Isère, Lille, Loire-Atlantique and Vendée, Manche, Somme, Tarn	Regional	General
GERMANY, 5 Western registries (1994–2012)	Bavaria, Lower Saxony, Rhineland-Palatinate, Saarland, Schleswig-Holstein	Regional	General
ITALY, 2 paediatric registries (1998–2011)	Marche, Piedmont	Regional	Paediatric
ITALY, 26 registries (1992–2013)	Biella; Brescia; Catania, Messina, and Enna; Catanzaro; Como; Ferrara; Friuli-Venezia Giulia; Lecco; Lodi and Pavia; Milan; Modena; Naples South; Nuoro; Parma; Ragusa and Caltanissetta; Reggio Emilia; Romagna; Salerno; Sassari; Syracuse; Trapani; Trento; Turin; Umbria; Varese; Veneto	Regional	General
PORTUGAL (1991–2012)	Azores, Centre, North, South	National	General
RUSSIAN FEDERATION, 2 registries (1998–2015)	Chelyabinsk, Samara	Regional	General
SPAIN, 2 paediatric registries (1991–2013)	Selected regions, Valencia	Regional	Paediatric

Table 5.1. (Contd) Composition and characteristics of combined datasets (pools) presented in IICC-3

Pool	Constituent registries	Pool coverage	Pool type
SPAIN, 11 registries (1990–2013)	Albacete, Asturias, Basque Country, Canary Islands, Cuenca, Girona, Granada, Mallorca, Murcia, Navarra, Tarragona	Regional	General
SWITZERLAND, 7 registries (1990–2013)	Fribourg, Geneva, Neuchâtel, Ticino, Valais, Vaud, Zurich	Regional	General
UNITED KINGDOM (2000–2011)	England, Northern Ireland, Scotland, Wales	National	General
OCEANIA			
AUSTRALIA (1992–2014)	Australian Capital Territory, New South Wales, Northern Territory, Queensland, South Australia, Tasmania, Victoria, Western Australia	National	General
AUSTRALIA, 3 registries, Indigenous (1992–2014)	Northern Territory, Queensland, Western Australia	Regional	General
FRANCE, 2 registries (1990–2013)	French Polynesia, New Caledonia	Regional	General

API, Asian Pacific Islander; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology, and End Results Program.

Registry-specific material

Table A.12 shows which registries are represented by the 458 standard online tables. Unlike the standard tables included in the book, which are limited to a single page showing statistics for both sexes combined, the online versions also show the sex-specific statistics on a second page. The differences between the contents of the tables included in the book and those provided online are described below.

Standard online table for a single dataset

The first page of a standard online table for a single dataset matches exactly the table in the book described above. The online table continues on a second page, where the data are presented by sex for the same diagnostic categories as those shown on the first page. The statistics included for each sex are the numbers of cases in the age groups 0, 1–4, 5–9, 10–14, and 15–19 years and in the age ranges 0–14 years and 0–19 years as well as the average annual age-standardized incidence rates for the age ranges 0–14 years and 0–19 years. The two middle columns show the sex ratio for the two age ranges, 0–14 years and 0–19 years, in each diagnostic category, calculated as the ratio of the numbers of cases in males and females (see Chapter 2). If the presented dataset is paediatric, the columns for the age groups 15–19 years and 0–19 years are left blank. The person-years and the average annual population by sex for the contributed period are tabulated on a third page.

Online table for a combined dataset

The first page of an online table presenting a combined dataset matches exactly the table in the book for the same dataset. The second page shows the combined data by sex, as described in the previous section. This is followed by the tables showing the population at risk for the pool and the constituent registries, with the same contents as in the book. The average annual population may be unavailable in some tables (see the "Person-years" section above). Further pages may show abbreviated tables for eligible constituent datasets.

Abbreviated online table

An abbreviated table is produced for a constituent dataset that does not qualify for a full standard table but has at least 100 cases in the age range 0–14 years or at least 150 cases in the age range 0–19 years. Selected statistics (total number of cases, sex ratio, and age-standardized incidence rate) for the age ranges 0–14 years and 0–19 years are presented for all main diagnostic groups and subgroups of ICCC-3-2017. Abbreviated tables were produced for 60 datasets, as shown in Table A.12, and are only displayed online.

Results by diagnostic category

Comparative tables show selected statistics for one or more diagnostic categories across all eligible registries or datasets, and they are grouped into chapters according to the type of information they provide. A total of 116 comparative tables were produced, as listed in Table A.13.

Differences between the book and online versions

The number of comparative tables is identical between the book and the online versions. In the book, only the datasets that are displayed in full incidence tables selected for the book are included. The online versions of comparative tables include all eligible datasets that are presented in standard incidence tables online. The tables are numbered sequentially within each chapter. The numbering and other characteristics of these tables are shown in Table A.13.

Incidence by main diagnostic groups (Chapter 7)

There are 13 tables in Chapter 7: one for all neoplasms combined and one for each main diagnostic group of ICCC-3-2017. The title includes the name of the main diagnostic group (with the numerical code of the ICCC-3-2017 category in parentheses). The eligible datasets, listed in the first column, are those that are presented in a full standard incidence table. The columns are arranged in three clusters of four; the first cluster refers to the age range 0–14 years, the second to the age range 0–19 years, and the third to the four 5-year age groups 0–4, 5–9, 10–14, and 15–19 years. In the first two clusters, the first column shows the number of cases (N) in the tabulated diagnostic category, followed by the age-standardized incidence rates for both sexes combined, for males, and for females. The third cluster shows the age-specific incidence rates for the four 5-year age groups for both sexes combined. The numbers for the datasets with

fewer than 20 cases in the defined diagnostic category are shown in italic. The paediatric cancer registries with no data for the age range 15–19 years are distinguished by dashes in the columns showing data for the age ranges 0–19 years and 15–19 years.

Incidence by selected diagnostic subgroups (Chapter 8)
Of the 47 diagnostic subgroups defined in ICCC-3-2017, 31 were selected for display in Chapter 8. The other subgroups were either too small (Table A.5) or were included in other more detailed tabulations in the following chapters. One additional table shows data for two subgroups combined: non-Hodgkin lymphomas (IIb) and Burkitt lymphoma (IIc). The design and layout of the tables in Chapter 8 is identical to that of the tables for the main diagnostic groups in Chapter 7.

Incidence by selected diagnostic divisions (Chapter 9)
Of the 84 diagnostic divisions defined in ICCC-3-2017, 44 are presented in comparative tables. In addition, five combinations of two or more divisions are also tabulated, because these combined entities may be of specific interest. The other divisions were considered too sparse or of little interest for presentation in a table. The title includes both the name of the diagnostic subgroup and the name of the division within that subgroup. Registries or datasets are listed in these tables only if at least 20 cases in each division were recorded over the study period shown. The design and layout of these tables is identical to that of the tables for the main diagnostic groups in Chapter 7.

CNS tumours by behaviour (Chapter 10)
The incidence of intracranial and intraspinal tumours is compared in eight tables showing a single diagnostic category or a combination of diagnostic categories, by behaviour (Table 5.2). Table 10.6 is split into two parts (a and b) to enable the display of a large number of divisions in subgroup IIIe. Subgroup IIIc (intracranial and intraspinal embryonal tumours) was not tabulated by behaviour, because these tumours were almost all malignant. For each registry or dataset shown in the first column, the selected statistics are organized in several clusters of columns, with each cluster pertaining to a different diagnostic category. Behaviour may be tabulated in three categories: any (codes /0, /1, /2, and /3), non-malignant (codes /0, /1, and /2), and malignant (code /3). As a rule, numbers of cases (N) and incidence rates are shown in the body of a table, by behaviour and age group. The incidence rates shown for the age range 0–14 years or 0–19 years are standardized, whereas age-specific rates are reported for the 5-year age groups 0–4, 5–9, 10–14, and 15–19 years. All eligible datasets are included in these tables irrespective of the numbers of cases, and the numbers for the datasets with fewer than 20 cases are shown in italic. Datasets for the USA are included in the behaviour tables only for the period starting in 2004, the year when non-malignant CNS tumours became reportable. The dataset for the Greek paediatric cancer registry is included as from 2010, the year for which the collection of CNS tumours started. These tables should be interpreted in conjunction with information on registration of non-malignant tumours in the individual registries, as described in more detail in the registry narratives (Chapter 6), Chapter 3, Chapter 4, and Table A.9.

Primary site of selected diagnostic categories (Chapter 11)
Chapter 11 has five tables; one of them is split into two parts. The tables show the distribution of tumours by primary site and age (either 0–14 years or 15–19 years) for five tumour types. The datasets are listed in the first column, and the 7–13 following columns show the topography categories defined in the column headings.

Table 11.1 shows the groups of sites for intracranial and intraspinal tumours, including the combined total numbers for group III and subgroup Xa and additional topography categories defined by ICD-O-3 codes. All tumours were included irrespective of their behaviour. The eligible registries were listed only if they had 20 or more cases.

In Table 11.2, the total number of malignant melanoma cases (XId) is also split into groups of sites defined in the column headings using the ICD-O-3 codes. The eligible registries were included in the tables if they had 20 or more cases.

In Table 11.3, skin carcinomas (XIe) are presented for the total and for the groups of sites defined by ICD-O-3. The eligible registries were included in the tables if they had 20 or more cases.

In Table 11.4, other and unspecified carcinomas (XIf) are presented for the total and for the groups of sites defined by ICD-O-3. All eligible registries were included, and the numbers for the datasets with fewer than 20 cases are shown in italic.

Table 11.5 presents the subgroup of other and unspecified malignant tumours (XIIb) by site and is split into two parts (a and b). It shows the data for the whole subgroup and for the groups of sites defined by ICD-O-3 in the column headings. The total number of cases for subgroup XIIb is included in both parts of the table (a and b). All eligible registries were included, and the numbers for the datasets with fewer than 20 cases are shown in italic. This table also conveys information on the possible misclassification of certain tumours, in particular those with the primary site of bone marrow (C42), skin (C44), connective tissue (C49), eye (C69), thyroid gland (C73), adrenal gland (C74), or lymph node (C77), as described in Chapter 2 and Chapter 4.

Morphology of selected diagnostic categories (Chapter 12)
The distributions of cases of Hodgkin lymphoma (IIa), thyroid carcinoma (XIb), and skin carcinoma (XIe), respectively, are shown by morphology type in three tables in Chapter 12. The datasets were included in these tables only if they had 20 or more cases.

In Table 12.1, the numbers of cases of Hodgkin lymphoma (IIa) in the age groups 0–4, 5–9, 10–14, and 15–19 years are presented for the entire subgroup and for the six morphology subtypes defined by the ICD-O-3 morphology codes in the column headings.

In Table 12.2, the numbers of cases of thyroid carcinoma (XIb) within the same four age groups are shown for each of the four morphology subtypes defined by the ICD-O-3 morphology codes in the column headings, and for the other and unspecified types.

Table 5.2. Overview of the tumour groups included in tables in Chapter 10

IICC-3 table	M code (ICD-O-3 [1], ICD-O-3.1 [2])	ICCC-3-2017 (see Chapter 3) category*		By behaviour
Table 10.1		III	CNS tumours	+
Table 10.2		IIIa	Ependymomas and choroid plexus tumour	+
		IIIa1	Ependymomas	+
		IIIa2	Choroid plexus tumour	+
Table 10.3		IIIb	Astrocytomas	+
	M-9421	(IIIb)	Pilocytic astrocytoma	+
		(IIIb)	Other astrocytomas	+
Table 10.4		III	CNS tumours	
		(III)	CNS tumours excluding pilocytic astrocytoma	Malignant only
	M-9421	(IIIb)	Pilocytic astrocytoma	
		(III)	CNS tumours (malignant only) combined with pilocytic astrocytoma	
Table 10.5		IIId	Other gliomas	+
		IIId1	Oligodendrogliomas	
		IIId2	Mixed and unspecified gliomas	
		IIId3	Neuroepithelial glial tumours of uncertain origin	
Table 10.6.a		IIIe	Other specified intracranial and intraspinal neoplasms	+
		IIIe1	Pituitary adenomas and carcinomas	+
		IIIe2	Tumours of the sellar region (craniopharyngiomas)	+
Table 10.6.b		IIIe3	Pineal parenchymal tumours	+
		IIIe4	Neuronal and mixed neuronal-glial tumours	+
		IIIe5	Meningiomas	+
Table 10.7		IIIf	Unspecified intracranial and intraspinal neoplasms	+
Table 10.8		Xa1	Intracranial and intraspinal germinomas	
		Xa2	Intracranial and intraspinal teratomas	+
		Xa3	Intracranial and intraspinal embryonal carcinomas	
		Xa4	Intracranial and intraspinal yolk sac tumours	
		Xa5	Intracranial and intraspinal choriocarcinoma	
		Xa6	Intracranial and intraspinal tumours of mixed forms	

*The ICCC-3-2017 codes are enclosed in parentheses when the listed entity is contained within the category shown but it is not equivalent to the whole category.
Note: CNS tumours = central nervous system and miscellaneous intracranial and intraspinal neoplasms.
Source: Compiled from Fritz et al. (2000) [1] and Fritz et al. (2013) [2].

In Table 12.3, the total numbers of cases of skin carcinoma (XIe) are shown for the four age groups overall and for each of the four morphology categories defined by the ICD-O-3 morphology codes in the column headings. The sex ratio (male to female) of numbers of cases is also shown for the total and for each defined morphology category.

Laterality of selected tumours occurring in paired organs (Chapter 13)

The laterality distribution is presented in the four tables in Chapter 13 for tumours originating in four bilateral organs: eye (retinoblastoma), kidney (nephroblastoma), ovary, and testis. All the eligible datasets are listed on the left, and the numbers of cases with unilateral, bilateral, and unknown laterality occurrence are shown across the page, by age group. Some registries (marked with an asterisk in the tables) provided laterality for only a part of their study period.

Tables 13.1 and 13.2 show the laterality distribution of cases of retinoblastoma and nephroblastoma, respectively, diagnosed before age 15 years in ages 0, 1, 2, 3–4, 5–14, and 0–14 years. The dataset provided for the paediatric registry of Piedmont for the period 2000–2011 for the age range 0–19 years is not included, because the data from the same registry, which also provided data for a longer period (1990–2011) for the age range 0–14 years, were preferentially included in these tables.

Tables 13.3 and 13.4 show the laterality distribution of cases of ovarian and testicular cancer, respectively, in the age groups 0–4, 5–9, 10–14, and 15–19 years and the total age range. These tables include all cases classified in the subgroups Xc, Xd, and Xe of ICCC-3-2017 and sorted by the sex of the patient. The total age range is 0–14 years for the relevant paediatric registries (with no data in the columns for 15–19 years) and 0–19 years for the other registries.

There are two differences between the inclusion criteria for the laterality tables in the book and online. First, the tables in the book contain only the datasets with 20 or more cases of a given tumour, whereas the online tables include all the eligible registries (and the numbers for the datasets with fewer than 20 cases are shown in italic). Second, the tables in the book include only the registries with complete information on laterality (≥ 95% of cases in the diagnostic category of interest coded as either unilateral or bilateral), whereas in the online tables all eligible datasets were included.

Annex tables

The Annex tables summarize information relevant to the contributing registries or to childhood malignancies. These tables were placed at the end of the IICC-3 publication to facilitate readers' access to these reference sources. The titles of these tables are self-explanatory, and in the legend, placed just under the title, the criteria for inclusion of individual items and the meanings of the column headings are explained, the abbreviations are spelled out, and any special signs are defined. A short overview of the content of each Annex table is provided below.

In Table A.1, all registries and datasets included in any of the three IICC volumes are listed. The registries were considered to be participants if their data were tabulated or if they were listed as contributors to a pool. The content of Table A.1 is identical in the book and online versions.

Table A.2, Table A.3, Table A.4, and Table A.5 relate to ICCC-3-2017 (described in Chapter 3), and their content is identical in the book and online versions. Table A.2 shows the allocation of the eligible ICD-O codes into the 12 diagnostic groups and their subgroups of ICCC-3-2017. The split of the subgroups into divisions is defined in Table A.3. The morphology codes outside ICD-O-3 [1] that were used in IICC-3-2017 are listed in Table A.4, as defined in ICD-O-3.1 [2] or in the referenced volumes of the WHO Classification of Tumours series [3–9]. Table A.5 shows the numbers of unique cases allocated to each ICCC-3-2017 category in the IICC-3 database. To avoid counting a case twice in populations covered by more than one registry, the cases were counted from only one registry for each overlapping area, calendar year, or diagnostic group.

Table A.6 provides an overview of the period and population covered by each registry and dataset with respect to national childhood populations and with respect to the all-age population of the registration area. The percentage of the population covered was calculated for the population counted in the reference year shown for each registry and dataset. All of the datasets presented in standard or abbreviated tables online are included in the online version of Table A.6, whereas the statistics for the ethnic-specific datasets of the individual registries in the USA and in SEER-9 are not included in the book version of Table A.6.

The size of the total population and that of children (ages 0–14 years) and adolescents (ages 15–19 years) is shown in Table A.7, as estimated for 2010 by the United Nations [10]. The calendar years in which a national census for each represented country was held, as relevant to the IICC-3 period, are also shown. Finally, Table A.7 shows the availability and quality of mortality data [11], based on the WHO Mortality Database [12].

Table A.8 presents the type of missing details in the submitted material. It includes information on the extent of imputation of population counts and on the age variable used for calculation of incidence rates. All of the datasets presented in standard or abbreviated tables online are included in the online version of Table A.8, whereas the statistics for the ethnic-specific datasets of the individual registries in the USA and in SEER-9 are not included in the book version of Table A.8.

Table A.9 describes selected characteristics of each listed dataset. Some of these characteristics were highlighted, if their values were higher or lower than the expected ranges (see Fig. 4.1). This assessment applied to the incidence rates, the sex ratios (based on sex-specific ASR), the percentages of cases of a given age, every value of basis of diagnosis, and the unspecified malignancies, within the total number of cases in the dataset. The proportion of non-malignant tumours among all tumours affecting the CNS was also calculated, and the criteria for registration of these tumours were categorized. All of the datasets presented in standard or abbreviated tables online are included in the online version of Table A.9, whereas the statistics for the ethnic-specific datasets of the individual registries in the USA and in SEER-9 are not included in the book version of Table A.9.

Table A.10 shows the systems used to code the malignancies at the time they were registered during the calendar years contributed to IICC-3 for each participating registry. In instances of inconsistency between sources, the coding system was derived from the submitted cancer data, from specific communication with the registry, and from the questionnaire, in that order. All contributing registries are listed, and the content of the book and online versions of Table A.10 is identical.

Results of the internal consistency checks of individual records and the proportion of rare cancers within datasets are shown in Table A.11. Unexpectedly high or low percentages are highlighted according to the arbitrary cut-off points summarized in Fig. 4.1. All of the datasets presented in standard or abbreviated tables are included in the online version of Table A.11, whereas the statistics for the ethnic-specific datasets of the individual registries in the USA and in SEER-9 are not included in the book version of Table A.11.

In Table A.12, the tables available for each registry and each dataset are mapped. The total numbers of cases in the age ranges 0–14 years and 0–19 years are also shown for the registries with more than 15 cases; smaller numbers of cases are replaced by the sign #. The paediatric registries providing data only for the cases younger than 15 years are identified. The contribution of each registry to a national pool is indicated, although for the registries in the USA additional information on contribution to pools can be found in Table 6.1 (in Chapter 6). The content of the book and online versions of this table is identical.

Table A.13 lists the comparative tables that constitute Chapter 7 to Chapter 13, together with the numbers of the tables, inclusion criteria, differences between the book and online versions, and the filenames of the tables available online. As a rule, the book versions of the comparative tables show the selected statistics for the datasets with a standard table in the book, whereas the online version includes additional datasets, as indicated in Table A.12. The information about the available tables included in Table A.13 itself is identical between the book and online versions.

ONLINE LOCATION OF THE IICC-3 MATERIAL

The book is downloadable in PDF format from the IARC Publications website at https://publications.iarc.who.int/658. The online versions of the tables described above are available in the Results section of the IICC-3 website at https://iicc.iarc.who.int/results/. All data users are strongly encouraged to also consult the page https://iicc.iarc.who.int/results/updates, on which updates, errata, and other useful information may be published.

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AFRICA

Algeria

Algeria is located in North Africa, on the southern shore of the Mediterranean Sea, and covers an area of 2.4 million km^2. Algeria is bordered to the south by Mali and Niger, to the east by Tunisia and Libya, and to the west by Mauritania, Morocco, and Western Sahara. The climate is Mediterranean in the north and arid in the south. This upper-middle-income country has a high Human Development Index. The economy relies on the reserve of hydrocarbons.

The population was 36.0 million in 2010 (Table A.7); it is ethnically mainly Arab-Berber and has increased about 10-fold during the past 100 years. The official languages are Berber and Arabic; French is also widely spoken. Islam is the predominant religion. About 90% of Algerians live in the northern coastal areas, and about 1.5 million (4%) remain nomadic. Children younger than 15 years make up 27% of the population, and people younger than 20 years make up 37% of the population (Table A.6).

The national health system is funded mainly by the government, with a free care system. In the private health-care sector, there are several specialized clinics. Radiotherapy is available at the specialized public or private centres, but many patients with cancer are diagnosed and receive primary therapy at district general hospitals. Cancer health-care services were distributed unequally across the country before 2015. Anti-cancer centres were initially established in Algiers, Constantine, Blida, and Oran. In 2013, the Government of Algeria and the Ministry of Health set up a National Cancer Plan for 2015–2019. Gradually, anti-cancer centres were built in all regions. In 2017, they became operational in the other six covered *wilayas* (provinces): Annaba, Batna, Ouargla, Sétif, Sidi Bel Abbès, and Tlemcen.

POPULATION AT RISK

Population data are provided by the National Office of Statistics (https://www.ons.dz/) and are based on the censuses of 1987, 1998, and 2008 (Table A.7). The population estimates may not accurately and completely reflect internal migration towards large cities, which may affect the calculated rates inconsistently across the provinces.

EDITORS' COMMENTS

Algeria is divided into 48 *wilayas*, five of which are covered by cancer registries contributing to IICC-3. Data from the registries of Algiers, Sétif, and Tlemcen are presented in full standard tables, and data from the smaller registries of Annaba and Batna are presented in abbreviated tables online (Table A.12). The five registries combined cover about 19% of the national childhood population (Table A.6). The Sétif Cancer Registry contributed to IICC-2 (Table A.1).

There are marked differences between the datasets, although the registries exchange data for individual cases as relevant. The rates reported from the Algiers Cancer Registry are almost triple those reported from the Sétif Cancer Registry (Table A.9). The percentage of microscopically verified cases (MV%) ranges from 83.9% to 96.9%. The age-standardized (world) rate (ASR) per million for 0–14 years ranges from 66.3 to 171.8 and for 0–19 years ranges from 81.8 to 172.9 (Table A.9). The percentage of death-certificate-only cases (DCO%) ranges from 0% to 5.3% (Table A.9), but all registries have access to mortality records. The reported differences probably reflect the different levels of availability of therapeutic facilities, access to health care and quality of its provision, and completeness of ascertainment. The age-specific incidence rate is very low for age 0 years. This may be explained in part by the incomplete dates of birth and incidence in the registries and imprecise reporting of age in medical records. An additional explanation may be underdiagnosis in infants. Absence of opportunistic diagnosis of neuroblastoma and possibly late diagnosis of embryonal tumours, such as retinoblastoma, may have contributed to underascertainment. Laterality was not provided by any of the registries. All registries record cases of skin carcinoma, but the incidence is low.

ALGERIA, 5 registries (1996-2014)

Registry	Period	Cases	%	Person-years	%
Algiers	2008-2012	824	31.2	4 798 135	19.8
Annaba	2000-2010	271	10.3	2 318 530	9.6
Batna	2008-2012	211	8.0	2 374 990	9.8
Sétif	1996-2014	992	37.6	11 588 385	47.9
Tlemcen	2006-2014	342	13.0	3 097 265	12.8
ALGERIA	**1996-2014**	**2640**	**100.0**	**24 177 305**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Algiers Cancer Registry, 2008–2012

Doudja Hammouda, Anissa Bouhadef, Ayad Belarbi, Soraya Maaraf, Chérifa Kadri, Katia Bouzerar, Mohamed Namaoui, Lynda Rezzik, Ounissa Meguerba, Anissa Belaidi, Nacima Khida

Algiers, the capital city of Algeria, is the smallest and the most populous *wilaya* in the country. It covers an area of 1190 km^2. In 2010, the estimated population was 3.2 million (8% of the national population), and people younger than 20 years made up 28% of the population (Table A.6). The population-based cancer registry covers the whole *wilaya* of Algiers and was set up in 1990 (Table A.10). Childhood cancers make up about 3.9% of all registered cancers (5% in males and 2.8% in females). Algiers has 17 hospitals and multiple diagnostic and treatment services.

Data on cancer occurring in people younger than 20 years come from medical centres (cancer centres, paediatric services, and medical oncology departments in university hospital centres and in public and private hospitals), from diagnostic services (pathology departments, haematology laboratories, radiology services, and medical imaging centres), and, if other data sources are not available, from death certificates. Information is collected by active case finding. Data are actively collected from patients' medical records. Central nervous system (CNS) tumours and basal cell carcinomas are registered. Tumours are coded according to the International Classification of Diseases for Oncology, third edition (ICD-O-3), and the date of incidence is defined according to European Network of Cancer Registries (ENCR) recommendations. Data are entered simultaneously using Epi Info and CanReg. Comparisons and exchanges of information with neighbouring registries enable continuous improvement of the completeness and quality of data. Data collected on cancer occurring in the general population are analysed every year and are summarized in annual reports.

POPULATION AT RISK

Population data were provided for each calendar year by sex and 5-year age group. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Algeria, above.

EDITORS' COMMENTS

The proportion of cases with unspecified histology was high even though the MV% was 90%. Some unusual diagnoses are reported, such as oesophageal carcinoma at age 11 years and prostate cancer at age 15 years. The age-specific incidence rates are relatively low for age 0 years, and the proportion of cases aged 19 years in the age group 15–19 years was high (Table A.9). Because of incomplete date of birth in 38% of cases, age was queried in 14% of cases and may be misclassified in part of the cohort (Table A.8). In the age group 0–14 years, the incidence rate per million is 200 for boys and 142 for girls, possibly reflecting that girls receive less medical attention. The high incidence rates, compared with the other registries in Algeria, may suggest registration of non-residents. However, the registry reports due verification of duplicate cases and non-residents and ascribes the comparatively high rates to possible underestimation of the population at risk (resulting from internal migration) and to underascertainment in the other areas that lack large treatment centres. Non-malignant CNS tumours are not systematically registered, but a few were reported. Pilocytic astrocytoma was coded with uncertain behaviour. See also Algeria, above.

Annaba Cancer Registry, 2000–2010

Sabiha Bouzbid, Tarek Bachtarzi, Nadia Bouchair, Mohamed Cherif Yaiche, Ahmed Bastandji, Wided Boutabia, Fatiha Griffi, Amel Djenouni, Abdelaziz Lankar, Fatiha Yassi

The *wilaya* of Annaba is located in north-eastern Algeria, on the coast of the Mediterranean Sea, and covers an area of 1393 km^2. The population was 0.6 million (~2% of the national population) in 2010, and 33% of the population was younger than 20 years (Table A.6). About 72% of the population lives in urban areas. The main economic sectors are the steel industry and agriculture.

General health care in the area of Annaba is provided predominantly by Annaba University Hospital (AUH), anti-cancer centres, and a network of primary and secondary health centres, supplemented by private practitioners. The anti-cancer centre is a new part of AUH; it was opened in 2015 and offers radiotherapy and chemotherapy units. It serves a population of about 3 million. Children with a suspected cancer are referred from primary or secondary care to AUH, which is the main source of information for the Annaba Cancer Registry.

The registry covers the *wilaya* of Annaba and is located in the Annaba anti-cancer centre. It is funded by AUH and research grants and is staffed by a part-time medical officer, two medical doctors, and two health workers. The registry uses CanReg4, developed by IARC/IACR.

Cases were collected by active searches in medical records. Sociodemographic and cancer data (clinical, radiology, and morphology data) were extracted. In addition to medical wards, searches for cases were conducted in the pathology laboratory and haematology laboratory of AUH. Private clinics and pathology laboratories were also visited, and health insurance records were a complementary data source. Death certificates from AUH are actively reviewed to obtain additional information related to the exact date and cause of death. Death certificates from municipalities are not used. It is not possible to estimate how many cancer cases remain undiagnosed, but there may be some in rural areas.

All malignant tumours were reportable. Coding is defined according to the current international guidelines recommended by IARC/IACR (Table A.10).

POPULATION AT RISK

Data were provided by sex and 5-year age group for 1998, 2000, 2001–2005, and 2008–2010. The data for 2000–2007 were estimated at IARC by linear interpolation in the sex and age group categories using the census years 1998 and 2008, to smooth out small variations in the annual figures provided. The data for the remaining missing categories of year, sex, and single year of age were then estimated at IARC using the methods described in Chapter 2. See also Algeria, above.

EDITORS' COMMENTS

The population counts decreased steadily during 2000–2008. No DCO cases were reported (Table A.9). Very low numbers of cancer cases were registered in 2005 and 2010, possibly because of underregistration. Age-specific incidence is relatively low in infants. The sex ratio was high in both children and adolescents. The registry was not able to provide the day or month of birth for almost 78% of cases (Table A.8); this may have affected age-specific rates. Age was queried in 1% of cases. Non-malignant CNS tumours were not recorded. See also Algeria, above.

Batna Cancer Registry, 2008–2012

Bouhidel Mohamed Larbi, Beichi Fayçal, Nourani Imene, Saidi Meriem, Oudjehih Messaouda, Saidi Mahdia, Khedraoui Hechani, Marref Abdelwahab

The *wilaya* of Batna is located in the eastern part of Algeria. With a surface area of 12 039 km^2, the territory lies almost entirely within the geographical assembly formed by the junction of the Tell Atlas and the Saharan Atlas; this location determines the climatic characteristics and the conditions of human life.

The registry covers the *wilaya* of Batna, with an estimated population in 2010 of 1.2 million, of whom 41% were younger than 20 years (Table A.6).

The Batna Cancer Registry was established in 1995 (Table A.10) and has been affiliated with the Ministry of Health since 2014. Active case finding is performed by a senior technician in epidemiology, using a descriptive survey sheet. Data are entered and validated after encoding by the registry team, which includes pathologists and haematologists. Confidentiality is ensured. The registry adopted the recommended coding systems (Table A.10).

POPULATION AT RISK

Data were provided by sex and 5-year age group for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Algeria, above.

EDITORS' COMMENTS

A total of 15% of cases had unspecified histology. No DCO cases were identified during the reporting period (Table A.9). The day and month of birth was not accurate in about 80% of cases (Table A.8); this may result in age misclassification. The sex ratio was high for children aged 0–14 years. Non-malignant CNS tumours were recorded, but none were reported. The incidence rates, based on a small total number of cases, are relatively low for a North African registry; this may be the result of underreporting as a result of patient migration for treatment, because there is no paediatric oncology unit in Batna. See also Algeria, above.

Sétif Cancer Registry, 1996–2014

Mokhtar Hamdi Cherif, Zoubida Zaidi, Abbes Mahnane, Dahbia Charka, Manal Rakeb, Lamia Kara, Asma Ayat, Djamel Abdellouche, Selma Hamdi, Chadia Madjat, Saida Atoui, Imene Merghem

Sétif is one of the north-eastern *wilayas* of Algeria, located 300 km east of the capital, Algiers, and separated from the coast by two other provinces, Béjaïa and Jijel. Sétif covers an area of 6549 km^2, and 48% of the population lives in rural areas. The *wilaya* is an economic, industrial, and commercial hub and also an important agricultural area. The population was 1.5 million in 2010 (~5% of the national population), and people younger than 20 years made up 36% of the total population of the registration area, which covered 4% of the national childhood population (Table A.6).

The Sétif Cancer Registry was founded in 1986 (Table A.10) in collaboration with IARC. The registry is attached to the Health Information and Biostatistics Unit of the Department of Epidemiology and Preventive Medicine, located at the Mother and Child Hospital of Sétif University Hospital and the Sétif Highlands Health and Environment Laboratory of the Faculty of Medicine of the University of Sétif. The registry covers the population of the whole *wilaya*.

Data are actively collected from the university hospital, public health hospitals, pathology laboratories, private hospitals, and death registration offices. Most childhood tumours in Sétif are seen in the paediatric haematology unit at the university hospital; no special hospital for children with cancer existed during the reporting period. Although the death registration system is incomplete, the death certificates are examined and a record is completed for each certificate that mentions cancer or a malignant tumour.

Cancer records are recorded directly at the time of the investigation for some variables, and others are coded centrally. Tumours are coded according to ICD-O, and the records are stored and analysed using CanReg5, developed by IARC. The registry actively follows up registered patients for vital status and participates in CONCORD studies.

PUBLICATIONS

Hamdi Cherif M, Serraino D, Mahnane A, Laouamri S, Zaidi Z, Boukharouba H, et al. (2014). Time trends of cancer incidence in Setif, Algeria, 1986–2010: an observational study. BMC Cancer. 14(1):637. https://doi.org/10.1186/1471-2407-14-637 PMID:25175348

Hamdi Cherif M, Bidoli E, Birri S, Mahnane A, Zaidi Z, Boukharouba H, et al. (2015). Cancer estimation of incidence and survival in Algeria 2014. J Cancer Res Ther. 3(9):100–4. https://doi.org/10.14312/2052-4994.2015-14

POPULATION AT RISK

Data were provided by sex and 5-year age group for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Algeria, above.

EDITORS' COMMENTS

The MV% was very high (97%), although 19% of cases had unspecified histology (Table A.9). In 11% of cases, the code for basis of diagnosis was considered unlikely with respect to histology (Table A.11). Date of birth was incomplete in 72% of cases; this may result in age misclassification (Table A.8). Identification documents are not issued, but mothers are said to know the age of their children in years. Only a few infants were registered, possibly because they were treated outside the Sétif registration area. Non-malignant CNS tumours were not recorded. The incidence rates are the lowest among the five contributing Algerian registries (Table A.9), because of selective underdiagnosis (CNS tumours, germ cell tumours) and underreporting. The low rate of retinoblastoma may be influenced by the difficulty of accessing the files in a specialized ophthalmology clinic outside the registration area (in Algiers). Patient migration for treatment may result in general underreporting. See also Algeria, above.

Tlemcen Cancer Registry, 2006–2014

Kaouel Meguenni, Derbali Regagba, Youcef Snoussaoui, Imene Cherif, Fatima Zohra Benbachir, Aouda Bensalah, Rachid Manaa

The Tlemcen Cancer Registry was implemented in 1997 in collaboration with IARC during the period of a significant decrease in the incidence of infectious diseases and the apparent epidemiological transition in Algeria. The registry covers the *wilaya* of Tlemcen in north-western Algeria. The population covered by the registry was about 1 million in 2010, and 35% were younger than 20 years (Table A.6). The natural population growth rate is about 2.05% per year. Most residents (70%) live in the rural region in the north of the province. The ethnic and racial distribution of the population is homogeneous, according to the 2008 national census.

The Tlemcen Cancer Registry is located in the Department of Epidemiology in Tlemcen University Hospital. Its principal mission is to collect, store, manage, and analyse data on people with cancer, maintain a cancer incidence reporting system, serve as an information resource for cancer research, and provide information to assist public health officials and agencies.

The Tlemcen Cancer Registry has adopted standard methods for cancer registration, and the epidemiological data of patients with cancer were collected by passive reception of notifications from public hospitals and active case finding from private clinics. The registry also exchanges information on patients registered in other cancer registries in Algeria, if necessary.

The data collected were entered using CanReg5 and revised for duplicate records or incompleteness. ICD-O is used to code the histology, behaviour, and grade of tumours (Table A.10).

POPULATION AT RISK

The population data are generated by the Tlemcen Department of Planning and Land Management, and they were provided by sex and single year of age for each calendar year of 2010–2014, and by sex and 5-year age group for the other years. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Algeria, above.

EDITORS' COMMENTS

Although the MV% was 84%, 42% of cases had unspecified histology (Table A.9). Five percent of cases were reported from death records established by forensic medicine at the hospital after death. Date of birth was incomplete in more than 60% of cases, and the provided age did not correspond with the calculated age in 35% of cases (Table A.8). Therefore, age misclassification is likely. Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with malignant behaviour. See also Algeria, above.

ALGERIA, 5 registries (1996-2014)

	Age group (years)	Males	Females
Person-years	0	602 703	578 985
	1-4	2 332 765	2 234 113
	5-9	2 811 910	2 704 077
	10-14	3 113 997	3 000 037
	15-19	3 455 082	3 343 636
	0-14	8 861 375	8 517 212
	0-19	12 316 457	11 860 848

Please consult the quality indicators for this pool and its constituent registries

ALGERIA, 5 registries (1996-2014)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	11	152	131	96	129	**390**	**563**	23.5	100.0	19.7	100.0	9.3	33.3	23.7	15.7	19.0	**23.2**	**22.2**	339	434	98.1	1.7
	a. Lymphoid	2	86	63	42	52	**193**	**245**	11.6	49.5	9.3	47.2	1.7	18.8	11.4	6.9	7.6	**11.6**	**10.7**	168	206	99.2	0.8
	b. Acute myeloid	5	24	32	29	42	**90**	**132**	5.4	23.1	5.0	25.4	4.2	5.3	5.8	4.7	6.2	**5.2**	**5.4**	78	109	97.7	1.5
	c. CMD	1	3	1	0	13	**5**	**18**	0.3	1.3	0.7	3.5	0.8	0.7	0.2	-	1.9	**0.3**	**0.7**	4	14	100.0	0.0
	d. MDS & other	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	3	39	35	25	22	**102**	**124**	6.2	26.2	4.7	23.9	2.5	8.5	6.3	4.1	3.2	**6.1**	**5.4**	89	105	96.0	4.0
II	**LYMPHOMA & RELATED**	3	72	99	136	253	**310**	**563**	18.7	100.0	21.3	100.0	2.5	15.8	17.9	22.2	37.2	**17.3**	**21.8**	266	452	98.4	1.4
	a. Hodgkin	1	15	42	65	174	**123**	**297**	7.4	39.7	11.3	52.8	0.8	3.3	7.6	10.6	25.6	**6.6**	**10.9**	105	233	99.3	0.7
	b. Non-Hodgkin except BL	2	36	45	48	64	**131**	**195**	7.9	42.3	7.4	34.6	1.7	7.9	8.2	7.9	9.4	**7.5**	**7.9**	113	160	97.9	2.1
	c. Burkitt (BL)	0	10	7	2	4	**19**	**23**	1.1	6.1	0.9	4.1	-	2.2	1.3	0.3	0.6	**1.2**	**1.0**	17	20	95.7	4.3
	d. Lymphoreticular	0	3	0	1	0	**4**	**4**	0.2	1.3	0.2	0.7	-	0.7	-	0.2	-	**0.2**	**0.2**	3	3	100.0	0.0
	e. Unspecified	0	8	5	20	11	**33**	**44**	2.0	10.6	1.7	7.8	-	1.8	0.9	3.3	1.6	**1.8**	**1.7**	28	36	95.5	2.3
III	**CNS NEOPLASMS** †	4	64	79	77	89	**224**	**313**	13.5	100.0	11.9	100.0	3.4	14.0	14.3	12.6	13.1	**12.9**	**12.9**	194	259	70.9	5.4
	a. Ependymoma	0	5	0	1	2	**6**	**8**	0.4	2.7	0.3	2.6	-	1.1	-	0.2	0.3	**0.4**	**0.4**	5	7	100.0	0.0
	b. Astrocytoma	1	10	22	21	25	**54**	**79**	3.3	24.1	3.0	25.2	0.8	2.2	4.0	3.4	3.7	**3.0**	**3.2**	47	65	98.7	1.3
	c. CNS embryonal	0	17	19	21	8	**57**	**65**	3.4	25.4	2.5	20.8	-	3.7	3.4	3.4	1.2	**3.3**	**2.8**	49	55	100.0	0.0
	d. Other gliomas	0	8	9	8	9	**25**	**34**	1.5	11.2	1.3	10.9	-	1.8	1.6	1.3	1.3	**1.4**	**1.4**	22	28	97.1	0.0
	e. Other specified	1	0	1	2	6	**4**	**10**	0.2	1.8	0.4	3.2	0.8	-	0.2	0.3	0.9	**0.2**	**0.4**	3	8	100.0	0.0
	f. Unspecified CNS	2	24	28	24	39	**78**	**117**	4.7	34.8	4.4	37.4	1.7	5.3	5.1	3.9	5.7	**4.5**	**4.8**	68	96	23.9	13.7
IV	**NEUROBLASTOMA**	10	75	18	9	6	**112**	**118**	6.8	100.0	4.5	100.0	8.5	16.4	3.3	1.5	0.9	**7.2**	**5.8**	98	102	89.0	1.7
	a. (Ganglio)neuroblastoma	10	75	18	9	5	**112**	**117**	6.8	100.0	4.4	99.2	8.5	16.4	3.3	1.5	0.7	**7.2**	**5.7**	98	101	88.9	1.7
	b. Peripheral nervous	0	0	0	0	1	**0**	**1**	-	-	0.0	0.8	-	-	-	-	0.1	**-**	**0.0**	-	1	100.0	0.0
V	**RETINOBLASTOMA**	7	15	5	0	1	**27**	**28**	1.6	100.0	1.1	100.0	5.9	3.3	0.9	-	0.1	**1.8**	**1.4**	24	24	71.4	0.0
VI	**RENAL TUMOURS**	4	86	29	12	4	**131**	**135**	7.9	100.0	5.1	100.0	3.4	18.8	5.3	2.0	0.6	**8.3**	**6.6**	114	117	96.3	0.7
	a. Nephroblastoma	4	82	27	11	1	**124**	**125**	7.5	94.7	4.7	92.6	3.4	18.0	4.9	1.8	0.1	**7.9**	**6.1**	108	109	99.2	0.8
	b. Renal carcinoma	0	0	1	0	3	**1**	**4**	0.1	0.8	0.2	3.0	-	-	0.2	-	0.4	**0.1**	**0.1**	1	3	100.0	0.0
	c. Unspecified	0	4	1	1	0	**6**	**6**	0.4	4.6	0.2	4.4	-	0.9	0.2	0.2	-	**0.4**	**0.3**	5	5	33.3	0.0
VII	**HEPATIC TUMOURS**	4	7	1	1	3	**13**	**16**	0.8	100.0	0.6	100.0	3.4	1.5	0.2	0.2	0.4	**0.8**	**0.8**	11	13	68.8	6.3
	a. Hepatoblastoma	2	5	1	1	0	**9**	**9**	0.5	69.2	0.3	56.3	1.7	1.1	0.2	0.2	-	**0.6**	**0.4**	8	8	88.9	11.1
	b. Hepatic carcinoma	0	0	0	0	2	**0**	**2**	-	-	0.1	12.5	-	-	-	-	0.3	**-**	**0.1**	-	1	100.0	0.0
	c. Unspecified	2	2	0	0	1	**4**	**5**	0.2	30.8	0.2	31.3	1.7	0.4	-	-	0.1	**0.3**	**0.2**	3	4	20.0	0.0
VIII	**BONE TUMOURS**	0	13	28	86	120	**127**	**247**	7.7	100.0	9.4	100.0	-	2.8	5.1	14.1	17.7	**6.6**	**9.1**	107	195	96.4	0.8
	a. Osteosarcoma	0	5	15	45	69	**65**	**134**	3.9	51.2	5.1	54.3	-	1.1	2.7	7.4	10.1	**3.4**	**4.9**	55	105	98.5	0.7
	b. Chondrosarcoma	0	0	0	5	5	**5**	**10**	0.3	3.9	0.4	4.0	-	-	-	0.8	0.7	**0.2**	**0.3**	4	8	100.0	0.0
	c. Ewing & related	0	2	8	20	26	**30**	**56**	1.8	23.6	2.1	22.7	-	0.4	1.5	3.3	3.8	**1.6**	**2.1**	25	44	100.0	0.0
	d. Other specified	0	0	0	3	3	**3**	**6**	0.2	2.4	0.2	2.4	-	-	-	0.5	0.4	**0.1**	**0.2**	2	5	100.0	0.0
	e. Unspecified	0	6	5	13	17	**24**	**41**	1.4	18.9	1.6	16.6	-	1.3	0.9	2.1	2.5	**1.3**	**1.6**	20	33	82.9	2.4
IX	**SOFT TISSUE SARCOMA**	2	42	20	25	50	**89**	**139**	5.4	100.0	5.3	100.0	1.7	9.2	3.6	4.1	7.4	**5.3**	**5.8**	77	114	98.6	0.7
	a. Rhabdomyosarcoma	1	34	11	10	10	**56**	**66**	3.4	62.9	2.5	47.5	0.8	7.4	2.0	1.6	1.5	**3.5**	**3.0**	49	56	97.0	1.5
	b. Fibrosarcoma	0	1	1	6	11	**8**	**19**	0.5	9.0	0.7	13.7	-	0.2	0.2	1.0	1.6	**0.4**	**0.7**	7	15	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	1	4	3	7	17	**15**	**32**	0.9	16.9	1.2	23.0	0.8	0.9	0.5	1.1	2.5	**0.8**	**1.2**	13	25	100.0	0.0
	e. Unspecified	0	3	5	2	12	**10**	**22**	0.6	11.2	0.8	15.8	-	0.7	0.9	0.3	1.8	**0.6**	**0.9**	9	18	100.0	0.0
X	**GERM CELL TUMOURS**	4	6	4	11	32	**25**	**57**	1.5	100.0	2.2	100.0	3.4	1.3	0.7	1.8	4.7	**1.4**	**2.2**	21	45	93.0	0.0
	a. CNS germ cell	0	0	1	3	0	**4**	**4**	0.2	16.0	0.2	7.0	-	-	0.2	0.5	-	**0.2**	**0.2**	3	3	100.0	0.0
	b. Other extragonadal	1	1	1	2	3	**5**	**8**	0.3	20.0	0.3	14.0	0.8	0.2	0.2	0.3	0.4	**0.3**	**0.3**	4	6	100.0	0.0
	c. Gonadal germ cell	2	2	1	4	15	**9**	**24**	0.5	36.0	0.9	42.1	1.7	0.4	0.2	0.7	2.2	**0.5**	**0.9**	8	19	100.0	0.0
	d. Gonadal carcinoma	0	2	1	0	11	**3**	**14**	0.2	12.0	0.5	24.6	-	0.4	0.2	-	1.6	**0.2**	**0.5**	3	11	100.0	0.0
	e. Unspecified gonadal	1	1	0	2	3	**4**	**7**	0.2	16.0	0.3	12.3	0.8	0.2	-	0.3	0.4	**0.2**	**0.3**	3	6	42.9	0.0
XI	**CARCINOMA & MELANOMA**	2	12	23	76	232	**113**	**345**	6.8	100.0	13.1	100.0	1.7	2.6	4.2	12.4	34.1	**5.9**	**12.2**	95	266	98.8	0.3
	a. Adrenocortical	0	0	0	0	1	**0**	**1**	-	-	0.0	0.3	-	-	-	-	0.1	**-**	**0.0**	-	1	100.0	0.0
	b. Thyroid	0	1	4	13	33	**18**	**51**	1.1	15.9	1.9	14.8	-	0.2	0.7	2.1	4.9	**0.9**	**1.8**	15	39	100.0	0.0
	c. Nasopharyngeal	1	0	4	29	88	**34**	**122**	2.1	30.1	4.6	35.4	0.8	-	0.7	4.7	12.9	**1.7**	**4.2**	28	93	99.2	0.0
	d. Melanoma	0	0	1	0	3	**1**	**4**	0.1	0.9	0.2	1.2	-	-	0.2	-	0.4	**0.1**	**0.1**	1	3	100.0	0.0
	e. Skin carcinoma	0	3	5	6	13	**14**	**27**	0.8	12.4	1.0	7.8	-	0.7	0.9	1.0	1.9	**0.8**	**1.0**	12	22	96.3	0.0
	f. Other & unspecified	1	8	9	28	94	**46**	**140**	2.8	40.7	5.3	40.6	0.8	1.8	1.6	4.6	13.8	**2.5**	**5.0**	39	108	98.6	0.7
XII	**OTHER & UNSPECIFIED**	3	31	26	37	63	**97**	**160**	5.9	100.0	6.1	100.0	2.5	6.8	4.7	6.1	9.3	**5.6**	**6.4**	83	130	60.0	1.9
	a. Other specified	0	2	0	1	0	**3**	**3**	0.2	3.1	0.1	1.9	-	0.4	-	0.2	-	**0.2**	**0.1**	3	3	100.0	0.0
	b. Other unspecified	3	29	26	36	63	**94**	**157**	5.7	96.9	5.9	98.1	2.5	6.4	4.7	5.9	9.3	**5.4**	**6.3**	81	127	59.2	1.9
	TOTAL	54	575	463	566	982	**1658**	**2640**	100.0	100.0	100.0	100.0	45.7	125.9	83.9	92.6	144.4	**96.3**	**107.1**	1430	2152	91.5	1.7

† includes 15 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Botswana

Botswana National Cancer Registry, 1999–2007

Malebogo Kebabonye-Pusoentsi, Heluf Gassess Medhin, Setlogelo Motlogi, Lorato Mogorosakgomo

The Botswana National Cancer Registry (BNCR) is a population-based cancer registry that covers the entire country. The population was more than 2.0 million in 2010 (Table A.7), and about 44% were younger than 20 years (Table A.6). The BNCR was established by the Ministry of Health and Wellness in 1999 (Table A.10), in collaboration with the Cancer Association of Botswana and IARC. At its inception, the BNCR was located at Princess Marina Hospital; it then moved to the National Health Laboratory and finally was established at the Disease Control and Prevention Services Division at the Department of Public Health. The main aim of the registry is to collect, store, and analyse information and produce periodic reports on all cancers in Botswana.

Cancer information has been recorded systematically since 2003 using CanReg4, developed by IARC. Patient demographic information (age, sex, and residence) is collected, together with detailed information about the cancer (primary site, morphology, behaviour, and stage) for all cancers occurring in people residing in Botswana at the time of the diagnosis, treatment, or follow-up.

Paediatric oncology services are offered only in Princess Marina Hospital, which is the major referral centre located in the southern part of the country. Through a continuing partnership with Botswana-Baylor Children's Clinical Centre of Excellence (https://botswanabaylor.org/index.html), many experts in the field of paediatric oncology and haematology have contributed significantly to the expansion and improvement of diagnosis and care. Oncology care is free, and a highly subsidized arrangement is available for patients to access care in the private sector that is not offered in the public sector, including cross-border transfer for treatment, notably in South Africa.

Oncology services are improving, but diagnostic capacity (pathology services), treatment capacity (radiotherapy and chemotherapy), and availability of skilled personnel remain challenges. Delayed presentation due to lack of public awareness and limited skills and resources of health-care personnel are recognized as the major obstacles to improved survival of children with cancer.

POPULATION AT RISK

The source of the population is the 2011 Botswana Population and Housing Census (Statistics Botswana, https://www.statsbots.org.bw/); the other censuses relevant to this reporting period were in 1991 and 2001 (Table A.7). Population data were provided by sex and single year of age for each calendar year of 2001–2016. The data for 1999 and 2000 were estimated at IARC by linear extrapolation, as described in Chapter 2.

EDITORS' COMMENTS

The incidence rates were low compared with some other African registries (Table A.9). This could be explained in part by the national coverage, which includes areas with fewer diagnostic facilities and more difficult access to care for inhabitants of remote rural areas. Date of birth was incomplete in 38% of cases (Table A.8); this may result in age misclassification and could partly explain the low age-specific rate in infants. The DCO% was 6%, and 5% of MV cases had unspecified morphology (Table A.9). Non-malignant CNS tumours and laterality are not recorded, but skin carcinomas are recorded.

BOTSWANA (1999-2007)

	Age group (years)	Males	Females
Person-years	0	192 344	191 159
	1-4	785 553	774 797
	5-9	964 671	938 686
	10-14	933 609	919 226
	15-19	892 915	883 755
	0-14	2 876 177	2 823 868
	0-19	3 769 092	3 707 623
Average annual population	0-14	319 575	313 763
	0-19	418 788	411 958

Please consult the quality indicators for this registry

BOTSWANA (1999-2007)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	1	12	21	16	22	50	72	16.0	100.0	16.0	100.0	2.6	7.7	11.0	8.6	12.4	8.7	9.5	132	194	100.0	0.0
	a. Lymphoid	0	10	14	5	10	29	39	9.3	58.0	8.7	54.2	-	6.4	7.4	2.7	5.6	5.1	5.3	76	104	100.0	0.0
	b. Acute myeloid	1	2	7	6	7	16	23	5.1	32.0	5.1	31.9	2.6	1.3	3.7	3.2	3.9	2.7	3.0	42	62	100.0	0.0
	c. CMD	0	0	0	1	1	1	2	0.3	2.0	0.4	2.8	-	-	-	0.5	0.6	0.2	0.2	3	6	100.0	0.0
	d. MDS & other	0	0	0	1	1	1	2	0.3	2.0	0.4	2.8	-	-	-	0.5	0.6	0.2	0.2	3	6	100.0	0.0
	e. Unspecified	0	0	0	3	3	3	6	1.0	6.0	1.3	8.3	-	-	-	1.6	1.7	0.5	0.7	8	17	100.0	0.0
II	LYMPHOMA & RELATED	0	11	19	15	19	45	64	14.4	100.0	14.2	100.0	-	7.0	10.0	8.1	10.7	7.8	8.4	119	172	100.0	0.0
	a. Hodgkin	0	3	4	8	9	15	24	4.8	33.3	5.3	37.5	-	1.9	2.1	4.3	5.1	2.5	3.1	40	65	100.0	0.0
	b. Non-Hodgkin except BL	0	3	12	5	9	20	29	6.4	44.4	6.4	45.3	-	1.9	6.3	2.7	5.1	3.4	3.8	53	78	100.0	0.0
	c. Burkitt (BL)	0	3	0	0	0	3	3	1.0	6.7	0.7	4.7	-	1.9	-	-	-	0.6	0.5	8	8	100.0	0.0
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	2	3	2	1	7	8	2.2	15.6	1.8	12.5	-	1.3	1.6	1.1	0.6	1.2	1.1	18	21	100.0	0.0
III	CNS NEOPLASMS	0	3	14	15	6	32	38	10.3	100.0	8.4	100.0	-	1.9	7.4	8.1	3.4	5.3	4.9	85	102	84.2	13.2
	a. Ependymoma	0	0	0	0	1	0	1	-	-	0.2	2.6	-	-	-	-	0.6	-	0.1	-	3	100.0	0.0
	b. Astrocytoma	0	1	3	6	3	10	13	3.2	31.3	2.9	34.2	-	0.6	1.6	3.2	1.7	1.6	1.7	27	35	100.0	0.0
	c. CNS embryonal	0	1	6	4	1	11	12	3.5	34.4	2.7	31.6	-	0.6	3.2	2.2	0.6	1.8	1.6	29	32	100.0	0.0
	d. Other gliomas	0	0	2	2	1	4	5	1.3	12.5	1.1	13.2	-	-	1.1	1.1	0.6	0.7	0.6	11	13	100.0	0.0
	e. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Unspecified CNS	0	1	3	3	0	7	7	2.2	21.9	1.6	18.4	-	0.6	1.6	1.6	-	1.2	0.9	19	19	14.3	71.4
IV	NEUROBLASTOMA	0	7	0	0	1	7	8	2.2	100.0	1.8	100.0	-	4.5	-	-	0.6	1.4	1.2	18	21	100.0	0.0
	a. (Ganglio)neuroblastoma	0	7	0	0	0	7	7	2.2	100.0	1.6	87.5	-	4.5	-	-	-	1.4	1.1	18	18	100.0	0.0
	b. Peripheral nervous	0	0	0	0	1	0	1	-	-	0.2	12.5	-	-	-	-	0.6	-	0.1	-	3	100.0	0.0
V	RETINOBLASTOMA	0	21	1	0	0	22	22	7.1	100.0	4.9	100.0	-	13.5	0.5	-	-	4.4	3.4	57	57	100.0	0.0
VI	RENAL TUMOURS	1	13	7	2	2	23	25	7.4	100.0	5.6	100.0	2.6	8.3	3.7	1.1	1.1	4.3	3.6	60	65	96.0	4.0
	a. Nephroblastoma	1	13	7	2	0	23	23	7.4	100.0	5.1	92.0	2.6	8.3	3.7	1.1	-	4.3	3.3	60	60	95.7	4.3
	b. Renal carcinoma	0	0	0	0	2	0	2	-	-	0.4	8.0	-	-	-	-	1.1	-	0.3	-	6	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	2	2	0	1	3	5	8	1.6	100.0	1.8	100.0	5.2	1.3	-	0.5	1.7	1.0	1.1	13	21	75.0	12.5
	a. Hepatoblastoma	1	2	0	0	0	3	3	1.0	60.0	0.7	37.5	2.6	1.3	-	-	-	0.6	0.5	8	8	100.0	0.0
	b. Hepatic carcinoma	0	0	0	1	3	1	4	0.3	20.0	0.9	50.0	-	-	-	0.5	1.7	0.2	0.5	3	11	75.0	0.0
	c. Unspecified	1	0	0	0	0	1	1	0.3	20.0	0.2	12.5	2.6	-	-	-	-	0.2	0.2	3	3	0.0	100.0
VIII	BONE TUMOURS	0	1	4	15	21	20	41	6.4	100.0	9.1	100.0	-	0.6	2.1	8.1	11.8	3.2	5.2	54	113	100.0	0.0
	a. Osteosarcoma	0	0	2	9	13	11	24	3.5	55.0	5.3	58.5	-	-	1.1	4.9	7.3	1.7	3.0	30	66	100.0	0.0
	b. Chondrosarcoma	0	0	0	3	0	3	3	1.0	15.0	0.7	7.3	-	-	-	1.6	-	0.5	0.4	8	8	100.0	0.0
	c. Ewing & related	0	0	0	0	4	0	4	-	-	0.9	9.8	-	-	-	-	2.3	-	0.5	-	11	100.0	0.0
	d. Other specified	0	0	1	3	4	4	8	1.3	20.0	1.8	19.5	-	-	0.5	1.6	2.3	0.6	1.0	11	22	100.0	0.0
	e. Unspecified	0	1	1	0	0	2	2	0.6	10.0	0.4	4.9	-	0.6	0.5	-	-	0.4	0.3	5	5	100.0	0.0
IX	SOFT TISSUE SARCOMA	1	13	33	21	27	68	95	21.8	100.0	21.1	100.0	2.6	8.3	17.3	11.3	15.2	11.7	12.5	179	255	60.0	15.8
	a. Rhabdomyosarcoma	0	2	5	5	1	12	13	3.8	17.6	2.9	13.7	-	1.3	2.6	2.7	0.6	2.0	1.7	32	35	100.0	0.0
	b. Fibrosarcoma	1	0	2	0	0	3	3	1.0	4.4	0.7	3.2	2.6	-	1.1	-	-	0.5	0.4	8	8	100.0	0.0
	c. Kaposi sarcoma	0	8	24	13	19	45	64	14.4	66.2	14.2	67.4	-	5.1	12.6	7.0	10.7	7.7	8.4	119	172	40.6	23.4
	d. Other specified	0	3	2	2	5	7	12	2.2	10.3	2.7	12.6	-	1.9	1.1	1.1	2.8	1.2	1.6	18	32	100.0	0.0
	e. Unspecified	0	0	0	1	2	1	3	0.3	1.5	0.7	3.2	-	-	-	0.5	1.1	0.2	0.4	3	8	100.0	0.0
X	GERM CELL TUMOURS	0	3	1	4	6	8	14	2.6	100.0	3.1	100.0	-	1.9	0.5	2.2	3.4	1.4	1.8	21	38	100.0	0.0
	a. CNS germ cell	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other extragonadal	0	1	0	0	1	1	2	0.3	12.5	0.4	14.3	-	0.6	-	-	0.6	0.2	0.3	3	5	100.0	0.0
	c. Gonadal germ cell	0	2	0	4	4	6	10	1.9	75.0	2.2	71.4	-	1.3	-	2.2	2.3	1.0	1.3	16	27	100.0	0.0
	d. Gonadal carcinoma	0	0	1	0	1	1	2	0.3	12.5	0.4	14.3	-	-	0.5	-	0.6	0.2	0.3	3	5	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XI	CARCINOMA & MELANOMA	0	6	11	12	29	29	58	9.3	100.0	12.9	100.0	-	3.8	5.8	6.5	16.3	4.9	7.5	77	158	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	2	0	2	2	4	0.6	6.9	0.9	6.9	-	-	1.1	-	1.1	0.3	0.5	5	11	100.0	0.0
	c. Nasopharyngeal	0	0	1	4	10	5	15	1.6	17.2	3.3	25.9	-	-	0.5	2.2	5.6	0.8	1.9	13	42	100.0	0.0
	d. Melanoma	0	1	1	0	1	2	3	0.6	6.9	0.7	5.2	-	0.6	0.5	-	0.6	0.4	0.4	5	8	100.0	0.0
	e. Skin carcinoma	0	0	1	2	5	3	8	1.0	10.3	1.8	13.8	-	-	0.5	1.1	2.8	0.5	1.0	8	22	100.0	0.0
	f. Other & unspecified	0	5	6	6	11	17	28	5.4	58.6	6.2	48.3	-	3.2	3.2	3.2	6.2	3.0	3.7	45	76	100.0	0.0
XII	OTHER & UNSPECIFIED	1	1	0	1	2	3	5	1.0	100.0	1.1	100.0	2.6	0.6	-	0.5	1.1	0.6	0.7	8	13	0.0	100.0
	a. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other unspecified	1	1	0	1	2	3	5	1.0	100.0	1.1	100.0	2.6	0.6	-	0.5	1.1	0.6	0.7	8	13	0.0	100.0
	TOTAL	6	93	111	102	138	312	450	100.0	100.0	100.0	100.0	15.6	59.6	58.3	55.1	77.7	54.5	59.7	821	1210	88.4	6.0

Please consult the quality indicators for this registry

Cameroon

Yaoundé Cancer Registry, 2004–2006

George Enownchong Enow-Orock, Paul Ndom, Jean Louis Essame-Oyono, Anderson Sama Doh

Cameroon, which is located in west central Africa, had an estimated population of 20.6 million in 2010 (Table A.7) and has a surface area of 475 440 km^2. About 250 ethnic groups live in Cameroon; 60% of the population lives in rural areas, and 54% are younger than 20 years (Table A.6). Yaoundé, the political capital, is located in the Centre Region and had an estimated population of 1.3 million in 2010, of which 63% were younger than 20 years (Table A.6).

The Yaoundé Cancer Registry was established by ministerial decision in 2003, based on consultations between the National Cancer Control Committee and IARC. The registry is located in the pathology service at Yaoundé General Hospital. The registry started with staff consisting of a director, an assistant director, and two trained registrars. The primary duties of the registry staff are to abstract cases from various sources and submit them to the registry office in Yaoundé General Hospital. In January 2004, the registrars started collecting data from the designated sources on all newly diagnosed cases of cancer in the target population (Table A.10). The data were then submitted to the director for verification and subsequent entry into CanReg5, provided by IARC, which enables checking for accuracy, duplication, and quality control of data. A computer analyst assists in data analysis. Other software used includes SPSS, Excel, and Epi Info.

The registry covers all seven council areas of Yaoundé municipalities (Yaoundé I–Yaoundé VII), in which data are collected actively and passively from about 20 sources (referral hospitals, teaching hospitals, general hospitals, pathology laboratories, and some privately owned hospitals and clinics). The registry submits annual reports to the Ministry of Public Health.

Data confidentiality is ensured by excluding names, hospital number, and registry number during analysis. Cases are microscopically verified by the pathologist in Yaoundé and coded using ICD-O (Table A.10). The death registration system is inadequate and incomplete. Except for some death certificates signed at Yaoundé General Hospital and other major hospitals, the cause of death is usually not mentioned or is given simply as cardiorespiratory arrest. It is not possible to estimate how many cancer cases remain undiagnosed. Ensuring ascertainment from patients diagnosed in rural settings remains problematic. However, the registry ensures proper abstraction of cases that enter Yaoundé General Hospital as well as those from other hospitals. The registry faces financial, personnel, material, and logistical challenges. Determination of residence is difficult, because patients migrate to the registration area from other parts of the country, attracted by better cancer care facilities. The registry is a member of IACR.

POPULATION AT RISK

Population censuses were conducted in 1976, 1987, and 2005 by the National Institute of Statistics in Yaoundé. Population data were provided by sex and 5-year age group only for 2011. National data were extracted by IARC from the National Institute of Statistics of Cameroon (https://ins-cameroun.cm/en/) by sex in four 5-year age groups for the census years 1976, 1987, and 2010, and by sex for age 0–14 years in 2005. The total population for Yaoundé was downloaded from the National Institute of Statistics of Cameroon (https://ins-cameroun.cm/en/) for 1976, 1987, and 2005, with no categorization by sex or age. The data for the missing year–age–sex categories were estimated at IARC by first applying the national age–sex patterns to the data for Yaoundé and then proceeding with the other estimates using the methods described in Chapter 2.

EDITORS' COMMENTS

Although the initial submission was for 2004–2012, only 2004–2006 was included in IICC-3 because of probable underregistration in the other years. The staffing, financial, and other constraints were acknowledged by the registry. Because Yaoundé General Hospital is the national referral centre for childhood cancer and the residential address of some rural patients may not be accurately verified, some overregistration cannot be excluded, and this may vary by tumour type. The proportion of cases with unspecified morphology was 11% (Table A.9). The overall MV% of 71% was low (Table A.9), notably for leukaemias (38%) and lymphomas (65%). In 20% of cases, the code for basis of diagnosis was considered unlikely with respect to histology (Table A.11). Date of birth was not provided at all; thus, age may be misclassified. CNS tumours made up only about 1% of cases, probably because of limited access to modern imaging facilities. Non-malignant CNS tumours are reportable, but none were reported and no cases of pilocytic astrocytoma were in the dataset. Information on laterality is not collected. Skin carcinomas are reportable, but they are rare.

CAMEROON, Yaoundé (2004-2006)

	Age group (years)	Males	Females
Person-years	0	88 807	95 704
	1-4	355 228	382 816
	5-9	381 785	402 950
	10-14	328 570	345 820
	15-19	296 060	314 665
	0-14	1 154 390	1 227 290
	0-19	1 450 450	1 541 955
Average annual population	0-14	384 797	409 097
	0-19	483 483	513 985

Please consult the quality indicators for this registry

CAMEROON, Yaoundé (2004-2006)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	0	7	4	7	3	18	21	6.0	100.0	5.6	100.0	-	9.5	5.1	10.4	4.9	7.6	7.0	115	140	38.1	0.0
	a. Lymphoid	0	1	1	2	0	4	4	1.3	22.2	1.1	19.0	-	1.4	1.3	3.0	-	1.7	1.3	27	27	25.0	0.0
	b. Acute myeloid	0	1	2	1	0	4	4	1.3	22.2	1.1	19.0	-	1.4	2.5	1.5	-	1.7	1.3	26	26	75.0	0.0
	c. CMD	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. MDS & other	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	5	1	4	3	10	13	3.4	55.6	3.5	61.9	-	6.8	1.3	5.9	4.9	4.2	4.4	63	88	30.8	0.0
II	LYMPHOMA & RELATED	3	43	94	62	32	202	234	67.8	100.0	62.7	100.0	16.3	58.3	119.8	91.9	52.4	84.6	77.4	1308	1570	65.4	0.0
	a. Hodgkin	1	1	2	5	2	9	11	3.0	4.5	2.9	4.7	5.4	1.4	2.5	7.4	3.3	3.8	3.7	61	77	100.0	0.0
	b. Non-Hodgkin except BL	0	14	28	25	16	67	83	22.5	33.2	22.3	35.5	-	19.0	35.7	37.1	26.2	28.1	27.7	440	571	84.3	0.0
	c. Burkitt (BL)	2	26	57	27	10	112	122	37.6	55.4	32.7	52.1	10.8	35.2	72.6	40.0	16.4	46.8	40.0	715	797	54.1	0.0
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	2	7	5	4	14	18	4.7	6.9	4.8	7.7	-	2.7	8.9	7.4	6.5	5.9	6.0	93	125	33.3	0.0
III	CNS NEOPLASMS	0	2	2	0	1	4	5	1.3	100.0	1.3	100.0	-	2.7	2.5	-	1.6	1.7	1.7	24	32	100.0	0.0
	a. Ependymoma	0	0	1	0	0	1	1	0.3	25.0	0.3	20.0	-	-	1.3	-	-	0.4	0.3	6	6	100.0	0.0
	b. Astrocytoma	0	2	1	0	1	3	4	1.0	75.0	1.1	80.0	-	2.7	1.3	-	1.6	1.3	1.3	17	25	100.0	0.0
	c. CNS embryonal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other gliomas	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Unspecified CNS	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IV	NEUROBLASTOMA	0	1	0	0	0	1	1	0.3	100.0	0.3	100.0	-	1.4	-	-	-	0.4	0.3	5	5	100.0	0.0
	a. (Ganglio)neuroblastoma	0	1	0	0	0	1	1	0.3	100.0	0.3	100.0	-	1.4	-	-	-	0.4	0.3	5	5	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	1	10	2	1	0	14	14	4.7	100.0	3.8	100.0	5.4	13.5	2.5	1.5	-	5.9	4.5	80	80	85.7	0.0
VI	RENAL TUMOURS	0	7	4	1	0	12	12	4.0	100.0	3.2	100.0	-	9.5	5.1	1.5	-	5.0	3.9	71	71	75.0	0.0
	a. Nephroblastoma	0	7	4	1	0	12	12	4.0	100.0	3.2	100.0	-	9.5	5.1	1.5	-	5.0	3.9	71	71	75.0	0.0
	b. Renal carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	0	0	2	2	3	4	7	1.3	100.0	1.9	100.0	-	-	2.5	3.0	4.9	1.7	2.4	28	52	0.0	14.3
	a. Hepatoblastoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Hepatic carcinoma	0	0	2	2	2	4	6	1.3	100.0	1.6	85.7	-	-	2.5	3.0	3.3	1.7	2.0	28	44	0.0	16.7
	c. Unspecified	0	0	0	0	1	0	1	-	-	0.3	14.3	-	-	-	-	1.6	-	0.4	-	8	0.0	0.0
VIII	BONE TUMOURS	0	0	2	2	9	4	13	1.3	100.0	3.5	100.0	-	-	2.5	3.0	14.7	1.7	4.6	28	101	100.0	0.0
	a. Osteosarcoma	0	0	1	1	5	2	7	0.7	50.0	1.9	53.8	-	-	1.3	1.5	8.2	0.8	2.5	14	55	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	1	0	1	-	-	0.3	7.7	-	-	-	-	1.6	-	0.4	-	8	100.0	0.0
	c. Ewing & related	0	0	1	1	2	2	4	0.7	50.0	1.1	30.8	-	-	1.3	1.5	3.3	0.8	1.4	14	30	100.0	0.0
	d. Other specified	0	0	0	0	1	0	1	-	-	0.3	7.7	-	-	-	-	1.6	-	0.4	-	8	100.0	0.0
	e. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IX	SOFT TISSUE SARCOMA	1	9	7	8	13	25	38	8.4	100.0	10.2	100.0	5.4	12.2	8.9	11.9	21.3	10.5	12.9	158	265	97.4	0.0
	a. Rhabdomyosarcoma	0	6	2	4	0	12	12	4.0	48.0	3.2	31.6	-	8.1	2.5	5.9	-	5.1	3.9	75	75	100.0	0.0
	b. Fibrosarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Kaposi sarcoma	0	3	4	1	7	8	15	2.7	32.0	4.0	39.5	-	4.1	5.1	1.5	11.5	3.3	5.2	49	106	93.3	0.0
	d. Other specified	1	0	0	3	5	4	9	1.3	16.0	2.4	23.7	5.4	-	-	4.4	8.2	1.7	3.2	28	69	100.0	0.0
	e. Unspecified	0	0	1	0	1	1	2	0.3	4.0	0.5	5.3	-	-	1.3	-	1.6	0.4	0.7	6	15	100.0	0.0
X	GERM CELL TUMOURS	0	0	0	3	1	3	4	1.0	100.0	1.1	100.0	-	-	-	4.4	1.6	1.3	1.4	22	30	100.0	0.0
	a. CNS germ cell	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other extragonadal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Gonadal germ cell	0	0	0	1	0	1	1	0.3	33.3	0.3	25.0	-	-	-	1.5	-	0.4	0.3	7	7	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	1	1	2	0.3	33.3	0.5	50.0	-	-	-	1.5	1.6	0.4	0.7	7	16	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	0	1	1	0.3	33.3	0.3	25.0	-	-	-	1.5	-	0.4	0.3	7	7	100.0	0.0
XI	CARCINOMA & MELANOMA	0	0	2	7	12	9	21	3.0	100.0	5.6	100.0	-	-	2.5	10.4	19.6	3.8	7.4	65	163	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	0	1	1	1	2	0.3	11.1	0.5	9.5	-	-	-	1.5	1.6	0.4	0.7	7	16	100.0	0.0
	c. Nasopharyngeal	0	0	0	2	4	2	6	0.7	22.2	1.6	28.6	-	-	-	3.0	6.5	0.9	2.1	15	48	100.0	0.0
	d. Melanoma	0	0	1	0	0	1	1	0.3	11.1	0.3	4.8	-	-	1.3	-	-	0.4	0.3	6	6	100.0	0.0
	e. Skin carcinoma	0	0	0	1	0	1	1	0.3	11.1	0.3	4.8	-	-	-	1.5	-	0.4	0.3	7	7	100.0	0.0
	f. Other & unspecified	0	0	1	3	7	4	11	1.3	44.4	2.9	52.4	-	-	1.3	4.4	11.5	1.7	3.9	29	86	100.0	0.0
XII	OTHER & UNSPECIFIED	0	0	1	1	1	2	3	0.7	100.0	0.8	100.0	-	-	1.3	1.5	1.6	0.8	1.0	14	22	0.0	33.3
	a. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other unspecified	0	0	1	1	1	2	3	0.7	100.0	0.8	100.0	-	-	1.3	1.5	1.6	0.8	1.0	14	22	0.0	33.3
	TOTAL	5	79	120	94	75	298	373	100.0	100.0	100.0	100.0	27.1	107.0	152.9	139.4	122.8	125.0	124.5	1917	2531	70.5	0.5

Please consult the quality indicators for this registry

Egypt

Gharbiah Cancer Registry, 1999–2010

Ahmed Hablas, Ibrahim A. Seifeldin, Mohamed Ramadan, Hisham Elhamzawy, Ihab Elsheikh, Hoda Omar

The Gharbiah Population-Based Cancer Registry covers the population of Gharbiah Governorate, which is located in the middle of the Nile Delta region in Egypt, about 90 km north of Cairo. Its surface area is 1943 km^2, which is 0.2% of the area of the country. The Nile Delta has a Mediterranean climate, characterized by little rainfall in winter.

The population density is 2022 per km^2. Gharbiah Governorate is urban (30%) and rural (70%), as defined by the Central Agency for Public Mobilization and Statistics (CAPMAS), and one of its divisions, Elmahalla Elkobra, is the centre of the textile industry of the country. Gharbiah is divided into eight districts (*markaz*), and the capital city is Tanta. Each district has a main city (urban) and multiple villages (rural). Gharbiah has a total of 316 villages. In 2006, according to the census of Egypt prepared by CAPMAS, the population of Gharbiah was 4 million (5.5% of the national population). People younger than 20 years made up 41% of the population in 2007 (Table A.6).

The Gharbiah Population-based Cancer Registry was started in 1999 (Table A.10) under the umbrella of the Egyptian Ministry of Health and Population. It was supported by the United States National Institutes of Health, through the United States National Cancer Institute.

The registry uses active case finding from 63 sources. Most childhood cancers were identified in sites at which paediatric malignancies were diagnosed or treated. Such sites include Tanta Cancer Center, Gharbiah Cancer Society, the paediatric and clinical oncology departments at Tanta University Hospital, insurance hospitals and clinics, private pathology and haematology laboratories, private clinicians, and local death registration offices. Cases treated outside Gharbiah are found mainly in Children's Cancer Hospital Egypt 57357 and the National Cancer Institute in Cairo.

Abstraction and coding are done according to ICD-O-3 (Table A.10), the *SEER Summary Staging Manual 2000*, the American Joint Committee on Cancer (AJCC) tumour–node–metastasis (TNM) staging system, and the Middle East Cancer Consortium (MECC) *Manual of Standards for Cancer Registration*. Data quality was assessed for completeness of coverage and reliability of registration. In addition to computer checks through CanReg and software provided by the Surveillance, Epidemiology, and End Results (SEER) Program and IARC, external auditing was done by staff of Emory University (Atlanta, Georgia, USA). The registration coverage was found to exceed 90%.

Some of the characteristic features of the data collected by the registry are a high incidence of childhood lymphomas and the occurrence of colorectal cancer in the age group 15–19 years.

POPULATION AT RISK

The source of the population data is CAPMAS (https://www.capmas.gov.eg/). The relevant censuses were in 1996 and 2006. Data were provided by sex and age group (0, 1–4, 5–9, 10–14, 15–19 years) for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology was 11% (Table A.9). Because of incomplete date of birth in more than half of the cases (Table A.8), age may be somewhat misclassified. Age was inconsistent with the provided dates in 26% of cases. Non-malignant CNS tumours and skin carcinomas are systematically registered. Pilocytic astrocytoma was coded mostly as malignant, although there was a case with uncertain behaviour. Laterality is recorded, but it is unknown in 11% of relevant cases.

EGYPT, Gharbiah (1999-2010)

	Age group (years)	Males	Females
Person-years	0	311 526	295 354
	1-4	2 119 708	2 021 240
	5-9	2 585 435	2 468 415
	10-14	2 776 910	2 640 995
	15-19	2 800 250	2 680 950
	0-14	7 793 579	7 426 004
	0-19	10 593 829	10 106 954
Average annual population	0-14	649 465	618 834
	0-19	882 819	842 246

Please consult the quality indicators for this registry

EGYPT, Gharbiah (1999-2010)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	13	178	144	139	174	474	648	26.2	100.0	25.0	100.0	21.4	43.0	28.5	25.7	31.7	32.2	32.1	472	631	92.3	7.6
	a. Lymphoid	4	135	100	74	83	313	396	17.3	66.0	15.2	61.1	6.6	32.6	19.8	13.7	15.1	21.7	20.2	314	389	96.7	3.0
	b. Acute myeloid	3	23	23	32	50	81	131	4.5	17.1	5.0	20.2	4.9	5.6	4.6	5.9	9.1	5.3	6.2	80	125	100.0	0.0
	c. CMD	0	0	1	7	16	8	24	0.4	1.7	0.9	3.7	-	-	0.2	1.3	2.9	0.4	1.0	7	22	100.0	0.0
	d. MDS & other	2	5	2	5	6	14	20	0.8	3.0	0.8	3.1	3.3	1.2	0.4	0.9	1.1	1.0	1.0	14	19	95.0	5.0
	e. Unspecified	4	15	18	21	19	58	77	3.2	12.2	3.0	11.9	6.6	3.6	3.6	3.9	3.5	3.8	3.7	57	75	53.2	46.8
II	LYMPHOMA & RELATED	6	149	177	138	203	470	673	25.9	100.0	25.9	100.0	9.9	36.0	35.0	25.5	37.0	31.3	32.6	466	651	96.3	1.3
	a. Hodgkin	0	38	73	62	116	173	289	9.5	36.8	11.1	42.9	-	9.2	14.4	11.4	21.2	11.1	13.3	169	275	100.0	0.0
	b. Non-Hodgkin except BL	3	50	59	54	74	166	240	9.2	35.3	9.2	35.7	4.9	12.1	11.7	10.0	13.5	11.0	11.5	164	232	100.0	0.0
	c. Burkitt (BL)	0	43	30	17	7	90	97	5.0	19.1	3.7	14.4	-	10.4	5.9	3.1	1.3	6.3	5.2	91	97	100.0	0.0
	d. Lymphoreticular	1	6	0	0	1	7	8	0.4	1.5	0.3	1.2	1.6	1.4	-	-	0.2	0.6	0.5	7	8	100.0	0.0
	e. Unspecified	2	12	15	5	5	34	39	1.9	7.2	1.5	5.8	3.3	2.9	3.0	0.9	0.9	2.4	2.0	34	39	35.9	23.1
III	CNS NEOPLASMS †	20	66	104	86	76	276	352	15.2	100.0	13.6	100.0	33.0	15.9	20.6	15.9	13.9	18.3	17.3	273	342	67.6	17.9
	a. Ependymoma	1	9	10	3	6	23	29	1.3	8.3	1.1	8.2	1.6	2.2	2.0	0.6	1.1	1.6	1.5	23	29	100.0	0.0
	b. Astrocytoma	3	17	33	27	37	80	117	4.4	29.0	4.5	33.2	4.9	4.1	6.5	5.0	6.8	5.2	5.5	79	112	97.4	0.0
	c. CNS embryonal	1	15	28	21	12	65	77	3.6	23.6	3.0	21.9	1.6	3.6	5.5	3.9	2.2	4.2	3.8	64	75	90.9	0.0
	d. Other gliomas	0	5	10	7	2	22	24	1.2	8.0	0.9	6.8	-	1.2	2.0	1.3	0.4	1.4	1.2	22	23	37.5	0.0
	e. Other specified	1	5	3	5	4	14	18	0.8	5.1	0.7	5.1	1.6	1.2	0.6	0.9	0.7	0.9	0.9	14	18	88.9	0.0
	f. Unspecified CNS	14	15	20	23	15	72	87	4.0	26.1	3.4	24.7	23.1	3.6	4.0	4.2	2.7	4.9	4.4	72	85	0.0	72.4
IV	NEUROBLASTOMA	20	75	34	9	5	138	143	7.6	100.0	5.5	100.0	33.0	18.1	6.7	1.7	0.9	10.4	8.3	142	147	98.6	0.7
	a. (Ganglio)neuroblastoma	20	75	34	4	2	133	135	7.3	96.4	5.2	94.4	33.0	18.1	6.7	0.7	0.4	10.1	7.9	137	139	98.5	0.7
	b. Peripheral nervous	0	0	0	5	3	5	8	0.3	3.6	0.3	5.6	-	-	-	0.9	0.5	0.3	0.3	5	7	100.0	0.0
V	RETINOBLASTOMA	7	19	1	0	0	27	27	1.5	100.0	1.0	100.0	11.5	4.6	0.2	-	-	2.2	1.7	28	28	63.0	0.0
VI	RENAL TUMOURS	11	47	22	8	6	88	94	4.9	100.0	3.6	100.0	18.1	11.4	4.4	1.5	1.1	6.6	5.3	90	96	89.4	4.3
	a. Nephroblastoma	10	45	21	4	0	80	80	4.4	90.9	3.1	85.1	16.5	10.9	4.2	0.7	-	6.0	4.7	82	82	95.0	0.0
	b. Renal carcinoma	0	0	0	3	4	3	7	0.2	3.4	0.3	7.4	-	-	-	0.6	0.7	0.2	0.3	3	6	100.0	0.0
	c. Unspecified	1	2	1	1	2	5	7	0.3	5.7	0.3	7.4	1.6	0.5	0.2	0.2	0.4	0.4	0.4	5	7	14.3	57.1
VII	HEPATIC TUMOURS	6	8	2	1	3	17	20	0.9	100.0	0.8	100.0	9.9	1.9	0.4	0.2	0.5	1.3	1.1	18	20	70.0	15.0
	a. Hepatoblastoma	5	7	1	1	0	14	14	0.8	82.4	0.5	70.0	8.2	1.7	0.2	0.2	-	1.1	0.8	15	15	92.9	0.0
	b. Hepatic carcinoma	0	0	0	0	2	0	2	-	-	0.1	10.0	-	-	-	-	0.4	-	0.1	-	2	50.0	0.0
	c. Unspecified	1	1	1	0	1	3	4	0.2	17.6	0.2	20.0	1.6	0.2	0.2	-	0.2	0.2	0.2	3	4	0.0	75.0
VIII	BONE TUMOURS	0	7	26	58	81	91	172	5.0	100.0	6.6	100.0	-	1.7	5.1	10.7	14.8	5.3	7.5	87	161	95.3	4.1
	a. Osteosarcoma	0	0	11	34	52	45	97	2.5	49.5	3.7	56.4	-	-	2.2	6.3	9.5	2.5	4.1	42	90	99.0	0.0
	b. Chondrosarcoma	0	0	0	2	7	2	9	0.1	2.2	0.3	5.2	-	-	-	0.4	1.3	0.1	0.4	2	8	100.0	0.0
	c. Ewing & related	0	5	12	20	15	37	52	2.0	40.7	2.0	30.2	-	1.2	2.4	3.7	2.7	2.2	2.4	36	49	100.0	0.0
	d. Other specified	0	0	1	1	3	2	5	0.1	2.2	0.2	2.9	-	-	0.2	0.2	0.5	0.1	0.2	2	5	100.0	0.0
	e. Unspecified	0	2	2	1	4	5	9	0.3	5.5	0.3	5.2	-	0.5	0.4	0.2	0.7	0.3	0.4	5	9	22.2	77.8
IX	SOFT TISSUE SARCOMA	11	29	29	44	84	113	197	6.2	100.0	7.6	100.0	18.1	7.0	5.7	8.1	15.3	7.5	9.2	111	188	99.5	0.0
	a. Rhabdomyosarcoma	4	16	13	16	18	49	67	2.7	43.4	2.6	34.0	6.6	3.9	2.6	3.0	3.3	3.3	3.3	49	65	100.0	0.0
	b. Fibrosarcoma	3	1	6	5	10	15	25	0.8	13.3	1.0	12.7	4.9	0.2	1.2	0.9	1.8	1.0	1.2	15	24	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	4	9	7	21	51	41	92	2.3	36.3	3.5	46.7	6.6	2.2	1.4	3.9	9.3	2.6	4.1	40	87	98.9	0.0
	e. Unspecified	0	3	3	2	5	8	13	0.4	7.1	0.5	6.6	-	0.7	0.6	0.4	0.9	0.5	0.6	8	13	100.0	0.0
X	GERM CELL TUMOURS	5	14	6	18	33	43	76	2.4	100.0	2.9	100.0	8.2	3.4	1.2	3.3	6.0	2.9	3.6	43	73	94.7	1.3
	a. CNS germ cell	0	0	0	2	2	2	4	0.1	4.7	0.2	5.3	-	-	-	0.4	0.4	0.1	0.2	2	4	75.0	0.0
	b. Other extragonadal	3	9	3	1	4	16	20	0.9	37.2	0.8	26.3	4.9	2.2	0.6	0.2	0.7	1.2	1.1	17	20	90.0	0.0
	c. Gonadal germ cell	2	5	3	14	13	24	37	1.3	55.8	1.4	48.7	3.3	1.2	0.6	2.6	2.4	1.5	1.7	23	35	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	11	1	12	0.1	2.3	0.5	15.8	-	-	-	0.2	2.0	0.1	0.5	1	11	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	3	0	3	-	-	0.1	3.9	-	-	-	-	0.5	-	0.1	-	3	66.7	33.3
XI	CARCINOMA & MELANOMA	1	1	9	32	105	43	148	2.4	100.0	5.7	100.0	1.6	0.2	1.8	5.9	19.2	2.5	6.2	41	136	98.0	0.0
	a. Adrenocortical	0	0	0	1	0	1	1	0.1	2.3	0.0	0.7	-	-	-	0.2	-	0.1	0.0	1	1	100.0	0.0
	b. Thyroid	0	0	2	5	32	7	39	0.4	16.3	1.5	26.4	-	-	0.4	0.9	5.8	0.4	1.6	7	36	97.4	0.0
	c. Nasopharyngeal	1	0	2	12	16	15	31	0.8	34.9	1.2	20.9	1.6	-	0.4	2.2	2.9	0.9	1.3	14	29	100.0	0.0
	d. Melanoma	0	0	0	1	3	1	4	0.1	2.3	0.2	2.7	-	-	-	0.2	0.5	0.1	0.2	1	4	100.0	0.0
	e. Skin carcinoma	0	0	3	3	5	6	11	0.3	14.0	0.4	7.4	-	-	0.6	0.6	0.9	0.4	0.5	6	10	90.9	0.0
	f. Other & unspecified	0	1	2	10	49	13	62	0.7	30.2	2.4	41.9	-	0.2	0.4	1.8	8.9	0.7	2.6	12	57	98.4	0.0
XII	OTHER & UNSPECIFIED	5	6	10	11	15	32	47	1.8	100.0	1.8	100.0	8.2	1.4	2.0	2.0	2.7	2.1	2.3	32	45	23.4	61.7
	a. Other specified	0	0	3	0	0	3	3	0.2	9.4	0.1	6.4	-	-	0.6	-	-	0.2	0.1	3	3	100.0	0.0
	b. Other unspecified	5	6	7	11	15	29	44	1.6	90.6	1.7	93.6	8.2	1.4	1.4	2.0	2.7	1.9	2.1	29	42	18.2	65.9
	TOTAL	105	599	564	544	785	1812	2597	100.0	100.0	100.0	100.0	173.0	144.7	111.6	100.4	143.2	122.5	127.2	1801	2518	89.6	6.4

† includes 14 non-malignant

Please consult the quality indicators for this registry

France

Réunion Cancer Registry, 1990–2011

Emmanuel Chirpaz, Stéphanie Maillot, Karine Pierre, Miguel Saint-Lambert

Réunion Island is a French overseas territory with an area of 2500 km^2, located in the Indian Ocean 170 km south-west of Mauritius and 700 km east of Madagascar. The estimated population was 0.8 million in 2010 (Table A.7). It is a diverse and cosmopolitan population that is relatively young for a developed country; 34% of the population is younger than 20 years (Table A.6).

Because it is part of France, Réunion is well developed, with French social and health insurance, three cancer care locations (two public hospitals and one private institution), six pathology laboratories, two radiotherapy units, one positron emission tomography (PET) scanner, and one neurosurgery unit. Cancer care for children and adolescents is provided in the department of paediatric oncology at the Réunion teaching hospital.

The Réunion Cancer Registry was founded in 1988 (Table A.10). It has been managed by the Public Health Department of the Réunion teaching hospital since 2010. It is financed by the Regional Health Agency of Réunion and Mayotte.

The registry covers the whole population of Réunion. Cancer cases are notified to the registry by the four public hospitals and five private clinics, five of the six histopathology laboratories, two haematology laboratories at the teaching hospital, the regional cancer network, and the social security agency. Death certificates are not used as information sources because of the French data protection law.

Each case notified to the registry is actively investigated by the registry staff; the inclusion criteria are checked, and data are collected from medical records. Tumours are coded according to IARC, ENCR, and French Network of Cancer Registries (FRANCIM) guidelines (Table A.10); all malignant tumours are collected as defined in ICD-O-3, except for basal cell carcinomas of the skin.

POPULATION AT RISK

The population data are provided by the National Institute of Statistics and Economic Studies (https://www.insee.fr/fr). The annual estimates (as of 1 January) are based on the 1990, 1999, 2006, and 2011 censuses, and they take into account births and deaths as well as net migration. Data were provided by sex and 5-year age group for each calendar year of 1990–2012, and by sex and single year of age for 2006, 2007, 2009, 2010, 2011, and 2012. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

Death certificates were used for case finding until 2004; after that, they were anonymized. The lack of access to this data source may slightly affect the completeness of registration. Although complete dates are collected by the registry, date of birth was not provided at all, and only year was provided for date of incidence (Table A.8), because of data protection restrictions. Therefore, it was not possible to verify the consistency of dates and ages at IARC. The sex ratio was high in adolescents (Table A.9). Non-malignant CNS tumours have been recorded only since 2006; thus, they were not submitted for IICC-3. Laterality is recorded, but it is missing in 15% of relevant cases. Basal cell skin carcinomas are not registered, and registration of other skin carcinomas may be incomplete.

FRANCE, Réunion (1990-2011)

	Age group (years)	Males	Females
Person-years	0	146 693	135 561
	1-4	601 116	578 209
	5-9	751 268	722 944
	10-14	752 879	733 421
	15-19	727 786	711 682
	0-14	2 251 956	2 170 135
	0-19	2 979 742	2 881 817
Average annual population	0-14	102 362	98 643
	0-19	135 443	130 992

Please consult the quality indicators for this registry

FRANCE, Réunion (1990-2011)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	5	62	41	39	40	147	187	32.0	100.0	28.5	100.0	17.7	52.6	27.8	26.2	27.8	34.3	32.9	499	638	98.4	1.1
	a. Lymphoid	2	50	33	24	17	109	126	23.7	74.1	19.2	67.4	7.1	42.4	22.4	16.1	11.8	25.7	22.6	371	430	99.2	0.0
	b. Acute myeloid	2	7	5	13	9	27	36	5.9	18.4	5.5	19.3	7.1	5.9	3.4	8.7	6.3	6.0	6.1	91	123	100.0	0.0
	c. CMD	0	1	1	2	9	4	13	0.9	2.7	2.0	7.0	-	0.8	0.7	1.3	6.3	0.9	2.1	14	45	100.0	0.0
	d. MDS & other	1	3	0	0	1	4	5	0.9	2.7	0.8	2.7	3.5	2.5	-	-	0.7	1.1	1.0	14	17	100.0	0.0
	e. Unspecified	0	1	2	0	4	3	7	0.7	2.0	1.1	3.7	-	0.8	1.4	-	2.8	0.7	1.2	10	24	71.4	28.6
II	LYMPHOMA & RELATED	1	8	14	29	47	52	99	11.3	100.0	15.1	100.0	3.5	6.8	9.5	19.5	32.7	11.1	16.0	176	339	99.0	0.0
	a. Hodgkin	0	2	6	19	27	27	54	5.9	51.9	8.2	54.5	-	1.7	4.1	12.8	18.8	5.6	8.5	91	185	100.0	0.0
	b. Non-Hodgkin except BL	0	0	5	8	16	13	29	2.8	25.0	4.4	29.3	-	-	3.4	5.4	11.1	2.7	4.6	44	99	100.0	0.0
	c. Burkitt (BL)	0	3	1	1	3	5	8	1.1	9.6	1.2	8.1	-	2.5	0.7	0.7	2.1	1.2	1.4	17	27	100.0	0.0
	d. Lymphoreticular	1	1	0	0	1	2	3	0.4	3.8	0.5	3.0	3.5	0.8	-	-	0.7	0.5	0.6	7	10	100.0	0.0
	e. Unspecified	0	2	2	1	0	5	5	1.1	9.6	0.8	5.1	-	1.7	1.4	0.7	-	1.2	0.9	17	17	80.0	0.0
III	CNS NEOPLASMS	3	23	26	13	15	65	80	14.2	100.0	12.2	100.0	10.6	19.5	17.6	8.7	10.4	15.1	14.1	221	273	66.3	8.8
	a. Ependymoma	1	3	3	1	1	8	9	1.7	12.3	1.4	11.3	3.5	2.5	2.0	0.7	0.7	1.9	1.6	27	31	100.0	0.0
	b. Astrocytoma	1	2	6	3	6	12	18	2.6	18.5	2.7	22.5	3.5	1.7	4.1	2.0	4.2	2.7	3.0	41	62	83.3	0.0
	c. CNS embryonal	0	9	4	1	2	14	16	3.1	21.5	2.4	20.0	-	7.6	2.7	0.7	1.4	3.5	3.0	48	55	93.8	0.0
	d. Other gliomas	1	4	9	6	4	20	24	4.4	30.8	3.7	30.0	3.5	3.4	6.1	4.0	2.8	4.5	4.1	68	82	45.8	4.2
	e. Other specified	0	1	1	0	1	2	3	0.4	3.1	0.5	3.8	-	0.8	0.7	-	0.7	0.5	0.5	7	10	100.0	0.0
	f. Unspecified CNS	0	4	3	2	1	9	10	2.0	13.8	1.5	12.5	-	3.4	2.0	1.3	0.7	2.1	1.8	31	34	0.0	60.0
IV	NEUROBLASTOMA	7	17	5	2	2	31	33	6.8	100.0	5.0	100.0	24.8	14.4	3.4	1.3	1.4	7.8	6.4	106	113	100.0	0.0
	a. (Ganglio)neuroblastoma	7	17	5	1	2	30	32	6.5	96.8	4.9	97.0	24.8	14.4	3.4	0.7	1.4	7.6	6.2	102	109	100.0	0.0
	b. Peripheral nervous	0	0	0	1	0	1	1	0.2	3.2	0.2	3.0	-	-	-	0.7	-	0.2	0.2	3	3	100.0	0.0
V	RETINOBLASTOMA	2	11	0	0	0	13	13	2.8	100.0	2.0	100.0	7.1	9.3	-	-	-	3.4	2.7	44	44	61.5	0.0
VI	RENAL TUMOURS	3	21	12	2	6	38	44	8.3	100.0	6.7	100.0	10.6	17.8	8.1	1.3	4.2	9.4	8.2	130	150	100.0	0.0
	a. Nephroblastoma	3	21	10	1	1	35	36	7.6	92.1	5.5	81.8	10.6	17.8	6.8	0.7	0.7	8.7	6.9	119	123	100.0	0.0
	b. Renal carcinoma	0	0	2	1	5	3	8	0.7	7.9	1.2	18.2	-	-	1.4	0.7	3.5	0.6	1.3	10	28	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	4	2	1	2	0	9	9	2.0	100.0	1.4	100.0	14.2	1.7	0.7	1.3	-	2.2	1.7	31	31	100.0	0.0
	a. Hepatoblastoma	4	1	1	2	0	8	8	1.7	88.9	1.2	88.9	14.2	0.8	0.7	1.3	-	1.9	1.5	27	27	100.0	0.0
	b. Hepatic carcinoma	0	1	0	0	0	1	1	0.2	11.1	0.2	11.1	-	0.8	-	-	-	0.3	0.2	3	3	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	2	9	16	17	27	44	5.9	100.0	6.7	100.0	-	1.7	6.1	10.8	11.8	5.6	7.0	91	150	95.5	0.0
	a. Osteosarcoma	0	0	3	12	7	15	22	3.3	55.6	3.3	50.0	-	-	2.0	8.1	4.9	3.0	3.4	51	75	100.0	0.0
	b. Chondrosarcoma	0	1	0	0	4	1	5	0.2	3.7	0.8	11.4	-	0.8	-	-	2.8	0.3	0.8	3	17	100.0	0.0
	c. Ewing & related	0	1	5	2	5	8	13	1.7	29.6	2.0	29.5	-	0.8	3.4	1.3	3.5	1.7	2.1	27	44	92.3	0.0
	d. Other specified	0	0	1	0	0	1	1	0.2	3.7	0.2	2.3	-	-	0.7	-	-	0.2	0.2	3	3	100.0	0.0
	e. Unspecified	0	0	0	2	1	2	3	0.4	7.4	0.5	6.8	-	-	-	1.3	0.7	0.4	0.5	7	10	66.7	0.0
IX	SOFT TISSUE SARCOMA	3	10	9	10	19	32	51	7.0	100.0	7.8	100.0	10.6	8.5	6.1	6.7	13.2	7.4	8.7	109	175	96.1	3.9
	a. Rhabdomyosarcoma	2	7	6	5	6	20	26	4.4	62.5	4.0	51.0	7.1	5.9	4.1	3.4	4.2	4.7	4.6	68	89	96.2	3.8
	b. Fibrosarcoma	1	0	1	0	0	2	2	0.4	6.3	0.3	3.9	3.5	-	0.7	-	-	0.5	0.4	7	7	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	2	2	5	13	9	22	2.0	28.1	3.3	43.1	-	1.7	1.4	3.4	9.0	1.9	3.5	30	76	100.0	0.0
	e. Unspecified	0	1	0	0	0	1	1	0.2	3.1	0.2	2.0	-	0.8	-	-	-	0.3	0.2	3	3	0.0	100.0
X	GERM CELL TUMOURS	2	3	9	5	19	19	38	4.1	100.0	5.8	100.0	7.1	2.5	6.1	3.4	13.2	4.3	6.3	64	130	94.7	2.6
	a. CNS germ cell	0	0	4	2	2	6	8	1.3	31.6	1.2	21.1	-	-	2.7	1.3	1.4	1.3	1.3	20	27	75.0	12.5
	b. Other extragonadal	2	1	0	0	3	3	6	0.7	15.8	0.9	15.8	7.1	0.8	-	-	2.1	0.8	1.1	10	21	100.0	0.0
	c. Gonadal germ cell	0	1	5	2	14	8	22	1.7	42.1	3.3	57.9	-	0.8	3.4	1.3	9.7	1.7	3.5	27	76	100.0	0.0
	d. Gonadal carcinoma	0	1	0	1	0	2	2	0.4	10.5	0.3	5.3	-	0.8	-	0.7	-	0.5	0.4	7	7	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XI	CARCINOMA & MELANOMA	1	0	7	13	31	21	52	4.6	100.0	7.9	100.0	3.5	-	4.7	8.7	21.5	4.3	8.2	71	179	100.0	0.0
	a. Adrenocortical	0	0	0	1	0	1	1	0.2	4.8	0.2	1.9	-	-	-	0.7	-	0.2	0.2	3	3	100.0	0.0
	b. Thyroid	0	0	1	2	8	3	11	0.7	14.3	1.7	21.2	-	-	0.7	1.3	5.6	0.6	1.7	10	38	100.0	0.0
	c. Nasopharyngeal	0	0	0	4	2	4	6	0.9	19.0	0.9	11.5	-	-	-	2.7	1.4	0.8	0.9	13	20	100.0	0.0
	d. Melanoma	0	0	2	3	7	5	12	1.1	23.8	1.8	23.1	-	-	1.4	2.0	4.9	1.0	1.9	17	41	100.0	0.0
	e. Skin carcinoma	0	0	1	1	3	2	5	0.4	9.5	0.8	9.6	-	-	0.7	0.7	2.1	0.4	0.8	7	17	100.0	0.0
	f. Other & unspecified	1	0	3	2	11	6	17	1.3	28.6	2.6	32.7	3.5	-	2.0	1.3	7.6	1.3	2.7	20	59	100.0	0.0
XII	OTHER & UNSPECIFIED	0	3	0	2	2	5	7	1.1	100.0	1.1	100.0	-	2.5	-	1.3	1.4	1.2	1.2	17	24	28.6	57.1
	a. Other specified	0	1	0	0	1	1	2	0.2	20.0	0.3	28.6	-	0.8	-	-	0.7	0.3	0.4	3	7	100.0	0.0
	b. Other unspecified	0	2	0	2	1	4	5	0.9	80.0	0.8	71.4	-	1.7	-	1.3	0.7	0.9	0.9	14	17	0.0	80.0
	TOTAL	31	162	133	133	198	459	657	100.0	100.0	100.0	100.0	109.8	137.4	90.2	89.5	137.6	106.2	113.3	1559	2247	92.8	2.4

Please consult the quality indicators for this registry

Kenya

Kenya is located in equatorial Africa. It is bordered by the United Republic of Tanzania, Uganda, South Sudan, Ethiopia, and Somalia, and to the east by the Indian Ocean. The country covers an area of 581 309 km^2. The population was about 40.3 million in 2010 (Table A.7); during the previous century, it increased from 2.9 million because of a high birth rate and a declining mortality rate. About 53% of Kenyans are younger than 20 years (Table A.6). There are an estimated 47 different ethnicities, of which Bantus (67%) and Nilotes (30%) make up the majority. Among 70 languages used, the two official languages are English and Swahili, although in many rural areas only native languages may be spoken.

The total yearly health-care expenditure in the country is covered to about 30% by government allocations from the national budget. These are the main source of funding for about 80% of the population, which receives services from the public sector. The other 20% of the population, which is able to access private health-care services, is insured mostly through employee insurance schemes and represents 36% of the total expenditure. The remaining more than 30% comes from donors, mostly for high-burden infectious diseases, including AIDS. The National Hospital Insurance Fund is a state agency whose mandate is to provide contributory health insurance to registered members (who are adults aged 18 years and older) and their dependents. Membership in the National Hospital Insurance Fund is mandatory for all salaried employees and voluntary for people who are self-employed. There are also many established private health insurance companies, which provide various levels of health insurance at different premium levels.

POPULATION AT RISK

The source of the population data is the Kenya National Bureau of Statistics (https://www.knbs.or.ke), from the 2009 National Population and Housing Census. The most recent population censuses were in 1999 and 2009 (Table A.7).

EDITORS' COMMENTS

Two population-based cancer registries contributing to IICC-3 are presented in a combined dataset in the book and individually online (Table A.12). The Eldoret Cancer Registry and the Nairobi Cancer Registry combined cover about 8% of the childhood population of the country (Table A.6). The incidence rates were higher in Eldoret than in Nairobi. The MV% was low, and the DCO% was high. This is consistent with the high proportion of unspecified cancers in both datasets (Table A.9). The age-specific incidence rates in infants were low, possibly in part because of the incomplete date of birth in a large proportion of cases (Table A.8). Skin carcinomas are reportable, but they are rare.

KENYA, 2 registries (2000-2012)

Registry	Period	Cases	%	Person-years	%
Eldoret	2000-2011	721	44.5	5 169 022	37.6
Nairobi	2006-2012	899	55.5	8 581 336	62.4
KENYA	**2000-2012**	**1620**	**100.0**	**13 750 358**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Eldoret Cancer Registry, 2000–2011

Nathan G. Buziba, Gladys C. Chesumbai, Jane Chepkosgei, Jackline N. Gavana

Uasin Gishu County is one of the 47 counties of Kenya and is located in the former Rift Valley Province. The towns in Uasin Gishu County include Eldoret, Moi's Bridge, Burnt Forest, and Turbo. This cosmopolitan county covers an area of 3345 km^2. Uasin Gishu County had an estimated population of 0.9 million in 2010, based on the 2009 national census. In 2010, 52% of the population was younger than 20 years (Table A.6). The county has a cool and temperate climate; temperatures range between 8 °C and 27 °C annually. The main economic activities are large-scale wheat and maize farming, dairy farming, horticulture, and sports tourism.

The major hospitals are well equipped and attended by paediatricians, surgeons, pathologists, oncologists, and other specialists. Moi Teaching and Referral Hospital is the second largest hospital in Kenya and has a well-managed haemato-oncology department, which provides subsidized chemotherapy and management options to its patients.

The Eldoret Cancer Registry (ECR) is a population-based registry that covers Uasin Gishu County. Established in 1999 (Table A.10), it is located in the Department of Haematology and Blood Transfusion at Moi University College of Health Sciences.

The ECR collects data from the public hospitals (Moi Teaching and Referral Hospital), histopathology and haematology laboratories, haemato-oncology clinics, anatomopathology and satellite clinics, the mortuary register, private hospitals and clinics (Eldoret Hospital, Elgonview Hospital, Mediheal Hospital, surrounding consultant clinics of St. Luke's Orthopaedics and Trauma Hospital, Reale Hospital, Racecourse Hospital, Family Health Options, Fountain of Health, Alexandria Cancer Center, and other private laboratories), the Registrar of Births and Deaths for Uasin Gishu Eldoret East and Eldoret West, and Eldoret Hospice. Case finding is an

active process. The ECR seeks clearance to collect data from the various institutions, and cancer registrars visit these institutions regularly.

Follow-up for vital status is conducted at the Registrar of Births and Deaths in both Eldoret East and Eldoret West as well as in most of the cancer treatment centres. CanReg5, provided by IARC, is used for data management. Tumours are coded according to ICD-O (Table A.10). The completeness of data varies according to the sources. Sometimes a case must be confirmed in various sources to meet the requirement for registration. Data collected by the ECR are used to show the incidence and mortality of various cancers in the region.

POPULATION AT RISK

Data were provided by 5-year age group for 1999 and by single years of age for 2009. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Kenya, above.

EDITORS' COMMENTS

Data were originally provided for 2000–2012, but the data for 2012 were subsequently omitted because of incomplete registration. Despite a satisfactory MV%, 19% of cases had unspecified morphology and the DCO% was almost 8% (Table A.9). Because of incomplete date of birth for almost all cases (only year of birth is collected), age may be misclassified (Table A.8). The very low rate in infants (Table A.9) may reflect the imprecise dates to some extent, because age was inconsistent with the dates in almost 7% of cases (Table A.8). Non-malignant CNS tumours are reportable, but only one case was recorded. No cases of pilocytic astrocytoma were in the dataset. Information on laterality is not collected. See also Kenya, above.

Nairobi Cancer Registry, 2006–2012

Anne Korir Rugut, Nathan Okerosi, Mary Nyanchama, Victor Rono, Rowland Osii

Nairobi County is located at an altitude of 1795 m and has a subtropical highland climate. It is the smallest of the 47 counties of Kenya, with an area of 695 km^2, and includes Nairobi City, Kenya's cosmopolitan capital city. The county had a population of 3 million in 2010, and people younger than 20 years make up 39% of the population (Table A.6). All 42 Indigenous tribes of Kenya are represented, as well as a sizeable population of Asians, many non-Kenyan Africans, and Europeans and Americans.

Nairobi County has Kenyatta National Hospital, the main public teaching and referral hospital in Kenya. Other major private hospitals that offer paediatric oncology services include the Nairobi Hospital, Aga Khan University Hospital, Mater Hospital, M.P. Shah Hospital, and Gertrude's Children's Hospital. These major referral hospitals have pathology laboratories and cancer specialty clinics for paediatric oncology.

The Nairobi Cancer Registry (NCR) covers Nairobi County and is based in the Centre for Clinical Research at Kenya Medical Research Institute. The registry has two permanent staff and three contract staff. Case finding is conducted mostly by volunteers, who are often engaged on short contracts when funds are available. Data are collected from public and private hospitals, the Registrar of Births and Deaths, Nairobi Hospice, and private laboratories in Nairobi County. Cancer registrars visit the data sources to abstract information into case registration forms. Completed forms are then submitted to the NCR office, where a senior cancer registrar and the registry supervisor review the forms for coding. Quality checks are based on standards provided by IARC and ICD-O. Annual reports are prepared for the Ministry of Health, and the collected data are made available to researchers, students, and civil society to support cancer control activities and policies.

PUBLICATIONS

Korir A, Okerosi N, Ronoh V, Mutuma G, Parkin M (2015). Incidence of cancer in Nairobi, Kenya (2004–2008). Int J Cancer. 137(9):2053–9. https://doi.org/10.1002/ijc.29674 PMID:26139540

POPULATION AT RISK

Data were provided by sex and 5-year age group for each calendar year of the reporting period. The decimal numbers provided for some counts were rounded to the nearest integer, and the data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Kenya, above.

EDITORS' COMMENTS

Data were originally provided for 2003–2012, but the period was reduced to 2006–2012 because of the low number of cases and rates in the early years. Over this shorter period, the rates decreased slightly. The proportion of cases with unspecified morphology was high (Table A.9). Because of incomplete date of birth for 66% of cases, age may be misclassified, and age was inconsistent with the dates in almost 3% of cases (Table A.8). The low rates in infants may reflect late diagnosis, the imprecise ages, and a larger percentage of underdiagnosis than in the other age groups. The sex ratio was high in adolescents (Table A.9). Non-malignant CNS tumours are not reportable. Laterality was complete for about 40% of cases of interest. Also notable are a high rate of rhabdomyosarcoma and one osteosarcoma case in an infant. See also Kenya, above.

KENYA, 2 registries (2000-2012)

	Age group (years)	Males	Females
Person-years	0	504 076	496 249
	1-4	1 663 020	1 646 947
	5-9	1 761 608	1 770 191
	10-14	1 451 350	1 501 818
	15-19	1 332 724	1 622 375
	0-14	5 380 054	5 415 205
	0-19	6 712 778	7 037 580

Please consult the quality indicators for this pool and its constituent registries

KENYA, 2 registries (2000-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	3	64	78	71	48	**216**	**264**	18.5	100.0	16.3	100.0	3.0	19.3	22.1	24.0	16.2	**20.1**	**19.2**	308	390	94.3	3.0
	a. Lymphoid	3	48	55	42	18	**148**	**166**	12.7	68.5	10.2	62.9	3.0	14.5	15.6	14.2	6.1	**13.7**	**12.0**	208	239	97.0	0.6
	b. Acute myeloid	0	7	9	14	17	**30**	**47**	2.6	13.9	2.9	17.8	-	2.1	2.5	4.7	5.8	**2.8**	**3.5**	45	73	95.7	0.0
	c. CMD	0	1	3	5	8	**9**	**17**	0.8	4.2	1.0	6.4	-	0.3	0.8	1.7	2.7	**0.9**	**1.3**	14	27	94.1	0.0
	d. MDS & other	0	1	0	0	0	**1**	**1**	0.1	0.5	0.1	0.4	-	0.3	-	-	-	**0.1**	**0.1**	1	1	100.0	0.0
	e. Unspecified	0	7	11	10	5	**28**	**33**	2.4	13.0	2.0	12.5	-	2.1	3.1	3.4	1.7	**2.6**	**2.4**	41	49	78.8	21.2
II	LYMPHOMA & RELATED	1	73	129	101	84	**304**	**388**	26.1	100.0	24.0	100.0	1.0	22.1	36.5	34.2	28.4	**28.4**	**28.4**	439	582	91.2	3.6
	a. Hodgkin	0	6	32	29	27	**67**	**94**	5.8	22.0	5.8	24.2	-	1.8	9.1	9.8	9.1	**6.3**	**6.9**	101	147	100.0	0.0
	b. Non-Hodgkin except BL	1	38	50	39	37	**128**	**165**	11.0	42.1	10.2	42.5	1.0	11.5	14.2	13.2	12.5	**11.9**	**12.0**	182	245	93.9	0.6
	c. Burkitt (BL)	0	17	30	14	2	**61**	**63**	5.2	20.1	3.9	16.2	-	5.1	8.5	4.7	0.7	**5.6**	**4.5**	86	89	95.2	1.6
	d. Lymphoreticular	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	0	12	17	19	18	**48**	**66**	4.1	15.8	4.1	17.0	-	3.6	4.8	6.4	6.1	**4.5**	**4.9**	70	101	68.2	18.2
III	CNS NEOPLASMS †	0	22	23	26	18	**71**	**89**	6.1	100.0	5.5	100.0	-	6.6	6.5	8.8	6.1	**6.6**	**6.5**	102	133	57.3	9.0
	a. Ependymoma	0	3	0	0	0	**3**	**3**	0.3	4.2	0.2	3.4	-	0.9	-	-	-	**0.3**	**0.2**	3	3	100.0	0.0
	b. Astrocytoma	0	2	7	6	6	**15**	**21**	1.3	21.1	1.3	23.6	-	0.6	2.0	2.0	2.0	**1.4**	**1.5**	22	33	95.2	0.0
	c. CNS embryonal	0	6	7	4	5	**17**	**22**	1.5	23.9	1.4	24.7	-	1.8	2.0	1.4	1.7	**1.6**	**1.6**	24	32	86.4	4.5
	d. Other gliomas	0	3	2	5	0	**10**	**10**	0.9	14.1	0.6	11.2	-	0.9	0.6	1.7	-	**0.9**	**0.7**	15	15	60.0	20.0
	e. Other specified	0	0	1	0	1	**1**	**2**	0.1	1.4	0.1	2.2	-	-	0.3	-	0.3	**0.1**	**0.1**	1	3	100.0	0.0
	f. Unspecified CNS	0	8	6	11	6	**25**	**31**	2.1	35.2	1.9	34.8	-	2.4	1.7	3.7	2.0	**2.3**	**2.3**	36	47	3.2	16.1
IV	NEUROBLASTOMA	1	12	7	2	0	**22**	**22**	1.9	100.0	1.4	100.0	1.0	3.6	2.0	0.7	-	**2.0**	**1.6**	28	28	95.5	0.0
	a. (Ganglio)neuroblastoma	1	12	7	2	0	**22**	**22**	1.9	100.0	1.4	100.0	1.0	3.6	2.0	0.7	-	**2.0**	**1.6**	28	28	95.5	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	RETINOBLASTOMA	6	63	8	1	0	**78**	**78**	6.7	100.0	4.8	100.0	6.0	19.0	2.3	0.3	-	**7.0**	**5.4**	93	93	91.0	1.3
VI	RENAL TUMOURS	3	63	32	5	3	**103**	**106**	8.8	100.0	6.5	100.0	3.0	19.0	9.1	1.7	1.0	**9.3**	**7.5**	130	135	84.9	5.7
	a. Nephroblastoma	3	62	31	4	2	**100**	**102**	8.6	97.1	6.3	96.2	3.0	18.7	8.8	1.4	0.7	**9.1**	**7.2**	126	129	88.2	4.9
	b. Renal carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Unspecified	0	1	1	1	1	**3**	**4**	0.3	2.9	0.2	3.8	-	0.3	0.3	0.3	0.3	**0.3**	**0.3**	4	6	0.0	25.0
VII	HEPATIC TUMOURS	0	1	0	5	8	**6**	**14**	0.5	100.0	0.9	100.0	-	0.3	-	1.7	2.7	**0.6**	**1.1**	10	23	64.3	14.3
	a. Hepatoblastoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Hepatic carcinoma	0	1	0	5	6	**6**	**12**	0.5	100.0	0.7	85.7	-	0.3	-	1.7	2.0	**0.6**	**0.9**	10	20	75.0	8.3
	c. Unspecified	0	0	0	0	2	**0**	**2**	-	-	0.1	14.3	-	-	-	-	0.7	**-**	**0.2**	-	3	0.0	50.0
VIII	BONE TUMOURS	1	2	12	40	76	**55**	**131**	4.7	100.0	8.1	100.0	1.0	0.6	3.4	13.5	25.7	**5.3**	**9.9**	88	217	88.5	3.1
	a. Osteosarcoma	1	1	6	30	56	**38**	**94**	3.3	69.1	5.8	71.8	1.0	0.3	1.7	10.2	19.0	**3.7**	**7.1**	62	156	88.3	2.1
	b. Chondrosarcoma	0	0	0	0	5	**0**	**5**	-	-	0.3	3.8	-	-	-	-	1.7	**-**	**0.4**	-	8	100.0	0.0
	c. Ewing & related	0	1	0	2	3	**3**	**6**	0.3	5.5	0.4	4.6	-	0.3	-	0.7	1.0	**0.3**	**0.5**	5	10	100.0	0.0
	d. Other specified	0	0	6	4	9	**10**	**19**	0.9	18.2	1.2	14.5	-	-	1.7	1.4	3.0	**0.9**	**1.4**	15	30	100.0	0.0
	e. Unspecified	0	0	0	4	3	**4**	**7**	0.3	7.3	0.4	5.3	-	-	-	1.4	1.0	**0.4**	**0.5**	7	12	42.9	28.6
IX	SOFT TISSUE SARCOMA	5	45	40	58	44	**148**	**192**	12.7	100.0	11.9	100.0	5.0	13.6	11.3	19.6	14.9	**13.8**	**14.1**	213	287	93.8	2.6
	a. Rhabdomyosarcoma	5	31	19	21	11	**76**	**87**	6.5	51.4	5.4	45.3	5.0	9.4	5.4	7.1	3.7	**7.0**	**6.3**	104	123	94.3	2.3
	b. Fibrosarcoma	0	0	4	3	10	**7**	**17**	0.6	4.7	1.0	8.9	-	-	1.1	1.0	3.4	**0.7**	**1.3**	11	28	94.1	0.0
	c. Kaposi sarcoma	0	7	12	18	8	**37**	**45**	3.2	25.0	2.8	23.4	-	2.1	3.4	6.1	2.7	**3.5**	**3.3**	56	69	91.1	4.4
	d. Other specified	0	5	1	6	4	**12**	**16**	1.0	8.1	1.0	8.3	-	1.5	0.3	2.0	1.4	**1.1**	**1.2**	17	24	93.8	0.0
	e. Unspecified	0	2	4	10	11	**16**	**27**	1.4	10.8	1.7	14.1	-	0.6	1.1	3.4	3.7	**1.5**	**2.0**	25	44	96.3	3.7
X	GERM CELL TUMOURS	0	5	3	2	12	**10**	**22**	0.9	100.0	1.4	100.0	-	1.5	0.8	0.7	4.1	**0.9**	**1.6**	13	34	90.9	4.5
	a. CNS germ cell	0	0	0	0	1	**0**	**1**	-	-	0.1	4.5	-	-	-	-	0.3	**-**	**0.1**	-	2	100.0	0.0
	b. Other extragonadal	0	4	0	0	3	**4**	**7**	0.3	40.0	0.4	31.8	-	1.2	-	-	1.0	**0.4**	**0.5**	5	10	100.0	0.0
	c. Gonadal germ cell	0	1	2	1	0	**4**	**4**	0.3	40.0	0.2	18.2	-	0.3	0.6	0.3	-	**0.4**	**0.3**	6	6	100.0	0.0
	d. Gonadal carcinoma	0	0	1	0	4	**1**	**5**	0.1	10.0	0.3	22.7	-	-	0.3	-	1.4	**0.1**	**0.4**	1	8	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	4	**1**	**5**	0.1	10.0	0.3	22.7	-	-	-	0.3	1.4	**0.1**	**0.4**	2	8	60.0	20.0
XI	CARCINOMA & MELANOMA	5	9	21	46	114	**81**	**195**	7.0	100.0	12.0	100.0	5.0	2.7	5.9	15.6	38.6	**7.7**	**14.6**	124	317	98.5	0.0
	a. Adrenocortical	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Thyroid	0	0	0	0	6	**0**	**6**	-	-	0.4	3.1	-	-	-	-	2.0	**-**	**0.5**	-	10	100.0	0.0
	c. Nasopharyngeal	1	1	3	22	43	**27**	**70**	2.3	33.3	4.3	35.9	1.0	0.3	0.8	7.4	14.6	**2.6**	**5.3**	44	117	98.6	0.0
	d. Melanoma	0	1	2	1	1	**4**	**5**	0.3	4.9	0.3	2.6	-	0.3	0.6	0.3	0.3	**0.4**	**0.4**	6	7	100.0	0.0
	e. Skin carcinoma	2	1	6	3	9	**12**	**21**	1.0	14.8	1.3	10.8	2.0	0.3	1.7	1.0	3.0	**1.1**	**1.5**	17	32	100.0	0.0
	f. Other & unspecified	2	6	10	20	55	**38**	**93**	3.3	46.9	5.7	47.7	2.0	1.8	2.8	6.8	18.6	**3.6**	**7.0**	57	150	97.8	0.0
XII	OTHER & UNSPECIFIED	0	16	29	26	48	**71**	**119**	6.1	100.0	7.3	100.0	-	4.8	8.2	8.8	16.2	**6.6**	**8.8**	104	185	14.3	47.9
	a. Other specified	0	0	1	0	4	**1**	**5**	0.1	1.4	0.3	4.2	-	-	0.3	-	1.4	**0.1**	**0.4**	1	8	100.0	0.0
	b. Other unspecified	0	16	28	26	44	**70**	**114**	6.0	98.6	7.0	95.8	-	4.8	7.9	8.8	14.9	**6.6**	**8.4**	102	177	10.5	50.0
	TOTAL	25	375	382	383	455	**1165**	**1620**	100.0	100.0	100.0	100.0	25.0	113.3	108.2	129.7	154.0	**108.5**	**118.7**	1653	2423	84.6	6.5

† includes 1 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Libya

Benghazi Cancer Registry, 2003–2008

Mufid El Mistiri, Nadia El Sahli, Mohamed El Mangoush, Adel Attia, Salah Habil, Faraj Al Homri, Saeed Hamad, Raouf Azzuz, Mohamed Latewish, Naema Al Huti

Libya is located in North Africa and is bordered by the Mediterranean Sea to the north, Egypt to the east, Sudan to the south-east, Chad and Niger to the south, and Algeria and Tunisia to the west. The country covers an area of almost 1.8 million km^2. The Benghazi Cancer Registry (BCR) was established in 2003 (Table A.10) and covers the area of the eastern administrative region in Libya, which includes the governorates of Tobruk, Derna, Bayda, Marj, Benghazi, Ajdabiya, and Al Jawf. The population of the eastern region of Libya at the most recent census (in 2006) was 1.6 million (28% of the national population), and 43% of people were younger than 20 years in 2010 (Table A.6). About 70% of the population lives in urban areas.

In 2003–2005, cancer care services in the region were provided predominantly by the oncology and haematology units at Aljumhuriah Hospital, by the radiotherapy unit at the Radiodiagnostic and Therapeutic Centre, and by the paediatric oncology and haematology unit at the Children's Hospital, all in Benghazi. All patients with cancer in the eastern region were referred to these units.

The BCR was located in the Medical School of Benghazi University and steered by the Scientific Board. The staff of the BCR consisted of a principal investigator, five co-investigators and field supervisors, one data entry staff, and four part-time registrars. The BCR used active case finding from different data sources. These included cancer service units, general and regional hospitals, university hospitals, private hospitals and clinics, specialized hospitals and centres outside the region, pathology and haematology laboratories, and district death registration offices. The death registration system was adequate but not complete in all parts of the eastern region of Libya, especially for 2003. Reporting the cause of death from cancer was mandatory in all hospitals. The registry staff routinely visited the above-mentioned sources. It was not possible to estimate how many cancer cases were missed by the registry.

The registry prepared annual reports of cancer incidence, highlighting trends and changes. These data were made available to the Ministry of Health to help guide planning for cancer services. Some of the BCR data will be used further in research. The BCR provided the first Libyan report on cancer incidence.

POPULATION AT RISK

The official estimates based on the 2006 census were generated by the National Centre for Information and Documentation in Tripoli and provided by sex and 5-year age group for 2003–2006. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

Despite the MV% of 88%, the proportion of unspecified tumours was almost 28% (Table A.9). Date and month of birth were available for less than one third of cases; thus, age may be misclassified, and age was inconsistent with the dates in 2% of cases (Table A.8). The age-specific incidence rate in infants was low. In 10% of cases, the site was considered unlikely with respect to morphology, and some unspecified carcinomas were reported in infants (Table A.11). Non-malignant CNS tumours were not systematically registered; the cases of pilocytic astrocytoma in the dataset were coded with uncertain behaviour. No skin carcinomas were included in the dataset. Laterality was not recorded.

LIBYA, Benghazi (2003-2008)

	Age group (years)	Males	Females
Person-years	0	103 658	99 518
	1-4	414 632	398 072
	5-9	485 875	468 500
	10-14	502 365	484 395
	15-19	515 220	489 975
	0-14	1 506 530	1 450 485
	0-19	2 021 750	1 940 460
Average annual population	0-14	251 088	241 748
	0-19	336 958	323 410

Please consult the quality indicators for this registry

LIBYA, Benghazi (2003-2008)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	2	45	29	21	19	**97**	**116**	30.5	100.0	27.6	100.0	9.8	55.4	30.4	21.3	18.9	**33.9**	**30.5**	490	584	98.3	1.7
	a. Lymphoid	0	11	9	4	8	**24**	**32**	7.5	24.7	7.6	27.6	-	13.5	9.4	4.1	8.0	**8.4**	**8.3**	122	161	100.0	0.0
	b. Acute myeloid	0	10	3	2	8	**15**	**23**	4.7	15.5	5.5	19.8	-	12.3	3.1	2.0	8.0	**5.4**	**6.0**	75	115	95.7	4.3
	c. CMD	0	2	0	2	0	**4**	**4**	1.3	4.1	1.0	3.4	-	2.5	-	2.0	-	**1.4**	**1.0**	20	20	100.0	0.0
	d. MDS & other	0	0	2	2	0	**4**	**4**	1.3	4.1	1.0	3.4	-	-	2.1	2.0	-	**1.3**	**1.0**	21	21	100.0	0.0
	e. Unspecified	2	22	15	11	3	**50**	**53**	15.7	51.5	12.6	45.7	9.8	27.1	15.7	11.1	3.0	**17.5**	**14.2**	252	267	98.1	1.9
II	LYMPHOMA & RELATED	1	11	24	17	27	**53**	**80**	16.7	100.0	19.0	100.0	4.9	13.5	25.1	17.2	26.9	**17.7**	**19.8**	271	405	100.0	0.0
	a. Hodgkin	0	1	9	11	20	**21**	**41**	6.6	39.6	9.8	51.2	-	1.2	9.4	11.1	19.9	**6.7**	**9.6**	108	207	100.0	0.0
	b. Non-Hodgkin except BL	1	3	2	3	5	**9**	**14**	2.8	17.0	3.3	17.5	4.9	3.7	2.1	3.0	5.0	**3.1**	**3.5**	45	70	100.0	0.0
	c. Burkitt (BL)	0	6	8	3	0	**17**	**17**	5.3	32.1	4.0	21.3	-	7.4	8.4	3.0	-	**5.9**	**4.6**	87	87	100.0	0.0
	d. Lymphoreticular	0	1	3	0	0	**4**	**4**	1.3	7.5	1.0	5.0	-	1.2	3.1	-	-	**1.4**	**1.1**	21	21	100.0	0.0
	e. Unspecified	0	0	2	0	2	**2**	**4**	0.6	3.8	1.0	5.0	-	-	2.1	-	2.0	**0.7**	**1.0**	10	20	100.0	0.0
III	CNS NEOPLASMS †	1	16	14	16	9	**47**	**56**	14.8	100.0	13.3	100.0	4.9	19.7	14.7	16.2	9.0	**15.9**	**14.4**	238	283	64.3	7.1
	a. Ependymoma	0	1	0	2	0	**3**	**3**	0.9	6.4	0.7	5.4	-	1.2	-	2.0	-	**1.0**	**0.8**	15	15	100.0	0.0
	b. Astrocytoma	0	6	5	5	4	**16**	**20**	5.0	34.0	4.8	35.7	-	7.4	5.2	5.1	4.0	**5.4**	**5.1**	81	101	95.0	0.0
	c. CNS embryonal	1	4	3	3	1	**11**	**12**	3.5	23.4	2.9	21.4	4.9	4.9	3.1	3.0	1.0	**3.8**	**3.2**	56	61	100.0	0.0
	d. Other gliomas	0	0	1	2	0	**3**	**3**	0.9	6.4	0.7	5.4	-	-	1.0	2.0	-	**0.9**	**0.7**	15	15	66.7	0.0
	e. Other specified	0	0	1	0	0	**1**	**1**	0.3	2.1	0.2	1.8	-	-	1.0	-	-	**0.3**	**0.3**	5	5	0.0	0.0
	f. Unspecified CNS	0	5	4	4	4	**13**	**17**	4.1	27.7	4.0	30.4	-	6.2	4.2	4.1	4.0	**4.4**	**4.3**	66	86	0.0	23.5
IV	NEUROBLASTOMA	1	15	5	1	2	**22**	**24**	6.9	100.0	5.7	100.0	4.9	18.5	5.2	1.0	2.0	**8.1**	**6.7**	110	120	100.0	0.0
	a. (Ganglio)neuroblastoma	1	15	5	1	2	**22**	**24**	6.9	100.0	5.7	100.0	4.9	18.5	5.2	1.0	2.0	**8.1**	**6.7**	110	120	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	RETINOBLASTOMA	1	11	2	0	0	**14**	**14**	4.4	100.0	3.3	100.0	4.9	13.5	2.1	-	-	**5.2**	**4.1**	70	70	50.0	0.0
VI	RENAL TUMOURS	2	12	6	0	2	**20**	**22**	6.3	100.0	5.2	100.0	9.8	14.8	6.3	-	2.0	**7.4**	**6.2**	100	110	77.3	9.1
	a. Nephroblastoma	1	6	2	0	0	**9**	**9**	2.8	45.0	2.1	40.9	4.9	7.4	2.1	-	-	**3.3**	**2.6**	45	45	77.8	22.2
	b. Renal carcinoma	1	5	3	0	2	**9**	**11**	2.8	45.0	2.6	50.0	4.9	6.2	3.1	-	2.0	**3.3**	**3.0**	45	55	81.8	0.0
	c. Unspecified	0	1	1	0	0	**2**	**2**	0.6	10.0	0.5	9.1	-	1.2	1.0	-	-	**0.7**	**0.6**	10	10	50.0	0.0
VII	HEPATIC TUMOURS	1	3	0	1	0	**5**	**5**	1.6	100.0	1.2	100.0	4.9	3.7	-	1.0	-	**1.8**	**1.4**	25	25	40.0	0.0
	a. Hepatoblastoma	0	2	0	0	0	**2**	**2**	0.6	40.0	0.5	40.0	-	2.5	-	-	-	**0.8**	**0.6**	10	10	50.0	0.0
	b. Hepatic carcinoma	0	1	0	0	0	**1**	**1**	0.3	20.0	0.2	20.0	-	1.2	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	c. Unspecified	1	0	0	1	0	**2**	**2**	0.6	40.0	0.5	40.0	4.9	-	-	1.0	-	**0.7**	**0.5**	10	10	0.0	0.0
VIII	BONE TUMOURS	0	2	3	11	6	**16**	**22**	5.0	100.0	5.2	100.0	-	2.5	3.1	11.1	6.0	**5.0**	**5.2**	81	111	81.8	0.0
	a. Osteosarcoma	0	0	1	4	1	**5**	**6**	1.6	31.3	1.4	27.3	-	-	1.0	4.1	1.0	**1.5**	**1.4**	26	30	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	0	**1**	**1**	0.3	6.3	0.2	4.5	-	-	-	1.0	-	**0.3**	**0.2**	5	5	100.0	0.0
	c. Ewing & related	0	1	2	4	2	**7**	**9**	2.2	43.8	2.1	40.9	-	1.2	2.1	4.1	2.0	**2.2**	**2.2**	36	46	100.0	0.0
	d. Other specified	0	1	0	0	0	**1**	**1**	0.3	6.3	0.2	4.5	-	1.2	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	e. Unspecified	0	0	0	2	3	**2**	**5**	0.6	12.5	1.2	22.7	-	-	-	2.0	3.0	**0.6**	**1.1**	10	25	20.0	0.0
IX	SOFT TISSUE SARCOMA	0	7	5	5	11	**17**	**28**	5.3	100.0	6.7	100.0	-	8.6	5.2	5.1	10.9	**5.8**	**7.0**	86	141	96.4	0.0
	a. Rhabdomyosarcoma	0	2	2	0	1	**4**	**5**	1.3	23.5	1.2	17.9	-	2.5	2.1	-	1.0	**1.4**	**1.3**	20	25	100.0	0.0
	b. Fibrosarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	0	1	0	1	2	**2**	**4**	0.6	11.8	1.0	14.3	-	1.2	-	1.0	2.0	**0.7**	**1.0**	10	20	100.0	0.0
	e. Unspecified	0	4	3	4	8	**11**	**19**	3.5	64.7	4.5	67.9	-	4.9	3.1	4.1	8.0	**3.7**	**4.7**	56	95	94.7	0.0
X	GERM CELL TUMOURS	0	2	0	1	3	**3**	**6**	0.9	100.0	1.4	100.0	-	2.5	-	1.0	3.0	**1.1**	**1.5**	15	30	83.3	0.0
	a. CNS germ cell	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Other extragonadal	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Gonadal germ cell	0	2	0	1	3	**3**	**6**	0.9	100.0	1.4	100.0	-	2.5	-	1.0	3.0	**1.1**	**1.5**	15	30	83.3	0.0
	d. Gonadal carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified gonadal	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
XI	CARCINOMA & MELANOMA	3	2	6	6	19	**17**	**36**	5.3	100.0	8.6	100.0	14.8	2.5	6.3	6.1	18.9	**5.7**	**8.7**	86	181	88.9	0.0
	a. Adrenocortical	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Thyroid	0	0	1	0	1	**1**	**2**	0.3	5.9	0.5	5.6	-	-	1.0	-	1.0	**0.3**	**0.5**	5	10	100.0	0.0
	c. Nasopharyngeal	0	0	0	3	6	**3**	**9**	0.9	17.6	2.1	25.0	-	-	-	3.0	6.0	**0.9**	**2.0**	15	45	100.0	0.0
	d. Melanoma	0	0	0	0	1	**0**	**1**	-	-	0.2	2.8	-	-	-	-	1.0	**-**	**0.2**	-	5	100.0	0.0
	e. Skin carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	f. Other & unspecified	3	2	5	3	11	**13**	**24**	4.1	76.5	5.7	66.7	14.8	2.5	5.2	3.0	10.9	**4.5**	**5.9**	66	121	83.3	0.0
XII	OTHER & UNSPECIFIED	1	3	2	1	4	**7**	**11**	2.2	100.0	2.6	100.0	4.9	3.7	2.1	1.0	4.0	**2.5**	**2.8**	35	55	54.5	9.1
	a. Other specified	0	0	0	0	1	**0**	**1**	-	-	0.2	9.1	-	-	-	-	1.0	**-**	**0.2**	-	5	100.0	0.0
	b. Other unspecified	1	3	2	1	3	**7**	**10**	2.2	100.0	2.4	90.9	4.9	3.7	2.1	1.0	3.0	**2.5**	**2.6**	35	50	50.0	10.0
	TOTAL	13	129	96	80	102	**318**	**420**	100.0	100.0	100.0	100.0	64.0	158.7	100.6	81.1	101.5	**110.1**	**108.2**	1607	2115	87.6	2.1

† includes 5 non-malignant

Please consult the quality indicators for this registry

Mali

Bamako, Cancer Registry of Mali, 2005–2014

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Mali is located in the centre of West Africa. The surface area of 1.24 million km^2 consists mostly of savannah and lateritic plains, merging into the sandy desert of the Sahara in the north. Highland and forested regions are in the western and south-western parts, and the two great rivers of West Africa, the Senegal and the Niger, cross the southern and western parts of the country.

Mali has several ethnic groups: Mande, 50% (Bambara, Malinke, Sarakole); Peul, 17%; Mowsi, 12%; Songhai, 6%; Tuareg and Moor, 10%; and Other, 5%. Most people are Muslim, and 83% of the population is rural, engaged in agriculture. Two thirds of the workforce is involved in agriculture, mainly growing cotton, and engaged in stock-rearing and fishing. There is very little industry in Mali.

The health-care infrastructure is far from adequate. Hospitals, clinics, and other health facilities are concentrated in the capital city of Bamako. Three major hospitals provide tertiary care: Hôpital Gabriel Touré, Hôpital de Point G, and Hôpital du Mali. The only histopathology laboratory in Mali is located in Hôpital de Point G.

The registry was started in 1986 (Table A.10) and covers the population of Bamako and its immediate surroundings. People younger than 20 years made up 53% of the population in 2010 (Table A.6). Active case finding is performed by a cancer registrar, who regularly visits the principal health-care facilities, consisting of the three public hospitals in the city and Hôpital Kati, which is 15 km away. Visits are also made to three specialized institutes (dermatology, stomatology, and ophthalmology) and to two centres of maternal and child health. In each unit visited, there is a contact person for the registry, usually the head nurse, who, under the supervision of the consulting physician, records information on all cancer diagnoses using forms provided by the registry. During the regular visits, the registrar checks these forms for completeness and verifies the information obtained from other sources, such as ward books and operation lists, and with the medical and nursing staff. The frequency of visits is determined by the average number of cases ascertained. Death registration is incomplete in Mali and covers only the city of Bamako, where a death certificate is required to obtain a burial permit. Copies of death certificates are obtained, and the death register is scanned by the registry as a source of information on new cancer cases. Registration is confined to "usual residents", i.e. people who have lived in Bamako for at least 6 months or who intend to stay for 6 months. The registry uses IARC/IACR CanReg software for data management.

POPULATION AT RISK

The data were estimated based on the 1998 and 2009 censuses (General Population and Housing Census 1998) and on official intercensal estimates (https://www.instat-mali.org/). Population data were provided by sex and 5-year age group. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The registry participated in IICC-2 (Table A.1). There was a marked increase in the number of cases over the IICC-3 reporting period. The local definition of "usual residents" implies a potential mismatch between the population subjected to registration and the official estimates; this could influence the incidence rates. The high proportion and high rates of unspecified tumours are consistent with a low MV% (70%) (Table A.9). Because of incomplete dates (only year of birth and year of incidence are available for most cases), age may be misclassified, and age was inconsistent with the dates in 1% of cases (Table A.8). The low rates in infants and in the age group 15–19 years can be explained to some extent by imprecise recording of age. It is unclear whether the high rate in age group 1–4 years reflects inclusion of non-residents. Incidence rates of leukaemia and CNS tumours are very low, which may reflect diagnostic limitations. Cancers that may be easier to diagnose clinically, such as retinoblastoma and renal tumours, are excessively common in the dataset, and non-residents may be included. The sex ratio was high in adolescents (Table A.9). Information on non-malignant CNS tumours was not collected systematically, but one case was included (Table A.9). Laterality was not reported.

MALI, Bamako (2005-2014)

	Age group (years)	Males	Females
Person-years	0	245 916	241 492
	1-4	1 167 702	1 139 187
	5-9	1 182 898	1 197 648
	10-14	964 443	1 130 503
	15-19	1 084 346	1 475 318
	0-14	3 560 959	3 708 830
	0-19	4 645 305	5 184 148
Average annual population	0-14	356 096	370 883
	0-19	464 531	518 415

Please consult the quality indicators for this registry

MALI, Bamako (2005-2014)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	0	8	36	27	15	71	86	6.1	100.0	5.9	100.0	-	3.5	15.1	12.9	5.9	9.7	8.9	154	184	79.1	2.3
	a. Lymphoid	0	4	25	16	4	45	49	3.9	63.4	3.3	57.0	-	1.7	10.5	7.6	1.6	6.2	5.1	98	106	69.4	0.0
	b. Acute myeloid	0	1	5	4	3	10	13	0.9	14.1	0.9	15.1	-	0.4	2.1	1.9	1.2	1.4	1.3	22	28	100.0	0.0
	c. CMD	0	0	0	0	2	0	2	-	-	0.1	2.3	-	-	-	-	0.8	-	0.2	-	4	100.0	0.0
	d. MDS & other	0	0	0	1	0	1	1	0.1	1.4	0.1	1.2	-	-	-	0.5	-	0.1	0.1	2	2	100.0	0.0
	e. Unspecified	0	3	6	6	6	15	21	1.3	21.1	1.4	24.4	-	1.3	2.5	2.9	2.3	2.1	2.1	32	44	85.7	9.5
II	LYMPHOMA & RELATED	0	28	97	107	53	232	285	20.0	100.0	19.4	100.0	-	12.1	40.7	51.1	20.7	31.9	29.3	509	613	98.2	0.4
	a. Hodgkin	0	3	17	28	18	48	66	4.1	20.7	4.5	23.2	-	1.3	7.1	13.4	7.0	6.6	6.7	108	143	100.0	0.0
	b. Non-Hodgkin except BL	0	5	15	27	16	47	63	4.1	20.3	4.3	22.1	-	2.2	6.3	12.9	6.3	6.5	6.4	105	136	96.8	1.6
	c. Burkitt (BL)	0	13	50	33	3	96	99	8.3	41.4	6.7	34.7	-	5.6	21.0	15.8	1.2	13.1	10.5	207	213	100.0	0.0
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	7	15	19	16	41	57	3.5	17.7	3.9	20.0	-	3.0	6.3	9.1	6.3	5.6	5.8	89	121	94.7	0.0
III	CNS NEOPLASMS †	0	8	9	5	5	22	27	1.9	100.0	1.8	100.0	-	3.5	3.8	2.4	2.0	3.0	2.8	45	55	40.7	11.1
	a. Ependymoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Astrocytoma	0	1	2	0	2	3	5	0.3	13.6	0.3	18.5	-	0.4	0.8	-	0.8	0.4	0.5	6	10	80.0	0.0
	c. CNS embryonal	0	0	1	0	0	1	1	0.1	4.5	0.1	3.7	-	-	0.4	-	-	0.1	0.1	2	2	100.0	0.0
	d. Other gliomas	0	1	1	0	2	2	4	0.2	9.1	0.3	14.8	-	0.4	0.4	-	0.8	0.3	0.4	4	8	75.0	0.0
	e. Other specified	0	0	1	0	0	1	1	0.1	4.5	0.1	3.7	-	-	0.4	-	-	0.1	0.1	2	2	100.0	0.0
	f. Unspecified CNS	0	6	4	5	1	15	16	1.3	68.2	1.1	59.3	-	2.6	1.7	2.4	0.4	2.1	1.7	31	33	12.5	18.8
IV	NEUROBLASTOMA	0	14	6	2	0	22	22	1.9	100.0	1.5	100.0	-	6.1	2.5	1.0	-	3.0	2.3	42	42	77.3	0.0
	a. (Ganglio)neuroblastoma	0	13	6	2	0	21	21	1.8	95.5	1.4	95.5	-	5.6	2.5	1.0	-	2.9	2.2	41	41	76.2	0.0
	b. Peripheral nervous	0	1	0	0	0	1	1	0.1	4.5	0.1	4.5	-	0.4	-	-	-	0.1	0.1	2	2	100.0	0.0
V	RETINOBLASTOMA	7	156	36	9	0	208	208	18.0	100.0	14.1	100.0	14.4	67.6	15.1	4.3	-	28.7	22.2	389	389	81.7	0.0
VI	RENAL TUMOURS	2	108	64	17	9	191	200	16.5	100.0	13.6	100.0	4.1	46.8	26.9	8.1	3.5	26.3	21.1	372	389	71.5	1.0
	a. Nephroblastoma	2	86	56	10	4	154	158	13.3	80.6	10.7	79.0	4.1	37.3	23.5	4.8	1.6	21.2	16.8	299	307	88.6	1.3
	b. Renal carcinoma	0	0	0	1	1	1	2	0.1	0.5	0.1	1.0	-	-	-	0.5	0.4	0.1	0.2	2	4	50.0	0.0
	c. Unspecified	0	22	8	6	4	36	40	3.1	18.8	2.7	20.0	-	9.5	3.4	2.9	1.6	5.0	4.2	70	78	5.0	0.0
VII	HEPATIC TUMOURS	1	10	3	6	15	20	35	1.7	100.0	2.4	100.0	2.1	4.3	1.3	2.9	5.9	2.8	3.5	40	70	51.4	2.9
	a. Hepatoblastoma	1	7	1	1	1	10	11	0.9	50.0	0.7	31.4	2.1	3.0	0.4	0.5	0.4	1.4	1.2	19	21	63.6	0.0
	b. Hepatic carcinoma	0	0	1	3	9	4	13	0.3	20.0	0.9	37.1	-	-	0.4	1.4	3.5	0.6	1.2	9	27	76.9	0.0
	c. Unspecified	0	3	1	2	5	6	11	0.5	30.0	0.7	31.4	-	1.3	0.4	1.0	2.0	0.8	1.1	12	22	9.1	9.1
VIII	BONE TUMOURS	1	13	12	35	36	61	97	5.3	100.0	6.6	100.0	2.1	5.6	5.0	16.7	14.1	8.4	9.7	134	204	58.8	0.0
	a. Osteosarcoma	0	2	4	10	13	16	29	1.4	26.2	2.0	29.9	-	0.9	1.7	4.8	5.1	2.2	2.9	36	61	89.7	0.0
	b. Chondrosarcoma	0	0	0	6	9	6	15	0.5	9.8	1.0	15.5	-	-	-	2.9	3.5	0.8	1.4	14	32	100.0	0.0
	c. Ewing & related	1	0	1	0	1	2	3	0.2	3.3	0.2	3.1	2.1	-	0.4	-	0.4	0.3	0.3	4	6	100.0	0.0
	d. Other specified	0	2	0	3	3	5	8	0.4	8.2	0.5	8.2	-	0.9	-	1.4	1.2	0.7	0.8	11	17	75.0	0.0
	e. Unspecified	0	9	7	16	10	32	42	2.8	52.5	2.9	43.3	-	3.9	2.9	7.6	3.9	4.4	4.3	69	89	16.7	0.0
IX	SOFT TISSUE SARCOMA	1	21	16	26	24	64	88	5.5	100.0	6.0	100.0	2.1	9.1	6.7	12.4	9.4	8.8	8.9	135	182	90.9	0.0
	a. Rhabdomyosarcoma	0	14	6	6	5	26	31	2.2	40.6	2.1	35.2	-	6.1	2.5	2.9	2.0	3.6	3.2	52	62	80.6	0.0
	b. Fibrosarcoma	0	1	2	5	5	8	13	0.7	12.5	0.9	14.8	-	0.4	0.8	2.4	2.0	1.1	1.3	18	28	100.0	0.0
	c. Kaposi sarcoma	0	0	1	1	3	2	5	0.2	3.1	0.3	5.7	-	-	0.4	0.5	1.2	0.3	0.5	4	10	100.0	0.0
	d. Other specified	1	6	3	9	5	19	24	1.6	29.7	1.6	27.3	2.1	2.6	1.3	4.3	2.0	2.6	2.5	40	50	91.7	0.0
	e. Unspecified	0	0	4	5	6	9	15	0.8	14.1	1.0	17.0	-	-	1.7	2.4	2.3	1.2	1.5	20	32	100.0	0.0
X	GERM CELL TUMOURS	0	9	6	7	27	22	49	1.9	100.0	3.3	100.0	-	3.9	2.5	3.3	10.5	3.0	4.7	45	98	77.6	0.0
	a. CNS germ cell	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other extragonadal	0	8	1	0	16	9	25	0.8	40.9	1.7	51.0	-	3.5	0.4	-	6.3	1.2	2.4	16	48	96.0	0.0
	c. Gonadal germ cell	0	0	4	3	3	7	10	0.6	31.8	0.7	20.4	-	-	1.7	1.4	1.2	1.0	1.0	16	21	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	3	0	3	-	-	0.2	6.1	-	-	-	-	1.2	-	0.3	-	6	100.0	0.0
	e. Unspecified gonadal	0	1	1	4	5	6	11	0.5	27.3	0.7	22.4	-	0.4	0.4	1.9	2.0	0.8	1.1	13	23	9.1	0.0
XI	CARCINOMA & MELANOMA	2	4	14	20	62	40	102	3.5	100.0	6.9	100.0	4.1	1.7	5.9	9.5	24.2	5.5	9.7	88	209	98.0	1.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	0	2	6	2	8	0.2	5.0	0.5	7.8	-	-	-	1.0	2.3	0.3	0.7	5	16	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Melanoma	0	0	1	1	0	2	2	0.2	5.0	0.1	2.0	-	-	0.4	0.5	-	0.3	0.2	4	4	100.0	0.0
	e. Skin carcinoma	0	0	1	4	10	5	15	0.4	12.5	1.0	14.7	-	-	0.4	1.9	3.9	0.7	1.4	12	31	100.0	0.0
	f. Other & unspecified	2	4	12	13	46	31	77	2.7	77.5	5.2	75.5	4.1	1.7	5.0	6.2	18.0	4.3	7.3	67	157	97.4	1.3
XII	OTHER & UNSPECIFIED	2	87	61	55	66	205	271	17.7	100.0	18.4	100.0	4.1	37.7	25.6	26.3	25.8	28.2	27.7	419	548	19.6	1.8
	a. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other unspecified	2	87	61	55	66	205	271	17.7	100.0	18.4	100.0	4.1	37.7	25.6	26.3	25.8	28.2	27.7	419	548	19.6	1.8
	TOTAL	16	466	360	316	312	1158	1470	100.0	100.0	100.0	100.0	32.8	202.0	151.2	150.8	121.9	159.3	150.9	2373	2982	70.4	1.0

† includes 1 non-malignant

Please consult the quality indicators for this registry

Mauritius

Mauritius National Cancer Registry, 2001–2013

Shyam Shunker Manraj, Marvin Koon Sun Pat, Nilufer Jasmine Selimah Fauzee

Mauritius is an island nation in the Indian Ocean, located about 2000 km off the south-eastern coast of Africa. It comprises mainly the islands of Mauritius and Rodrigues and is classified as a middle-income, diversified economy. Its population was 1.3 million in 2010 (Table A.7), and 30% of people were younger than 20 years (Table A.6). The different ethnic groups are Indo-Mauritians (Indian subcontinent descent, 68%), Creoles (African descent, 27%), Sino-Mauritians (Chinese descent, 3%), and Franco-Mauritians (French descent, 2%).

Access to health care is free of charge in public hospitals. The country's health-care workforce includes 46 paediatricians, two medical oncologists, eight radiation and clinical oncologists, and 20 pathologists. Bone marrow aspiration and biopsy are regularly conducted in 10 practices. Victoria Hospital has a dedicated paediatric cancer ward with six beds. The nuclear medicine department has one linear accelerator and two cobalt machines. A memorandum of understanding exists with Réunion for diagnosis and treatment of leukaemia. Children with leukaemia are referred to Réunion for immunophenotyping, medical advice, and initiation of chemotherapy protocols.

The Mauritius National Cancer Registry started operating in the early 1990s and reached population-based coverage in 2000 (Table A.10). The registry has multiple data sources, including a unique Radiotherapy Department patient register at Victoria Hospital, regional hospital health records (cancer summary discharge listings), pathology and haematology laboratory archives, an overseas treatment unit (mainly for patients with brain neoplasms seeking financial assistance to travel abroad for specialized treatment), private laboratories, private clinics, and death registration at the Civil Status Division.

Data are collected annually, retrospectively and semi-actively. The information is coded using ICD-10 and ICD-O-3 (Table A.10); local variables are used to code for districts and ethnic groups. Validity of data processed is checked using IARC and ENCR programs. Since 2005, patients have been followed up for vital status.

PUBLICATIONS

Manraj SS, Mustun H, Ghurhurrun P, Laniece C, Salamon R (1997). Incidence des cancers à l'île Maurice (1989–1993). Rev Epidemiol Sante Publique. 45(3):257–9. PMID:9280989

Manraj S, Poorun S, Eddoo R, Jeebun N, Moussa L, Burhoo P (2007). Cancer incidence in the Republic of Mauritius – 5 years review 1997 to 2001. Internet J Med Update. 1(1):7–12. https://doi.org/10.4314/ijmu.v1i1.39828

POPULATION AT RISK

The population census of 2011 (Table A.7) counted all people present on census night in all households and communal establishments, as well as usual residents. Population data were estimated by the Ministry of Health and Quality of Life and published in the Health Statistics Report 2013. Data were provided by sex and age group (0, 1–4, 5–9, 10–14, 15–19 years) for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The childhood population decreased by about 10% between 2001 and 2013. The registry has access to the national mortality database, but no DCO cases were recorded during the reporting period (Table A.9). Despite a satisfactory MV%, a large proportion of cases had unspecified histology (39%), including among the MV cases (Table A.9). Because of incomplete date of birth for two thirds of cases, age may be somewhat misclassified; age was inconsistent with the dates in almost 11% of cases (Table A.8). The extremely low rates in infants may reflect the imprecise dates to some extent; late diagnosis or other reasons may also be applicable. The sex ratio was high in adolescents (Table A.9). Non-malignant CNS tumours were not recorded, but skin carcinomas were reportable. Laterality was unknown in one half of cases of interest. Some patients with retinoblastoma, bone tumours, and germ cell tumours may be referred or treated abroad and missed by the registry, which may explain their relative deficit in the dataset.

MAURITIUS (2001-2013)

	Age group (years)	Males	Females
Person-years	0	112 357	109 457
	1-4	475 728	462 888
	5-9	646 369	627 805
	10-14	677 730	659 807
	15-19	667 196	652 252
	0-14	1 912 184	1 859 957
	0-19	2 579 380	2 512 209
Average annual population	0-14	147 091	143 074
	0-19	198 414	193 247

Please consult the quality indicators for this registry

MAURITIUS (2001-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	1	56	38	31	45	126	171	34.1	100.0	31.0	100.0	4.5	59.7	29.8	23.2	34.1	35.4	35.1	511	681	99.4	0.0
	a. Lymphoid	0	17	15	10	8	42	50	11.4	33.3	9.1	29.2	-	18.1	11.8	7.5	6.1	11.6	10.4	169	200	100.0	0.0
	b. Acute myeloid	0	7	3	4	10	14	24	3.8	11.1	4.4	14.0	-	7.5	2.4	3.0	7.6	4.0	4.8	57	95	100.0	0.0
	c. CMD	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. MDS & other	0	1	0	0	0	1	1	0.3	0.8	0.2	0.6	-	1.1	-	-	-	0.3	0.3	4	4	100.0	0.0
	e. Unspecified	1	31	20	17	27	69	96	18.7	54.8	17.4	56.1	4.5	33.0	15.7	12.7	20.5	19.4	19.7	280	382	99.0	0.0
II	LYMPHOMA & RELATED	0	8	15	19	32	42	74	11.4	100.0	13.4	100.0	-	8.5	11.8	14.2	24.3	10.6	13.7	164	286	100.0	0.0
	a. Hodgkin	0	1	7	8	19	16	35	4.3	38.1	6.4	47.3	-	1.1	5.5	6.0	14.4	3.8	6.2	62	134	100.0	0.0
	b. Non-Hodgkin except BL	0	6	2	4	12	12	24	3.3	28.6	4.4	32.4	-	6.4	1.6	3.0	9.1	3.4	4.7	49	94	100.0	0.0
	c. Burkitt (BL)	0	0	2	1	0	3	3	0.8	7.1	0.5	4.1	-	-	1.6	0.7	-	0.7	0.6	12	12	100.0	0.0
	d. Lymphoreticular	0	0	1	1	0	2	2	0.5	4.8	0.4	2.7	-	-	0.8	0.7	-	0.5	0.4	8	8	100.0	0.0
	e. Unspecified	0	1	3	5	1	9	10	2.4	21.4	1.8	13.5	-	1.1	2.4	3.7	0.8	2.2	1.9	35	39	100.0	0.0
III	CNS NEOPLASMS	2	13	16	11	19	42	61	11.4	100.0	11.1	100.0	9.0	13.9	12.6	8.2	14.4	11.4	12.1	169	241	68.9	0.0
	a. Ependymoma	0	0	0	0	2	0	2	-	-	0.4	3.3	-	-	-	-	1.5	-	0.3	-	8	100.0	0.0
	b. Astrocytoma	0	4	3	5	4	12	16	3.3	28.6	2.9	26.2	-	4.3	2.4	3.7	3.0	3.2	3.1	48	63	100.0	0.0
	c. CNS embryonal	0	7	4	1	2	12	14	3.3	28.6	2.5	23.0	-	7.5	3.1	0.7	1.5	3.6	3.1	50	57	100.0	0.0
	d. Other gliomas	0	1	2	2	2	5	7	1.4	11.9	1.3	11.5	-	1.1	1.6	1.5	1.5	1.3	1.3	20	27	100.0	0.0
	e. Other specified	0	0	0	0	2	0	2	-	-	0.4	3.3	-	-	-	-	1.5	-	0.3	-	8	100.0	0.0
	f. Unspecified CNS	2	1	7	3	7	13	20	3.5	31.0	3.6	32.8	9.0	1.1	5.5	2.2	5.3	3.4	3.8	52	78	5.0	0.0
IV	NEUROBLASTOMA	1	10	4	0	1	15	16	4.1	100.0	2.9	100.0	4.5	10.7	3.1	-	0.8	4.7	3.8	63	67	100.0	0.0
	a. (Ganglio)neuroblastoma	1	10	4	0	0	15	15	4.1	100.0	2.7	93.8	4.5	10.7	3.1	-	-	4.7	3.6	63	63	100.0	0.0
	b. Peripheral nervous	0	0	0	0	1	0	1	-	-	0.2	6.3	-	-	-	-	0.8	-	0.2	-	4	100.0	0.0
V	RETINOBLASTOMA	0	10	0	0	0	10	10	2.7	100.0	1.8	100.0	-	10.7	-	-	-	3.3	2.6	43	43	100.0	0.0
VI	RENAL TUMOURS	0	16	2	1	0	19	19	5.1	100.0	3.4	100.0	-	17.0	1.6	0.7	-	6.1	4.7	81	81	78.9	0.0
	a. Nephroblastoma	0	13	2	0	0	15	15	4.1	78.9	2.7	78.9	-	13.9	1.6	-	-	4.8	3.8	64	64	100.0	0.0
	b. Renal carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	0	3	0	1	0	4	4	1.1	21.1	0.7	21.1	-	3.2	-	0.7	-	1.2	0.9	17	17	0.0	0.0
VII	HEPATIC TUMOURS	0	2	0	0	0	2	2	0.5	100.0	0.4	100.0	-	2.1	-	-	-	0.7	0.5	9	9	100.0	0.0
	a. Hepatoblastoma	0	2	0	0	0	2	2	0.5	100.0	0.4	100.0	-	2.1	-	-	-	0.7	0.5	9	9	100.0	0.0
	b. Hepatic carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	1	8	10	8	19	27	5.1	100.0	4.9	100.0	-	1.1	6.3	7.5	6.1	4.5	4.9	73	103	81.5	0.0
	a. Osteosarcoma	0	0	4	8	3	12	15	3.3	63.2	2.7	55.6	-	-	3.1	6.0	2.3	2.7	2.6	46	57	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Ewing & related	0	0	2	1	0	3	3	0.8	15.8	0.5	11.1	-	-	1.6	0.7	-	0.7	0.6	12	12	100.0	0.0
	d. Other specified	0	0	0	0	3	0	3	-	-	0.5	11.1	-	-	-	-	2.3	-	0.5	-	11	100.0	0.0
	e. Unspecified	0	1	2	1	2	4	6	1.1	21.1	1.1	22.2	-	1.1	1.6	0.7	1.5	1.1	1.2	16	23	16.7	0.0
IX	SOFT TISSUE SARCOMA	0	11	6	13	14	30	44	8.1	100.0	8.0	100.0	-	11.7	4.7	9.7	10.6	8.0	8.6	120	173	100.0	0.0
	a. Rhabdomyosarcoma	0	7	1	3	1	11	12	3.0	36.7	2.2	27.3	-	7.5	0.8	2.2	0.8	3.2	2.7	45	49	100.0	0.0
	b. Fibrosarcoma	0	0	0	0	1	0	1	-	-	0.2	2.3	-	-	-	-	0.8	-	0.2	-	4	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	3	3	8	7	14	21	3.8	46.7	3.8	47.7	-	3.2	2.4	6.0	5.3	3.5	3.9	55	81	100.0	0.0
	e. Unspecified	0	1	2	2	5	5	10	1.4	16.7	1.8	22.7	-	1.1	1.6	1.5	3.8	1.3	1.8	20	39	100.0	0.0
X	GERM CELL TUMOURS	0	7	2	9	16	18	34	4.9	100.0	6.2	100.0	-	7.5	1.6	6.7	12.1	4.8	6.4	72	132	88.2	0.0
	a. CNS germ cell	0	0	1	1	0	2	2	0.5	11.1	0.4	5.9	-	-	0.8	0.7	-	0.5	0.4	8	8	100.0	0.0
	b. Other extragonadal	0	2	0	1	3	3	6	0.8	16.7	1.1	17.6	-	2.1	-	0.7	2.3	0.9	1.2	12	24	100.0	0.0
	c. Gonadal germ cell	0	4	0	5	7	9	16	2.4	50.0	2.9	47.1	-	4.3	-	3.7	5.3	2.4	3.1	36	62	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	4	0	4	-	-	0.7	11.8	-	-	-	-	3.0	-	0.7	-	15	100.0	0.0
	e. Unspecified gonadal	0	1	1	2	2	4	6	1.1	22.2	1.1	17.6	-	1.1	0.8	1.5	1.5	1.0	1.1	16	23	33.3	0.0
XI	CARCINOMA & MELANOMA	0	0	3	12	20	15	35	4.1	100.0	6.4	100.0	-	-	2.4	9.0	15.2	3.4	6.0	57	132	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	1	1	2	2	4	0.5	13.3	0.7	11.4	-	-	0.8	0.7	1.5	0.5	0.7	8	15	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	1	1	2	0.3	6.7	0.4	5.7	-	-	-	0.7	0.8	0.2	0.3	4	8	100.0	0.0
	d. Melanoma	0	0	0	0	2	0	2	-	-	0.4	5.7	-	-	-	-	1.5	-	0.3	-	8	100.0	0.0
	e. Skin carcinoma	0	0	0	1	1	1	2	0.3	6.7	0.4	5.7	-	-	-	0.7	0.8	0.2	0.3	4	8	100.0	0.0
	f. Other & unspecified	0	0	2	9	14	11	25	3.0	73.3	4.5	71.4	-	-	1.6	6.7	10.6	2.5	4.3	41	95	100.0	0.0
XII	OTHER & UNSPECIFIED	0	10	9	12	27	31	58	8.4	100.0	10.5	100.0	-	10.7	7.1	9.0	20.5	8.2	11.0	123	226	19.0	0.0
	a. Other specified	0	0	0	1	1	1	2	0.3	3.2	0.4	3.4	-	-	-	0.7	0.8	0.2	0.3	4	8	100.0	0.0
	b. Other unspecified	0	10	9	11	26	30	56	8.1	96.8	10.2	96.6	-	10.7	7.1	8.2	19.7	8.0	10.6	120	218	16.1	0.0
	TOTAL	4	144	103	118	182	369	551	100.0	100.0	100.0	100.0	18.0	153.4	80.8	88.2	137.9	101.1	109.4	1483	2173	85.5	0.0

Please consult the quality indicators for this registry

Morocco

Morocco is located in the north-west of the African continent and covers an area of 710 850 km^2. Morocco is characterized by a rugged mountainous interior, large tracts of desert, and a long coastline along the Atlantic Ocean and the Mediterranean Sea. The population was 32.1 million in 2010 (Table A.7), and 38% of people were younger than 20 years (Table A.6). Almost all residents are Arab-Berber, and the predominant religion is Islam. The official languages are Arabic and Berber; French is also widely spoken.

Morocco is one of the leading economies in Africa. The service sector accounts for just more than half of gross domestic product (GDP), and industry, made up of mining, construction, and manufacturing, accounts for one quarter. The flourishing industries are tourism, telecommunications, information technology, and textiles.

The health-care system is supported by Mandatory Health Insurance, which is divided into private and public. About 35% of Moroccans are covered by Mandatory Health Insurance. A specific health insurance programme is designed for people with low socioeconomic status.

In 2001, the principal causes of mortality in the urban population were circulatory system (20%), perinatal (9%), neoplastic (9%), metabolic (8%), respiratory (7%), and infectious (5%) diseases. Morocco had eradicated a variety of childhood diseases by 2004, specifically diphtheria, polio, tetanus, and malaria; however, the infant mortality rate is still relatively high, at 23.7 deaths per 1000 live births. A small proportion of young people are HIV-positive. Morocco was the first country from the African continent to become an IARC Participating State.

POPULATION AT RISK

Population data were provided by the Centre for Demographic Studies and Research in the High Commission for Planning (http://rgphentableaux.hcp.ma/). The relevant censuses were in 2004 and 2014 (Table A.7) (https://www.hcp.ma/downloads/RGPH-2014_t17441.html).

EDITORS' COMMENTS

Morocco was represented in IICC-1 by a hospital-based dataset (Table A.1). In the IICC-3 book, a combined Moroccan dataset is composed of the data collected by two registries, in Casablanca and Rabat. Together, these registries cover a population of about 5 million people, including 13% of the national population aged 0–19 years (Table A.6). The full table for the Casablanca Cancer Registry and an abbreviated table for the smaller Rabat Cancer Registry are available online (Table A.12).

The two registries share several registration practices. Information on laterality is collected, but it is incomplete. Date of birth is incomplete in more than half of the cases in both registries (Table A.8); thus, age may be somewhat misclassified. Both registries have very high rates of retinoblastoma, which may be due to inclusion of some non-residents with this tumour. Skin carcinomas are reportable. The dissimilar features of the two registries are described below.

MOROCCO, 2 registries (2005-2012)

Registry	Period	Cases	%	Person-years	%
Casablanca	2005-2012	1496	88.6	10 809 860	88.5
Rabat	2005-2012	192	11.4	1 400 468	11.5
MOROCCO	**2005-2012**	**1688**	**100.0**	**12 210 328**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Casablanca Cancer Registry, 2005–2012

Benider Abdellatif, Bouchbika Zineb, Haddad Houssam, Benchakroun Nadia, Eddakaoui Hoda, Kotbi Souad, Megrini Anis, Harif Mhamed, Sahraoui Souha

Greater Casablanca, which is one of the 16 administrative regions of Morocco, is located on the Atlantic coast in the west central part of the country. The region, which covers an area of 1115 km^2, is divided into two provinces, Nouaceur and Mediouna, and two prefectures, Mohammedia and Casablanca (the city). Greater Casablanca is the most densely populated region of the country, with the highest concentration in the city of Casablanca. The population was 4 million in 2010, and 35% of people were younger than 20 years (Table A.6). The urban population (92%) predominates. The population of the Casablanca region doubled in 30 years to make up 12% of the national population in 2014. The city of Casablanca has 45% of the national industrial enterprises.

Access to the health-care system is facilitated by the presence of primary health-care centres, which are free of charge and are located in different areas of the region. Paediatric cancers are managed at the tertiary level of the Moroccan health system, in university hospitals.

The population-based Casablanca Cancer Registry covers the entire Casablanca region. Active case finding covers many sources, including hospitals and paediatric services. Tumours are coded according to ICD-O-3 (Table A.10).

POPULATION AT RISK

Population data were provided by 5-year age group for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Morocco, above.

EDITORS' COMMENTS

The MV% was 100%, and DCO cases were not ascertained (Table A.9); this may suggest that some cases were missed, as further suggested by the lower rates in Casablanca than in Rabat. Among the MV cases, 9% had unspecified morphology. Infants are underrepresented (Table A.9). Unlikely records include 11 unspecified carcinomas in infants (Table A.11). Although all non-malignant CNS tumours are eligible for registration, their proportion is lower than in Rabat, where benign tumours are excluded from registration. Pilocytic astrocytoma was coded with either uncertain or malignant behaviour. See also Morocco, above.

Rabat Cancer Registry, 2005–2012

Mohammed Adnane Tazi, Abdelouahed Er-Raki, Noureddine Benjaafar

Rabat, the capital of Morocco, is located in the north-western region along the Atlantic Ocean coast and has a Mediterranean climate. Rabat is an administrative centre, which benefits from structuring and reorganization of public administration and facilitates the establishment of foreign companies and the creation of offshore areas. The city is gradually transforming into a business centre.

The Rabat Cancer Registry covers the population of Rabat (0.6 million in 2010; 1.7% of the national population), which had decreased by 0.79% in 2014 compared with the national census in 2004. The proportion of people younger than 20 years was 28% (Table A.6). Care for children with cancer is provided mostly by university hospitals, the National Institute of Oncology, Rabat Children's Hospital (which has a paediatric oncology unit), and two private cancer clinics.

The Rabat Cancer Registry, which is supervised and sponsored by a Registry Council, is located in the National Institute of Oncology and serves as a tool for epidemiological surveillance and oncology research. Data are collected by active case finding from public hospitals, including Rabat Children's Hospital, private clinics, and pathology laboratories. DCO cases are identified from the Death Register of the municipality of Rabat, which records all deaths in residents of Rabat. Tumours are coded according to ICD-O-3 (Table A.10). The Rabat Cancer Registry follows up registered patients for cause of death and vital status.

PUBLICATIONS

Tazi MA, Er-Raki A, Benjaafar N (2013). Cancer incidence in Rabat, Morocco: 2006–2008. Ecancermedicalscience. 7:338. PMID:23940493

POPULATION AT RISK

In Rabat, the officially estimated population at risk is based on the weight method, given the lack of information about demographic events between the two censuses. Population data for this study were provided by the registry in all requested detail. See also Morocco, above.

EDITORS' COMMENTS

The DCO% was 10% (Table A.9). In addition to the missing date of birth in about 50% of cases, date of incidence is incomplete in 11% of cases; this may affect the age-specific rates and contribute to explaining the unexpected age distribution of the cases (Table A.9). The high sex ratio of 1.7 in the age group 0–14 years may indicate that cancer in girls may be underdiagnosed, although according to the registry boys and girls have equal opportunities for medical care. The registry collects CNS tumours with uncertain and malignant behaviour but does not collect benign tumours. Cases of pilocytic astrocytoma are coded with uncertain behaviour. See also Morocco, above.

MOROCCO, 2 registries (2005-2012)

	Age group (years)	Males	Females
Person-years	0	303 085	292 361
	1-4	1 212 240	1 168 058
	5-9	1 473 705	1 436 238
	10-14	1 544 486	1 534 718
	15-19	1 613 842	1 631 595
	0-14	4 533 516	4 431 375
	0-19	6 147 358	6 062 970
Average annual population	0-14	566 690	553 922
	0-19	768 420	757 871

Please consult the quality indicators for this registry

MOROCCO, 2 registries (2005-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	5	62	64	55	82	**186**	**268**	16.2	100.0	15.9	100.0	8.4	26.0	22.0	17.9	25.3	**21.0**	**22.0**	312	438	96.6	3.4
	a. Lymphoid	2	49	43	34	40	**128**	**168**	11.2	68.8	10.0	62.7	3.4	20.6	14.8	11.0	12.3	**14.6**	**14.1**	215	276	95.8	4.2
	b. Acute myeloid	2	11	13	14	33	**40**	**73**	3.5	21.5	4.3	27.2	3.4	4.6	4.5	4.5	10.2	**4.5**	**5.7**	67	118	100.0	0.0
	c. CMD	0	0	2	5	6	**7**	**13**	0.6	3.8	0.8	4.9	-	-	0.7	1.6	1.8	**0.7**	**1.0**	12	21	100.0	0.0
	d. MDS & other	0	0	2	0	1	**2**	**3**	0.2	1.1	0.2	1.1	-	-	0.7	-	0.3	**0.2**	**0.2**	3	5	66.7	33.3
	e. Unspecified	1	2	4	2	2	**9**	**11**	0.8	4.8	0.7	4.1	1.7	0.8	1.4	0.6	0.6	**1.0**	**0.9**	15	18	90.9	9.1
II	**LYMPHOMA & RELATED**	4	33	75	75	151	**187**	**338**	16.3	100.0	20.0	100.0	6.7	13.9	25.8	24.4	46.5	**20.2**	**26.1**	313	545	99.4	0.6
	a. Hodgkin	0	10	31	38	86	**79**	**165**	6.9	42.2	9.8	48.8	-	4.2	10.7	12.3	26.5	**8.3**	**12.4**	132	264	99.4	0.6
	b. Non-Hodgkin except BL	3	7	18	22	51	**50**	**101**	4.4	26.7	6.0	29.9	5.0	2.9	6.2	7.1	15.7	**5.4**	**7.7**	83	162	100.0	0.0
	c. Burkitt (BL)	1	13	24	13	9	**51**	**60**	4.5	27.3	3.6	17.8	1.7	5.5	8.2	4.2	2.8	**5.7**	**5.0**	86	100	98.3	1.7
	d. Lymphoreticular	0	2	1	0	0	**3**	**3**	0.3	1.6	0.2	0.9	-	0.8	0.3	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	e. Unspecified	0	1	1	2	5	**4**	**9**	0.3	2.1	0.5	2.7	-	0.4	0.3	0.6	1.5	**0.4**	**0.7**	7	14	100.0	0.0
III	**CNS NEOPLASMS** †	6	45	71	51	34	**173**	**207**	15.1	100.0	12.3	100.0	10.1	18.9	24.4	16.6	10.5	**19.3**	**17.3**	291	343	94.7	2.9
	a. Ependymoma	0	13	11	5	5	**29**	**34**	2.5	16.8	2.0	16.4	-	5.5	3.8	1.6	1.5	**3.4**	**3.0**	49	57	97.1	2.9
	b. Astrocytoma	1	6	20	17	14	**44**	**58**	3.8	25.4	3.4	28.0	1.7	2.5	6.9	5.5	4.3	**4.7**	**4.6**	74	95	100.0	0.0
	c. CNS embryonal	2	15	28	13	6	**58**	**64**	5.1	33.5	3.8	30.9	3.4	6.3	9.6	4.2	1.8	**6.5**	**5.5**	98	107	98.4	1.6
	d. Other gliomas	0	5	4	3	3	**12**	**15**	1.0	6.9	0.9	7.2	-	2.1	1.4	1.0	0.9	**1.4**	**1.3**	20	25	66.7	0.0
	e. Other specified	0	1	1	9	5	**11**	**16**	1.0	6.4	0.9	7.7	-	0.4	0.3	2.9	1.5	**1.1**	**1.2**	18	26	100.0	0.0
	f. Unspecified CNS	3	5	7	4	1	**19**	**20**	1.7	11.0	1.2	9.7	5.0	2.1	2.4	1.3	0.3	**2.2**	**1.8**	32	34	80.0	20.0
IV	**NEUROBLASTOMA**	6	45	19	9	4	**79**	**83**	6.9	100.0	4.9	100.0	10.1	18.9	6.5	2.9	1.2	**9.6**	**7.7**	133	139	96.4	0.0
	a. (Ganglio)neuroblastoma	6	45	19	9	4	**79**	**83**	6.9	100.0	4.9	100.0	10.1	18.9	6.5	2.9	1.2	**9.6**	**7.7**	133	139	96.4	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	**RETINOBLASTOMA**	5	60	6	1	0	**72**	**72**	6.3	100.0	4.3	100.0	8.4	25.2	2.1	0.3	-	**9.2**	**7.1**	121	121	97.2	0.0
VI	**RENAL TUMOURS**	4	60	33	5	3	**102**	**105**	8.9	100.0	6.2	100.0	6.7	25.2	11.3	1.6	0.9	**12.5**	**9.9**	172	177	100.0	0.0
	a. Nephroblastoma	3	55	30	5	2	**93**	**95**	8.1	91.2	5.6	90.5	5.0	23.1	10.3	1.6	0.6	**11.3**	**8.9**	157	160	100.0	0.0
	b. Renal carcinoma	1	4	2	0	1	**7**	**8**	0.6	6.9	0.5	7.6	1.7	1.7	0.7	-	0.3	**0.9**	**0.7**	12	13	100.0	0.0
	c. Unspecified	0	1	1	0	0	**2**	**2**	0.2	2.0	0.1	1.9	-	0.4	0.3	-	-	**0.2**	**0.2**	3	3	100.0	0.0
VII	**HEPATIC TUMOURS**	2	6	0	3	0	**11**	**11**	1.0	100.0	0.7	100.0	3.4	2.5	-	1.0	-	**1.3**	**1.0**	18	18	90.9	9.1
	a. Hepatoblastoma	2	6	0	0	0	**8**	**8**	0.7	72.7	0.5	72.7	3.4	2.5	-	-	-	**1.0**	**0.8**	13	13	87.5	12.5
	b. Hepatic carcinoma	0	0	0	3	0	**3**	**3**	0.3	27.3	0.2	27.3	-	-	-	1.0	-	**0.3**	**0.2**	5	5	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	2	7	24	52	78	**85**	**163**	7.4	100.0	9.7	100.0	3.4	2.9	8.2	16.9	24.0	**8.7**	**12.2**	141	261	100.0	0.0
	a. Osteosarcoma	0	3	6	23	52	**32**	**84**	2.8	37.6	5.0	51.5	-	1.3	2.1	7.5	16.0	**3.2**	**6.1**	53	133	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	1	**0**	**1**	-	-	0.1	0.6	-	-	-	-	0.3	**-**	**0.1**	-	2	100.0	0.0
	c. Ewing & related	2	3	17	23	20	**45**	**65**	3.9	52.9	3.9	39.9	3.4	1.3	5.8	7.5	6.2	**4.7**	**5.0**	75	106	100.0	0.0
	d. Other specified	0	1	1	0	2	**2**	**4**	0.2	2.4	0.2	2.5	-	0.4	0.3	-	0.6	**0.2**	**0.3**	3	6	100.0	0.0
	e. Unspecified	0	0	0	6	3	**6**	**9**	0.5	7.1	0.5	5.5	-	-	-	1.9	0.9	**0.6**	**0.6**	10	14	100.0	0.0
IX	**SOFT TISSUE SARCOMA**	1	35	20	30	47	**86**	**133**	7.5	100.0	7.9	100.0	1.7	14.7	6.9	9.7	14.5	**9.7**	**10.8**	144	216	100.0	0.0
	a. Rhabdomyosarcoma	1	25	16	15	6	**57**	**63**	5.0	66.3	3.7	47.4	1.7	10.5	5.5	4.9	1.8	**6.6**	**5.5**	96	105	100.0	0.0
	b. Fibrosarcoma	0	2	0	2	6	**4**	**10**	0.3	4.7	0.6	7.5	-	0.8	-	0.6	1.8	**0.4**	**0.8**	7	16	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	**0**	**1**	-	-	0.1	0.8	-	-	-	-	0.3	**-**	**0.1**	-	2	100.0	0.0
	d. Other specified	0	3	2	9	24	**14**	**38**	1.2	16.3	2.3	28.6	-	1.3	0.7	2.9	7.4	**1.5**	**2.8**	23	60	100.0	0.0
	e. Unspecified	0	5	2	4	10	**11**	**21**	1.0	12.8	1.2	15.8	-	2.1	0.7	1.3	3.1	**1.2**	**1.7**	18	34	100.0	0.0
X	**GERM CELL TUMOURS**	2	12	0	5	15	**19**	**34**	1.7	100.0	2.0	100.0	3.4	5.0	-	1.6	4.6	**2.3**	**2.8**	32	55	100.0	0.0
	a. CNS germ cell ‡	0	1	0	2	1	**3**	**4**	0.3	15.8	0.2	11.8	-	0.4	-	0.6	0.3	**0.3**	**0.3**	5	6	100.0	0.0
	b. Other extragonadal	1	5	0	1	3	**7**	**10**	0.6	36.8	0.6	29.4	1.7	2.1	-	0.3	0.9	**0.9**	**0.9**	12	16	100.0	0.0
	c. Gonadal germ cell	0	6	0	2	3	**8**	**11**	0.7	42.1	0.7	32.4	-	2.5	-	0.6	0.9	**1.0**	**1.0**	13	18	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	4	**0**	**4**	-	-	0.2	11.8	-	-	-	-	1.2	**-**	**0.3**	-	6	100.0	0.0
	e. Unspecified gonadal	1	0	0	0	4	**1**	**5**	0.1	5.3	0.3	14.7	1.7	-	-	-	1.2	**0.1**	**0.4**	2	8	100.0	0.0
XI	**CARCINOMA & MELANOMA**	12	6	16	63	111	**97**	**208**	8.5	100.0	12.3	100.0	20.2	2.5	5.5	20.5	34.2	**10.1**	**15.5**	160	331	100.0	0.0
	a. Adrenocortical	0	0	0	1	0	**1**	**1**	0.1	1.0	0.1	0.5	-	-	-	0.3	-	**0.1**	**0.1**	2	2	100.0	0.0
	b. Thyroid	0	1	3	4	23	**8**	**31**	0.7	8.2	1.8	14.9	-	0.4	1.0	1.3	7.1	**0.8**	**2.2**	13	49	100.0	0.0
	c. Nasopharyngeal	1	0	1	27	36	**29**	**65**	2.5	29.9	3.9	31.3	1.7	-	0.3	8.8	11.1	**2.8**	**4.7**	47	103	100.0	0.0
	d. Melanoma	0	0	0	0	5	**0**	**5**	-	-	0.3	2.4	-	-	-	-	1.5	**-**	**0.3**	-	8	100.0	0.0
	e. Skin carcinoma	1	4	10	23	19	**38**	**57**	3.3	39.2	3.4	27.4	1.7	1.7	3.4	7.5	5.9	**3.9**	**4.4**	63	92	100.0	0.0
	f. Other & unspecified	10	1	2	8	28	**21**	**49**	1.8	21.6	2.9	23.6	16.8	0.4	0.7	2.6	8.6	**2.4**	**3.8**	35	78	100.0	0.0
XII	**OTHER & UNSPECIFIED**	5	13	9	22	17	**49**	**66**	4.3	100.0	3.9	100.0	8.4	5.5	3.1	7.1	5.2	**5.4**	**5.4**	81	108	97.0	3.0
	a. Other specified	0	0	0	1	0	**1**	**1**	0.1	2.0	0.1	1.5	-	-	-	0.3	-	**0.1**	**0.1**	2	2	100.0	0.0
	b. Other unspecified	5	13	9	21	17	**48**	**65**	4.2	98.0	3.9	98.5	8.4	5.5	3.1	6.8	5.2	**5.3**	**5.3**	80	106	96.9	3.1
	TOTAL	54	384	337	371	542	**1146**	**1688**	100.0	100.0	100.0	100.0	90.7	161.3	115.8	120.5	167.0	**129.3**	**137.8**	1917	2752	98.2	1.2

† includes 31 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this registry

South Africa

South African Children's Tumour Registry, 1998–2012

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South Africa is located at the southern tip of Africa and has a surface area of 1 220 813 km^2. In 1994, 10 ethnic homelands, each with its own health service, were incorporated into four provinces to create nine provinces under a national health service: Western Cape, Northern Cape, Eastern Cape, Free State, Gauteng, Mpumalanga, Limpopo, KwaZulu-Natal, and North West. The population of about 51.6 million in 2010 included the following ethnic groups: Black African (79%), Coloured (9%), White (9%), and Asian or Indian (2.5%). About 30% of people were younger than 15 years (Table A.6). Although South Africa is classified as an upper-middle-income country, the average income of Black and Coloured households was significantly lower than that of White households. The economy is based largely on mining, industry, and agriculture.

Treatment at provincial tertiary academic paediatric oncology units was free for children younger than 5 years and was dependent on parental income for older children. For many low-income patients, access to medical care was at a primary health-care clinic. Lack of knowledge of guardians and primary health-care workers about childhood cancer as well as financial constraints as a barrier to attending clinics may have contributed to missed diagnoses. Patients suspected to have cancer were referred to a regional hospital and from there to the nearest paediatric oncology unit.

The South African Children's Cancer Study Group started a cancer registry in 1987 (Table A.10). Data are collected on all residents younger than 15 years, mainly from paediatric oncology units in tertiary academic hospitals and from some private clinics. Resident children were defined as those who had lived in South Africa for at least 1 year or whose parents had lived in South Africa for at least 6 months. Most cases were recorded at paediatric oncology units located throughout South Africa, at Tygerberg Children's Hospital and Red Cross War Memorial Children's Hospital in Cape Town; Universitas Hospital and Pelonomi Hospital in Bloemfontein; Dr George Mukhari Hospital and Ga-Rankuwa Hospital in Limpopo; Kalafong Hospital and Steve Biko Academic Hospital (formerly known as H.F. Verwoerd Hospital) in Pretoria; Chris Hani Baragwanath Hospital and Charlotte Maxeke Johannesburg Academic Hospital in Johannesburg; King Edward VIII Hospital, Inkosi Albert Luthuli Central Hospital, and Parklands Hospital in Durban; and Frere Hospital in East London.

Death certificates were not used for case ascertainment, and cancer data were not correlated with the National Health Laboratory Service records or the National Cancer Registry records. Children treated in private practice and at smaller local or secondary regional hospitals may not have been registered. The AIDS pandemic caused early deaths in large numbers of children younger than 5 years, especially before 2004, when no antiretroviral therapy was provided. These factors account in part for the low incidence rates in some ethnic groups and provinces.

All malignant tumours, including skin carcinomas, were recorded, and non-malignant CNS tumours were recorded. Laterality was recorded for retinoblastoma, nephroblastoma, and gonadal tumours. Histology was coded according to ICD-O-3 (Table A.10). Data collected in the paediatric oncology units were submitted to the central registry and managed with CanReg4, provided by IARC.

PUBLICATIONS

Stefan DC, Stones DK, Wainwright RD, Kruger M, Davidson A, Poole J, et al. (2015). Childhood cancer incidence in South Africa, 1987–2007. S Afr Med J. 105(11):939–47. https://doi.org/10.7196/SAMJ.2015.v105i11.9780 PMID:26632323

POPULATION AT RISK

Population figures are based on the national population censuses in 1996, 2001, and 2011 (Table A.7) and were extracted from Statistics South Africa (http://www.statssa.gov.za). The data were provided by sex and single year of age for 1991 and 1996 and by sex, 5-year age group, and ethnic group (Black, White, Coloured, Asian) for 1996, 2001, 2003–2007, and 2011. The data for the missing year–age–sex–ethnicity combinations were estimated at IARC using the methods described in Chapter 2, assuming a linear population growth in the sex–age categories and a stable proportion of ethnic groups in the sex–age categories.

EDITORS' COMMENTS

In this paediatric cancer registry, registration focused on the age range 0–14 years during the reporting period. Therefore, data for ages 15–19 years and 0–19 years are not shown in the tables. The incidence rates were low, notably in the Black population (Table A.9). This may be accounted for in part by the national coverage of this registry, which includes rural areas with low rates, unlike in most other African datasets. Other reasons, including underdiagnosis, underregistration, and possibly the accuracy of the population estimates, may also play a role (see Stefan et al., 2015). Cancer cases were not ascertained from mortality data, which were believed to have insufficient completeness and accuracy (Table A.9). Date of birth was incomplete in a small proportion of the cases, most often in those of Asian ethnicity (Table A.8). Non-malignant CNS tumours were recorded, but no cases of pilocytic astrocytoma were in the dataset. Laterality was almost complete for retinoblastomas and nephroblastoma, and the dataset is included in the relevant comparative tables. The high proportions of bilateral cases for retinoblastoma (26%; 167 of 643), nephroblastoma (19%; 183 of 973), ovarian tumours (15%; 12 of 82), and testicular tumours (19%; 6 of 31) suggest late diagnosis of these tumours.

SOUTH AFRICA, paediatric (1998-2012)

	Age group (years)	Males	Females
Person-years	0	6 814 930	6 837 838
	1-4	30 782 104	30 460 123
	5-9	36 272 256	36 086 158
	10-14	36 379 204	35 977 762
	0-14	110 248 494	109 361 881
Average annual population	0-14	7 349 900	7 290 792

Please consult the quality indicators for this registry

SOUTH AFRICA, paediatric, Asian (1998-2012)

	Age group (years)	Males	Females
Person-years	0	114 107	111 944
	1-4	515 200	498 492
	5-9	654 389	642 108
	10-14	717 035	686 870
	0-14	2 000 731	1 939 414
Average annual population	0-14	133 382	129 294

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SOUTH AFRICA, paediatric, Black (1998-2012)

	Age group (years)	Males	Females
Person-years	0	5 748 180	5 786 877
	1-4	25 965 355	25 779 908
	5-9	30 383 877	30 367 552
	10-14	30 128 241	29 939 536
	0-14	92 225 653	91 873 873
Average annual population	0-14	6 148 377	6 124 925

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SOUTH AFRICA, paediatric, Coloured (1998-2012)

	Age group (years)	Males	Females
Person-years	0	584 139	581 683
	1-4	2 637 805	2 590 595
	5-9	3 132 761	3 081 036
	10-14	3 197 190	3 139 938
	0-14	9 551 895	9 393 252
Average annual population	0-14	636 793	626 217

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SOUTH AFRICA, paediatric, White (1998-2012)

	Age group (years)	Males	Females
Person-years	0	347 264	336 675
	1-4	1 567 626	1 498 960
	5-9	2 018 547	1 913 645
	10-14	2 264 298	2 141 132
	0-14	6 197 735	5 890 412
Average annual population	0-14	413 182	392 694

Please consult the quality indicators for this registry

SOUTH AFRICA, paediatric (1998-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	150	903	791	604	**2448**	25.3	100.0	11.0	14.7	10.9	8.3	**11.4**	167	100.0	0.0
	a. Lymphoid	67	672	541	358	**1638**	16.9	66.9	4.9	11.0	7.5	4.9	**7.7**	111	100.0	0.0
	b. Acute myeloid	66	202	208	208	**684**	7.1	27.9	4.8	3.3	2.9	2.9	**3.1**	47	100.0	0.0
	c. CMD	1	8	27	32	**68**	0.7	2.8	0.1	0.1	0.4	0.4	**0.3**	5	100.0	0.0
	d. MDS & other	10	9	1	2	**22**	0.2	0.9	0.7	0.1	0.0	0.0	**0.1**	1	100.0	0.0
	e. Unspecified	6	12	14	4	**36**	0.4	1.5	0.4	0.2	0.2	0.1	**0.2**	2	100.0	0.0
II	LYMPHOMA & RELATED	9	346	560	442	**1357**	14.0	100.0	0.7	5.6	7.7	6.1	**6.1**	93	99.9	0.0
	a. Hodgkin	0	59	209	202	**470**	4.8	34.6	-	1.0	2.9	2.8	**2.0**	32	99.8	0.0
	b. Non-Hodgkin except BL	7	119	214	179	**519**	5.4	38.2	0.5	1.9	3.0	2.5	**2.3**	36	99.8	0.0
	c. Burkitt (BL)	1	163	131	59	**354**	3.7	26.1	0.1	2.7	1.8	0.8	**1.7**	24	100.0	0.0
	d. Lymphoreticular	1	2	2	0	**5**	0.1	0.4	0.1	0.0	0.0	-	**0.0**	0	100.0	0.0
	e. Unspecified	0	3	4	2	**9**	0.1	0.7	-	0.0	0.1	0.0	**0.0**	1	100.0	0.0
III	CNS NEOPLASMS †	75	439	515	271	**1300**	13.4	100.0	5.5	7.2	7.1	3.7	**6.0**	89	69.5	0.0
	a. Ependymoma	13	55	47	16	**131**	1.4	10.1	1.0	0.9	0.6	0.2	**0.6**	9	100.0	0.0
	b. Astrocytoma	15	104	137	79	**335**	3.5	25.8	1.1	1.7	1.9	1.1	**1.5**	23	98.2	0.0
	c. CNS embryonal	21	126	97	55	**299**	3.1	23.0	1.5	2.1	1.3	0.8	**1.4**	20	100.0	0.0
	d. Other gliomas	4	86	122	48	**260**	2.7	20.0	0.3	1.4	1.7	0.7	**1.2**	18	25.8	0.0
	e. Other specified	2	15	33	30	**80**	0.8	6.2	0.1	0.2	0.5	0.4	**0.4**	5	97.5	0.0
	f. Unspecified CNS	20	53	79	43	**195**	2.0	15.0	1.5	0.9	1.1	0.6	**0.9**	13	0.0	0.0
IV	NEUROBLASTOMA	121	303	82	27	**533**	5.5	100.0	8.9	4.9	1.1	0.4	**2.7**	36	92.1	0.0
	a. (Ganglio)neuroblastoma	121	303	79	21	**524**	5.4	98.3	8.9	4.9	1.1	0.3	**2.6**	35	92.0	0.0
	b. Peripheral nervous	0	0	3	6	**9**	0.1	1.7	-	-	0.0	0.1	**0.0**	1	100.0	0.0
V	RETINOBLASTOMA	110	468	56	9	**643**	6.6	100.0	8.1	7.6	0.8	0.1	**3.3**	43	68.6	0.0
VI	RENAL TUMOURS	127	803	261	56	**1247**	12.9	100.0	9.3	13.1	3.6	0.8	**6.2**	84	93.7	0.0
	a. Nephroblastoma	127	802	256	49	**1234**	12.7	99.0	9.3	13.1	3.5	0.7	**6.1**	83	93.7	0.0
	b. Renal carcinoma	0	1	5	7	**13**	0.1	1.0	-	0.0	0.1	0.1	**0.1**	1	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	39	84	33	38	**194**	2.0	100.0	2.9	1.4	0.5	0.5	**0.9**	13	92.8	0.0
	a. Hepatoblastoma	35	77	15	3	**130**	1.3	67.0	2.6	1.3	0.2	0.0	**0.7**	9	99.2	0.0
	b. Hepatic carcinoma	1	5	16	34	**56**	0.6	28.9	0.1	0.1	0.2	0.5	**0.2**	4	91.1	0.0
	c. Unspecified	3	2	2	1	**8**	0.1	4.1	0.2	0.0	0.0	0.0	**0.0**	1	0.0	0.0
VIII	BONE TUMOURS	3	26	102	259	**390**	4.0	100.0	0.2	0.4	1.4	3.6	**1.6**	27	99.5	0.0
	a. Osteosarcoma	0	7	72	210	**289**	3.0	74.1	-	0.1	1.0	2.9	**1.2**	20	100.0	0.0
	b. Chondrosarcoma	1	0	0	5	**6**	0.1	1.5	0.1	-	-	0.1	**0.0**	0	100.0	0.0
	c. Ewing & related	2	17	27	39	**85**	0.9	21.8	0.1	0.3	0.4	0.5	**0.4**	6	100.0	0.0
	d. Other specified	0	2	2	1	**5**	0.1	1.3	-	0.0	0.0	0.0	**0.0**	0	100.0	0.0
	e. Unspecified	0	0	1	4	**5**	0.1	1.3	-	-	0.0	0.1	**0.0**	0	60.0	0.0
IX	SOFT TISSUE SARCOMA	78	349	316	234	**977**	10.1	100.0	5.7	5.7	4.4	3.2	**4.6**	67	95.0	0.0
	a. Rhabdomyosarcoma	36	223	164	106	**529**	5.5	54.1	2.6	3.6	2.3	1.5	**2.5**	36	100.0	0.0
	b. Fibrosarcoma	20	19	4	13	**56**	0.6	5.7	1.5	0.3	0.1	0.2	**0.3**	4	100.0	0.0
	c. Kaposi sarcoma	3	71	109	57	**240**	2.5	24.6	0.2	1.2	1.5	0.8	**1.1**	16	80.0	0.0
	d. Other specified	14	28	30	45	**117**	1.2	12.0	1.0	0.5	0.4	0.6	**0.5**	8	100.0	0.0
	e. Unspecified	5	8	9	13	**35**	0.4	3.6	0.4	0.1	0.1	0.2	**0.2**	2	97.1	0.0
X	GERM CELL TUMOURS	85	102	67	87	**341**	3.5	100.0	6.2	1.7	0.9	1.2	**1.6**	23	99.1	0.0
	a. CNS germ cell	0	3	4	9	**16**	0.2	4.7	-	0.0	0.1	0.1	**0.1**	1	93.8	0.0
	b. Other extragonadal	76	73	27	32	**208**	2.1	61.0	5.6	1.2	0.4	0.4	**1.0**	14	100.0	0.0
	c. Gonadal germ cell	8	20	34	39	**101**	1.0	29.6	0.6	0.3	0.5	0.5	**0.5**	7	100.0	0.0
	d. Gonadal carcinoma	0	1	0	1	**2**	0.0	0.6	-	0.0	-	0.0	**0.0**	0	100.0	0.0
	e. Unspecified gonadal	1	5	2	6	**14**	0.1	4.1	0.1	0.1	0.0	0.1	**0.1**	1	85.7	0.0
XI	CARCINOMA & MELANOMA	3	36	53	124	**216**	2.2	100.0	0.2	0.6	0.7	1.7	**0.9**	15	99.5	0.0
	a. Adrenocortical	1	5	3	1	**10**	0.1	4.6	0.1	0.1	0.0	0.0	**0.0**	1	100.0	0.0
	b. Thyroid	0	1	6	7	**14**	0.1	6.5	-	0.0	0.1	0.1	**0.1**	1	100.0	0.0
	c. Nasopharyngeal	0	2	5	39	**46**	0.5	21.3	-	0.0	0.1	0.5	**0.2**	3	100.0	0.0
	d. Melanoma	0	13	7	14	**34**	0.4	15.7	-	0.2	0.1	0.2	**0.2**	2	100.0	0.0
	e. Skin carcinoma	1	9	8	12	**30**	0.3	13.9	0.1	0.1	0.1	0.2	**0.1**	2	96.7	0.0
	f. Other & unspecified	1	6	24	51	**82**	0.8	38.0	0.1	0.1	0.3	0.7	**0.3**	6	100.0	0.0
XII	OTHER & UNSPECIFIED	9	15	14	10	**48**	0.5	100.0	0.7	0.2	0.2	0.1	**0.2**	3	35.4	0.0
	a. Other specified	2	6	5	3	**16**	0.2	33.3	0.1	0.1	0.1	0.0	**0.1**	1	100.0	0.0
	b. Other unspecified	7	9	9	7	**32**	0.3	66.7	0.5	0.1	0.1	0.1	**0.2**	2	3.1	0.0
	TOTAL	809	3874	2850	2161	**9694**	100.0	100.0	59.3	63.3	39.4	29.9	**45.6**	659	91.5	0.0

† includes 86 non-malignant

Please consult the quality indicators for this registry

SOUTH AFRICA, paediatric, Asian (1998-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	3	77	39	14	**133**	46.7	100.0	13.3	76.0	30.1	10.0	**37.6**	523	100.0	0.0
	a. Lymphoid	1	69	35	8	**113**	39.6	85.0	4.4	68.1	27.0	5.7	**32.2**	446	100.0	0.0
	b. Acute myeloid	2	8	4	6	**20**	7.0	15.0	8.8	7.9	3.1	4.3	**5.4**	77	100.0	0.0
	c. CMD	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. MDS & other	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
II	LYMPHOMA & RELATED	0	6	13	15	**34**	11.9	100.0	-	5.9	10.0	10.7	**8.2**	128	100.0	0.0
	a. Hodgkin	0	1	5	9	**15**	5.3	44.1	-	1.0	3.9	6.4	**3.4**	55	100.0	0.0
	b. Non-Hodgkin except BL	0	1	7	4	**12**	4.2	35.3	-	1.0	5.4	2.8	**2.9**	45	100.0	0.0
	c. Burkitt (BL)	0	4	1	2	**7**	2.5	20.6	-	3.9	0.8	1.4	**1.9**	27	100.0	0.0
	d. Lymphoreticular	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
III	CNS NEOPLASMS †	1	10	12	11	**34**	11.9	100.0	4.4	9.9	9.3	7.8	**8.7**	130	82.4	0.0
	a. Ependymoma	0	0	1	0	**1**	0.4	2.9	-	-	0.8	-	**0.2**	4	100.0	0.0
	b. Astrocytoma	0	4	5	1	**10**	3.5	29.4	-	3.9	3.9	0.7	**2.7**	39	100.0	0.0
	c. CNS embryonal	1	2	3	4	**10**	3.5	29.4	4.4	2.0	2.3	2.8	**2.5**	38	100.0	0.0
	d. Other gliomas	0	1	3	1	**5**	1.8	14.7	-	1.0	2.3	0.7	**1.3**	19	40.0	0.0
	e. Other specified	0	1	0	4	**5**	1.8	14.7	-	1.0	-	2.8	**1.1**	18	100.0	0.0
	f. Unspecified CNS	0	2	0	1	**3**	1.1	8.8	-	2.0	-	0.7	**0.8**	12	0.0	0.0
IV	NEUROBLASTOMA	5	9	3	0	**17**	6.0	100.0	22.1	8.9	2.3	-	**5.1**	68	88.2	0.0
	a. (Ganglio)neuroblastoma	5	9	3	0	**17**	6.0	100.0	22.1	8.9	2.3	-	**5.1**	68	88.2	0.0
	b. Peripheral nervous	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
V	RETINOBLASTOMA	3	4	0	0	**7**	2.5	100.0	13.3	3.9	-	-	**2.2**	28	71.4	0.0
VI	RENAL TUMOURS	3	11	1	1	**16**	5.6	100.0	13.3	10.9	0.8	0.7	**4.8**	64	100.0	0.0
	a. Nephroblastoma	3	11	1	1	**16**	5.6	100.0	13.3	10.9	0.8	0.7	**4.8**	64	100.0	0.0
	b. Renal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	1	4	1	1	**7**	2.5	100.0	4.4	3.9	0.8	0.7	**2.0**	28	100.0	0.0
	a. Hepatoblastoma	1	4	1	1	**7**	2.5	100.0	4.4	3.9	0.8	0.7	**2.0**	28	100.0	0.0
	b. Hepatic carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	0	0	3	10	**13**	4.6	100.0	-	-	2.3	7.1	**2.8**	47	100.0	0.0
	a. Osteosarcoma	0	0	2	6	**8**	2.8	61.5	-	-	1.5	4.3	**1.7**	29	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Ewing & related	0	0	1	4	**5**	1.8	38.5	-	-	0.8	2.8	**1.1**	18	100.0	0.0
	d. Other specified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
IX	SOFT TISSUE SARCOMA	2	9	3	0	**14**	4.9	100.0	8.8	8.9	2.3	-	**4.2**	56	100.0	0.0
	a. Rhabdomyosarcoma	2	7	2	0	**11**	3.9	78.6	8.8	6.9	1.5	-	**3.3**	44	100.0	0.0
	b. Fibrosarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Kaposi sarcoma	0	1	0	0	**1**	0.4	7.1	-	1.0	-	-	**0.3**	4	100.0	0.0
	d. Other specified	0	1	1	0	**2**	0.7	14.3	-	1.0	0.8	-	**0.6**	8	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
X	GERM CELL TUMOURS	0	5	0	3	**8**	2.8	100.0	-	4.9	-	2.1	**2.2**	31	100.0	0.0
	a. CNS germ cell	0	1	0	1	**2**	0.7	25.0	-	1.0	-	0.7	**0.5**	8	100.0	0.0
	b. Other extragonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Gonadal germ cell	0	4	0	2	**6**	2.1	75.0	-	3.9	-	1.4	**1.7**	23	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	0	0	2	0	**2**	0.7	100.0	-	-	1.5	-	**0.5**	8	100.0	0.0
	a. Adrenocortical	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	b. Thyroid	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Nasopharyngeal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Melanoma	0	0	1	0	**1**	0.4	50.0	-	-	0.8	-	**0.2**	4	100.0	0.0
	e. Skin carcinoma	0	0	1	0	**1**	0.4	50.0	-	-	0.8	-	**0.2**	4	100.0	0.0
	f. Other & unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XII	OTHER & UNSPECIFIED	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	a. Other specified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	b. Other unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	TOTAL	18	135	77	55	**285**	100.0	100.0	79.6	133.2	59.4	39.2	**78.3**	1110	96.5	0.0

† includes 3 non-malignant

Please consult the quality indicators for this registry

SOUTH AFRICA, paediatric, Black (1998-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	97	467	539	437	**1540**	22.1	100.0	8.4	9.0	8.9	7.3	**8.4**	125	100.0	0.0
	a. Lymphoid	43	303	333	244	**923**	13.2	59.9	3.7	5.9	5.5	4.1	**5.1**	75	100.0	0.0
	b. Acute myeloid	42	142	171	164	**519**	7.4	33.7	3.6	2.7	2.8	2.7	**2.8**	42	100.0	0.0
	c. CMD	0	6	23	25	**54**	0.8	3.5	-	0.1	0.4	0.4	**0.3**	4	100.0	0.0
	d. MDS & other	7	6	0	1	**14**	0.2	0.9	0.6	0.1	-	0.0	**0.1**	1	100.0	0.0
	e. Unspecified	5	10	12	3	**30**	0.4	1.9	0.4	0.2	0.2	0.0	**0.2**	2	100.0	0.0
II	LYMPHOMA & RELATED	7	278	413	319	**1017**	14.6	100.0	0.6	5.4	6.8	5.3	**5.5**	83	99.8	0.0
	a. Hodgkin	0	50	159	147	**356**	5.1	35.0	-	1.0	2.6	2.4	**1.9**	29	99.7	0.0
	b. Non-Hodgkin except BL	5	99	154	137	**395**	5.7	38.8	0.4	1.9	2.5	2.3	**2.1**	32	99.7	0.0
	c. Burkitt (BL)	1	124	94	33	**252**	3.6	24.8	0.1	2.4	1.5	0.5	**1.4**	20	100.0	0.0
	d. Lymphoreticular	1	2	2	0	**5**	0.1	0.5	0.1	0.0	0.0	-	**0.0**	0	100.0	0.0
	e. Unspecified	0	3	4	2	**9**	0.1	0.9	-	0.1	0.1	0.0	**0.0**	1	100.0	0.0
III	CNS NEOPLASMS †	51	273	340	186	**850**	12.2	100.0	4.4	5.3	5.6	3.1	**4.7**	69	64.2	0.0
	a. Ependymoma	9	29	26	11	**75**	1.1	8.8	0.8	0.6	0.4	0.2	**0.4**	6	100.0	0.0
	b. Astrocytoma	8	58	82	46	**194**	2.8	22.8	0.7	1.1	1.3	0.8	**1.1**	16	97.9	0.0
	c. CNS embryonal	14	79	57	36	**186**	2.7	21.9	1.2	1.5	0.9	0.6	**1.0**	15	100.0	0.0
	d. Other gliomas	2	59	91	35	**187**	2.7	22.0	0.2	1.1	1.5	0.6	**1.0**	15	20.9	0.0
	e. Other specified	2	9	25	22	**58**	0.8	6.8	0.2	0.2	0.4	0.4	**0.3**	5	96.6	0.0
	f. Unspecified CNS	16	39	59	36	**150**	2.1	17.6	1.4	0.8	1.0	0.6	**0.8**	12	0.0	0.0
IV	NEUROBLASTOMA	73	195	60	21	**349**	5.0	100.0	6.3	3.8	1.0	0.3	**2.1**	28	90.0	0.0
	a. (Ganglio)neuroblastoma	73	195	58	18	**344**	4.9	98.6	6.3	3.8	1.0	0.3	**2.0**	27	89.8	0.0
	b. Peripheral nervous	0	0	2	3	**5**	0.1	1.4	-	-	0.0	0.0	**0.0**	0	100.0	0.0
V	RETINOBLASTOMA	78	408	55	8	**549**	7.9	100.0	6.8	7.9	0.9	0.1	**3.3**	44	68.1	0.0
VI	RENAL TUMOURS	93	654	221	49	**1017**	14.6	100.0	8.1	12.6	3.6	0.8	**6.0**	81	92.8	0.0
	a. Nephroblastoma	93	653	218	42	**1006**	14.4	98.9	8.1	12.6	3.6	0.7	**5.9**	80	92.7	0.0
	b. Renal carcinoma	0	1	3	7	**11**	0.2	1.1	-	0.0	0.0	0.1	**0.1**	1	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	24	59	25	35	**143**	2.0	100.0	2.1	1.1	0.4	0.6	**0.8**	12	90.2	0.0
	a. Hepatoblastoma	21	53	11	2	**87**	1.2	60.8	1.8	1.0	0.2	0.0	**0.5**	7	98.9	0.0
	b. Hepatic carcinoma	0	4	12	32	**48**	0.7	33.6	-	0.1	0.2	0.5	**0.2**	4	89.6	0.0
	c. Unspecified	3	2	2	1	**8**	0.1	5.6	0.3	0.0	0.0	0.0	**0.0**	1	0.0	0.0
VIII	BONE TUMOURS	3	17	67	182	**269**	3.9	100.0	0.3	0.3	1.1	3.0	**1.4**	22	99.3	0.0
	a. Osteosarcoma	0	4	50	159	**213**	3.0	79.2	-	0.1	0.8	2.6	**1.1**	18	100.0	0.0
	b. Chondrosarcoma	1	0	0	5	**6**	0.1	2.2	0.1	-	-	0.1	**0.0**	0	100.0	0.0
	c. Ewing & related	2	12	14	14	**42**	0.6	15.6	0.2	0.2	0.2	0.2	**0.2**	3	100.0	0.0
	d. Other specified	0	1	2	0	**3**	0.0	1.1	-	0.0	0.0	-	**0.0**	0	100.0	0.0
	e. Unspecified	0	0	1	4	**5**	0.1	1.9	-	-	0.0	0.1	**0.0**	0	60.0	0.0
IX	SOFT TISSUE SARCOMA	61	281	287	183	**812**	11.6	100.0	5.3	5.4	4.7	3.0	**4.5**	66	94.0	0.0
	a. Rhabdomyosarcoma	28	166	143	81	**418**	6.0	51.5	2.4	3.2	2.4	1.3	**2.3**	34	100.0	0.0
	b. Fibrosarcoma	16	14	4	9	**43**	0.6	5.3	1.4	0.3	0.1	0.1	**0.2**	3	100.0	0.0
	c. Kaposi sarcoma	3	68	107	54	**232**	3.3	28.6	0.3	1.3	1.8	0.9	**1.3**	19	79.3	0.0
	d. Other specified	11	25	27	29	**92**	1.3	11.3	1.0	0.5	0.4	0.5	**0.5**	7	100.0	0.0
	e. Unspecified	3	8	6	10	**27**	0.4	3.3	0.3	0.2	0.1	0.2	**0.1**	2	96.3	0.0
X	GERM CELL TUMOURS	62	67	50	66	**245**	3.5	100.0	5.4	1.3	0.8	1.1	**1.4**	20	99.2	0.0
	a. CNS germ cell	0	2	1	3	**6**	0.1	2.4	-	0.0	0.0	0.0	**0.0**	0	83.3	0.0
	b. Other extragonadal	61	54	23	29	**167**	2.4	68.2	5.3	1.0	0.4	0.5	**1.0**	13	100.0	0.0
	c. Gonadal germ cell	1	7	26	29	**63**	0.9	25.7	0.1	0.1	0.4	0.5	**0.3**	5	100.0	0.0
	d. Gonadal carcinoma	0	1	0	1	**2**	0.0	0.8	-	0.0	-	0.0	**0.0**	0	100.0	0.0
	e. Unspecified gonadal	0	3	0	4	**7**	0.1	2.9	-	0.1	-	0.1	**0.0**	1	85.7	0.0
XI	CARCINOMA & MELANOMA	3	23	36	91	**153**	2.2	100.0	0.3	0.4	0.6	1.5	**0.8**	13	99.3	0.0
	a. Adrenocortical	1	1	3	1	**6**	0.1	3.9	0.1	0.0	0.0	0.0	**0.0**	0	100.0	0.0
	b. Thyroid	0	1	3	4	**8**	0.1	5.2	-	0.0	0.0	0.1	**0.0**	1	100.0	0.0
	c. Nasopharyngeal	0	1	3	36	**40**	0.6	26.1	-	0.0	0.0	0.6	**0.2**	3	100.0	0.0
	d. Melanoma	0	7	1	5	**13**	0.2	8.5	-	0.1	0.0	0.1	**0.1**	1	100.0	0.0
	e. Skin carcinoma	1	9	4	6	**20**	0.3	13.1	0.1	0.2	0.1	0.1	**0.1**	2	95.0	0.0
	f. Other & unspecified	1	4	22	39	**66**	0.9	43.1	0.1	0.1	0.4	0.6	**0.3**	5	100.0	0.0
XII	OTHER & UNSPECIFIED	8	12	10	10	**40**	0.6	100.0	0.7	0.2	0.2	0.2	**0.2**	3	30.0	0.0
	a. Other specified	2	3	3	3	**11**	0.2	27.5	0.2	0.1	0.0	0.0	**0.1**	1	100.0	0.0
	b. Other unspecified	6	9	7	7	**29**	0.4	72.5	0.5	0.2	0.1	0.1	**0.2**	2	3.4	0.0
	TOTAL	560	2734	2103	1587	**6984**	100.0	100.0	48.5	52.8	34.6	26.4	**39.0**	565	90.2	0.0

† includes 63 non-malignant

Please consult the quality indicators for this registry

SOUTH AFRICA, paediatric, Coloured (1998-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	25	166	114	84	**389**	29.9	100.0	21.4	31.7	18.3	13.3	**21.3**	307	100.0	0.0
	a. Lymphoid	9	136	89	53	**287**	22.0	73.8	7.7	26.0	14.3	8.4	**15.8**	227	100.0	0.0
	b. Acute myeloid	14	26	22	26	**88**	6.8	22.6	12.0	5.0	3.5	4.1	**4.8**	69	100.0	0.0
	c. CMD	1	1	2	4	**8**	0.6	2.1	0.9	0.2	0.3	0.6	**0.4**	6	100.0	0.0
	d. MDS & other	1	2	1	1	**5**	0.4	1.3	0.9	0.4	0.2	0.2	**0.3**	4	100.0	0.0
	e. Unspecified	0	1	0	0	**1**	0.1	0.3	-	0.2	-	-	**0.1**	1	100.0	0.0
II	LYMPHOMA & RELATED	1	43	78	50	**172**	13.2	100.0	0.9	8.2	12.6	7.9	**9.0**	137	100.0	0.0
	a. Hodgkin	0	6	26	23	**55**	4.2	32.0	-	1.1	4.2	3.6	**2.8**	44	100.0	0.0
	b. Non-Hodgkin except BL	1	8	34	13	**56**	4.3	32.6	0.9	1.5	5.5	2.1	**2.9**	45	100.0	0.0
	c. Burkitt (BL)	0	29	18	14	**61**	4.7	35.5	-	5.5	2.9	2.2	**3.3**	48	100.0	0.0
	d. Lymphoreticular	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
III	CNS NEOPLASMS †	10	82	107	46	**245**	18.8	100.0	8.6	15.7	17.2	7.3	**13.2**	194	75.9	0.0
	a. Ependymoma	3	17	11	3	**34**	2.6	13.9	2.6	3.3	1.8	0.5	**1.9**	27	100.0	0.0
	b. Astrocytoma	2	19	29	22	**72**	5.5	29.4	1.7	3.6	4.7	3.5	**3.8**	57	98.6	0.0
	c. CNS embryonal	2	21	24	10	**57**	4.4	23.3	1.7	4.0	3.9	1.6	**3.1**	45	100.0	0.0
	d. Other gliomas	1	13	22	7	**43**	3.3	17.6	0.9	2.5	3.5	1.1	**2.3**	34	32.6	0.0
	e. Other specified	0	2	7	1	**10**	0.8	4.1	-	0.4	1.1	0.2	**0.5**	8	100.0	0.0
	f. Unspecified CNS	2	10	14	3	**29**	2.2	11.8	1.7	1.9	2.3	0.5	**1.6**	23	0.0	0.0
IV	NEUROBLASTOMA	21	48	8	5	**82**	6.3	100.0	18.0	9.2	1.3	0.8	**4.8**	64	95.1	0.0
	a. (Ganglio)neuroblastoma	21	48	7	3	**79**	6.1	96.3	18.0	9.2	1.1	0.5	**4.7**	62	94.9	0.0
	b. Peripheral nervous	0	0	1	2	**3**	0.2	3.7	-	-	0.2	0.3	**0.1**	2	100.0	0.0
V	RETINOBLASTOMA	17	36	1	0	**54**	4.1	100.0	14.6	6.9	0.2	-	**3.3**	42	75.9	0.0
VI	RENAL TUMOURS	23	77	22	5	**127**	9.8	100.0	19.7	14.7	3.5	0.8	**7.4**	100	97.6	0.0
	a. Nephroblastoma	23	77	20	5	**125**	9.6	98.4	19.7	14.7	3.2	0.8	**7.3**	98	97.6	0.0
	b. Renal carcinoma	0	0	2	0	**2**	0.2	1.6	-	-	0.3	-	**0.1**	2	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	6	13	5	1	**25**	1.9	100.0	5.1	2.5	0.8	0.2	**1.5**	20	100.0	0.0
	a. Hepatoblastoma	6	12	1	0	**19**	1.5	76.0	5.1	2.3	0.2	-	**1.1**	15	100.0	0.0
	b. Hepatic carcinoma	0	1	4	1	**6**	0.5	24.0	-	0.2	0.6	0.2	**0.3**	5	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	0	2	12	27	**41**	3.1	100.0	-	0.4	1.9	4.3	**2.0**	33	100.0	0.0
	a. Osteosarcoma	0	1	10	23	**34**	2.6	82.9	-	0.2	1.6	3.6	**1.6**	27	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Ewing & related	0	0	2	3	**5**	0.4	12.2	-	-	0.3	0.5	**0.2**	4	100.0	0.0
	d. Other specified	0	1	0	1	**2**	0.2	4.9	-	0.2	-	0.2	**0.1**	2	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
IX	SOFT TISSUE SARCOMA	10	26	18	34	**88**	6.8	100.0	8.6	5.0	2.9	5.4	**4.7**	69	100.0	0.0
	a. Rhabdomyosarcoma	3	20	11	16	**50**	3.8	56.8	2.6	3.8	1.8	2.5	**2.7**	39	100.0	0.0
	b. Fibrosarcoma	3	4	0	3	**10**	0.8	11.4	2.6	0.8	-	0.5	**0.6**	8	100.0	0.0
	c. Kaposi sarcoma	0	2	2	3	**7**	0.5	8.0	-	0.4	0.3	0.5	**0.4**	6	100.0	0.0
	d. Other specified	2	0	2	9	**13**	1.0	14.8	1.7	-	0.3	1.4	**0.6**	10	100.0	0.0
	e. Unspecified	2	0	3	3	**8**	0.6	9.1	1.7	-	0.5	0.5	**0.4**	6	100.0	0.0
X	GERM CELL TUMOURS	14	20	8	7	**49**	3.8	100.0	12.0	3.8	1.3	1.1	**2.8**	39	98.0	0.0
	a. CNS germ cell	0	0	0	1	**1**	0.1	2.0	-	-	-	0.2	**0.0**	1	100.0	0.0
	b. Other extragonadal	9	11	1	1	**22**	1.7	44.9	7.7	2.1	0.2	0.2	**1.3**	17	100.0	0.0
	c. Gonadal germ cell	4	7	5	3	**19**	1.5	38.8	3.4	1.3	0.8	0.5	**1.1**	15	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	1	2	2	2	**7**	0.5	14.3	0.9	0.4	0.3	0.3	**0.4**	6	85.7	0.0
XI	CARCINOMA & MELANOMA	0	3	4	16	**23**	1.8	100.0	-	0.6	0.6	2.5	**1.1**	18	100.0	0.0
	a. Adrenocortical	0	1	0	0	**1**	0.1	4.3	-	0.2	-	-	**0.1**	1	100.0	0.0
	b. Thyroid	0	0	1	2	**3**	0.2	13.0	-	-	0.2	0.3	**0.1**	2	100.0	0.0
	c. Nasopharyngeal	0	1	1	3	**5**	0.4	21.7	-	0.2	0.2	0.5	**0.2**	4	100.0	0.0
	d. Melanoma	0	0	1	0	**1**	0.1	4.3	-	-	0.2	-	**0.1**	1	100.0	0.0
	e. Skin carcinoma	0	0	0	1	**1**	0.1	4.3	-	-	-	0.2	**0.0**	1	100.0	0.0
	f. Other & unspecified	0	1	1	10	**12**	0.9	52.2	-	0.2	0.2	1.6	**0.6**	9	100.0	0.0
XII	OTHER & UNSPECIFIED	1	2	4	0	**7**	0.5	100.0	0.9	0.4	0.6	-	**0.4**	6	57.1	0.0
	a. Other specified	0	2	2	0	**4**	0.3	57.1	-	0.4	0.3	-	**0.2**	3	100.0	0.0
	b. Other unspecified	1	0	2	0	**3**	0.2	42.9	0.9	-	0.3	-	**0.2**	2	0.0	0.0
	TOTAL	128	518	381	275	**1302**	100.0	100.0	109.8	99.1	61.3	43.4	**71.5**	1029	93.6	0.0

† includes 12 non-malignant

Please consult the quality indicators for this registry

SOUTH AFRICA, paediatric, White (1998-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	25	193	99	69	**386**	34.4	100.0	36.6	62.9	25.2	15.7	**35.2**	495	100.0	0.0
	a. Lymphoid	14	164	84	53	**315**	28.1	81.6	20.5	53.5	21.4	12.0	**28.8**	404	100.0	0.0
	b. Acute myeloid	8	26	11	12	**57**	5.1	14.8	11.7	8.5	2.8	2.7	**5.2**	73	100.0	0.0
	c. CMD	0	1	2	3	**6**	0.5	1.6	-	0.3	0.5	0.7	**0.5**	7	100.0	0.0
	d. MDS & other	2	1	0	0	**3**	0.3	0.8	2.9	0.3	-	-	**0.3**	4	100.0	0.0
	e. Unspecified	1	1	2	1	**5**	0.4	1.3	1.5	0.3	0.5	0.2	**0.4**	6	100.0	0.0
II	LYMPHOMA & RELATED	1	19	56	58	**134**	11.9	100.0	1.5	6.2	14.2	13.2	**10.5**	164	100.0	0.0
	a. Hodgkin	0	2	19	23	**44**	3.9	32.8	-	0.7	4.8	5.2	**3.3**	53	100.0	0.0
	b. Non-Hodgkin except BL	1	11	19	25	**56**	5.0	41.8	1.5	3.6	4.8	5.7	**4.4**	69	100.0	0.0
	c. Burkitt (BL)	0	6	18	10	**34**	3.0	25.4	-	2.0	4.6	2.3	**2.8**	42	100.0	0.0
	d. Lymphoreticular	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
III	CNS NEOPLASMS †	13	74	56	28	**171**	15.2	100.0	19.0	24.1	14.2	6.4	**15.4**	219	84.2	0.0
	a. Ependymoma	1	9	9	2	**21**	1.9	12.3	1.5	2.9	2.3	0.5	**1.9**	27	100.0	0.0
	b. Astrocytoma	5	23	21	10	**59**	5.3	34.5	7.3	7.5	5.3	2.3	**5.3**	75	98.3	0.0
	c. CNS embryonal	4	24	13	5	**46**	4.1	26.9	5.8	7.8	3.3	1.1	**4.3**	60	100.0	0.0
	d. Other gliomas	1	13	6	5	**25**	2.2	14.6	1.5	4.2	1.5	1.1	**2.3**	32	48.0	0.0
	e. Other specified	0	3	1	3	**7**	0.6	4.1	-	1.0	0.3	0.7	**0.6**	9	100.0	0.0
	f. Unspecified CNS	2	2	6	3	**13**	1.2	7.6	2.9	0.7	1.5	0.7	**1.1**	16	0.0	0.0
IV	NEUROBLASTOMA	22	51	11	1	**85**	7.6	100.0	32.2	16.6	2.8	0.2	**8.5**	112	98.8	0.0
	a. (Ganglio)neuroblastoma	22	51	11	0	**84**	7.5	98.8	32.2	16.6	2.8	-	**8.4**	111	98.8	0.0
	b. Peripheral nervous	0	0	0	1	**1**	0.1	1.2	-	-	-	0.2	**0.1**	1	100.0	0.0
V	RETINOBLASTOMA	12	20	0	1	**33**	2.9	100.0	17.5	6.5	-	0.2	**3.4**	44	63.6	0.0
VI	RENAL TUMOURS	8	61	17	1	**87**	7.8	100.0	11.7	19.9	4.3	0.2	**8.6**	115	97.7	0.0
	a. Nephroblastoma	8	61	17	1	**87**	7.8	100.0	11.7	19.9	4.3	0.2	**8.6**	115	97.7	0.0
	b. Renal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	8	8	2	1	**19**	1.7	100.0	11.7	2.6	0.5	0.2	**1.9**	25	100.0	0.0
	a. Hepatoblastoma	7	8	2	0	**17**	1.5	89.5	10.2	2.6	0.5	-	**1.7**	23	100.0	0.0
	b. Hepatic carcinoma	1	0	0	1	**2**	0.2	10.5	1.5	-	-	0.2	**0.2**	2	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	0	7	20	40	**67**	6.0	100.0	-	2.3	5.1	9.1	**5.0**	80	100.0	0.0
	a. Osteosarcoma	0	2	10	22	**34**	3.0	50.7	-	0.7	2.5	5.0	**2.5**	40	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Ewing & related	0	5	10	18	**33**	2.9	49.3	-	1.6	2.5	4.1	**2.5**	40	100.0	0.0
	d. Other specified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
IX	SOFT TISSUE SARCOMA	5	33	8	17	**63**	5.6	100.0	7.3	10.8	2.0	3.9	**5.7**	80	100.0	0.0
	a. Rhabdomyosarcoma	3	30	8	9	**50**	4.5	79.4	4.4	9.8	2.0	2.0	**4.7**	64	100.0	0.0
	b. Fibrosarcoma	1	1	0	1	**3**	0.3	4.8	1.5	0.3	-	0.2	**0.3**	4	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	1	2	0	7	**10**	0.9	15.9	1.5	0.7	-	1.6	**0.8**	12	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
X	GERM CELL TUMOURS	9	9	9	11	**38**	3.4	100.0	13.2	2.9	2.3	2.5	**3.3**	48	100.0	0.0
	a. CNS germ cell	0	0	3	4	**7**	0.6	18.4	-	-	0.8	0.9	**0.5**	8	100.0	0.0
	b. Other extragonadal	6	7	3	2	**18**	1.6	47.4	8.8	2.3	0.8	0.5	**1.7**	23	100.0	0.0
	c. Gonadal germ cell	3	2	3	5	**13**	1.2	34.2	4.4	0.7	0.8	1.1	**1.1**	16	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	0	10	11	17	**38**	3.4	100.0	-	3.3	2.8	3.9	**3.1**	47	100.0	0.0
	a. Adrenocortical	0	3	0	0	**3**	0.3	7.9	-	1.0	-	-	**0.3**	4	100.0	0.0
	b. Thyroid	0	0	2	1	**3**	0.3	7.9	-	-	0.5	0.2	**0.2**	4	100.0	0.0
	c. Nasopharyngeal	0	0	1	0	**1**	0.1	2.6	-	-	0.3	-	**0.1**	1	100.0	0.0
	d. Melanoma	0	6	4	9	**19**	1.7	50.0	-	2.0	1.0	2.0	**1.5**	23	100.0	0.0
	e. Skin carcinoma	0	0	3	5	**8**	0.7	21.1	-	-	0.8	1.1	**0.6**	9	100.0	0.0
	f. Other & unspecified	0	1	1	2	**4**	0.4	10.5	-	0.3	0.3	0.5	**0.3**	5	100.0	0.0
XII	OTHER & UNSPECIFIED	0	1	0	0	**1**	0.1	100.0	-	0.3	-	-	**0.1**	1	100.0	0.0
	a. Other specified	0	1	0	0	**1**	0.1	100.0	-	0.3	-	-	**0.1**	1	100.0	0.0
	b. Other unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	TOTAL	103	486	289	244	**1122**	100.0	100.0	150.6	158.5	73.5	55.4	**100.6**	1430	96.3	0.0

† includes 8 non-malignant

Please consult the quality indicators for this registry

Tunisia

Tunisia is located in North Africa and includes the eastern end of the Atlas Mountains, the northern reaches of the Sahara Desert, and fertile land spreading towards the northernmost tip of the African continent. It covers an area of 163 610 km^2 and is bordered by Algeria, Libya, and the Mediterranean Sea.

The population was estimated to be 10.6 million in 2010, and 32% are younger than 20 years (Table A.6). A successful family planning programme has decreased the population growth rate to just more than 1% per annum; this has contributed to Tunisia's economic and social stability. Ethnically, Tunisians are primarily of Berber origin, although currently they self-identify as Arabs. A purely Berber population lives mostly in a few mountainous locations and makes up a maximum of 1% of the national population.

In 2010, spending on health care accounted for 3.4% of the GDP. Health insurance is managed by the National Health Insurance Fund (Caisse Nationale d'Assurance Maladie). It is mandatory for the entire population, but the premiums differ according to socioprofessional category. State-owned health facilities and hospitals provide free services to all citizens and residents. Insured patients may also be treated in approved private services if they have severe or chronic conditions that require full health insurance coverage. The public sector remains by far the most important health-care provider in the country, accounting for 87% of hospital bed capacity (31 936 beds).

POPULATION AT RISK

The population data are provided by the National Institute of Statistics (http://www.ins.tn), which provides a mid-year age composition by sex and place of residence and organizes decennial censuses of the Tunisian population (Table A.7).

EDITORS' COMMENTS

The three cancer registries in Tunisia are in the North region, the Central region, and the South. Combined, they cover the entire country. Data for two areas are included in IICC-3: the entire North region and the Sousse province in the Central region. Combined data for these two cancer registries are presented in the IICC-3 book. They cover about 54% of the Tunisian population in the age group 0–19 years (Table A.6). Incidence tables for the individual registries are available online (Table A.12). All malignant tumours, including skin carcinomas, and non-malignant CNS tumours are reportable in both registries. Pilocytic astrocytoma is coded with uncertain behaviour. Death certificates are not used for case ascertainment in Tunisia, because they are available for only about 50% of deaths and many are classified as "natural death". In addition, all death certificates are anonymous. The slightly lower incidence rates and the higher proportion of unspecified cases in the larger registry that covers the entire North region, compared with the smaller registry of the Sousse province, may be related to easier access to health-care facilities in the mostly urban area of the Sousse province.

TUNISIA, 2 registries (1993-2007)

Registry	Period	Cases	%	Person-years	%
North	1994-2006	2362	87.1	22 910 620	88.5
Sousse	1993-2007	350	12.9	2 976 112	11.5
TUNISIA	**1993-2007**	**2712**	**100.0**	**25 886 732**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

North Tunisia Cancer Registry, 1994–2006

Mansour Ben Abdallah, Wided Ben Ayoub-Hizem, Mohamed Hsairi, Noureddine Achour

The North Tunisia Cancer Registry (NTCR) covers the North region of the country (28 162 km^2), which includes the country's capital city of Tunis and 11 *wilayas*. The covered area includes urban regions such as the coastal cities of Tunis, Bizerte, and Nabeul, with widespread commercial, industrial, and tourism activities. Farming and fishing are the main occupations in the rural areas of the region, which are among the most fertile of the country. The population is mainly Arabic, and Islam is the predominant religion.

A network of health structures was planned for the whole territory using health centres and programmes of primary care. In North Tunisia, 15 university hospitals and 11 non-university hospitals (one hospital in each *wilaya*) provide support for patients with cancer. About 40% of patients with cancer who are diagnosed in North Tunisia are treated at the national cancer centre, Institut Salah-Azaïz. Radiotherapy is available at one hospital and four private radiotherapy centres. More than 60% of the population of North Tunisia is enrolled in the national public health insurance system.

Cases of childhood cancer may be diagnosed in many hospitals, but a large proportion are referred to the national cancer centre, Institut Salah-Azaïz. Leukaemia is treated at the Haematology Centre in Tunis and in paediatrics

departments. Neurological tumours are diagnosed at the Neurology Centre. Children with malignancies may also be treated in the private sector.

The NTCR was officially founded in 1997 (Table A.10) and collected data retrospectively as from 1994. The registry is subsidized by the Ministry of Public Health. It employs two physicians, three full-time clerks, and four or five half-time physicians. The NTCR uses an active method of data collection from 85 sources of public and private pathology and medical records. All types of invasive tumours are included (including basal and squamous cell skin carcinoma), and in situ tumours are included. Benign tumours of the brain and superficial tumours of the urinary bladder were not included during the reporting period. A large proportion of staff time is devoted to searching for duplicate registrations; this is performed at the time of data entry and regularly using computer software. The NTCR ensures data security and confidentiality. Informed consent is required for cancer registration.

POPULATION AT RISK

Data were provided in all the requested detail. See also Tunisia, above.

EDITORS' COMMENTS

The registry attributed the high MV% (Table A.9) to good diagnostic amenities, such as stereotactic biopsy, which is widely applied to cerebral tumours. Because of incomplete date of birth in 39% of cases and incomplete date of incidence in 13% of cases (Table A.8), age may be somewhat misclassified; age does not correspond to the reported dates in 27% of cases. The very low rates in infants may reflect the imprecise age to some extent. Laterality is provided for almost 80% of cases of interest. See also Tunisia, above.

Sousse, Cancer Registry of Central Region, 1993–2007

Sihem Hmissa, Nabiha Missaoui, Thouraya Zahmoul, Hajer Hamchi, Lilia Jaidaine, Moncef Mokni

The Cancer Registry of Central Region covers six provinces: Sousse, Monastir, Mahdia, Kairouan, Kasserine, and Sidi Bouzid. In the Sousse province, completeness was 85–90%; lack of completeness was observed in the other five provinces.

The Sousse province, with an area of 2669 km^2, is the capital of the Central region. It had a population of 0.6 million in 2010, which was 22% of the overall population of the Central region. The population is relatively young; 37% are younger than 20 years (Table A.6). The main economic sectors of the region are agriculture, industry (textiles), and tourism.

The Cancer Registry of Central Region, which is staffed by four full-time physicians, is located in the Pathology Department of Farhat Hached Sousse University Hospital. The registry staff actively look for information in specific sources to identify new cases. The sources include the pathology departments of public and private medical centres; radiotherapy, oncology, radiology, biology, and haematology departments; and all other clinical departments of public and private medical centres. The registered patients are followed up for vital status. The registry database is stored in CanReg4, provided by IARC.

The registry reports annually on cancer incidence to define the epidemiological profile of the Central region and compare it with those of the North and South regions of Tunisia and with those of other countries. The registry is used for planning and providing some health services. In central Tunisia, breast cancer and colorectal cancer occur frequently in young adults.

POPULATION AT RISK

Data were provided by sex and 5-year age group for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Tunisia, above.

EDITORS' COMMENTS

The high MV% and the absence of DCO cases in the dataset (Table A.9) may suggest some underreporting, possibly from private practice. Because of incomplete date of birth for 29% of cases, age may be misclassified, and age was inconsistent with the dates of birth and incidence in 12% of cases (Table A.8). Information on laterality is complete for the tumours of interest. See also the editors' comments for Tunisia, above.

TUNISIA, 2 registries (1993-2007)

	Age group (years)	Males	Females
Person-years	0	576 171	545 950
	1-4	2 414 549	2 285 598
	5-9	3 221 924	3 056 088
	10-14	3 493 417	3 324 302
	15-19	3 563 859	3 404 874
	0-14	9 706 061	9 211 938
	0-19	13 269 920	12 616 812

Please consult the quality indicators for this pool and its constituent registries

TUNISIA, 2 registries (1993-2007)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	6	159	164	148	135	477	612	26.1	100.0	22.6	100.0	5.3	33.8	26.1	21.7	19.4	25.7	24.3	381	478	100.0	0.0
	a. Lymphoid	3	122	131	91	78	347	425	19.0	72.7	15.7	69.4	2.7	26.0	20.9	13.3	11.2	18.9	17.2	278	334	100.0	0.0
	b. Acute myeloid	3	30	31	51	47	115	162	6.3	24.1	6.0	26.5	2.7	6.4	4.9	7.5	6.7	6.0	6.1	90	124	100.0	0.0
	c. CMD	0	0	0	2	4	2	6	0.1	0.4	0.2	1.0	-	-	-	0.3	0.6	0.1	0.2	1	4	100.0	0.0
	d. MDS & other	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	7	2	4	6	13	19	0.7	2.7	0.7	3.1	-	1.5	0.3	0.6	0.9	0.7	0.8	11	15	100.0	0.0
II	LYMPHOMA & RELATED	2	59	136	136	225	333	558	18.2	100.0	20.6	100.0	1.8	12.6	21.7	19.9	32.3	16.8	20.3	260	422	100.0	0.0
	a. Hodgkin	0	7	66	80	140	153	293	8.4	45.9	10.8	52.5	-	1.5	10.5	11.7	20.1	7.3	10.1	117	218	100.0	0.0
	b. Non-Hodgkin except BL	0	12	33	36	68	81	149	4.4	24.3	5.5	26.7	-	2.6	5.3	5.3	9.8	4.0	5.3	63	112	100.0	0.0
	c. Burkitt (BL)	0	4	8	2	1	14	15	0.8	4.2	0.6	2.7	-	0.9	1.3	0.3	0.1	0.8	0.6	11	12	100.0	0.0
	d. Lymphoreticular	2	32	26	11	8	71	79	3.9	21.3	2.9	14.2	1.8	6.8	4.1	1.6	1.1	4.1	3.4	58	64	100.0	0.0
	e. Unspecified	0	4	3	7	8	14	22	0.8	4.2	0.8	3.9	-	0.9	0.5	1.0	1.1	0.7	0.8	11	17	100.0	0.0
III	CNS NEOPLASMS †	1	74	119	80	84	274	358	15.0	100.0	13.2	100.0	0.9	15.7	19.0	11.7	12.1	14.5	14.0	218	278	90.8	0.0
	a. Ependymoma	0	10	9	7	7	26	33	1.4	9.5	1.2	9.2	-	2.1	1.4	1.0	1.0	1.4	1.3	21	26	100.0	0.0
	b. Astrocytoma	1	28	47	38	47	114	161	6.2	41.6	5.9	45.0	0.9	6.0	7.5	5.6	6.7	6.0	6.1	90	124	100.0	0.0
	c. CNS embryonal	0	20	33	19	11	72	83	3.9	26.3	3.1	23.2	-	4.3	5.3	2.8	1.6	3.8	3.3	57	65	100.0	0.0
	d. Other gliomas	0	4	11	6	14	21	35	1.1	7.7	1.3	9.8	-	0.9	1.8	0.9	2.0	1.1	1.3	17	27	100.0	0.0
	e. Other specified	0	2	0	4	1	6	7	0.3	2.2	0.3	2.0	-	0.4	-	0.6	0.1	0.3	0.3	5	5	100.0	0.0
	f. Unspecified CNS	0	10	19	6	4	35	39	1.9	12.8	1.4	10.9	-	2.1	3.0	0.9	0.6	1.9	1.6	28	31	15.4	0.0
IV	NEUROBLASTOMA	17	82	21	6	7	126	133	6.9	100.0	4.9	100.0	15.1	17.4	3.3	0.9	1.0	7.9	6.4	106	111	98.5	0.0
	a. (Ganglio)neuroblastoma	17	81	20	3	4	121	125	6.6	96.0	4.6	94.0	15.1	17.2	3.2	0.4	0.6	7.7	6.1	102	105	98.4	0.0
	b. Peripheral nervous	0	1	1	3	3	5	8	0.3	4.0	0.3	6.0	-	0.2	0.2	0.4	0.4	0.2	0.3	4	6	100.0	0.0
V	RETINOBLASTOMA	7	41	7	0	0	55	55	3.0	100.0	2.0	100.0	6.2	8.7	1.1	-	-	3.6	2.8	47	47	100.0	0.0
VI	RENAL TUMOURS	7	84	32	6	4	129	133	7.0	100.0	4.9	100.0	6.2	17.9	5.1	0.9	0.6	7.9	6.3	108	111	95.5	0.0
	a. Nephroblastoma	7	81	30	4	1	122	123	6.7	94.6	4.5	92.5	6.2	17.2	4.8	0.6	0.1	7.6	5.9	102	103	97.6	0.0
	b. Renal carcinoma	0	0	0	2	3	2	5	0.1	1.6	0.2	3.8	-	-	-	0.3	0.4	0.1	0.2	1	4	100.0	0.0
	c. Unspecified	0	3	2	0	0	5	5	0.3	3.9	0.2	3.8	-	0.6	0.3	-	-	0.3	0.2	4	4	40.0	0.0
VII	HEPATIC TUMOURS	1	8	5	10	3	24	27	1.3	100.0	1.0	100.0	0.9	1.7	0.8	1.5	0.4	1.3	1.1	19	21	88.9	0.0
	a. Hepatoblastoma	0	8	4	1	0	13	13	0.7	54.2	0.5	48.1	-	1.7	0.6	0.1	-	0.8	0.6	11	11	100.0	0.0
	b. Hepatic carcinoma	0	0	0	8	3	8	11	0.4	33.3	0.4	40.7	-	-	-	1.2	0.4	0.3	0.4	6	8	100.0	0.0
	c. Unspecified	1	0	1	1	0	3	3	0.2	12.5	0.1	11.1	0.9	-	0.2	0.1	-	0.2	0.1	2	2	0.0	0.0
VIII	BONE TUMOURS	0	5	32	87	97	124	221	6.8	100.0	8.1	100.0	-	1.1	5.1	12.8	13.9	5.7	7.5	94	163	100.0	0.0
	a. Osteosarcoma	0	0	13	47	47	60	107	3.3	48.4	3.9	48.4	-	-	2.1	6.9	6.7	2.7	3.6	45	79	100.0	0.0
	b. Chondrosarcoma	0	0	0	2	5	2	7	0.1	1.6	0.3	3.2	-	-	-	0.3	0.7	0.1	0.2	1	5	100.0	0.0
	c. Ewing & related	0	5	19	35	42	59	101	3.2	47.6	3.7	45.7	-	1.1	3.0	5.1	6.0	2.8	3.5	45	75	100.0	0.0
	d. Other specified	0	0	0	3	2	3	5	0.2	2.4	0.2	2.3	-	-	-	0.4	0.3	0.1	0.2	2	4	100.0	0.0
	e. Unspecified	0	0	0	0	1	0	1	-	-	0.0	0.5	-	-	-	-	0.1	-	0.0	-	1	100.0	0.0
IX	SOFT TISSUE SARCOMA	4	33	18	36	73	91	164	5.0	100.0	6.0	100.0	3.6	7.0	2.9	5.3	10.5	4.9	6.2	73	125	100.0	0.0
	a. Rhabdomyosarcoma	4	28	11	13	20	56	76	3.1	61.5	2.8	46.3	3.6	6.0	1.8	1.9	2.9	3.2	3.2	46	60	100.0	0.0
	b. Fibrosarcoma	0	0	0	4	15	4	19	0.2	4.4	0.7	11.6	-	-	-	0.6	2.2	0.2	0.6	3	14	100.0	0.0
	c. Kaposi sarcoma	0	0	1	1	1	2	3	0.1	2.2	0.1	1.8	-	-	0.2	0.1	0.1	0.1	0.1	2	2	100.0	0.0
	d. Other specified	0	4	6	12	30	22	52	1.2	24.2	1.9	31.7	-	0.9	1.0	1.8	4.3	1.1	1.8	17	39	100.0	0.0
	e. Unspecified	0	1	0	6	7	7	14	0.4	7.7	0.5	8.5	-	0.2	-	0.9	1.0	0.3	0.5	5	10	100.0	0.0
X	GERM CELL TUMOURS	4	6	4	18	36	32	68	1.7	100.0	2.5	100.0	3.6	1.3	0.6	2.6	5.2	1.6	2.4	25	51	97.1	0.0
	a. CNS germ cell	0	0	1	1	1	2	3	0.1	6.3	0.1	4.4	-	-	0.2	0.1	0.1	0.1	0.1	2	2	100.0	0.0
	b. Other extragonadal	2	3	0	0	5	5	10	0.3	15.6	0.4	14.7	1.8	0.6	-	-	0.7	0.3	0.4	4	8	100.0	0.0
	c. Gonadal germ cell	2	2	2	15	24	21	45	1.1	65.6	1.7	66.2	1.8	0.4	0.3	2.2	3.4	1.0	1.6	16	33	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	3	0	3	-	-	0.1	4.4	-	-	-	-	0.4	-	0.1	-	2	100.0	0.0
	e. Unspecified gonadal	0	1	1	2	3	4	7	0.2	12.5	0.3	10.3	-	0.2	0.2	0.3	0.4	0.2	0.3	3	5	71.4	0.0
XI	CARCINOMA & MELANOMA	0	5	26	96	207	127	334	6.9	100.0	12.3	100.0	-	1.1	4.1	14.1	29.7	5.8	11.1	95	244	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	1	3	15	47	19	66	1.0	15.0	2.4	19.8	-	0.2	0.5	2.2	6.7	0.9	2.2	14	48	100.0	0.0
	c. Nasopharyngeal	0	0	4	50	86	54	140	3.0	42.5	5.2	41.9	-	-	0.6	7.3	12.3	2.3	4.6	40	102	100.0	0.0
	d. Melanoma	0	0	0	6	3	6	9	0.3	4.7	0.3	2.7	-	-	-	0.9	0.4	0.3	0.3	4	7	100.0	0.0
	e. Skin carcinoma	0	4	13	16	23	33	56	1.8	26.0	2.1	16.8	-	0.9	2.1	2.3	3.3	1.6	2.0	26	42	100.0	0.0
	f. Other & unspecified	0	0	6	9	48	15	63	0.8	11.8	2.3	18.9	-	-	1.0	1.3	6.9	0.7	2.1	11	46	100.0	0.0
XII	OTHER & UNSPECIFIED	4	15	5	14	11	38	49	2.1	100.0	1.8	100.0	3.6	3.2	0.8	2.1	1.6	2.1	2.0	31	38	44.9	0.0
	a. Other specified	0	2	0	1	2	3	5	0.2	7.9	0.2	10.2	-	0.4	-	0.1	0.3	0.2	0.2	2	4	100.0	0.0
	b. Other unspecified	4	13	5	13	9	35	44	1.9	92.1	1.6	89.8	3.6	2.8	0.8	1.9	1.3	1.9	1.8	28	35	38.6	0.0
	TOTAL	53	571	569	637	882	1830	2712	100.0	100.0	100.0	100.0	47.2	121.5	90.6	93.4	126.6	97.8	104.3	1456	2089	97.3	0.0

† includes 34 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Uganda

Kyadondo, Kampala Cancer Registry, 1996–2013

Henry R. Wabinga, Srah Nambooze, Phoebe Mary Amulen, Phiona Bukirwa

Kyadondo County is covered by the Kampala Cancer Registry (KCR), which was established in 1954 (Table A.10). The KCR is located in the Department of Pathology in the School of Biomedical Sciences at Makerere University College of Health Sciences. The county includes Kampala, the capital of Uganda. The population of Kyadondo County is quite young; people younger than 20 years make up 46% (Table A.6). About 80% of the population is urban and semi-urban and 20% is rural. The population is largely of African descent; it is composed mainly of the Ganda ethnic group, and other ethnic groups of Uganda are also well represented. The main activities include trade, administration, and plant and machine operation. The main staple foods are steamed green bananas (plantains), maize, bread, and beans. Alcohol consumption is high. The Uganda AIDS Indicator Survey in 2011 showed a prevalence of HIV infection of 6.7%; 7.7% of women and 5.6% of men were HIV-positive.

The KCR collects cancer data by both active and passive methods from several health units scattered throughout Kyadondo County. The registry employs two registrars and assistant data collectors in these health centres. The data collected by the KCR include demographic and basic cancer information. Since 1989 the registry is computerized and uses CanReg, provided by IARC, which has user-specific passwords that enable only the cancer registrars to access personal identifiers. This program enables data checking for duplicates and inconsistencies.

The KCR provides the longest continuous time series of cancer incidence in Africa. Therefore, these data are of special value in cancer surveillance and research, and they enable monitoring of the effects of the HIV/AIDS epidemic to serve as the baseline for analytical and intervention studies.

POPULATION AT RISK

Intercensal figures are provided by the Uganda Statistical Service and are based on the 2002 census (Table A.7). Data were provided by sex and 5-year age group for each calendar year of the reporting period. The decimal figures provided for some sex and age categories were rounded to the nearest integer, and the data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The KCR participated in IICC-1 and IICC-2 (Table A.1). Mulago Hospital is a national referral centre, and it is not clear whether all patients from other areas have been adequately excluded. This may account for the relatively high observed incidence rates (Table A.9). The MV% was the lowest among African cancer registries (67%), and it was low for most diagnostic groups. This may be explained by inadequate diagnostic facilities, the high proportion of clinically diagnosed cases, and the high proportion of unspecified cases (Table A.9). Because of incomplete date of birth for more than 90% of cases, age may be misclassified; the provided age was inconsistent with the dates of birth and incidence in 4% of all cases (Table A.8). The low rates in infants may reflect the imprecise age to some extent, but also late diagnosis (Table A.9). Also notable is a low rate of CNS tumours, based on registration of malignant tumours only. Skin carcinomas are reportable, but laterality is not recorded.

UGANDA, Kyadondo (1996-2013)

	Age group (years)	Males	Females
Person-years	0	520 521	532 420
	1-4	1 917 738	1 953 192
	5-9	2 072 669	2 210 926
	10-14	1 916 012	2 317 478
	15-19	1 890 664	2 604 300
	0-14	6 426 940	7 014 016
	0-19	8 317 604	9 618 316
Average annual population	0-14	357 052	389 668
	0-19	462 089	534 351

Please consult the quality indicators for this registry

UGANDA, Kyadondo (1996-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	2	29	57	53	40	141	181	7.5	100.0	7.3	100.0	1.9	7.5	13.3	12.5	8.9	10.4	10.0	161	205	59.7	6.1
	a. Lymphoid	0	14	32	26	11	72	83	3.8	51.1	3.3	45.9	-	3.6	7.5	6.1	2.4	5.3	4.7	82	95	69.9	2.4
	b. Acute myeloid	0	1	8	3	4	12	16	0.6	8.5	0.6	8.8	-	0.3	1.9	0.7	0.9	0.9	0.9	14	18	68.8	6.3
	c. CMD	0	3	3	1	8	7	15	0.4	5.0	0.6	8.3	-	0.8	0.7	0.2	1.8	0.5	0.8	8	17	53.3	6.7
	d. MDS & other	0	1	0	0	0	1	1	0.1	0.7	0.0	0.6	-	0.3	-	-	-	0.1	0.1	1	1	0.0	0.0
	e. Unspecified	2	10	14	23	17	49	66	2.6	34.8	2.6	36.5	1.9	2.6	3.3	5.4	3.8	3.6	3.6	56	75	47.0	10.6
II	LYMPHOMA & RELATED	12	139	342	195	105	688	793	36.7	100.0	31.8	100.0	11.4	35.9	79.8	46.1	23.4	51.0	44.8	783	900	72.0	1.8
	a. Hodgkin	0	16	25	27	23	68	91	3.6	9.9	3.6	11.5	-	4.1	5.8	6.4	5.1	5.0	5.0	77	103	86.8	0.0
	b. Non-Hodgkin except BL	4	23	65	49	34	141	175	7.5	20.5	7.0	22.1	3.8	5.9	15.2	11.6	7.6	10.4	9.7	161	199	92.0	0.6
	c. Burkitt (BL)	1	82	201	75	17	359	376	19.1	52.2	15.1	47.4	0.9	21.2	46.9	17.7	3.8	26.8	21.6	407	426	73.9	2.7
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	7	18	51	44	31	120	151	6.4	17.4	6.1	19.0	6.6	4.7	11.9	10.4	6.9	8.8	8.4	137	171	35.1	2.0
III	CNS NEOPLASMS	0	15	17	14	10	46	56	2.5	100.0	2.2	100.0	-	3.9	4.0	3.3	2.2	3.4	3.2	52	63	28.6	3.6
	a. Ependymoma	0	1	1	0	0	2	2	0.1	4.3	0.1	3.6	-	0.3	0.2	-	-	0.2	0.1	2	2	100.0	0.0
	b. Astrocytoma	0	0	3	3	2	6	8	0.3	13.0	0.3	14.3	-	-	0.7	0.7	0.4	0.4	0.4	7	9	100.0	0.0
	c. CNS embryonal	0	3	1	0	0	4	4	0.2	8.7	0.2	7.1	-	0.8	0.2	-	-	0.3	0.2	4	4	100.0	0.0
	d. Other gliomas	0	0	2	0	0	2	2	0.1	4.3	0.1	3.6	-	-	0.5	-	-	0.2	0.1	2	2	0.0	0.0
	e. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Unspecified CNS	0	11	10	11	8	32	40	1.7	69.6	1.6	71.4	-	2.8	2.3	2.6	1.8	2.4	2.2	36	45	5.0	5.0
IV	NEUROBLASTOMA	0	6	4	1	0	11	11	0.6	100.0	0.4	100.0	-	1.6	0.9	0.2	-	0.8	0.7	12	12	72.7	0.0
	a. (Ganglio)neuroblastoma	0	6	3	1	0	10	10	0.5	90.9	0.4	90.9	-	1.6	0.7	0.2	-	0.8	0.6	11	11	70.0	0.0
	b. Peripheral nervous	0	0	1	0	0	1	1	0.1	9.1	0.0	9.1	-	-	0.2	-	-	0.1	0.1	1	1	100.0	0.0
V	RETINOBLASTOMA	5	65	10	2	0	82	82	4.4	100.0	3.3	100.0	4.7	16.8	2.3	0.5	-	6.4	5.0	85	85	73.2	0.0
VI	RENAL TUMOURS	11	92	30	10	10	143	153	7.6	100.0	6.1	100.0	10.4	23.8	7.0	2.4	2.2	11.0	9.1	151	163	82.4	0.7
	a. Nephroblastoma	9	89	28	10	1	136	137	7.2	95.1	5.5	89.5	8.5	23.0	6.5	2.4	0.2	10.5	8.2	144	145	87.6	0.7
	b. Renal carcinoma	0	0	0	0	7	0	7	-	-	0.3	4.6	-	-	-	-	1.6	-	0.4	-	8	85.7	0.0
	c. Unspecified	2	3	2	0	2	7	9	0.4	4.9	0.4	5.9	1.9	0.8	0.5	-	0.4	0.5	0.5	7	10	0.0	0.0
VII	HEPATIC TUMOURS	0	5	3	9	20	17	37	0.9	100.0	1.5	100.0	-	1.3	0.7	2.1	4.4	1.2	2.0	19	41	54.1	2.7
	a. Hepatoblastoma	0	1	3	0	0	4	4	0.2	23.5	0.2	10.8	-	0.3	0.7	-	-	0.3	0.2	5	5	100.0	0.0
	b. Hepatic carcinoma	0	3	0	5	13	8	21	0.4	47.1	0.8	56.8	-	0.8	-	1.2	2.9	0.6	1.1	9	23	76.2	0.0
	c. Unspecified	0	1	0	4	7	5	12	0.3	29.4	0.5	32.4	-	0.3	-	0.9	1.6	0.4	0.6	6	14	0.0	8.3
VIII	BONE TUMOURS	0	6	17	46	60	69	129	3.7	100.0	5.2	100.0	-	1.6	4.0	10.9	13.3	4.9	6.8	80	147	59.7	0.8
	a. Osteosarcoma	0	0	10	27	36	37	73	2.0	53.6	2.9	56.6	-	-	2.3	6.4	8.0	2.6	3.8	44	84	84.9	1.4
	b. Chondrosarcoma	0	0	0	0	1	0	1	-	-	0.0	0.8	-	-	-	-	0.2	-	0.1	-	1	100.0	0.0
	c. Ewing & related	0	2	0	1	0	3	3	0.2	4.3	0.1	2.3	-	0.5	-	0.2	-	0.2	0.2	3	3	100.0	0.0
	d. Other specified	0	1	1	4	4	6	10	0.3	8.7	0.4	7.8	-	0.3	0.2	0.9	0.9	0.4	0.5	7	11	100.0	0.0
	e. Unspecified	0	3	6	14	19	23	42	1.2	33.3	1.7	32.6	-	0.8	1.4	3.3	4.2	1.6	2.2	27	48	2.4	0.0
IX	SOFT TISSUE SARCOMA	13	127	174	176	203	490	693	26.1	100.0	27.8	100.0	12.3	32.8	40.6	41.6	45.2	36.2	38.2	553	779	77.1	1.4
	a. Rhabdomyosarcoma	3	25	22	16	24	66	90	3.5	13.5	3.6	13.0	2.8	6.5	5.1	3.8	5.3	5.0	5.0	73	100	84.4	0.0
	b. Fibrosarcoma	3	2	2	4	15	11	26	0.6	2.2	1.0	3.8	2.8	0.5	0.5	0.9	3.3	0.8	1.4	12	29	88.5	0.0
	c. Kaposi sarcoma	7	96	138	144	144	385	529	20.5	78.6	21.2	76.3	6.6	24.8	32.2	34.0	32.0	28.4	29.2	436	596	77.3	1.9
	d. Other specified	0	0	9	3	8	12	20	0.6	2.4	0.8	2.9	-	-	2.1	0.7	1.8	0.9	1.1	14	23	100.0	0.0
	e. Unspecified	0	4	3	9	12	16	28	0.9	3.3	1.1	4.0	-	1.0	0.7	2.1	2.7	1.2	1.5	18	32	21.4	0.0
X	GERM CELL TUMOURS	1	5	3	13	34	22	56	1.2	100.0	2.2	100.0	0.9	1.3	0.7	3.1	7.6	1.6	2.9	25	63	62.5	0.0
	a. CNS germ cell	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other extragonadal	1	1	0	2	11	4	15	0.2	18.2	0.6	26.8	0.9	0.3	-	0.5	2.4	0.3	0.8	4	17	93.3	0.0
	c. Gonadal germ cell	0	1	1	6	6	8	14	0.4	36.4	0.6	25.0	-	0.3	0.2	1.4	1.3	0.6	0.7	9	16	92.9	0.0
	d. Gonadal carcinoma	0	0	1	1	4	2	6	0.1	9.1	0.2	10.7	-	-	0.2	0.2	0.9	0.1	0.3	2	7	100.0	0.0
	e. Unspecified gonadal	0	3	1	4	13	8	21	0.4	36.4	0.8	37.5	-	0.8	0.2	0.9	2.9	0.6	1.1	9	23	9.5	0.0
XI	CARCINOMA & MELANOMA	0	8	13	27	68	48	116	2.6	100.0	4.7	100.0	-	2.1	3.0	6.4	15.1	3.5	6.1	55	131	97.4	0.9
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	0	2	2	2	4	0.1	4.2	0.2	3.4	-	-	-	0.5	0.4	0.1	0.2	2	5	100.0	0.0
	c. Nasopharyngeal	0	3	0	11	18	14	32	0.7	29.2	1.3	27.6	-	0.8	-	2.6	4.0	1.0	1.7	16	36	96.9	3.1
	d. Melanoma	0	0	3	1	3	4	7	0.2	8.3	0.3	6.0	-	-	0.7	0.2	0.7	0.3	0.4	5	8	71.4	0.0
	e. Skin carcinoma	0	0	2	2	5	4	9	0.2	8.3	0.4	7.8	-	-	0.5	0.5	1.1	0.3	0.5	5	10	100.0	0.0
	f. Other & unspecified	0	5	8	11	40	24	64	1.3	50.0	2.6	55.2	-	1.3	1.9	2.6	8.9	1.7	3.4	27	72	100.0	0.0
XII	OTHER & UNSPECIFIED	4	43	37	36	67	120	187	6.4	100.0	7.5	100.0	3.8	11.1	8.6	8.5	14.9	9.0	10.3	133	208	6.4	1.1
	a. Other specified	0	0	0	0	1	0	1	-	-	0.0	0.5	-	-	-	-	0.2	-	0.1	-	1	100.0	0.0
	b. Other unspecified	4	43	37	36	66	120	186	6.4	100.0	7.5	99.5	3.8	11.1	8.6	8.5	14.7	9.0	10.2	133	207	5.9	1.1
	TOTAL	48	540	707	582	617	1877	2494	100.0	100.0	100.0	100.0	45.6	139.5	165.0	137.5	137.3	139.4	138.9	2110	2796	67.4	1.7

Please consult the quality indicators for this registry

Zimbabwe

Harare, Zimbabwe National Cancer Registry, 1995–2013

Margaret Z. Borok, Eric Chokunonga, Inam Chitsike, Rudo Makunike-Mutasa, Z. Michael Chirenje, Anna Mary Nyakabau

The Zimbabwe National Cancer Registry was established in 1985 as a result of a collaborative research agreement between the Ministry of Health and Child Care (MHCC) and IARC. It is strategically located in the Parirenyatwa Group of Hospitals complex, a large government tertiary referral centre, which provides most of the cancer management services for the northern part of the country and is one of the two teaching hospitals of the University of Zimbabwe College of Health Sciences.

The registry covered the entire Harare Province during 1990–2002 (Table A.10), after which the district of Epworth became an independent local authority and ceased being part of the registration area. In 2010 the registry covered 1.4 million people, and 44% of the population was younger than 20 years (Table A.6). The severe economic challenges in Zimbabwe in 2007 had a negative impact on cancer registration activities, resulting in a lower reported incidence rate.

The activities of the registry are overseen by a constituted multidisciplinary advisory committee, and day-to-day administration is the responsibility of the registrar under the guidance of the medical director. The registry has four full-time staff: the registrar, a secretary, and two data collection officers. The registry is supported by the MHCC, the African Cancer Registry Network, IARC, and other organizations.

The Zimbabwe National Cancer Registry uses a combination of active and passive methods of case finding, and the registry staff visit institutions in the health-care delivery system that are involved in the management of patients with cancer. Regular routine visits are made to the inpatient wards, oncology outpatient clinics, and medical records departments of the three government referral hospitals (Parirenyatwa Group of Hospitals, Harare Central Hospital, and Chitungwiza Central Hospital), three major private hospitals, and the two municipal infectious diseases hospitals in Harare. The main referral centre for children with cancer is the paediatric oncology unit at Parirenyatwa Group of Hospitals, which provides imaging and laboratory services, including cytometry, for children with leukaemia. Other important data sources are public and private pathology laboratories, the radiotherapy centre, the radiology and haematology departments at Parirenyatwa Group of Hospitals, and the Harare Death Registry. Death certificates of people who die in greater Harare and the dormitory town of Chitungwiza are scrutinized weekly to record those who have died of malignant disease.

All notifications received by the registry are thoroughly verified to ensure that only incident cases are recorded. The data are coded according to ICD-O-3 (Table A.10) and stored electronically using CanReg, provided by IARC. The registry exchanges data with the Bulawayo Cancer Registry and plans to arrange to exchange data with neighbouring countries to limit the effect of patient migration for cancer treatment on cancer incidence data. Data from the registry are extensively used by the MHCC for management planning and cancer control programmes.

POPULATION AT RISK

During the reporting period, population censuses were conducted in 1992, 2002, and 2012 (Table A.7). Population figures were generated by the Central Statistical Office and the Zimbabwe National Statistics Agency (https://www.zimstat.co.zw/). Data were provided by sex and 5-year age group for the urban Black population for each calendar year in 1990–2012. Data for 2013 were estimated using the growth rate provided by the registry, which was based on the annual population estimates for 2002–2012 for each sex–age category. The decimal numbers provided for some counts were rounded to the nearest integer, and the data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

Annual incidence rates decreased in 2003 and 2007; this can be explained by factors external to the registry (see above). The MV% was low (78%), and the proportion of unspecified tumours was high (17%), also among MV cases (Table A.9). Date of birth was unavailable (Table A.8); thus, age may be misclassified. This may partly explain the comparatively lower rates in the age groups 0 years and 15–19 years. The sex ratio was high in adolescents (Table A.9). Non-malignant CNS tumours are not routinely registered, but several cases were recorded. Pilocytic astrocytoma was coded mostly with uncertain behaviour, except for one malignant case. Laterality was not provided. Skin carcinomas were reportable.

ZIMBABWE, Harare, African (1995-2013)

	Age group (years)	Males	Females
Person-years	0	353 387	370 695
	1-4	1 392 616	1 429 179
	5-9	1 302 915	1 368 755
	10-14	1 128 864	1 233 518
	15-19	1 310 379	1 646 261
	0-14	4 177 782	4 402 147
	0-19	5 488 161	6 048 408
Average annual population	0-14	219 883	231 692
	0-19	288 851	318 337

Please consult the quality indicators for this registry

ZIMBABWE, Harare, African (1995-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	4	48	45	46	36	143	179	13.2	100.0	12.3	100.0	5.5	17.0	16.8	19.5	12.2	16.8	15.7	255	316	98.3	1.7
	a. Lymphoid	1	19	26	27	7	73	80	6.7	51.0	5.5	44.7	1.4	6.7	9.7	11.4	2.4	8.6	7.2	134	146	100.0	0.0
	b. Acute myeloid	1	17	11	10	17	39	56	3.6	27.3	3.9	31.3	1.4	6.0	4.1	4.2	5.7	4.5	4.8	67	96	98.2	1.8
	c. CMD	0	0	0	5	0	5	5	0.5	3.5	0.3	2.8	-	-	-	2.1	-	0.6	0.5	11	11	100.0	0.0
	d. MDS & other	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	2	12	8	4	12	26	38	2.4	18.2	2.6	21.2	2.8	4.3	3.0	1.7	4.1	3.0	3.2	43	63	94.7	5.3
II	LYMPHOMA & RELATED	3	34	60	59	62	156	218	14.4	100.0	15.0	100.0	4.1	12.0	22.5	25.0	21.0	18.5	19.1	289	394	93.1	3.7
	a. Hodgkin	0	4	17	13	15	34	49	3.1	21.8	3.4	22.5	-	1.4	6.4	5.5	5.1	4.1	4.3	65	90	98.0	2.0
	b. Non-Hodgkin except BL	2	20	33	37	41	92	133	8.5	59.0	9.1	61.0	2.8	7.1	12.4	15.7	13.9	10.9	11.6	171	240	92.5	4.5
	c. Burkitt (BL)	0	5	9	3	1	17	18	1.6	10.9	1.2	8.3	-	1.8	3.4	1.3	0.3	2.0	1.6	30	32	100.0	0.0
	d. Lymphoreticular	0	0	0	2	0	2	2	0.2	1.3	0.1	0.9	-	-	-	0.8	-	0.2	0.2	4	4	100.0	0.0
	e. Unspecified	1	5	1	4	5	11	16	1.0	7.1	1.1	7.3	1.4	1.8	0.4	1.7	1.7	1.3	1.4	19	27	75.0	6.3
III	CNS NEOPLASMS †	5	25	41	38	24	109	133	10.1	100.0	9.1	100.0	6.9	8.9	15.3	16.1	8.1	12.9	11.8	199	240	48.1	15.0
	a. Ependymoma	0	0	1	3	0	4	4	0.4	3.7	0.3	3.0	-	-	0.4	1.3	-	0.5	0.4	8	8	100.0	0.0
	b. Astrocytoma	2	3	9	9	6	23	29	2.1	21.1	2.0	21.8	2.8	1.1	3.4	3.8	2.0	2.7	2.6	43	53	100.0	0.0
	c. CNS embryonal	0	7	5	3	1	15	16	1.4	13.8	1.1	12.0	-	2.5	1.9	1.3	0.3	1.7	1.4	26	27	100.0	0.0
	d. Other gliomas	0	3	2	2	2	7	9	0.6	6.4	0.6	6.8	-	1.1	0.7	0.8	0.7	0.8	0.8	12	16	88.9	0.0
	e. Other specified	0	1	1	2	0	4	4	0.4	3.7	0.3	3.0	-	0.4	0.4	0.8	-	0.5	0.4	8	8	75.0	0.0
	f. Unspecified CNS	3	11	23	19	15	56	71	5.2	51.4	4.9	53.4	4.1	3.9	8.6	8.0	5.1	6.6	6.3	103	128	5.6	28.2
IV	NEUROBLASTOMA	2	10	4	3	2	19	21	1.8	100.0	1.4	100.0	2.8	3.5	1.5	1.3	0.7	2.2	1.8	31	34	90.5	9.5
	a. (Ganglio)neuroblastoma	2	10	4	3	0	19	19	1.8	100.0	1.3	90.5	2.8	3.5	1.5	1.3	-	2.2	1.7	31	31	89.5	10.5
	b. Peripheral nervous	0	0	0	0	2	0	2	-	-	0.1	9.5	-	-	-	-	0.7	-	0.2	-	3	100.0	0.0
V	RETINOBLASTOMA	8	68	11	0	0	87	87	8.0	100.0	6.0	100.0	11.0	24.1	4.1	-	-	9.6	7.5	128	128	96.6	0.0
VI	RENAL TUMOURS	14	76	34	8	6	132	138	12.2	100.0	9.5	100.0	19.3	26.9	12.7	3.4	2.0	14.9	12.0	207	218	94.9	1.4
	a. Nephroblastoma	14	75	34	8	4	131	135	12.1	99.2	9.3	97.8	19.3	26.6	12.7	3.4	1.4	14.8	11.8	206	213	95.6	1.5
	b. Renal carcinoma	0	0	0	0	1	0	1	-	-	0.1	0.7	-	-	-	-	0.3	-	0.1	-	2	100.0	0.0
	c. Unspecified	0	1	0	0	1	1	2	0.1	0.8	0.1	1.4	-	0.4	-	-	0.3	0.1	0.2	1	3	50.0	0.0
VII	HEPATIC TUMOURS	3	5	5	10	14	23	37	2.1	100.0	2.5	100.0	4.1	1.8	1.9	4.2	4.7	2.7	3.2	42	65	40.5	10.8
	a. Hepatoblastoma	3	3	2	0	0	8	8	0.7	34.8	0.6	21.6	4.1	1.1	0.7	-	-	0.9	0.7	12	12	100.0	0.0
	b. Hepatic carcinoma	0	2	2	9	14	13	27	1.2	56.5	1.9	73.0	-	0.7	0.7	3.8	4.7	1.6	2.3	26	49	25.9	11.1
	c. Unspecified	0	0	1	1	0	2	2	0.2	8.7	0.1	5.4	-	-	0.4	0.4	-	0.2	0.2	4	4	0.0	50.0
VIII	BONE TUMOURS	1	7	9	33	44	50	94	4.6	100.0	6.5	100.0	1.4	2.5	3.4	14.0	14.9	6.0	8.0	98	172	86.2	0.0
	a. Osteosarcoma	0	3	4	21	21	28	49	2.6	56.0	3.4	52.1	-	1.1	1.5	8.9	7.1	3.4	4.2	56	92	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	6	1	7	0.1	2.0	0.5	7.4	-	-	-	0.4	2.0	0.1	0.6	2	12	100.0	0.0
	c. Ewing & related	0	2	1	1	1	4	5	0.4	8.0	0.3	5.3	-	0.7	0.4	0.4	0.3	0.5	0.4	7	8	100.0	0.0
	d. Other specified	0	1	1	5	12	7	19	0.6	14.0	1.3	20.2	-	0.4	0.4	2.1	4.1	0.8	1.6	14	34	100.0	0.0
	e. Unspecified	1	1	3	5	4	10	14	0.9	20.0	1.0	14.9	1.4	0.4	1.1	2.1	1.4	1.2	1.2	19	26	7.1	0.0
IX	SOFT TISSUE SARCOMA	13	74	104	73	96	264	360	24.4	100.0	24.8	100.0	18.0	26.2	38.9	30.9	32.5	31.0	31.4	472	634	69.4	5.3
	a. Rhabdomyosarcoma	3	22	16	13	8	54	62	5.0	20.5	4.3	17.2	4.1	7.8	6.0	5.5	2.7	6.3	5.5	93	106	100.0	0.0
	b. Fibrosarcoma	3	1	0	4	5	8	13	0.7	3.0	0.9	3.6	4.1	0.4	-	1.7	1.7	0.9	1.1	14	23	100.0	0.0
	c. Kaposi sarcoma	5	46	77	45	65	173	238	16.0	65.5	16.4	66.1	6.9	16.3	28.8	19.0	22.0	20.4	20.8	311	421	54.6	7.6
	d. Other specified	0	4	8	8	14	20	34	1.8	7.6	2.3	9.4	-	1.4	3.0	3.4	4.7	2.4	2.9	38	61	100.0	0.0
	e. Unspecified	2	1	3	3	4	9	13	0.8	3.4	0.9	3.6	2.8	0.4	1.1	1.3	1.4	1.1	1.1	16	23	84.6	7.7
X	GERM CELL TUMOURS	3	7	2	5	21	17	38	1.6	100.0	2.6	100.0	4.1	2.5	0.7	2.1	7.1	1.9	3.1	28	64	73.7	2.6
	a. CNS germ cell	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other extragonadal	3	7	0	0	4	10	14	0.9	58.8	1.0	36.8	4.1	2.5	-	-	1.4	1.1	1.2	14	21	92.9	0.0
	c. Gonadal germ cell	0	0	2	2	8	4	12	0.4	23.5	0.8	31.6	-	-	0.7	0.8	2.7	0.5	1.0	8	22	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	2	0	2	-	-	0.1	5.3	-	-	-	-	0.7	-	0.2	-	3	100.0	0.0
	e. Unspecified gonadal	0	0	0	3	7	3	10	0.3	17.6	0.7	26.3	-	-	-	1.3	2.4	0.4	0.8	6	18	10.0	10.0
XI	CARCINOMA & MELANOMA	0	9	12	23	28	44	72	4.1	100.0	5.0	100.0	-	3.2	4.5	9.7	9.5	5.3	6.2	84	131	97.2	1.4
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Nasopharyngeal	0	0	1	4	5	5	10	0.5	11.4	0.7	13.9	-	-	0.4	1.7	1.7	0.6	0.9	10	19	90.0	0.0
	d. Melanoma	0	1	0	0	2	1	3	0.1	2.3	0.2	4.2	-	0.4	-	-	0.7	0.1	0.2	1	5	100.0	0.0
	e. Skin carcinoma	0	2	4	5	6	11	17	1.0	25.0	1.2	23.6	-	0.7	1.5	2.1	2.0	1.3	1.5	21	31	100.0	0.0
	f. Other & unspecified	0	6	7	14	15	27	42	2.5	61.4	2.9	58.3	-	2.1	2.6	5.9	5.1	3.2	3.6	51	77	97.6	2.4
XII	OTHER & UNSPECIFIED	5	8	10	15	39	38	77	3.5	100.0	5.3	100.0	6.9	2.8	3.7	6.3	13.2	4.5	6.4	69	135	9.1	24.7
	a. Other specified	0	0	0	0	2	0	2	-	-	0.1	2.6	-	-	-	-	0.7	-	0.2	-	3	100.0	0.0
	b. Other unspecified	5	8	10	15	37	38	75	3.5	100.0	5.2	97.4	6.9	2.8	3.7	6.3	12.5	4.5	6.3	69	131	6.7	25.3
	TOTAL	61	371	337	313	372	1082	1454	100.0	100.0	100.0	100.0	84.2	131.5	126.1	132.5	125.8	126.3	126.2	1902	2531	77.6	5.4

† includes 8 non-malignant

Please consult the quality indicators for this registry

AMERICA, LATIN AND THE CARIBBEAN

Argentina

Argentina is located in the southern region of South America and covers an area of 2 766 890 km². It is rich in natural resources and is geographically diverse, with both mountains and plains. The climate is subtropical in the north and polar in the far south. Argentina is a federal country, which is divided into 23 provinces grouped in five regions that are socioeconomically and culturally diverse. The Autonomous City of Buenos Aires is the capital.

In 2010, the population was 41.2 million, and 34% of the population was younger than 20 years (Table A.6). The population is highly urbanized. Most people (85%) are of European descent (mainly Spanish and Italian), and 2% are Indigenous peoples. Spanish is the official language. Argentina is an upper-middle-income country, but income is disproportionately distributed. The literacy rate is high. Agricultural goods are the leading exports, and the industrial sector is diversified.

The current universal health-care system in Argentina guarantees medical care to all citizens free of charge and is available throughout the country. The public system is highly decentralized, and most of the care is provided through a network of hospitals that are overseen by provincial offices and supervised by the Ministry of Health. This organization ensures that minimum standards of care are met and that access to treatment is possible for all through the different health insurance and social assistance programmes available.

However, there are inequalities in the density and quality of health care provided, and not everyone receives the same care. Argentina has a network of 31 public hospitals with paediatric oncology units that offer partial or complete treatment for children with cancer. Of these hospitals, 16 are provincial hospitals, which are capable of providing complete treatment. In addition, six small paediatric oncology units with a limited capacity for treatment are located in the provinces with high population density. However, almost 40% of children with cancer travel to receive some treatment in one of the five paediatric oncology units in Buenos Aires Province or one of the four paediatric oncology units in the capital city of Buenos Aires. Paediatric Hospital "Prof. Dr. Juan P. Garrahan", which is located in the city of Buenos Aires, has the largest paediatric oncology unit, which treats 500 oncology cases per year from all over the country and provides radiotherapy, magnetic resonance imaging (MRI), hepatic or bone marrow transplantation, and intensive care for immunocompromised patients. About 15% of patients are treated at private centres. Residence status is identified correctly by the cancer registries for almost all cases.

POPULATION AT RISK

The population data were provided by the National Institute of Statistics and Censuses (https://www.indec.gob.ar). Estimates are based on the 1991, 2001, and 2010 censuses, as relevant (Table A.7). The provincial registries obtained the population data from local official sources, as described below.

EDITORS' COMMENTS

The Argentinian Paediatric Oncology Registry (ROHA) covers the entire paediatric population (aged 0–14 years); these data are presented in a full table. Data from six registries are presented in a combined dataset. The Chaco, Córdoba, Entre Ríos, Mendoza, and Neuquén registries cover a total of 23 provinces, and one registry covers the municipality of Bahía Blanca in Buenos Aires Province. The registries routinely exchange data, thus avoiding duplication and ensuring completeness of all registries. ROHA also collects stage and treatment information from hospitals. The abbreviated table for the Bahía Blanca registry and the full tables for the constituent registries are available online (Table A.12).

The proportion of cases with unspecified histology was high in the general cancer registries, with the exception of the Neuquén registry. Several registries provided data with incomplete date of birth or incidence in a proportion of cases.

ARGENTINA, 6 registries (1991-2013)

Registry	Period	Cases	%	Person-years	%
Bahía Blanca	1991-2007	273	6.7	1 602 296	5.4
Chaco	2002-2012	618	15.2	4 837 482	16.4
Córdoba	2004-2012	1402	34.4	9 979 605	33.9
Entre Ríos	2001-2011	555	13.6	4 560 970	15.5
Mendoza	2003-2012	893	21.9	6 105 329	20.7
Neuquén	2003-2013	330	8.1	2 370 529	8.0
ARGENTINA	**1991-2013**	**4071**	**100.0**	**29 456 211**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Argentinian Paediatric Oncology Registry (ROHA), 2000–2013

Florencia Moreno, Ines Kumcher, Judith Goldman, Gloria Montoya, María Agustina Chaplin

The Argentinian Paediatric Oncology Registry (ROHA) is a national population-based cancer registry of children younger than 15 years. Data sources include public and private haematology and oncology units, regional cancer registries, and medical groups. ROHA collects demographic and disease data according to international standards as recommended by IARC; these data are coded according to ICD-O-3 and ICCC. Case status is updated at least once a year. To estimate the completeness of the registry, data are validated against the information on deaths provided by the National Institute of Statistics and Censuses and regional registries. ROHA participates in national and international epidemiological research projects.

PUBLICATIONS

Moreno F, Loria D, Abriata G, Terracini B; ROHA network (2013). Childhood cancer: incidence and early deaths in Argentina, 2000–2008. Eur J Cancer. 49(2):465–73. https://doi.org/10.1016/j.ejca.2012.08.001 PMID:22980725

Moreno F, Dussel V, Orellana L; ROHA network (2015). Childhood cancer in Argentina: survival 2000–2007. Cancer Epidemiol. 39(4):505–10. https://doi.org/10.1016/j.canep.2015.04.010 PMID:25998586

POPULATION AT RISK

Population data were provided by sex and single year of age for the age group 0–14 years for each calendar year for 2000–2010 and by 5-year age group for 2011–2013. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Argentina, above.

EDITORS' COMMENTS

Only cases in the age group 0–14 years were registered during the reporting period. Therefore, no data for the age groups 15–19 years and 0–19 years are included in the tables. Non-malignant CNS tumours were registered, but the proportion was relatively low (14%) (Table A.9). Pilocytic astrocytoma was coded with uncertain behaviour throughout the reporting period, and it was also coded with malignant behaviour in 2010–2013. Sex was unknown in 0.1% of all cases (Table A.8). All skin carcinomas were registered. Laterality was available for almost 70% of the cases of interest.

ARGENTINA, paediatric (2000-2013)

	Age group (years)	Males	Females
Person-years	0	5 016 064	4 804 897
	1-4	19 646 716	18 885 346
	5-9	24 513 871	23 629 966
	10-14	24 559 330	23 756 588
	0-14	73 735 981	71 076 797
Average annual population	0-14	5 266 856	5 076 914

Please consult the quality indicators for this registry

Bahía Blanca Cancer Registry, 1991–2007

Eduardo A. Laura, Cynthia Di Martini, Horacio Caferri, Matías Iván Schulz, Julia Inés Laura, Gastón Giambeluca, Nicolás Antonio Grassi, Ramiro Mendizábal, Iara Agustina Farías, Olga Soulages, Andrés Priotto, Hilda Fretín, Marta Caminos, Marcelo Patkan, Mónica Sayago

The city of Bahía Blanca is located in the south-west of Buenos Aires Province. It has a population of 0.3 million. The area is mainly urban, with large industries (especially petrochemical) and important ports. A proportion of the population lives in small rural villages.

The two public hospitals in the area provide oncology services. Surgery is provided through general surgical services. There are two private radiotherapy institutes, which also treat patients from public hospitals; one of them has a linear accelerator. Computed tomography (CT) is available in almost all of the larger public and private institutions, and one of them has a nuclear MRI facility.

The Bahía Blanca Cancer Registry has covered the city of Bahía Blanca since 1989. The registry was recognized by a provincial law and a municipal resolution in 1993. It is funded by the Argentine Association for Cancer Education and Prevention, a non-profit organization founded in 1986 to improve cancer control.

Data collection is mainly active. Principal data sources are public, private, and military hospitals, pathology and haematology laboratories, a flow cytometry laboratory, and radiotherapy institutes.

Data are stored in and managed using IARC/IACR CanReg software and are used for research and cancer control.

PUBLICATIONS

Laura E, Gonzalez MS, Principe N, Serralunga G, Yañez L, Lioncavallo P, et al. (2015). La mayor prevalencia del hábito tabáquico en Ingeniero White, puede explicar la tasa de incidencia aumentada de cáncer de pulmón. Bahía Blanca Medical Association Magazine. 25(2):55–9.

Laura EA, Serralunga G, Yañez L, Vacchino M, Príncipe N, Belén Prieto M, et al. (2017). Tendencias de la incidencia de cáncer en Bahia Blanca entre 1989 y 2007. Rev Med Rosario. 83:10–7.

POPULATION AT RISK

From censuses conducted in 1991 and 2001 for the municipality of Bahía Blanca, mid-year counts were

ARGENTINA, paediatric (2000-2013)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	384	2711	1954	1708	**6757**	37.4	100.0	39.1	70.4	40.6	35.4	**48.1**	700	100.0	0.0
	a. Lymphoid	209	2262	1594	1222	**5287**	29.3	78.2	21.3	58.7	33.1	25.3	**37.8**	548	100.0	0.0
	b. Acute myeloid	155	393	302	423	**1273**	7.0	18.8	15.8	10.2	6.3	8.8	**9.0**	132	100.0	0.0
	c. CMD	1	16	18	29	**64**	0.4	0.9	0.1	0.4	0.4	0.6	**0.4**	7	100.0	0.0
	d. MDS & other	8	14	11	11	**44**	0.2	0.7	0.8	0.4	0.2	0.2	**0.3**	5	100.0	0.0
	e. Unspecified	11	26	29	23	**89**	0.5	1.3	1.1	0.7	0.6	0.5	**0.6**	9	100.0	0.0
II	LYMPHOMA & RELATED	81	513	739	815	**2148**	11.9	100.0	8.2	13.3	15.3	16.9	**14.6**	223	99.9	0.1
	a. Hodgkin	5	132	339	429	**905**	5.0	42.1	0.5	3.4	7.0	8.9	**5.9**	94	100.0	0.0
	b. Non-Hodgkin except BL	11	121	231	253	**616**	3.4	28.7	1.1	3.1	4.8	5.2	**4.1**	64	99.7	0.3
	c. Burkitt (BL)	2	125	136	105	**368**	2.0	17.1	0.2	3.2	2.8	2.2	**2.6**	38	100.0	0.0
	d. Lymphoreticular	62	125	25	13	**225**	1.2	10.5	6.3	3.2	0.5	0.3	**1.7**	23	100.0	0.0
	e. Unspecified	1	10	8	15	**34**	0.2	1.6	0.1	0.3	0.2	0.3	**0.2**	4	100.0	0.0
III	CNS NEOPLASMS †	255	1049	1180	912	**3396**	18.8	100.0	26.0	27.2	24.5	18.9	**23.8**	352	81.2	8.8
	a. Ependymoma	40	181	109	68	**398**	2.2	11.7	4.1	4.7	2.3	1.4	**2.9**	41	100.0	0.0
	b. Astrocytoma	59	287	320	286	**952**	5.3	28.0	6.0	7.4	6.6	5.9	**6.6**	99	100.0	0.0
	c. CNS embryonal	50	271	310	158	**789**	4.4	23.2	5.1	7.0	6.4	3.3	**5.6**	82	100.0	0.0
	d. Other gliomas	8	47	59	67	**181**	1.0	5.3	0.8	1.2	1.2	1.4	**1.2**	19	100.0	0.0
	e. Other specified	20	60	118	136	**334**	1.8	9.8	2.0	1.6	2.5	2.8	**2.2**	35	100.0	0.0
	f. Unspecified CNS	78	203	264	197	**742**	4.1	21.8	7.9	5.3	5.5	4.1	**5.2**	77	14.2	40.2
IV	NEUROBLASTOMA	318	549	138	57	**1062**	5.9	100.0	32.4	14.2	2.9	1.2	**8.2**	110	99.9	0.0
	a. (Ganglio)neuroblastoma	317	541	129	48	**1035**	5.7	97.5	32.3	14.0	2.7	1.0	**8.0**	107	99.9	0.0
	b. Peripheral nervous	1	8	9	9	**27**	0.1	2.5	0.1	0.2	0.2	0.2	**0.2**	3	100.0	0.0
V	RETINOBLASTOMA	204	367	46	7	**624**	3.5	100.0	20.8	9.5	1.0	0.1	**4.9**	65	98.4	0.0
VI	RENAL TUMOURS	144	482	173	46	**845**	4.7	100.0	14.7	12.5	3.6	1.0	**6.4**	87	98.6	0.7
	a. Nephroblastoma	142	475	160	26	**803**	4.4	95.0	14.5	12.3	3.3	0.5	**6.2**	83	100.0	0.0
	b. Renal carcinoma	1	4	7	16	**28**	0.2	3.3	0.1	0.1	0.1	0.3	**0.2**	3	100.0	0.0
	c. Unspecified	1	3	6	4	**14**	0.1	1.7	0.1	0.1	0.1	0.1	**0.1**	1	14.3	42.9
VII	HEPATIC TUMOURS	75	110	29	44	**258**	1.4	100.0	7.6	2.9	0.6	0.9	**1.9**	27	97.7	0.8
	a. Hepatoblastoma	67	102	9	4	**182**	1.0	70.5	6.8	2.6	0.2	0.1	**1.4**	19	100.0	0.0
	b. Hepatic carcinoma	1	8	18	39	**66**	0.4	25.6	0.1	0.2	0.4	0.8	**0.4**	7	100.0	0.0
	c. Unspecified	7	0	2	1	**10**	0.1	3.9	0.7	-	0.0	0.0	**0.1**	1	40.0	20.0
VIII	BONE TUMOURS	7	57	247	566	**877**	4.9	100.0	0.7	1.5	5.1	11.7	**5.6**	91	97.7	1.8
	a. Osteosarcoma	1	14	134	368	**517**	2.9	59.0	0.1	0.4	2.8	7.6	**3.2**	54	100.0	0.0
	b. Chondrosarcoma	0	1	8	6	**15**	0.1	1.7	-	0.0	0.2	0.1	**0.1**	2	100.0	0.0
	c. Ewing & related	3	37	91	160	**291**	1.6	33.2	0.3	1.0	1.9	3.3	**1.9**	30	100.0	0.0
	d. Other specified	0	0	6	9	**15**	0.1	1.7	-	-	0.1	0.2	**0.1**	2	100.0	0.0
	e. Unspecified	3	5	8	23	**39**	0.2	4.4	0.3	0.1	0.2	0.5	**0.3**	4	48.7	41.0
IX	SOFT TISSUE SARCOMA	122	307	304	354	**1087**	6.0	100.0	12.4	8.0	6.3	7.3	**7.6**	113	100.0	0.0
	a. Rhabdomyosarcoma	54	204	166	108	**532**	2.9	48.9	5.5	5.3	3.4	2.2	**3.8**	55	100.0	0.0
	b. Fibrosarcoma	27	22	35	68	**152**	0.8	14.0	2.7	0.6	0.7	1.4	**1.0**	16	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	30	69	81	143	**323**	1.8	29.7	3.1	1.8	1.7	3.0	**2.2**	33	100.0	0.0
	e. Unspecified	11	12	22	35	**80**	0.4	7.4	1.1	0.3	0.5	0.7	**0.5**	8	100.0	0.0
X	GERM CELL TUMOURS	76	165	93	281	**615**	3.4	100.0	7.7	4.3	1.9	5.8	**4.2**	64	98.4	0.7
	a. CNS germ cell	2	3	28	75	**108**	0.6	17.6	0.2	0.1	0.6	1.6	**0.7**	11	100.0	0.0
	b. Other extragonadal	31	48	7	23	**109**	0.6	17.7	3.2	1.2	0.1	0.5	**0.8**	11	100.0	0.0
	c. Gonadal germ cell	40	103	53	153	**349**	1.9	56.7	4.1	2.7	1.1	3.2	**2.4**	36	100.0	0.0
	d. Gonadal carcinoma	0	0	0	20	**20**	0.1	3.3	-	-	-	0.4	**0.1**	2	100.0	0.0
	e. Unspecified gonadal	3	11	5	10	**29**	0.2	4.7	0.3	0.3	0.1	0.2	**0.2**	3	65.5	13.8
XI	CARCINOMA & MELANOMA	12	29	62	163	**266**	1.5	100.0	1.2	0.8	1.3	3.4	**1.7**	28	99.2	0.0
	a. Adrenocortical	5	17	5	6	**33**	0.2	12.4	0.5	0.4	0.1	0.1	**0.2**	3	100.0	0.0
	b. Thyroid	0	2	14	17	**33**	0.2	12.4	-	0.1	0.3	0.4	**0.2**	3	100.0	0.0
	c. Nasopharyngeal	0	0	10	25	**35**	0.2	13.2	-	-	0.2	0.5	**0.2**	4	100.0	0.0
	d. Melanoma	6	8	13	35	**62**	0.3	23.3	0.6	0.2	0.3	0.7	**0.4**	6	100.0	0.0
	e. Skin carcinoma	1	1	12	13	**27**	0.1	10.2	0.1	0.0	0.2	0.3	**0.2**	3	92.6	0.0
	f. Other & unspecified	0	1	8	67	**76**	0.4	28.6	-	0.0	0.2	1.4	**0.5**	8	100.0	0.0
XII	OTHER & UNSPECIFIED	28	30	26	48	**132**	0.7	100.0	2.9	0.8	0.5	1.0	**0.9**	14	31.8	48.5
	a. Other specified	2	2	1	7	**12**	0.1	9.1	0.2	0.1	0.0	0.1	**0.1**	1	100.0	0.0
	b. Other unspecified	26	28	25	41	**120**	0.7	90.9	2.6	0.7	0.5	0.8	**0.8**	12	25.0	53.3
	TOTAL §	1706	6369	4991	5001	**18067**	100.0	100.0	173.7	165.3	103.7	103.5	**128.1**	1871	95.6	2.2

† includes 506 non-malignant
§ includes 16 with sex unknown

Please consult the quality indicators for this registry

estimated by sex and age group for 1991–2005, using the routine Pass Package AGEINT United Nations, which interpolates exponentially. Population data were provided by 5-year age group. See also Argentina, above.

EDITORS' COMMENTS

Data were originally provided for 1991–2014, but the data for 2008–2014 were subsequently omitted because of irregular registration rates in those years. The MV% was low (83%) (Table A.9), but it was 100% during the last 3 years of the reporting period. The proportion of cases with unspecified morphology was high (20%), including among MV cases (13%). The basis of diagnosis was unknown in 5% of cases (Table A.9), and in 17% of cases the code for basis of diagnosis was considered unlikely with respect to histology (Table A.11). Date of birth or incidence was incomplete in 10% of cases; this may have affected the age-specific incidence rates, and the provided age was inconsistent with the provided dates in 4% of cases (Table A.8). The Bahía Blanca Cancer Registry reported the highest incidence rates in Argentina; combined with the other observations, this may indicate some overreporting, such as inclusion of non-residents. The sex ratio was low in children and high in adolescents (Table A.9). CNS tumours with uncertain behaviour were registered, but the proportion was low (11%) (Table A.9). There were no cases of pilocytic astrocytoma in the dataset. Skin carcinomas were reportable, and one case was reported. Laterality was not collected.

Chaco Cancer Registry, 2002–2012

María Angélica Duarte, Guillermina Verónica Tabare

Chaco Province is located in north-eastern Argentina and covers an area of 99 633 km^2. The climate is subtropical, with very hot summers and mild winters; the annual average temperature is 21.6 °C.

In 2010, the population was 1.1 million, and 40% of the population was younger than 20 years (Table A.6). The economy is based on the primary sector; cotton, soybeans, cattle production, and construction predominate. The social indicators are low compared with the rest of the country.

Chaco Province has one of the largest integrated Indigenous populations – the Mataco-Guaicurú peoples include the Wichí (also called Mataco), Qom (also called Toba), and Mocoví – and large numbers of descendants of immigrants from central, eastern, and southern Europe: Czech, Slovak, Bulgarian, Croatian, Montenegrin, Italian, and Spanish.

Chaco Province has a specialized hospital (Paediatric Hospital "Dr. Avelino Lorenzo Castelán") with a highly specialized paediatric oncology unit, which provides most diagnostic and treatment services, but about 46% of children with cancer travel to Buenos Aires for treatment.

Data sources include public and private pathology laboratories, hospitals (admission and discharge records), radiotherapy services, prescription drug records, and death certificates. The data are exchanged with ROHA. Data are coded using ICD-O-3 (Table A.10).

POPULATION AT RISK

Population data were provided by sex and 5-year age group for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Argentina, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology was high (13%), including among MV cases (10%) (Table A.9). There are somewhat more children (aged 0–14 years) in the dataset than expected. Date of birth may be incomplete in a proportion of cases (Table A.8). CNS tumours with uncertain behaviour were registered sporadically, and only a few were found in the dataset (Table A.9). There were no cases of pilocytic astrocytoma in the dataset. Skin carcinomas were reportable. Laterality was not collected.

Córdoba Cancer Registry, 2004–2012

Martín Alonso, Rosalba Fita, Graciela Nicolás, Marcela Alvarez, Débora Rivas, Olga Toledo

Córdoba Province is located in north-central Argentina. It is the second most populous province in Argentina; in 2010, the population was 3.3 million, and about one third of the population was younger than 20 years (8% of the national population younger than 20 years) (Table A.6).

Córdoba Province covers an area of 165 321 km^2 and is divided into 26 departments. The population of the provincial capital, Córdoba, is 1.4 million (40% of the provincial population); it is the second largest city in the country, after Buenos Aires.

Children's Hospital "Santísima Trinidad" in Córdoba has a comprehensive paediatric oncology unit. There are also five other private and public paediatric oncology units in the province. About 8% of children with cancer travel to Buenos Aires to receive some treatment.

The Córdoba Cancer Registry covers all 26 departments of the province. The registry is located at the Hospital Oncológico de Córdoba. The registry staff consists of two doctors, one data analyst, and three registrars.

Data are collected both actively and passively from all the sources (e.g. public hospitals, private hospitals, pathological anatomy laboratories, social insurance companies) and compared with data recorded by ROHA. Information on death certificates is obtained from the Office of Vital Statistics of Córdoba Province. Data are recorded using CanReg5. Quality control checks are done periodically using IARC tools to calculate the standard quality indicators. The registry contributed to Cancer Incidence in Five Continents (CI5) and the CONCORD studies.

POPULATION AT RISK

Population data were provided in all required detail. See also Argentina, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology was 10% (Table A.9). There was an excess of cases in males in the age group 15–19 years. Non-malignant CNS tumours were registered, but the proportion was low (11%). Pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were reportable. Laterality was not collected.

Entre Ríos Cancer Registry, 2001–2011

Miguel Angel Prince, Patricia Liana Giacciani, Carmen Gonzales, Julio Bechelli, Enrique Fernandez, Hector Arocena, Diego Garcilazo

Entre Ríos Province is the southernmost province in the Mesopotamia region in north-eastern Argentina. It covers an area of 78 781 km^2 and is divided into 17 departments. It is bordered by the provinces of Corrientes to the north, Santa Fe to the west, and Buenos Aires to the south, and by Uruguay to the east.

The population-based Entre Ríos Cancer Registry was established in 1996 and covers the entire population of the province. In 2010, the population was 1.1 million, and 35% of the population was younger than 20 years (Table A.6). The registry project is shared between geographically delimited areas, or nodes, which each manage a part of the vast area covered by the registry. Each node has assigned pathologists, cytologists, oncologists, and other specialists.

Data are collected both actively and passively from all the sources (e.g. public hospitals, private hospitals, pathological anatomy laboratories, social insurance companies) and are exchanged with ROHA. Data are stored in and managed using CanReg4, provided by IARC and adjusted to the specific needs of the registry. Death certificates issued in Entre Ríos are also ascertained for new cases.

The paediatric hospital in Entre Ríos Province (San Roque Hospital) has a haematology unit. Patients with solid tumours are referred to Buenos Aires for treatment. Overall, about 70% of children with cancer travel to Buenos Aires to receive some treatment.

POPULATION AT RISK

Population data were provided by the Statistics and Census Institute of Entre Ríos Province for 2001–2006 and by the Institute of Epidemiology of Santa Fe Province for 2007–2011. Population data were provided by sex and 5-year age group for each calendar year. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Argentina, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology was high (15%), including among MV cases (9%) (Table A.9). CNS tumours with uncertain behaviour were registered, but the proportion was low. There were no cases of pilocytic astrocytoma in the dataset. Skin carcinomas were reportable. Laterality was not collected.

Mendoza Cancer Registry, 2003–2012

María Cristina Diumenjo, Walter Daniel Laspada, Dalinda Agostini, Silvia Beatriz Marchevsky, Carlos Vazquez Rizzeto, Ricardo Zulian

The Mendoza Cancer Registry covers Mendoza Province, which is located in west-central Argentina and covers an area of 148 827 km^2. The western part of the province is bordered by the Andes mountain range, which rises to an altitude of almost 7000 m, and the eastern part of the province consists mostly of a desert plain. The continental climate is sunny and dry, with warm summers and cold winters. The province's economy is based on mining, manufacture, agriculture, and tourism.

In 2010, the population of Mendoza Province was 1.7 million, and 36% of the population was younger than 20 years (Table A.6). The population is concentrated in irrigated oases; 80% of people live in urban areas, distributed among 18 municipalities. The population is ethnically heterogeneous, with a mixture of Indigenous peoples and Europeans (mainly Spanish and Italian). In recent decades, immigration to the area from Chile, Bolivia and Peru has increased.

Diagnosis and treatment for children with cancer are provided through the public, private, and social security systems. Mendoza Province has the prestigious Paediatric Hospital "Dr. Humberto Notti", which has a paediatric oncology unit that includes a haematology service. Other specialty services provided include paediatric oncohaematology, anatomical pathology, surgery, orthopaedics, and neurosurgery. The hospital provides care to patients younger than 18 years from all over the province, regardless of their medical insurance status. The 50% of the population that is not covered by the social security system is eligible to receive prescription medication, prostheses and endoprostheses, and positron emission tomography (PET) scans free of charge through a government programme. About 7% of children with cancer travel to Buenos Aires to receive treatment. Both patients with social security and those with private medical insurance are treated. Patients older than 14 years with haematopoietic malignancies and those older than 17 years with solid tumours receive treatment at state hospitals (two of which are within the social security system) or at one of four private hospitals with oncology services. Two medical centres provide radiotherapy.

Data are collected mainly from state and private hospitals, pathology and haematology laboratories, radiotherapy centres, and private practices. The registry

also has access to death certificates. Since 2000, data for the age group 0–14 years have been provided to ROHA. Data are coded in the registry's central unit using ICD-O-3. Data are entered using CanReg, provided by IARC.

POPULATION AT RISK

Population data were provided by the Mendoza Office of Statistics and Economic Research (https://deie.mendoza.gov.ar) and are based on data from the National Census of Population and Housing for 2001 and 2010. Data were provided in all requested detail. See also Argentina, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology among MV cases was slightly higher than expected (Table A.9). Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were reportable. Laterality was complete for retinoblastoma and relatively complete (80%) for the other sites.

Neuquén Cancer Registry, 2003–2013

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Neuquén Province is located in western Argentina, at the northern end of Patagonia, and is adjacent to Mendoza Province in the north. Neuquén Province covers an area of 94 078 km^2 (3.4% of the area of Argentina) and is divided into 16 departments. There are two main distinctive landscapes: the Andes mountain range with its abundant rains, lakes, and vegetation, is located in the west, and the arid plateau, with fertile land near the Limay River and Neuquén River basins, is located in the east. The extractive sector (gas and petroleum production) is the most important source of the province's income. The Neuquén River basin, which includes part of the provinces of Río Negro, La Pampa, and Mendoza, is the most important oil- and gas-producing region in the country, producing 39% of the total petroleum of Argentina. There is intensive agriculture in the valleys of the Neuquén River and the Limay River, in the east of the province. One of the fastest-growing activities is tourism, in both summer and winter.

The public health-care system has an extensive network of 210 facilities operated within a regional, interrelated, and hierarchical framework. Private health services are located mainly in the provincial capital; there are a few facilities in other cities.

Care for all patients with cancer is provided by specialized teams in a tertiary public hospital (~50% of patients) and in two private centres (~50% of patients). About 24% of children with cancer travel to Buenos Aires to receive some treatment.

The Neuquén Cancer Registry is population-based and covers the entire province. The province has a population of 0.6 million (1.4% of the national population), and 36% of the population is younger than 20 years (Table A.6).

Cases are ascertained from treatment centres (e.g. cancer centres, general hospitals, private centres, nursing homes); pathology services; haematology, biochemistry, and immunology laboratories; and radiology services. Death certificates collected at the provincial level are also used. Records are exchanged with ROHA and the Argentine Cutaneous Melanoma Registry.

The registry used CanReg4, provided by IARC. Tumours were coded according to ICD-O-3 and IARC/IACR standard recommendations (Table A.10).

POPULATION AT RISK

The sources of the population data were the Neuquén Province *Sala de Situación* and the National Institute of Statistics and Censuses for the censuses of 2001 and 2010. Data were provided in all requested detail. See also Argentina, above.

EDITORS' COMMENTS

The dataset included somewhat more cases in the age group 0–14 years than expected. There was an excess of cases in males in the age group 15–19 years. Non-malignant CNS tumours were registered, but the proportion was low (18%) (Table A.9). Pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were reportable, but none were registered during the reporting period. Laterality was not collected.

ARGENTINA, 6 registries (1991-2013)

	Age group (years)	Males	Females
Person-years	0	739 131	701 088
	1-4	2 931 239	2 790 279
	5-9	3 706 380	3 584 679
	10-14	3 845 360	3 713 991
	15-19	3 773 160	3 670 904
	0-14	11 222 110	10 790 037
	0-19	14 995 270	14 460 941

Please consult the quality indicators for this pool and its constituent registries

ARGENTINA, 6 registries (1991-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	44	377	290	268	205	**979**	**1184**	33.2	100.0	29.1	100.0	30.6	65.9	39.8	35.5	27.5	**45.9**	**41.8**	670	808	95.1	2.0
	a. Lymphoid	23	280	210	166	104	**679**	**783**	23.0	69.4	19.2	66.1	16.0	48.9	28.8	22.0	14.0	**32.0**	**28.0**	465	535	97.6	0.4
	b. Acute myeloid	13	53	46	61	40	**173**	**213**	5.9	17.7	5.2	18.0	9.0	9.3	6.3	8.1	5.4	**7.9**	**7.4**	118	145	98.1	0.9
	c. CMD	0	3	4	5	13	**12**	**25**	0.4	1.2	0.6	2.1	-	0.5	0.5	0.7	1.7	**0.5**	**0.8**	8	17	96.0	0.0
	d. MDS & other	1	6	3	5	7	**15**	**22**	0.5	1.5	0.5	1.9	0.7	1.0	0.4	0.7	0.9	**0.7**	**0.8**	10	15	95.5	0.0
	e. Unspecified	7	35	27	31	41	**100**	**141**	3.4	10.2	3.5	11.9	4.9	6.1	3.7	4.1	5.5	**4.7**	**4.8**	68	96	76.6	13.5
II	**LYMPHOMA & RELATED**	15	102	150	163	215	**430**	**645**	14.6	100.0	15.8	100.0	10.4	17.8	20.6	21.6	28.9	**19.2**	**21.4**	292	437	98.1	0.9
	a. Hodgkin	0	17	56	77	127	**150**	**277**	5.1	34.9	6.8	42.9	-	3.0	7.7	10.2	17.1	**6.4**	**8.8**	101	187	98.6	0.4
	b. Non-Hodgkin except BL	1	42	54	58	61	**155**	**216**	5.3	36.0	5.3	33.5	0.7	7.3	7.4	7.7	8.2	**6.9**	**7.2**	105	146	98.6	0.0
	c. Burkitt (BL)	0	16	21	14	3	**51**	**54**	1.7	11.9	1.3	8.4	-	2.8	2.9	1.9	0.4	**2.3**	**1.9**	35	37	100.0	0.0
	d. Lymphoreticular	11	19	10	8	2	**48**	**50**	1.6	11.2	1.2	7.8	7.6	3.3	1.4	1.1	0.3	**2.4**	**1.9**	33	34	100.0	0.0
	e. Unspecified	3	8	9	6	22	**26**	**48**	0.9	6.0	1.2	7.4	2.1	1.4	1.2	0.8	3.0	**1.2**	**1.6**	18	33	89.6	10.4
III	**CNS NEOPLASMS** †	36	152	190	142	110	**520**	**630**	17.6	100.0	15.5	100.0	25.0	26.6	26.1	18.8	14.8	**24.0**	**21.9**	355	429	85.9	4.3
	a. Ependymoma	10	30	18	7	9	**65**	**74**	2.2	12.5	1.8	11.7	6.9	5.2	2.5	0.9	1.2	**3.2**	**2.8**	45	51	97.3	0.0
	b. Astrocytoma	5	43	65	55	38	**168**	**206**	5.7	32.3	5.1	32.7	3.5	7.5	8.9	7.3	5.1	**7.6**	**7.0**	114	140	96.6	0.0
	c. CNS embryonal	7	48	46	27	13	**128**	**141**	4.3	24.6	3.5	22.4	4.9	8.4	6.3	3.6	1.7	**6.0**	**5.1**	88	97	100.0	0.0
	d. Other gliomas	3	5	16	13	10	**37**	**47**	1.3	7.1	1.2	7.5	2.1	0.9	2.2	1.7	1.3	**1.6**	**1.6**	25	32	89.4	0.0
	e. Other specified	2	4	16	13	11	**35**	**46**	1.2	6.7	1.1	7.3	1.4	0.7	2.2	1.7	1.5	**1.5**	**1.5**	24	31	97.8	0.0
	f. Unspecified CNS	9	22	29	27	29	**87**	**116**	2.9	16.7	2.8	18.4	6.2	3.8	4.0	3.6	3.9	**4.0**	**4.0**	59	79	36.2	23.3
IV	**NEUROBLASTOMA**	55	83	21	7	7	**166**	**173**	5.6	100.0	4.2	100.0	38.2	14.5	2.9	0.9	0.9	**8.7**	**6.9**	115	120	98.3	0.6
	a. (Ganglio)neuroblastoma	55	82	20	7	6	**164**	**170**	5.6	98.8	4.2	98.3	38.2	14.3	2.7	0.9	0.8	**8.6**	**6.8**	114	118	98.8	0.6
	b. Peripheral nervous	0	1	1	0	1	**2**	**3**	0.1	1.2	0.1	1.7	-	0.2	0.1	-	0.1	**0.1**	**0.1**	1	2	66.7	0.0
V	**RETINOBLASTOMA**	30	50	5	0	0	**85**	**85**	2.9	100.0	2.1	100.0	20.8	8.7	0.7	-	-	**4.5**	**3.5**	59	59	96.5	0.0
VI	**RENAL TUMOURS**	26	77	28	9	10	**140**	**150**	4.7	100.0	3.7	100.0	18.1	13.5	3.8	1.2	1.3	**7.2**	**5.8**	97	104	95.3	0.7
	a. Nephroblastoma	24	77	27	3	2	**131**	**133**	4.4	93.6	3.3	88.7	16.7	13.5	3.7	0.4	0.3	**6.8**	**5.3**	91	92	97.0	0.0
	b. Renal carcinoma	2	0	1	5	7	**8**	**15**	0.3	5.7	0.4	10.0	1.4	-	0.1	0.7	0.9	**0.3**	**0.5**	5	10	86.7	0.0
	c. Unspecified	0	0	0	1	1	**1**	**2**	0.0	0.7	0.0	1.3	-	-	-	0.1	0.1	**0.0**	**0.1**	1	1	50.0	50.0
VII	**HEPATIC TUMOURS**	8	13	4	7	2	**32**	**34**	1.1	100.0	0.8	100.0	5.6	2.3	0.5	0.9	0.3	**1.6**	**1.3**	22	23	94.1	2.9
	a. Hepatoblastoma	8	12	1	1	0	**22**	**22**	0.7	68.8	0.5	64.7	5.6	2.1	0.1	0.1	-	**1.2**	**0.9**	15	15	100.0	0.0
	b. Hepatic carcinoma	0	1	2	5	2	**8**	**10**	0.3	25.0	0.2	29.4	-	0.2	0.3	0.7	0.3	**0.3**	**0.3**	5	7	100.0	0.0
	c. Unspecified	0	0	1	1	0	**2**	**2**	0.1	6.3	0.0	5.9	-	-	0.1	0.1	-	**0.1**	**0.1**	1	1	0.0	50.0
VIII	**BONE TUMOURS**	1	10	38	108	88	**157**	**245**	5.3	100.0	6.0	100.0	0.7	1.7	5.2	14.3	11.8	**6.4**	**7.6**	105	164	94.7	2.4
	a. Osteosarcoma	0	0	14	73	57	**87**	**144**	2.9	55.4	3.5	58.8	-	-	1.9	9.7	7.7	**3.4**	**4.4**	58	96	97.2	0.0
	b. Chondrosarcoma	0	0	1	4	5	**5**	**10**	0.2	3.2	0.2	4.1	-	-	0.1	0.5	0.7	**0.2**	**0.3**	3	7	100.0	0.0
	c. Ewing & related	1	8	20	19	14	**48**	**62**	1.6	30.6	1.5	25.3	0.7	1.4	2.7	2.5	1.9	**2.1**	**2.1**	33	42	100.0	0.0
	d. Other specified	0	0	1	2	3	**3**	**6**	0.1	1.9	0.1	2.4	-	-	0.1	0.3	0.4	**0.1**	**0.2**	2	4	83.3	0.0
	e. Unspecified	0	2	2	10	9	**14**	**23**	0.5	8.9	0.6	9.4	-	0.3	0.3	1.3	1.2	**0.6**	**0.7**	9	15	65.2	26.1
IX	**SOFT TISSUE SARCOMA**	21	51	51	53	75	**176**	**251**	6.0	100.0	6.2	100.0	14.6	8.9	7.0	7.0	10.1	**8.2**	**8.6**	120	171	95.6	1.2
	a. Rhabdomyosarcoma	10	32	32	13	15	**87**	**102**	2.9	49.4	2.5	40.6	6.9	5.6	4.4	1.7	2.0	**4.2**	**3.7**	60	70	97.1	1.0
	b. Fibrosarcoma	7	7	5	16	13	**35**	**48**	1.2	19.9	1.2	19.1	4.9	1.2	0.7	2.1	1.7	**1.6**	**1.6**	24	33	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	2	**0**	**2**	-	-	0.0	0.8	-	-	-	-	0.3	**-**	**0.1**	-	1	50.0	0.0
	d. Other specified	3	9	12	13	29	**37**	**66**	1.3	21.0	1.6	26.3	2.1	1.6	1.6	1.7	3.9	**1.7**	**2.2**	25	45	93.9	1.5
	e. Unspecified	1	3	2	11	16	**17**	**33**	0.6	9.7	0.8	13.1	0.7	0.5	0.3	1.5	2.1	**0.7**	**1.0**	11	22	90.9	3.0
X	**GERM CELL TUMOURS**	20	36	30	72	191	**158**	**349**	5.4	100.0	8.6	100.0	13.9	6.3	4.1	9.5	25.7	**7.1**	**11.3**	107	236	97.7	0.9
	a. CNS germ cell ‡	2	2	8	13	1	**25**	**26**	0.8	15.8	0.6	7.4	1.4	0.3	1.1	1.7	0.1	**1.1**	**0.9**	17	18	96.2	3.8
	b. Other extragonadal	10	6	1	5	14	**22**	**36**	0.7	13.9	0.9	10.3	6.9	1.0	0.1	0.7	1.9	**1.1**	**1.3**	15	25	100.0	0.0
	c. Gonadal germ cell	8	26	18	39	147	**91**	**238**	3.1	57.6	5.8	68.2	5.6	4.5	2.5	5.2	19.7	**4.1**	**7.6**	62	161	100.0	0.0
	d. Gonadal carcinoma	0	0	0	13	22	**13**	**35**	0.4	8.2	0.9	10.0	-	-	-	1.7	3.0	**0.5**	**1.1**	9	23	97.1	0.0
	e. Unspecified gonadal	0	2	3	2	7	**7**	**14**	0.2	4.4	0.3	4.0	-	0.3	0.4	0.3	0.9	**0.3**	**0.5**	5	9	57.1	14.3
XI	**CARCINOMA & MELANOMA**	4	6	22	43	175	**75**	**250**	2.5	100.0	6.1	100.0	2.8	1.0	3.0	5.7	23.5	**3.2**	**7.7**	51	168	98.8	0.0
	a. Adrenocortical	1	1	1	0	0	**3**	**3**	0.1	4.0	0.1	1.2	0.7	0.2	0.1	-	-	**0.2**	**0.1**	2	2	100.0	0.0
	b. Thyroid	0	1	3	9	52	**13**	**65**	0.4	17.3	1.6	26.0	-	0.2	0.4	1.2	7.0	**0.5**	**2.0**	9	44	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	2	**1**	**3**	0.0	1.3	0.1	1.2	-	-	-	0.1	0.3	**0.0**	**0.1**	1	2	100.0	0.0
	d. Melanoma	1	3	5	8	13	**17**	**30**	0.6	22.7	0.7	12.0	0.7	0.5	0.7	1.1	1.7	**0.7**	**1.0**	12	20	96.7	0.0
	e. Skin carcinoma	0	0	3	8	18	**11**	**29**	0.4	14.7	0.7	11.6	-	-	0.4	1.1	2.4	**0.4**	**0.9**	7	19	100.0	0.0
	f. Other & unspecified	2	1	10	17	90	**30**	**120**	1.0	40.0	2.9	48.0	1.4	0.2	1.4	2.2	12.1	**1.3**	**3.7**	20	81	98.3	0.0
XII	**OTHER & UNSPECIFIED**	6	6	9	12	42	**33**	**75**	1.1	100.0	1.8	100.0	4.2	1.0	1.2	1.6	5.6	**1.5**	**2.4**	22	51	54.7	20.0
	a. Other specified	2	3	0	3	2	**8**	**10**	0.3	24.2	0.2	13.3	1.4	0.5	-	0.4	0.3	**0.4**	**0.4**	5	7	100.0	0.0
	b. Other unspecified	4	3	9	9	40	**25**	**65**	0.8	75.8	1.6	86.7	2.8	0.5	1.2	1.2	5.4	**1.1**	**2.1**	17	44	47.7	23.1
	TOTAL	266	963	838	884	1120	**2951**	**4071**	100.0	100.0	100.0	100.0	184.7	168.3	114.9	116.9	150.5	**137.5**	**140.4**	2017	2770	94.0	2.1

† includes 76 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Brazil

Brazil is the world's fifth largest country by area and the sixth most populous. It covers an area of 8.5 million km^2 and is bounded by the Atlantic Ocean to the east; it has a border with all other South American countries, with the exception of Ecuador and Chile. The Amazon River basin includes a vast tropical forest, which is home to diverse wildlife, a variety of ecological systems, and extensive natural resources that span numerous protected habitats. The climate is tropical in most of the country but comprises a wide range of weather conditions across varied topography, from desert to oceanic. Brazil has a fast-growing economy, supported by abundant natural resources. The main sectors are agriculture, mining, manufacturing, and services.

In 2010, the population was 198.6 million; 25% of the population was in the age group 0–14 years, and 34% was in the age group 0–19 years (Table A.6). About 83% of the population lived in urban areas. According to the National Research by Household Sample of 2008, 48% of the population self-identified as White, 44% as Pardo (Brown), 7% as Black, 0.6% as Asian, and 0.3% (about 0.5 million) as Amerindian (officially, *Indígena* [Indigenous]).

The Unified Health System is managed and provided by all levels of government; it is the largest public health system in the world. Public health services are universal and are offered to all citizens of the country free of charge. Patients are referred to the treatment facilities in the state where they reside. Children with cancer are treated in public oncology facilities, and some within-country migration occurs to private referral centres. Complementary insurance is required for private health care.

The Brazilian National Cancer Institute (INCA; https://www.inca.gov.br/en) is part of the Ministry of Health, with a federal mandate to lead a nationwide policy for cancer prevention and control. As a technical branch of the federal government, under the direct administration of the Ministry of Health, INCA delivers cancer care within the Unified Health System. It also develops research activities and disseminates practices and knowledge for medical oncology.

The incidence data collected by the registries are provided to INCA, which publishes national incidence estimates every 2 years. The reports describe the geographical distribution of cancer cases in the covered regions yearly, temporal trends, survival, and access to screening programmes. The data are also used to ascertain cases by geographical area and to plan referrals accordingly, as well as for epidemiological studies and medical education.

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POPULATION AT RISK

Population data were provided by the Brazilian Institute of Geography and Statistics (https://www.ibge.gov.br). The data are based on the censuses of 1991, 2000, and 2010 (Table A.7) and intercensal estimates.

EDITORS' COMMENTS

Datasets from five regional registries (Aracaju, Belo Horizonte, Curitiba, Goiânia, and João Pessoa) are presented in a combined dataset. The full tables for the individual registries are available online, as specified in Table A.12. The registries of Goiânia and Belém contributed to IICC-2, and three additional registries in Brazil contributed to IICC-1 (Table A.1). All registries had access to information on deaths from the Mortality Information System of the Ministry of Health.

A high proportion of cases with unspecified morphology in some cancer registries in Brazil resulted in the high percentage of such cases in the national pooled dataset. Two of the registries had a high DCO%, which influenced this indicator in the pooled dataset (Table A.9). Pilocytic

BRAZIL, 5 registries (1995-2012)

Registry	Period	Cases	%	Person-years	%
Aracaju	1996-2012	414	10.7	3 132 138	12.1
Belo Horizonte	2000-2006	771	20.0	5 536 010	21.5
Curitiba	1998-2010	1192	30.9	7 365 070	28.5
Goiânia	1995-2011	1114	28.9	6 905 593	26.8
João Pessoa	1999-2010	367	9.5	2 866 081	11.1
BRAZIL	**1995-2012**	**3858**	**100.0**	**25 804 892**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

astrocytoma was coded with malignant behaviour until about 2005, according to ICD-O-2, and with uncertain behaviour thereafter, according to ICD-O-3. Non-malignant CNS tumours were not systematically registered; thus, this tumour type may have been underreported. All skin carcinoma types were reportable. Laterality was not routinely collected.

Aracaju Cancer Registry, 1996–2012

Carlos Anselmo Lima, José Erinaldo Lobo de Oliveira, Sueli Pina Vieira, Maria das Graças Prata França, Elma Santana de Oliveira

The population-based Aracaju Cancer Registry covers an area of 181 856 km^2. In 2010, the population was 0.6 million, and 31% of the population was younger than 20 years (Table A.6). The population is predominantly urban, and the annual population growth rate was 2% in 2010. The city of Aracaju is located in north-eastern Brazil. The climate is hot and humid, with an average annual temperature of 26 °C and a rainy, windy season from March to August. Most workers are employed in industry, services, and tourism. The municipal GDP was R$ 9.7 billion in 2015.

Cancer diagnostic services are provided by general health-care institutions, two public oncology units, and the several private general care facilities located in the covered area. Chemotherapy is provided by two specialized units and seven private clinics. Radiotherapy is provided by two public cancer units.

The Aracaju Cancer Registry was established in 1998, with retrospective data collection since 1996 (Table A.10). It is sponsored by the Health Agency of the State of Sergipe and receives additional funding from the Ministry of Health. The registry staff consists of a coordinator with a medical degree and four registrars. A scientific commission provides pathological, paediatric, and epidemiological expertise. Data are collected actively from all pathology laboratories, the two oncology units, all the chemotherapy clinics, some general care units, and official databases, such as the mortality database. Routine quality control procedures include verification of topography, age, histology, and death information. Data were coded according to ICD-O-2 until 2005 and according to ICD-O-3 thereafter (Table A.10). IARC/IACR rules were applied to code variables and determine multiple primary tumours. Follow-up of patients is conducted through the two oncology units and the state mortality database.

POPULATION AT RISK

Data were provided in all requested detail. See also Brazil, above.

EDITORS' COMMENTS

The proportion of cases aged 19 years in the age group 15–19 years was high (30%) (Table A.9). Considering the relatively low overall incidence, this may indicate underreporting of cancers in children compared with adolescents. In addition to malignant CNS tumours, only pilocytic astrocytoma was recorded with uncertain behaviour. Laterality was reported for 73% of the cases of interest after a special trace-back of relevant records was conducted for IICC-3. See also Brazil, above.

Belo Horizonte Cancer Registry, 2000–2006

Berenice Navarro Antoniazzi, Gil Patrus Mundim Pena, Margarete Aparecida dos Santos, Claudina Agnese Casale, Aparícia Neves Ferreira, Elen Sabino da Silva Coelho, Fernanda Cordeiro Freire, Juliana Carvalho de Oliveira, Silvania Lourenço Ribeiro, Mônica Nazaré Torres, Rafael Wenceslau Grabe, Ângela Maria do Amparo

The population-based Belo Horizonte Cancer Registry covers the city of Belo Horizonte, the capital of the State of Minas Gerais, which is located in south-eastern Brazil. The registry covers an area of 331 400 km^2, with an urban population of 2.4 million, which grows by 0.6% annually (censuses of 2000 and 2010); about 34% of the population is younger than 20 years (Table A.6). The city of Belo Horizonte is located 852 m above sea level; the climate is tropical, with warm, rainy summers and an average annual temperature of 21 °C.

The city has a network of 68 public and private hospitals, including eight paediatric hospitals, with a total of 9048 beds (3.08 beds per 1000 inhabitants), 5250 of them dedicated to the Unified Health System. Cancer diagnostic and treatment facilities include 12 haematology services, 10 surgical oncology services, 20 clinical oncology services, eight paediatric oncology services, and 12 radiotherapy services (Department of Informatics of the Unified Health System [DATASUS]; https://datasus.saude.gov.br). Cytological, histological, and immunohistochemical diagnosis is provided by 36 local pathology laboratories.

The registry was established in 2001, with retrospective data collection since 2000 (Table A.10). It is located in the Health Surveillance Directory of the Secretariat of Health of the State of Minas Gerais. The registry is responsible for the Evaluation and Monitoring of Cancer and its Risk Factors Programme of the State of Minas Gerais.

The registry has permanent funding. The registry staff consists of an epidemiologist (coordinator), a pathologist, a supervising nurse, a field supervisor of both population- and hospital-based registries, six field registrars, an informatics analyst, and an administrative and field survey professional. The advisory committee includes one epidemiologist, two statisticians, and one oncologist.

Data are actively collected from 43 sources, including one specialized hospital, one university hospital, 16 general hospitals, and 23 pathology laboratories.

POPULATION AT RISK
Data were provided in all requested detail. See also Brazil, above.

EDITORS' COMMENTS
The high proportion of cases aged 19 years in the age group 15–19 years, the high DCO%, and the relatively low overall incidence rates may suggest underreporting (Table A.9). The proportion of cases with unspecified morphology was high (13%). CNS tumours with uncertain behaviour (including pilocytic astrocytoma) were registered, but the proportion was low (15%) (Table A.9). See also Brazil, above.

Curitiba Cancer Registry, 1998–2010

Cyntia Asturian Laporte, Cintia da Costa Marques, Kênia Maria Brero Del Pino, Maria Rita Ostrovski Martins, Vera Regina Pilotto Abelardino da Silva, Vivian de Fátima Blanchet

The population-based Curitiba Cancer Registry covers the city of Curitiba in southern Brazil. The city covers an area of 430 km^2 and is located 934 m above sea level. The climate is subtropical, with warm summers; the average annual temperature is 17.5 °C. In 2010, the population was 1.8 million, and 28% of the population was younger than 20 years (Table A.6). The population is urban and grows by 1.8% per year.

The city of Curitiba has a network of 35 modern public and private hospitals, with a total of 6817 beds (39 beds per 1000 inhabitants). Curitiba has 11 universities and six medical schools. The cancer diagnostic and treatment facilities include 23 oncology services (radiotherapy and chemotherapy) and 81 cytology or pathology laboratories.

The registry was established in 1997 and has complete data from 1998. It is located in the Municipal Department of Health of the Curitiba City Hall. The registry covers all patients who receive care from public or private services; the registry does not have access to health insurance records.

The registry has permanent funding. The registry staff consists of one coordinator, five registrars, and one computer technician. The advisory committee includes one epidemiologist and one pathologist.

Data are actively collected from 50 sources, including two specialized hospitals, four university hospitals, five general hospitals, 12 anatomical pathology laboratories, one haematology clinic, 17 oncology clinics (chemotherapy or radiotherapy), two dermatology clinics, and two specific screening programmes.

POPULATION AT RISK
Data were provided in all requested detail. See also Brazil, above.

EDITORS' COMMENTS
The low proportion of cases with clinical diagnosis (2%) and the high DCO% (7%) suggest that some cases were missed. In addition to malignant CNS tumours, only pilocytic astrocytoma type was recorded with uncertain behaviour; the proportion was low (6%) (Table A.9). See also Brazil, above.

Goiânia Cancer Registry, 1995–2011

José Carlos de Oliveira, Maria Paula Curado, Carleane Maciel Bandeira e Silva, Elcivone Cirineu de Souza, Matinair Siqueira Mineiro, Diego Rodrigues M. e Silva, Antônio Gomes Teles, Élbio Cândido de Paula, Elecy Messias de Oliveira, Geraldo da Silva Queiroz, Nildes Ferreira Borges, Ruffo de Freitas Junior, Sormany Del Carmo

The population-based Goiânia Cancer Registry was established in July 1986 by the Governor-Secretary of the State of Goiás under the coordination of the Ministry of Health. It has been housed at the Association Against Cancer since 1994. Data collection began in 1986, and reliable incidence data are available from 1988 (Table A.10). The registry covers the municipality of Goiânia, which is located in west-central Brazil. The municipality covers an urban area of 739 km^2 and is densely populated, with a population density of 1775 per km^2. In 2010, the population was 1.3 million, and 29% of the population was younger than 20 years (Table A.6).

The city of Goiânia has four paediatric oncology institutions. The Medical Council of Goiânia has 356 paediatricians, including 10 oncologists. The city of Goiânia has two bone marrow transplantation centres, with four paediatric oncologists and one haematologist. There is one cancer hospital in the city: Hospital Araújo Jorge. It has 19 inpatient and 20 outpatient beds for paediatric patients; 20 beds are allocated to chemotherapy of long duration (10 hours), and 10 beds are allocated to chemotherapy of short duration (1–3 hours). On average, 40 children per day receive care at the outpatient clinic.

Information on all cancer cases is stored in appropriate software created for the registry, and confidentiality is maintained. All data providers in the private and public sectors collaborate with the registry. Data are collected actively from 85% of data sources and passively from the other 15%.

PUBLICATIONS

Braga PE, Latorre M do R, Curado MP (2002). Childhood cancer: a comparative analysis of incidence, mortality and survival in Goiânia (Brazil) and other countries. [in Portuguese] Cad Saude Publica. 18(1):33–44. https://doi.org/10.1590/S0102-311X2002000100004 PMID:11910422

de Moura L, Curado MP, Simões EJ, Cezário AC, Urdaneta M (2006). Evaluation of the population based cancer registry of the Municipality of Goiânia, Goiás State, Brazil. [in Portuguese] Epidemiol Serv Saúde. 15(4):7–17.

POPULATION AT RISK

Data were provided by sex and single year of age for 1991 and for all years in the period 1996–2012. In addition, population counts were provided by sex for ages 0, 1, 2, 3, and 4 years for each calendar year of the period 1993–1995. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Brazil, above.

EDITORS' COMMENTS

The provided age was inconsistent with the provided dates in 7% of cases (Table A.8). Non-malignant CNS tumours were not registered, but cases of pilocytic astrocytoma were recorded with malignant behaviour. Laterality was available for 64% of the cases of interest. See also Brazil, above.

João Pessoa Cancer Registry, 1999–2010

Josefa Angela Pontes de Aquino, Gerlane Carvalho de Oliveira, Vanja Raquel Vasconcelos de Souza Lemos, Osmaldo Barbosa de Miranda, Maria de Lourdes, Bernardo da Silva, Helemário José Pacheco de France Son

The population-based João Pessoa Cancer Registry covers the area of the city of João Pessoa, the capital of the State of Paraíba. The city covers an area of 210 km^2 and has a population density of 3421 per km^2. It has 180 primary health units for prevention and early cancer detection programmes and public and private hospitals with 2586 beds. It also has six universities, three of which offer medical courses. In 2010, the urban population was 0.7 million, and 31% of the population was younger than 20 years (Table A.6). The municipality is located 43 m above sea level. The climate is tropical (hot and humid).

The registry was established in 2000 through an agreement between INCA and the Secretary of the State of Paraíba Health Department. The registry is funded by the Ministry of Health. Data collection started in 1999 (Table A.10). The registry staff consists of a coordinator, a supervisor, technical support staff, and three registrars. The advisory committee is composed of an epidemiologist, a statistician, a pathologist, a medical oncologist, a coordinator for noncommunicable diseases, a technical planning sector representative, and the registry coordinator. Information is collected actively from 48 sources, including one specialized hospital, one university hospital, 16 general hospitals, 10 pathology laboratories, three haematology services, four oncology clinics, and one radiation and chemotherapy service. These data sources often lack complete information about the disease, especially for tumours in children. Death certificates are obtained from the mortality information system of the Secretary of the State of Paraíba Health Department.

POPULATION AT RISK

Data were provided in all requested detail. See also Brazil, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology was very high (26%), including among MV cases (21%) (Table A.9). Thus, the resulting rates are lower for specific and higher for unspecified cancer types. Non-malignant CNS tumours were not reportable, but pilocytic astrocytoma was included with malignant behaviour. See also Brazil, above.

BRAZIL, 5 registries (1995-2012)

	Age group (years)	Males	Females
Person-years	0	593 318	571 421
	1-4	2 402 162	2 319 407
	5-9	3 066 314	2 987 794
	10-14	3 276 325	3 251 425
	15-19	3 589 196	3 747 530
	0-14	9 338 119	9 130 047
	0-19	12 927 315	12 877 577

Please consult the quality indicators for this pool and its constituent registries

BRAZIL, 5 registries (1995-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	37	325	268	186	185	**816**	**1001**	31.3	100.0	25.9	100.0	31.8	68.8	44.3	28.5	25.2	**46.4**	**41.6**	671	797	91.6	8.2
	a. Lymphoid	19	249	190	123	91	**581**	**672**	22.3	71.2	17.4	67.1	16.3	52.7	31.4	18.8	12.4	**33.2**	**28.5**	479	541	94.5	5.5
	b. Acute myeloid	11	40	49	45	60	**145**	**205**	5.6	17.8	5.3	20.5	9.4	8.5	8.1	6.9	8.2	**8.0**	**8.0**	118	159	88.3	11.2
	c. CMD	0	5	4	5	19	**14**	**33**	0.5	1.7	0.9	3.3	-	1.1	0.7	0.8	2.6	**0.8**	**1.2**	11	24	87.9	12.1
	d. MDS & other	3	1	2	2	3	**8**	**11**	0.3	1.0	0.3	1.1	2.6	0.2	0.3	0.3	0.4	**0.5**	**0.4**	7	9	90.9	9.1
	e. Unspecified	4	30	23	11	12	**68**	**80**	2.6	8.3	2.1	8.0	3.4	6.4	3.8	1.7	1.6	**4.0**	**3.4**	56	64	77.5	21.3
II	LYMPHOMA & RELATED	6	76	123	156	281	**361**	**642**	13.9	100.0	16.6	100.0	5.2	16.1	20.3	23.9	38.3	**18.9**	**23.3**	291	482	97.7	2.2
	a. Hodgkin	0	9	51	90	177	**150**	**327**	5.8	41.6	8.5	50.9	-	1.9	8.4	13.8	24.1	**7.3**	**11.1**	119	239	99.1	0.9
	b. Non-Hodgkin except BL	3	35	32	37	79	**107**	**186**	4.1	29.6	4.8	29.0	2.6	7.4	5.3	5.7	10.8	**5.8**	**7.0**	87	141	97.3	2.7
	c. Burkitt (BL)	0	14	28	18	12	**60**	**72**	2.3	16.6	1.9	11.2	-	3.0	4.6	2.8	1.6	**3.2**	**2.9**	49	57	97.2	2.8
	d. Lymphoreticular	3	14	6	3	3	**26**	**29**	1.0	7.2	0.8	4.5	2.6	3.0	1.0	0.5	0.4	**1.6**	**1.3**	22	24	100.0	0.0
	e. Unspecified	0	4	6	8	10	**18**	**28**	0.7	5.0	0.7	4.4	-	0.8	1.0	1.2	1.4	**0.9**	**1.0**	14	21	82.1	14.3
III	CNS NEOPLASMS †	30	123	167	131	126	**451**	**577**	17.3	100.0	15.0	100.0	25.8	26.1	27.6	20.1	17.2	**24.8**	**23.1**	368	454	81.6	11.1
	a. Ependymoma	7	21	12	7	12	**47**	**59**	1.8	10.4	1.5	10.2	6.0	4.4	2.0	1.1	1.6	**2.8**	**2.5**	39	47	100.0	0.0
	b. Astrocytoma	10	43	58	57	53	**168**	**221**	6.5	37.3	5.7	38.3	8.6	9.1	9.6	8.7	7.2	**9.1**	**8.7**	137	173	98.2	1.4
	c. CNS embryonal	4	25	52	36	17	**117**	**134**	4.5	25.9	3.5	23.2	3.4	5.3	8.6	5.5	2.3	**6.3**	**5.4**	95	107	97.0	2.2
	d. Other gliomas	1	9	19	13	17	**42**	**59**	1.6	9.3	1.5	10.2	0.9	1.9	3.1	2.0	2.3	**2.2**	**2.3**	34	46	72.9	1.7
	e. Other specified	0	0	1	0	4	**1**	**5**	0.0	0.2	0.1	0.9	-	-	0.2	-	0.5	**0.1**	**0.2**	1	4	100.0	0.0
	f. Unspecified CNS	8	25	25	18	23	**76**	**99**	2.9	16.9	2.6	17.2	6.9	5.3	4.1	2.8	3.1	**4.3**	**4.0**	62	78	17.2	57.6
IV	NEUROBLASTOMA	29	82	19	10	5	**140**	**145**	5.4	100.0	3.8	100.0	24.9	17.4	3.1	1.5	0.7	**8.8**	**6.9**	118	121	97.2	1.4
	a. (Ganglio)neuroblastoma	28	80	19	7	1	**134**	**135**	5.1	95.7	3.5	93.1	24.0	16.9	3.1	1.1	0.1	**8.4**	**6.6**	113	113	97.8	1.5
	b. Peripheral nervous	1	2	0	3	4	**6**	**10**	0.2	4.3	0.3	6.9	0.9	0.4	-	0.5	0.5	**0.3**	**0.4**	5	8	90.0	0.0
V	RETINOBLASTOMA	16	38	8	1	1	**63**	**64**	2.4	100.0	1.7	100.0	13.7	8.0	1.3	0.2	0.1	**4.0**	**3.1**	53	54	90.6	1.6
VI	RENAL TUMOURS	15	98	31	11	6	**155**	**161**	6.0	100.0	4.2	100.0	12.9	20.8	5.1	1.7	0.8	**9.6**	**7.6**	130	134	94.4	2.5
	a. Nephroblastoma	13	94	28	3	1	**138**	**139**	5.3	89.0	3.6	86.3	11.2	19.9	4.6	0.5	0.1	**8.7**	**6.7**	116	117	97.1	0.0
	b. Renal carcinoma	1	1	1	7	4	**10**	**14**	0.4	6.5	0.4	8.7	0.9	0.2	0.2	1.1	0.5	**0.5**	**0.5**	8	11	100.0	0.0
	c. Unspecified	1	3	2	1	1	**7**	**8**	0.3	4.5	0.2	5.0	0.9	0.6	0.3	0.2	0.1	**0.4**	**0.4**	6	6	37.5	50.0
VII	HEPATIC TUMOURS	7	13	5	6	11	**31**	**42**	1.2	100.0	1.1	100.0	6.0	2.8	0.8	0.9	1.5	**1.8**	**1.8**	26	33	78.6	19.0
	a. Hepatoblastoma	3	9	3	2	0	**17**	**17**	0.7	54.8	0.4	40.5	2.6	1.9	0.5	0.3	-	**1.0**	**0.8**	14	14	88.2	11.8
	b. Hepatic carcinoma	1	2	2	3	9	**8**	**17**	0.3	25.8	0.4	40.5	0.9	0.4	0.3	0.5	1.2	**0.4**	**0.6**	6	13	94.1	5.9
	c. Unspecified	3	2	0	1	2	**6**	**8**	0.2	19.4	0.2	19.0	2.6	0.4	-	0.2	0.3	**0.4**	**0.4**	5	6	25.0	62.5
VIII	BONE TUMOURS	4	9	43	90	143	**146**	**289**	5.6	100.0	7.5	100.0	3.4	1.9	7.1	13.8	19.5	**7.1**	**9.9**	115	213	92.7	5.5
	a. Osteosarcoma	1	1	17	59	81	**78**	**159**	3.0	53.4	4.1	55.0	0.9	0.2	2.8	9.0	11.0	**3.7**	**5.3**	61	116	97.5	1.3
	b. Chondrosarcoma	0	0	0	1	12	**1**	**13**	0.0	0.7	0.3	4.5	-	-	-	0.2	1.6	**0.0**	**0.4**	1	9	100.0	0.0
	c. Ewing & related	1	4	20	26	30	**51**	**81**	2.0	34.9	2.1	28.0	0.9	0.8	3.3	4.0	4.1	**2.6**	**2.9**	41	61	95.1	2.5
	d. Other specified	0	1	2	0	6	**3**	**9**	0.1	2.1	0.2	3.1	-	0.2	0.3	-	0.8	**0.2**	**0.3**	3	7	100.0	0.0
	e. Unspecified	2	3	4	4	14	**13**	**27**	0.5	8.9	0.7	9.3	1.7	0.6	0.7	0.6	1.9	**0.7**	**1.0**	11	20	51.9	44.4
IX	SOFT TISSUE SARCOMA	6	50	48	47	93	**151**	**244**	5.8	100.0	6.3	100.0	5.2	10.6	7.9	7.2	12.7	**8.3**	**9.3**	123	187	96.7	1.6
	a. Rhabdomyosarcoma	4	39	26	22	22	**91**	**113**	3.5	60.3	2.9	46.3	3.4	8.3	4.3	3.4	3.0	**5.2**	**4.7**	75	90	98.2	0.9
	b. Fibrosarcoma	1	2	7	6	6	**16**	**22**	0.6	10.6	0.6	9.0	0.9	0.4	1.2	0.9	0.8	**0.8**	**0.8**	13	17	90.9	4.5
	c. Kaposi sarcoma	0	0	0	0	1	**0**	**1**	-	-	0.0	0.4	-	-	-	-	0.1	**-**	**0.0**	-	1	100.0	0.0
	d. Other specified	1	8	12	12	34	**33**	**67**	1.3	21.9	1.7	27.5	0.9	1.7	2.0	1.8	4.6	**1.8**	**2.4**	27	50	98.5	0.0
	e. Unspecified	0	1	3	7	30	**11**	**41**	0.4	7.3	1.1	16.8	-	0.2	0.5	1.1	4.1	**0.5**	**1.3**	9	29	92.7	4.9
X	GERM CELL TUMOURS	15	25	17	29	121	**86**	**207**	3.3	100.0	5.4	100.0	12.9	5.3	2.8	4.4	16.5	**4.8**	**7.5**	70	153	96.1	2.4
	a. CNS germ cell	1	1	5	8	7	**15**	**22**	0.6	17.4	0.6	10.6	0.9	0.2	0.8	1.2	1.0	**0.8**	**0.8**	12	17	90.9	4.5
	b. Other extragonadal	7	14	0	1	16	**22**	**38**	0.8	25.6	1.0	18.4	6.0	3.0	-	0.2	2.2	**1.4**	**1.6**	19	30	100.0	0.0
	c. Gonadal germ cell	4	8	9	15	82	**36**	**118**	1.4	41.9	3.1	57.0	3.4	1.7	1.5	2.3	11.2	**1.9**	**4.0**	29	85	100.0	0.0
	d. Gonadal carcinoma	2	1	3	1	8	**7**	**15**	0.3	8.1	0.4	7.2	1.7	0.2	0.5	0.2	1.1	**0.4**	**0.6**	6	11	100.0	0.0
	e. Unspecified gonadal	1	1	0	4	8	**6**	**14**	0.2	7.0	0.4	6.8	0.9	0.2	-	0.6	1.1	**0.3**	**0.5**	5	10	57.1	28.6
XI	CARCINOMA & MELANOMA	6	22	31	90	263	**149**	**412**	5.7	100.0	10.7	100.0	5.2	4.7	5.1	13.8	35.8	**7.5**	**13.9**	118	298	98.1	1.2
	a. Adrenocortical	3	10	3	1	4	**17**	**21**	0.7	11.4	0.5	5.1	2.6	2.1	0.5	0.2	0.5	**1.1**	**0.9**	14	17	95.2	0.0
	b. Thyroid	0	0	4	26	98	**30**	**128**	1.2	20.1	3.3	31.1	-	-	0.7	4.0	13.4	**1.4**	**4.1**	23	90	100.0	0.0
	c. Nasopharyngeal	0	0	0	14	17	**14**	**31**	0.5	9.4	0.8	7.5	-	-	-	2.1	2.3	**0.6**	**1.0**	11	22	100.0	0.0
	d. Melanoma	2	3	2	8	18	**15**	**33**	0.6	10.1	0.9	8.0	1.7	0.6	0.3	1.2	2.5	**0.8**	**1.2**	12	24	100.0	0.0
	e. Skin carcinoma	0	2	10	21	50	**33**	**83**	1.3	22.1	2.2	20.1	-	0.4	1.7	3.2	6.8	**1.6**	**2.8**	26	60	100.0	0.0
	f. Other & unspecified	1	7	12	20	76	**40**	**116**	1.5	26.8	3.0	28.2	0.9	1.5	2.0	3.1	10.4	**2.1**	**3.9**	32	84	94.0	4.3
XII	OTHER & UNSPECIFIED	18	13	10	13	20	**54**	**74**	2.1	100.0	1.9	100.0	15.5	2.8	1.7	2.0	2.7	**3.1**	**3.1**	45	58	41.9	47.3
	a. Other specified	0	1	0	1	2	**2**	**4**	0.1	3.7	0.1	5.4	-	0.2	-	0.2	0.3	**0.1**	**0.1**	2	3	75.0	25.0
	b. Other unspecified	18	12	10	12	18	**52**	**70**	2.0	96.3	1.8	94.6	15.5	2.5	1.7	1.8	2.5	**3.0**	**2.9**	43	55	40.0	48.6
	TOTAL	189	874	770	770	1255	**2603**	**3858**	100.0	100.0	100.0	100.0	162.3	185.1	127.2	118.0	171.1	**145.2**	**151.0**	2129	2984	91.7	6.2

† includes 35 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Chile

Chile is located on a long, narrow strip of land in South America between the Andes mountain range to the east and the Pacific Ocean to the west. The country covers an area of 756 096 km^2. The diverse climate includes the world's driest desert (the Atacama Desert) in the north, a Mediterranean climate in the central region, a humid subtropical climate on Easter Island, and an oceanic climate, including alpine tundra and glaciers, in the east and south. Chile is a stable and prosperous country, with a high-income economy and a high standard of living. In 2010, the population was 17.0 million (Table A.7); about 85% of the population lived in urban areas, and 30% of the population was younger than 20 years (Table A.6).

The national cancer plan has defined high-priority cancer types, which include all invasive cancers in children younger than 15 years, to be covered by the curative health programme Explicit Health Guarantees (GES) insurance, and the treatment of such cancers is developed mainly within the public health network.

In 2002, the Ministry of Health established the population-based cancer registries by law (Supreme Decree No. 5 of 2002) and defined their standard operations. The cancer registries meet strict confidentiality rules, under the Chilean laws 19.628 ("Protection of privacy") and 18.575 ("Protection of personal data") of the State Administration. In Chile, only Health Authorities can implement population-based cancer registries, which are supported by the Department of Epidemiology of the Ministry of Health. Chile is divided into 15 regions and has six population-based cancer registries: four in the regions of Arica, Antofagasta, Maule, and Los Ríos and two in the provinces of Bío Bío and Concepción. The registries collect data from pathology and haematology laboratories, hospital discharge records, and the health ministry official database of deaths, and systematically review medical records. Tumours are coded according to ICD-O-3 (Table A.10), and data are stored and validated using CanReg5, provided by IARC.

The registries participate in the development of cancer control strategies in their respective regions and produce reports on incidence, mortality, and survival.

POPULATION AT RISK

The population data are based on the censuses of 1992 and 2002 and were projected to 2012 by the National Institute of Statistics (https://www.ine.cl/).

EDITORS' COMMENTS

Data on cancer in children younger than 15 years are recorded by the National Registry of Childhood Cancer (RENCI), described below. In addition, datasets from four regional registries that record cancers in patients of all ages (Antofagasta, Bío Bío, Concepción, and Valdivia) are presented in a combined dataset in the IICC-3 book. All four registries are relatively small; therefore, the data are presented in abbreviated tables online (Table A.12).

The incidence rate reported by RENCI was somewhat lower than that derived from the combined data of the four general cancer registries. This may be because of the differences in the covered populations. Although RENCI also covers remote areas, which may have lower incidence rates, the general registries cover well-served areas that may attract non-residents or that may have higher incidence rates. The relatively small datasets provided by the individual general cancer registries may have resulted in a large random variation of some indicators in excess of the expected ranges. The sex ratio in the age group 15–19 years was higher than expected; this was to a large extent due to the high incidence of germ cell tumours in boys. Non-malignant CNS tumours were reportable, and pilocytic astrocytoma was coded with uncertain behaviour, but few or no cases were recorded in the individual registries. Skin carcinomas were reportable in all registries, but some cases in the private health system may not have been reported.

CHILE, 4 registries (1998-2012)

Registry	Period	Cases	%	Person-years	%
Antofagasta	2003-2010	186	20.5	1 512 008	24.1
Bío Bío	2003-2012	174	19.1	1 276 016	20.4
Concepción	2006-2010	255	28.1	1 557 855	24.9
Valdivia	1998-2012	294	32.3	1 920 455	30.6
CHILE	**1998-2012**	**909**	**100.0**	**6 266 334**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

National Registry of Childhood Cancer (RENCI), 2007–2011

Clelia Vallebuona, Carla Cartes, Natalia Vergara, Fernando Soto, Nora Diaz, Marion Contreras, Lautaro Vargas, Rodolfo Pino

The National Registry of Childhood Cancer (RENCI) is part of the cancer monitoring system of the Ministry of Health in charge of surveillance of the population younger than 15 years in all regions of the country (a total of 3.7 million children).

The public health sector treats 85% of all new cancer cases. This sector includes 11 public health centres for comprehensive care of children with cancer; these are located in different regions of the country. The private sector treats the remaining patients. Both sectors provide diagnostic and treatment services, and pain relief is provided by the public sector.

RENCI is coordinated by the Department of Epidemiology of the Ministry of Health. Its implementation and operations follow the legal norms of the Ministry of Health.

Data are input directly into the RENCI database by oncologists from the public and private health systems. Registry personnel extract data from clinical records and national databases of deaths, of hospital discharges, and others. Data are verified using IARCcrgTools and standards.

RENCI collaborates and exchanges data with the regional population-based cancer registries. It coordinates studies on childhood cancer in Chile and reports childhood cancer incidence and survival for the country as a whole and by region. Its aim is to provide information to policy-makers in the health sector and to improve public health services. More information is available at http://epi.minsal.cl/registro-nacional-del-cancer-infantil-que-es-el-registro.

POPULATION AT RISK

Data were provided in all requested detail. See also Chile, above.

EDITORS' COMMENTS

In this paediatric cancer registry, registration focused on the age group 0–14 years during the reporting period. Therefore, data for the age groups 15–19 years and 0–19 years are not included in the tables. Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Laterality was available for 90% of the cases of interest. See also Chile, above.

CHILE, paediatric (2007-2011)

	Age group (years)	Males	Females
Person-years	0	624 836	600 175
	1-4	2 424 039	2 323 421
	5-9	3 110 826	2 984 964
	10-14	3 418 546	3 269 156
	0-14	9 578 247	9 177 716
Average annual population	0-14	1 915 649	1 835 543

Please consult the quality indicators for this registry

CHILE, paediatric (2007-2011)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	63	379	281	238	**961**	40.4	100.0	51.4	79.8	46.1	35.6	**53.8**	778	97.8	2.2
	a. Lymphoid	24	327	226	162	**739**	31.1	76.9	19.6	68.9	37.1	24.2	**41.7**	600	99.3	0.7
	b. Acute myeloid	19	44	44	56	**163**	6.8	17.0	15.5	9.3	7.2	8.4	**8.8**	131	100.0	0.0
	c. CMD	2	0	3	7	**12**	0.5	1.2	1.6	-	0.5	1.0	**0.6**	9	91.7	8.3
	d. MDS & other	6	3	3	3	**15**	0.6	1.6	4.9	0.6	0.5	0.4	**0.9**	12	93.3	6.7
	e. Unspecified	12	5	5	10	**32**	1.3	3.3	9.8	1.1	0.8	1.5	**1.8**	26	56.3	43.8
II	LYMPHOMA & RELATED	4	44	87	100	**235**	9.9	100.0	3.3	9.3	14.3	15.0	**12.1**	186	98.7	1.3
	a. Hodgkin	0	14	43	56	**113**	4.7	48.1	-	2.9	7.1	8.4	**5.6**	89	100.0	0.0
	b. Non-Hodgkin except BL	2	11	31	30	**74**	3.1	31.5	1.6	2.3	5.1	4.5	**3.8**	59	95.9	4.1
	c. Burkitt (BL)	0	13	12	13	**38**	1.6	16.2	-	2.7	2.0	1.9	**2.0**	30	100.0	0.0
	d. Lymphoreticular	2	6	1	1	**10**	0.4	4.3	1.6	1.3	0.2	0.1	**0.6**	8	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
III	CNS NEOPLASMS †	26	116	120	111	**373**	15.7	100.0	21.2	24.4	19.7	16.6	**20.4**	300	74.3	6.4
	a. Ependymoma	6	25	5	15	**51**	2.1	13.7	4.9	5.3	0.8	2.2	**2.9**	41	98.0	0.0
	b. Astrocytoma	3	26	37	33	**99**	4.2	26.5	2.4	5.5	6.1	4.9	**5.3**	79	86.9	0.0
	c. CNS embryonal	3	35	33	28	**99**	4.2	26.5	2.4	7.4	5.4	4.2	**5.4**	80	99.0	0.0
	d. Other gliomas	1	10	15	12	**38**	1.6	10.2	0.8	2.1	2.5	1.8	**2.0**	30	55.3	0.0
	e. Other specified	1	5	11	10	**27**	1.1	7.2	0.8	1.1	1.8	1.5	**1.4**	22	81.5	0.0
	f. Unspecified CNS	12	15	19	13	**59**	2.5	15.8	9.8	3.2	3.1	1.9	**3.3**	48	0.0	40.7
IV	NEUROBLASTOMA	34	46	14	3	**97**	4.1	100.0	27.8	9.7	2.3	0.4	**6.1**	81	99.0	0.0
	a. (Ganglio)neuroblastoma	34	46	14	2	**96**	4.0	99.0	27.8	9.7	2.3	0.3	**6.0**	80	99.0	0.0
	b. Peripheral nervous	0	0	0	1	**1**	0.0	1.0	-	-	-	0.1	**0.0**	1	100.0	0.0
V	RETINOBLASTOMA	23	48	8	0	**79**	3.3	100.0	18.8	10.1	1.3	-	**5.0**	66	86.1	0.0
VI	RENAL TUMOURS	18	55	16	6	**95**	4.0	100.0	14.7	11.6	2.6	0.9	**5.8**	79	98.9	1.1
	a. Nephroblastoma	17	54	16	6	**93**	3.9	97.9	13.9	11.4	2.6	0.9	**5.7**	77	100.0	0.0
	b. Renal carcinoma	0	1	0	0	**1**	0.0	1.1	-	0.2	-	-	**0.1**	1	100.0	0.0
	c. Unspecified	1	0	0	0	**1**	0.0	1.1	0.8	-	-	-	**0.1**	1	0.0	100.0
VII	HEPATIC TUMOURS	17	20	8	4	**49**	2.1	100.0	13.9	4.2	1.3	0.6	**3.0**	41	100.0	0.0
	a. Hepatoblastoma	17	20	3	1	**41**	1.7	83.7	13.9	4.2	0.5	0.1	**2.6**	34	100.0	0.0
	b. Hepatic carcinoma	0	0	5	3	**8**	0.3	16.3	-	-	0.8	0.4	**0.4**	6	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	2	8	34	85	**129**	5.4	100.0	1.6	1.7	5.6	12.7	**6.1**	100	96.9	3.1
	a. Osteosarcoma	0	3	20	51	**74**	3.1	57.4	-	0.6	3.3	7.6	**3.5**	57	100.0	0.0
	b. Chondrosarcoma	0	0	1	1	**2**	0.1	1.6	-	-	0.2	0.1	**0.1**	2	100.0	0.0
	c. Ewing & related	1	5	10	29	**45**	1.9	34.9	0.8	1.1	1.6	4.3	**2.2**	35	100.0	0.0
	d. Other specified	0	0	2	1	**3**	0.1	2.3	-	-	0.3	0.1	**0.1**	2	100.0	0.0
	e. Unspecified	1	0	1	3	**5**	0.2	3.9	0.8	-	0.2	0.4	**0.2**	4	20.0	80.0
IX	SOFT TISSUE SARCOMA	15	56	44	51	**166**	7.0	100.0	12.2	11.8	7.2	7.6	**9.1**	134	99.4	0.0
	a. Rhabdomyosarcoma	5	34	26	12	**77**	3.2	46.4	4.1	7.2	4.3	1.8	**4.4**	63	98.7	0.0
	b. Fibrosarcoma	4	4	4	6	**18**	0.8	10.8	3.3	0.8	0.7	0.9	**1.0**	14	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	3	15	11	27	**56**	2.4	33.7	2.4	3.2	1.8	4.0	**2.9**	44	100.0	0.0
	e. Unspecified	3	3	3	6	**15**	0.6	9.0	2.4	0.6	0.5	0.9	**0.8**	12	100.0	0.0
X	GERM CELL TUMOURS	19	23	19	58	**119**	5.0	100.0	15.5	4.8	3.1	8.7	**6.2**	94	94.1	0.0
	a. CNS germ cell	2	2	8	12	**24**	1.0	20.2	1.6	0.4	1.3	1.8	**1.2**	19	79.2	0.0
	b. Other extragonadal	7	6	0	8	**21**	0.9	17.6	5.7	1.3	-	1.2	**1.2**	17	95.2	0.0
	c. Gonadal germ cell	10	14	11	35	**70**	2.9	58.8	8.2	2.9	1.8	5.2	**3.7**	55	98.6	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	1	0	3	**4**	0.2	3.4	-	0.2	-	0.4	**0.2**	3	100.0	0.0
XI	CARCINOMA & MELANOMA	2	5	12	44	**63**	2.6	100.0	1.6	1.1	2.0	6.6	**3.0**	49	98.4	0.0
	a. Adrenocortical	2	0	1	3	**6**	0.3	9.5	1.6	-	0.2	0.4	**0.3**	5	100.0	0.0
	b. Thyroid	0	3	5	21	**29**	1.2	46.0	-	0.6	0.8	3.1	**1.4**	22	100.0	0.0
	c. Nasopharyngeal	0	0	0	2	**2**	0.1	3.2	-	-	-	0.3	**0.1**	1	100.0	0.0
	d. Melanoma	0	2	2	5	**9**	0.4	14.3	-	0.4	0.3	0.7	**0.5**	7	100.0	0.0
	e. Skin carcinoma	0	0	1	2	**3**	0.1	4.8	-	-	0.2	0.3	**0.1**	2	100.0	0.0
	f. Other & unspecified	0	0	3	11	**14**	0.6	22.2	-	-	0.5	1.6	**0.6**	11	92.9	0.0
XII	OTHER & UNSPECIFIED	4	6	0	4	**14**	0.6	100.0	3.3	1.3	-	0.6	**0.8**	11	14.3	57.1
	a. Other specified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	b. Other unspecified	4	6	0	4	**14**	0.6	100.0	3.3	1.3	-	0.6	**0.8**	11	14.3	57.1
	TOTAL	227	806	643	704	**2380**	100.0	100.0	185.3	169.8	105.5	105.3	**131.5**	1919	93.4	2.6

† includes 65 non-malignant

Please consult the quality indicators for this registry

Antofagasta Cancer Registry, 2003–2010

Juan Carlos Galaz, Jessica Moya, Clelia Vallebuona, Carla Cartes

Antofagasta Region is located in northern Chile and covers an area of 126 049 km^2. The population is 0.6 million (3.3% of the national population), and 32% of the population is younger than 20 years (Table A.6). Members of the Indigenous Atacameño and Aymara ethnic groups predominate.

The region has an arid climate and high levels of ultraviolet radiation. The area's dominant industry is mining, primarily of copper, which presents environmental safety concerns. The soil contains significant deposits of arsenic, to which the population has been exposed through the drinking-water (particularly from the 1950s to the late 1970s).

The public health-care network consists of five public hospitals and five private hospitals. Two public hospitals provide radiotherapy, surgery, and other services and function as oncology reference centres; these centres meet the needs of the region and the northern part of the country.

The Ministry of Health established the population-based Antofagasta Cancer Registry, which is located in the Local Health Authority (SEREMI). The registry has two professional staff members. More information is available from https://seremi2.redsalud.gob.cl/ and http://epi.minsal.cl/registros-poblacionales-de-cancer-informes.

POPULATION AT RISK

Data were provided in all requested detail. See also Chile, above.

EDITORS' COMMENTS

Because of the small size of the registry, some indicators have out-of-range values, including age distribution, a high sex ratio (Table A.9), and an unlikely distribution of the dates of birth and incidence (Table A.8). The proportion of cases with unspecified morphology was high (14%) (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. Non-malignant CNS tumours were reportable, but none were included in the submitted dataset. There were no cases of pilocytic astrocytoma in the dataset. Laterality was available for 70% of the cases of interest. See also Chile, above.

Bío Bío Cancer Registry, 2003–2012

Maria Elena Umaña, Maria Paz Sandoval, Clelia Vallebuona, Nora Díaz, Carla Cartes

The population-based Bío Bío Cancer Registry covers Bío Bío Province within Bío Bío Region. Bío Bío Province is located in the south-central Bío Bío Region and covers an area of 16 226 km^2. The population is 0.4 million (2.3% of the national population), and 32% of the population is younger than 20 years (Table A.6). Members of the Indigenous Mapuche ethnic group living in the province are included.

The province has undergone remarkable development in the industrial and agricultural sectors, particularly in industries related to forestry, in addition to traditional agriculture.

The health-care network in the province comprises six community hospitals and one specialized hospital in Los Angeles. The specialized hospital provides diagnostic services, hormone therapy, and chemotherapy for some haematological cancers. Other cancer cases are referred to Hospital Dr. Guillermo Grant Benavente (in the neighbouring province of Concepción) and to other public hospitals. Hospital Dr. Guillermo Grant Benavente provides childhood cancer diagnostic and treatment services.

The Bío Bío Cancer Registry has one professional staff member. Data on incidence, mortality, and survival are available from https://seremi2.redsalud.gob.cl/ and http://epi.minsal.cl/registros-poblacionales-de-cancer-informes.

POPULATION AT RISK

Population data were provided by sex and single year of age for each calendar year of the period 2007–2011 and by 5-year age group for 2003–2006 and 2012. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Chile, above.

EDITORS' COMMENTS

DCO cases are ascertained, but none were identified (Table A.9). The month of birth may be unknown in 13% of cases (Table A.8), which may affect the age distribution. The sex ratio in the age group 15–19 years was high (1.8) (Table A.9). The proportion of cases aged 19 years in the age group 15–19 years (29%) was higher than expected. Non-malignant CNS tumours were registered. There were no cases of pilocytic astrocytoma in the dataset. Laterality was complete for retinoblastoma and nephroblastoma. See also Chile, above.

Concepción Cancer Registry, 2006–2010

Carla Espinoza, Jocelyn Sanhueza, Clelia Vallebuona, Nora Díaz, Carla Cartes

The Concepción Cancer Registry covers Concepción Province in the west-central coastal Bío Bío Region. Most of the coastal population is concentrated in the region, which is divided into 12 communes; the Commune of Concepción is the regional capital and an important urban and industrial centre.

Concepción Province has a population density of 290 per km^2, the highest in the region. In 2010, the population was 1.0 million; 30% of the population was younger than 20 years (Table A.6), and about 5.2% of the population is Indigenous.

The public health network of the province comprises two health services with nine public hospitals (two of them specialized), 41 family health centres, 23 rural clinics, and 11 primary care services. The private health-care network has multiple haematology and pathology laboratories and dental clinics, 19 general clinics, and four hospitals. One health unit provides specialized services, such as a regional breast imaging diagnostic centre and haemato-oncology services for infants and adults. Referrals are made to the regional cancer and radiotherapy centre at Hospital Dr. Guillermo Grant Benavente.

The Ministry of Health established the Concepción Cancer Registry, which is located in the SEREMI. The registry has one professional staff member. More information is available at https://seremi2.redsalud.gob.cl/ and http://epi.minsal.cl/registros-poblacionales-de-cancer-informes.

POPULATION AT RISK

Population data were provided by sex and single year of age for 2007–2010 and by sex and 5-year age group for 2006. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Chile, above.

EDITORS' COMMENTS

Incidence rates in the age group 0–14 years were high overall (163.4 per million) and for leukaemia (61.7 per million) compared with the other registries in Chile. This may reflect the location of the referral hospital in the province, which facilitates complete ascertainment. Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete. See also Chile, above.

Valdivia, Cancer Registry of Los Ríos Region, 1998–2012

Solange Vargas, Ana María Jofré, Clelia Vallebuona, Carla Cartes

The population-based Valdivia Cancer Registry covers Los Ríos Region, which has an area of 18 429 km^2. Los Ríos Region is located in southern Chile, and the economy is mainly based on forestry, trade, and services. The regional population is 0.4 million; 31% of the population is younger than 20 years (Table A.8), and 11.4% of the population is Indigenous. The population younger than 20 years covered by the registry is 2.3% of the national population younger than 20 years.

The public health-care network consists of a specialized oncology centre within the Regional Hospital of Valdivia; this centre provides diagnostic imaging support, surgical treatment, radiotherapy and chemotherapy, and haematology and pathology services. It is also equipped with an oncology unit that is staffed by paediatric oncologists. The private sector provides medical care, surgical treatment, and chemotherapy for adults as well as pathology services. The Regional Hospital of Valdivia is the only provider of radiotherapy and other treatment for childhood cancers.

The Ministry of Health established the Cancer Registry of Valdivia, which is located in the SEREMI. The registry has one professional staff member. More information is available at https://seremi14.redsalud.gob.cl/ and http://epi.minsal.cl/registros-poblacionales-de-cancer-informes.

POPULATION AT RISK

Data were provided in all requested detail. See also Chile, above.

EDITORS' COMMENTS

The high sex ratio in the age group 15–19 years (Table A.9) is driven mainly by markedly higher rates of lymphomas and germ cell tumour in boys than in girls, as noted in the abbreviated registry table available online. Date of incidence was incomplete for more than 15% of cases (Table A.8). Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete for nephroblastoma. See also Chile, above.

CHILE, 4 registries (1998-2012)

	Age group (years)	Males	Females
Person-years	0	143 979	137 513
	1-4	574 695	554 849
	5-9	766 849	739 393
	10-14	841 174	808 531
	15-19	870 078	829 273
	0-14	2 326 697	2 240 286
	0-19	3 196 775	3 069 559

Please consult the quality indicators for this pool and its constituent registries

CHILE, 4 registries (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	18	119	70	54	46	261	307	41.4	100.0	33.8	100.0	63.9	105.4	46.5	32.7	27.1	62.1	54.2	881	1017	100.0	0.0
	a. Lymphoid	8	95	59	34	22	196	218	31.1	75.1	24.0	71.0	28.4	84.1	39.2	20.6	12.9	46.9	39.2	664	729	100.0	0.0
	b. Acute myeloid	6	18	6	12	16	42	58	6.7	16.1	6.4	18.9	21.3	15.9	4.0	7.3	9.4	10.0	9.9	141	188	100.0	0.0
	c. CMD	0	1	0	4	4	5	9	0.8	1.9	1.0	2.9	-	0.9	-	2.4	2.4	1.0	1.3	16	27	100.0	0.0
	d. MDS & other	1	0	0	1	0	2	2	0.3	0.8	0.2	0.7	3.6	-	-	0.6	-	0.5	0.3	7	7	100.0	0.0
	e. Unspecified	3	5	5	3	4	16	20	2.5	6.1	2.2	6.5	10.7	4.4	3.3	1.8	2.4	3.8	3.5	54	66	100.0	0.0
II	LYMPHOMA & RELATED	6	13	26	26	46	71	117	11.3	100.0	12.9	100.0	21.3	11.5	17.3	15.8	27.1	15.4	18.0	232	368	98.3	0.0
	a. Hodgkin	0	4	12	15	26	31	57	4.9	43.7	6.3	48.7	-	3.5	8.0	9.1	15.3	6.3	8.3	99	176	100.0	0.0
	b. Non-Hodgkin except BL	1	3	8	10	18	22	40	3.5	31.0	4.4	34.2	3.6	2.7	5.3	6.1	10.6	4.6	5.9	71	124	100.0	0.0
	c. Burkitt (BL)	0	2	5	0	0	7	7	1.1	9.9	0.8	6.0	-	1.8	3.3	-	-	1.6	1.3	24	24	100.0	0.0
	d. Lymphoreticular	5	4	1	0	0	10	10	1.6	14.1	1.1	8.5	17.8	3.5	0.7	-	-	2.7	2.1	35	35	100.0	0.0
	e. Unspecified	0	0	0	1	2	1	3	0.2	1.4	0.3	2.6	-	-	-	0.6	1.2	0.2	0.4	3	9	33.3	0.0
III	CNS NEOPLASMS †	10	40	24	31	22	105	127	16.7	100.0	14.0	100.0	35.5	35.4	15.9	18.8	12.9	24.3	21.8	351	416	76.4	3.1
	a. Ependymoma	3	9	2	2	2	16	18	2.5	15.2	2.0	14.2	10.7	8.0	1.3	1.2	1.2	4.1	3.4	55	61	100.0	0.0
	b. Astrocytoma	0	14	7	12	8	33	41	5.2	31.4	4.5	32.3	-	12.4	4.6	7.3	4.7	7.5	6.8	109	133	92.7	0.0
	c. CNS embryonal	3	9	5	7	2	24	26	3.8	22.9	2.9	20.5	10.7	8.0	3.3	4.2	1.2	5.6	4.6	80	86	100.0	0.0
	d. Other gliomas	1	1	2	3	0	7	7	1.1	6.7	0.8	5.5	3.6	0.9	1.3	1.8	-	1.5	1.2	23	23	71.4	0.0
	e. Other specified	0	1	4	3	2	8	10	1.3	7.6	1.1	7.9	-	0.9	2.7	1.8	1.2	1.7	1.6	26	32	100.0	0.0
	f. Unspecified CNS	3	6	4	4	8	17	25	2.7	16.2	2.8	19.7	10.7	5.3	2.7	2.4	4.7	4.0	4.2	57	81	0.0	16.0
IV	NEUROBLASTOMA	5	8	3	0	0	16	16	2.5	100.0	1.8	100.0	17.8	7.1	2.0	-	-	4.2	3.3	56	56	93.8	0.0
	a. (Ganglio)neuroblastoma	5	8	3	0	0	16	16	2.5	100.0	1.8	100.0	17.8	7.1	2.0	-	-	4.2	3.3	56	56	93.8	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	4	9	1	0	0	14	14	2.2	100.0	1.5	100.0	14.2	8.0	0.7	-	-	3.8	2.9	49	49	85.7	0.0
VI	RENAL TUMOURS	1	18	5	3	1	27	28	4.3	100.0	3.1	100.0	3.6	15.9	3.3	1.8	0.6	6.8	5.4	93	96	100.0	0.0
	a. Nephroblastoma	0	17	5	3	0	25	25	4.0	92.6	2.8	89.3	-	15.1	3.3	1.8	-	6.3	4.9	86	86	100.0	0.0
	b. Renal carcinoma	1	1	0	0	1	2	3	0.3	7.4	0.3	10.7	3.6	0.9	-	-	0.6	0.5	0.6	7	10	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	4	11	0	0	0	15	15	2.4	100.0	1.7	100.0	14.2	9.7	-	-	-	4.1	3.2	53	53	86.7	6.7
	a. Hepatoblastoma	4	9	0	0	0	13	13	2.1	86.7	1.4	86.7	14.2	8.0	-	-	-	3.6	2.8	46	46	100.0	0.0
	b. Hepatic carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	0	2	0	0	0	2	2	0.3	13.3	0.2	13.3	-	1.8	-	-	-	0.5	0.4	7	7	0.0	50.0
VIII	BONE TUMOURS	1	2	7	16	27	26	53	4.1	100.0	5.8	100.0	3.6	1.8	4.6	9.7	15.9	5.1	7.6	82	162	92.5	7.5
	a. Osteosarcoma	0	1	2	6	17	9	26	1.4	34.6	2.9	49.1	-	0.9	1.3	3.6	10.0	1.8	3.6	28	78	100.0	0.0
	b. Chondrosarcoma	0	0	1	0	1	1	2	0.2	3.8	0.2	3.8	-	-	0.7	-	0.6	0.2	0.3	3	6	100.0	0.0
	c. Ewing & related	0	0	3	8	5	11	16	1.7	42.3	1.8	30.2	-	-	2.0	4.8	2.9	2.1	2.3	34	49	100.0	0.0
	d. Other specified	0	1	1	1	0	3	3	0.5	11.5	0.3	5.7	-	0.9	0.7	0.6	-	0.7	0.5	10	10	100.0	0.0
	e. Unspecified	1	0	0	1	4	2	6	0.3	7.7	0.7	11.3	3.6	-	-	0.6	2.4	0.5	0.9	7	18	33.3	66.7
IX	SOFT TISSUE SARCOMA	3	5	11	20	16	39	55	6.2	100.0	6.1	100.0	10.7	4.4	7.3	12.1	9.4	8.1	8.4	125	173	98.2	0.0
	a. Rhabdomyosarcoma	1	4	6	7	2	18	20	2.9	46.2	2.2	36.4	3.6	3.5	4.0	4.2	1.2	3.9	3.3	59	65	100.0	0.0
	b. Fibrosarcoma	1	0	1	3	5	5	10	0.8	12.8	1.1	18.2	3.6	-	0.7	1.8	2.9	1.0	1.4	16	31	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	1	4	6	8	11	19	1.7	28.2	2.1	34.5	-	0.9	2.7	3.6	4.7	2.2	2.8	35	59	100.0	0.0
	e. Unspecified	1	0	0	4	1	5	6	0.8	12.8	0.7	10.9	3.6	-	-	2.4	0.6	1.0	0.9	16	19	83.3	0.0
X	GERM CELL TUMOURS	6	8	3	10	66	27	93	4.3	100.0	10.2	100.0	21.3	7.1	2.0	6.1	38.8	6.2	13.6	90	284	97.8	0.0
	a. CNS germ cell	0	0	0	1	2	1	3	0.2	3.7	0.3	3.2	-	-	-	0.6	1.2	0.2	0.4	3	9	100.0	0.0
	b. Other extragonadal	2	3	0	1	3	6	9	1.0	22.2	1.0	9.7	7.1	2.7	-	0.6	1.8	1.5	1.6	21	30	100.0	0.0
	c. Gonadal germ cell	4	5	3	7	55	19	74	3.0	70.4	8.1	79.6	14.2	4.4	2.0	4.2	32.4	4.3	10.6	63	225	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	3	0	3	-	-	0.3	3.2	-	-	-	-	1.8	-	0.4	-	9	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	3	1	4	0.2	3.7	0.4	4.3	-	-	-	0.6	1.8	0.2	0.5	3	12	50.0	0.0
XI	CARCINOMA & MELANOMA	0	3	6	11	46	20	66	3.2	100.0	7.3	100.0	-	2.7	4.0	6.7	27.1	4.0	9.2	64	199	100.0	0.0
	a. Adrenocortical	0	0	1	0	0	1	1	0.2	5.0	0.1	1.5	-	-	0.7	-	-	0.2	0.2	3	3	100.0	0.0
	b. Thyroid	0	1	2	6	23	9	32	1.4	45.0	3.5	48.5	-	0.9	1.3	3.6	13.5	1.8	4.4	28	96	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Melanoma	0	2	0	0	5	2	7	0.3	10.0	0.8	10.6	-	1.8	-	-	2.9	0.5	1.1	7	22	100.0	0.0
	e. Skin carcinoma	0	0	2	1	2	3	5	0.5	15.0	0.6	7.6	-	-	1.3	0.6	1.2	0.6	0.7	10	16	100.0	0.0
	f. Other & unspecified	0	0	1	4	16	5	21	0.8	25.0	2.3	31.8	-	-	0.7	2.4	9.4	0.9	2.8	15	63	100.0	0.0
XII	OTHER & UNSPECIFIED	3	2	2	2	9	9	18	1.4	100.0	2.0	100.0	10.7	1.8	1.3	1.2	5.3	2.2	2.9	30	57	33.3	22.2
	a. Other specified	0	0	0	0	2	0	2	-	-	0.2	11.1	-	-	-	-	1.2	-	0.3	-	6	100.0	0.0
	b. Other unspecified	3	2	2	2	7	9	16	1.4	100.0	1.8	88.9	10.7	1.8	1.3	1.2	4.1	2.2	2.6	30	51	25.0	25.0
	TOTAL	61	238	158	173	279	630	909	100.0	100.0	100.0	100.0	216.7	210.7	104.9	104.9	164.2	146.3	150.3	2108	2929	93.8	1.4

† includes 23 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Colombia

Colombia is located in the north-west of South America. It is bordered by Panama to the north-west, Venezuela and Brazil to the east, and Ecuador and Peru to the south. The country encompasses Andes mountains, Amazon rainforest, tropical grassland, and both Caribbean and Pacific coastlines. The climate ranges from tropical rainforests, savannas, and steppes to desert and mountain climates.

Colombia is an upper-middle-income country; the poverty rate of 28% is higher than the average for Latin America. Economic production is dominated by strong domestic demand. The service sector constitutes almost half of production; the rest consists of manufacturing, agriculture, construction, transportation, mining, and energy production.

In 2010, the population was 45.9 million, and 36% of the population was younger than 20 years (Table A.6). The population increased 10-fold over the past century, but the growth rate has decreased steadily since the 1970s. Most of the population is concentrated in the Andean highlands and along the Caribbean coast; about 75% live in urban areas. The official language is Spanish, and the official religion is Roman Catholic. Colombia is divided into 32 administrative departments, which are further divided into municipalities.

The Colombian health system was reformed in 1993, and by 2003 the Colombian Social Security System had greatly increased population coverage through the governmental universal mandatory health insurance system. People are assigned to one of two main insurance schemes on the basis of income: a contributory regime for workers and their families with an income above a certain level (financed through payroll and employer contributions) and a subsidized regime for those identified as poor. In addition, there are special and exceptional regimes for workers in certain sectors (e.g. military, education). The system covers 95% of citizens. Private insurance companies manage the health care of their clients.

In 1962, Colombia established the first population-based cancer registry in South America; the registry is located in Cali (Table A.10). Throughout the late 1980s and 1990s, the National Cancer Institute and the Ministry of Health developed a national cancer registry plan to cover additional areas of the country. Population-based cancer registries were established in Barranquilla, Bucaramanga, Manizales, and Pasto. The five above-mentioned registries, which are in different phases of development, cover 12% of the total population. The National Cancer Institute provides partial financial support to these registries. All registries manage their own databases and collaborate within the National Network of Cancer Registries. They provide data to the National Cancer Institute, which produces national and subnational estimates every 5 years using data from the registries and mortality statistics. Data are collected mainly manually, because the registries do not have access to electronic databases, such as the national mortality database. The information infrastructure was very limited in the 1990s. The health system reform of 1993 improved the availability of the identity data, such as exact date of birth, which opens the prospect of greater accuracy of the collected data.

Reporting of childhood leukaemia has been mandatory since 2008, and reporting of other malignant neoplasms in children has been mandatory since 2010. Several information systems at the national level were established as part of a 10-year national cancer control plan. The National Administrative Cancer Registry (NACR) was created in 2012 to cover all of Colombia and to provide information on this high-cost disease to help manage health-care costs. The NACR relies on passive mandatory reporting of cancer cases from health insurers and health-care providers; therefore, these data are incomplete.

PUBLICATIONS

de Vries E, Pardo C, Arias N, Bravo LE, Navarro E, Uribe C, et al. (2016). Estimating the cost of operating cancer registries: experience in Colombia. Cancer Epidemiol. 45(Suppl 1):S13–9. https://doi.org/10.1016/j.canep.2016.09.014 PMID:27760725

Valencia O, Lopes G, Sánchez P, Acuña L, Uribe D, González J (2018). Incidence and prevalence of cancer in Colombia: the methodology used matters. J Glob Oncol. 4(4):1–7. https://doi.org/10.1200/JGO.17.00008 PMID:30241220

POPULATION AT RISK

Population data were provided by the National Administrative Department of Statistics (https://www.dane.gov.co/). Data for 1992–2005 correspond to the estimates by interpolation from three consecutive unadjusted population censuses: those of 1985, 1993,

COLOMBIA, 4 registries (1992-2013)

Registry	Period	Cases	%	Person-years	%
Bucaramanga	2000-2012	725	20.5	4 810 057	20.3
Cali	1992-2013	2398	67.8	15 485 957	65.5
Manizales	2003-2012	143	4.0	1 234 994	5.2
Pasto	1998-2012	271	7.7	2 115 600	8.9
COLOMBIA	**1992-2013**	**3537**	**100.0**	**23 646 608**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

and 2005 (Table A.7). For the period 2006–2013, the National Administrative Department of Statistics completed the periodic adjustments to census estimates, and these estimates and interpolations were used to make intercensal population projections to 2020. All four registries provided population data in all required detail.

EDITORS' COMMENTS

Four cancer registries contributed to IICC-3 (Bucaramanga, Cali, Manizales, and Pasto), and their combined dataset is presented in the IICC-3 book. The Cali Cancer Registry was included as from 1992, in a follow-up to the calendar years covered in IICC-1 and IICC-2 (Table A.1). Standard tables for the Bucaramanga and Cali registries and an abbreviated table for the Pasto registry (within the combined dataset for Colombia) are available online. No table is available for the Manizales registry, because of the small number of cases, but the registry contributed to the pooled dataset of the four registries (Table A.12).

In all four registries, some cases had imprecise dates of birth or diagnosis (Table A.8). Most of the MV cases with unspecified morphology were provided by the Bucaramanga registry (Table A.9). Non-malignant CNS tumours and skin carcinomas were reportable, with some exceptions, as specified in registry-specific sections below. Where it was reported, pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete for Bucaramanga and Manizales.

Cancer Registry of the Bucaramanga Metropolitan Area, 2000–2012

Claudia J. Uribe

The Bucaramanga Metropolitan Area is located in the Santander Department in north-eastern Colombia. The area comprises the city of Bucaramanga (the capital of Santander Department) and three contiguous towns (municipalities): Floridablanca, Girón, and Piedecuesta. The total area is 1479 km^2, and the average annual temperature is 24 °C. Each constituent town is politically independent, but they are all related economically and socially (https://www.amb.gov.co/). Bucaramanga has the highest GDP per capita in Colombia and the lowest unemployment rate.

In 2010, the population was 1.1 million, and 34% of the population was younger than 20 years (Table A.6). The population of the Bucaramanga Metropolitan Area is racially mixed, with little socioeconomic differentiation. Most of the population is Roman Catholic.

The cancer registry was established in 2000 (Table A.10) and covers all residents of the Bucaramanga Metropolitan Area. The registry collects data actively from various sources, including haematology and pathology laboratories, hospital discharge records, imaging centres, screening centres, volunteer organizations, cancer centres, autopsy reports and death certificates obtained from the Municipal Office of Vital Statistics of the Departmental Health Secretary, and medical specialists, including five paediatric oncologists. Registry staff members visit these sources and collect information on cancer cases, diagnosed by all methods, among residents of the registry region. Data are recorded on a special form at the source site and are reviewed and classified at the registry office. Cases ascertained from death certificates were verified by reviewing clinical records. In the absence of further clinical information, a case was recorded as DCO. Tumours were coded according to ICD-O-3 by a pathologist and registered according to the rules for multiple primary tumours.

Data entry and analysis were done using CanReg4. In addition, data were validated using IARCcrgTools and the Registry Plus Link Plus programs.

POPULATION AT RISK

See Colombia, above.

EDITORS' COMMENTS

The proportion of cases in age 0 year in the age group 0–14 years was low (4%), and the proportion of cases with unspecified morphology was very high (21%), including among MV cases (Table A.9), possibly because of suboptimal completeness and precision of data from paediatric oncology providers. The sex ratio in the age group 15–19 years was high (1.7) (Table A.9), especially for soft tissue sarcoma, germ cell tumours, bone tumours, and leukaemia (see the registry standard table, available online). Non-malignant CNS tumours were registered, but the proportion was low (12%) (Table A.9). Pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were reportable, with the exception of basal cell carcinomas. Laterality was almost complete for all tumours of interest. See also Colombia, above.

Cali Cancer Registry, 1992–2013

Luis Eduardo Bravo, Edwin Carrascal, Luz Stella García, Paola Collazos, Oscar Ramírez

Cali is the capital of the Cauca Valley Department, which is located in west-central Colombia. Cali is the third largest city in Colombia; its access to the Pacific Coast makes Cali an important urban and economic centre with a fast-growing economy. An estimated 23% of the population lives below the poverty threshold. The infant mortality rate is 11 per 1000 live births.

The Cali health-care system serves the residents of the city and of 41 municipalities of the province. Other neighbouring provinces with less-developed health services often refer patients with cancer to Cali.

Cali has two major paediatric oncology units. The larger one is located at the University Hospital of Valle and treats 45% of all paediatric cancer cases in the city. It is one of the largest public institutions in Colombia. The second

largest paediatric oncology unit is located at the non-profit private hospital Clínica Fundación Valle del Lili, which treats about 32% of cases. The remaining cases receive care at one or more of five smaller private centres. Two facilities have bone marrow transplant units for both adults and children. In 2009, there were five paediatric oncologists in Cali; in December 2015, there were eight.

The Cali Cancer Registry covers the urban area of Cali, which has an area of 121 km^2. The population is 2.2 million, and 34% of the population is younger than 20 years (Table A.6). The registry is located at the pathology department of the University of Valle (http://rpcc.univalle.edu.co/). The VIGICANCER surveillance system was implemented in 2009 and has contributed significantly to improving the registration process for childhood cancer. The system was designed to record clinical outcomes data and raise awareness of childhood cancer cases.

PUBLICATIONS

Bravo LE, García LS, Collazos P, Aristizabal P, Ramirez O (2013). Descriptive epidemiology of childhood cancer in Cali: Colombia 1977–2011. Colomb Med (Cali). 44(3):155–64. https://doi.org/10.25100/cm.v44i3.1243 PMID:24892613

POPULATION AT RISK

See Colombia, above.

EDITORS' COMMENTS

Date of birth was incomplete for a proportion of cases (Table A.8) because of a lack of precise data in medical records, especially for infants and adolescents. Non-malignant CNS tumours were registered systematically, with the exception of craniopharyngioma (only one case in the dataset) and pituitary tumours. Basal cell carcinomas and squamous cell carcinomas of skin were not registered. Laterality was not provided. See also Colombia, above.

Manizales Cancer Registry, 2003–2012

Nelson Enrique Arias Ortiz, Luz Elena Sepúlveda Gallego

Manizales is a medium-sized city located in the Andean region of Colombia. The population is about 0.4 million, and 30% of the population is younger than 20 years (Table A.6). Most cancer care facilities are part of a private network of providers, including imaging, cytology, and pathology services, as well as radiotherapy, chemotherapy, and cancer surgery services. Until 2008, the city had a specialized paediatric oncology unit, which treated most childhood cancer cases diagnosed in the resident population. In 2009, this paediatric oncology centre was closed because of administrative and financial difficulties, and children with cancer in Manizales were referred to other cities for diagnosis and treatment.

The population-based Manizales Cancer Registry covers the urban and rural population of the city from 2003. The registry collects data actively from 33 sources, including hospitals, clinics, cytology and pathology laboratories, imaging and radiology services, and municipal vital statistics offices. Data have been published in articles as well as in CI5 Volumes X and XI.

PUBLICATIONS

López Guarnizo G, Arias Ortiz N, Arboleda Ruiz W (2012). Cancer incidence and mortality in Manizales 2003–2007. Colomb Med (Cali). 43(4):281–9. PMID:24893301

Arias-Ortiz N, López-Guarnizo G (2013). Assessing the data quality of the population-based Cancer Registry of Manizales, Colombia. [in Spanish] Rev Colomb Cancerol. 17(4):132–41. https://doi.org/10.1016/S0123-9015(13)70160-4

POPULATION AT RISK

See Colombia, above.

EDITORS' COMMENTS

Non-malignant CNS tumours, pilocytic astrocytoma, and basal cell carcinomas of skin were not registered. Laterality was complete. For 2010–2012, the annual number of reported cases decreased because of the closure in 2009 of the single paediatric oncology unit in the covered area and the ensuing difficulties of collecting data on the resident patients from the new referral institutions. The resulting incidence rates were also affected. Because of the small available dataset, the registry is not presented in a separate table, but it contributes to the pooled dataset of Colombia (Table A.12). See also Colombia, above.

Pasto Cancer Registry, 1998–2012

María Clara Yépez Chamorro, Daniel Marcelo Jurado Fajardo, Luisa Mercedes Bravo Goyes, Luis Eduardo Bravo, Sonia María Gómez Erazo

Pasto is the capital of Nariño Department, which is located at the south-western tip of Colombia and is bordered by Ecuador to the south and the Pacific Ocean to the west. In 2010, Pasto had a population of 0.4 million, and 35% of the population was younger than 20 years (Table A.6). About 82% of residents live in urban areas. The main economic activities in rural areas are agriculture, livestock, and mining, and in urban areas are trade, industry, and services. More than half the population is considered to have low socioeconomic status.

For 1998–2012, health services covered 98% of all residents. Health services costs are covered by the government up to 55%. Paediatric cancers are diagnosed and treated in cytopathology laboratories, hospitals with radiotherapy and chemotherapy services, paediatric hospitals, and paediatric oncology units.

The Pasto Cancer Registry covers the population of the city of Pasto. The registry was created in 1998 as a permanent research project of the Centre for Health Studies of the University of Nariño. It is supported by the university, the Health Secretariat of Pasto, and the National Cancer Institute. The registry staff consists of a director, a director's assistant, a pathologist, a quality controller, a system technician, a collecting coordinator, and two data collectors. For specific topics, the registry receives professional advice from the Cali Cancer Registry. The registry obtained ethical approval from the university and follows the IARC confidentiality rules.

Information is actively collected from various sources, including hospitals, oncology units, cytopathology and imaging laboratories, specialized clinics, and death certificates. Data are checked for duplicate records, internal consistency, and accuracy using Link Plus, IARCcrgTools, and CanReg5.

Health organizations use information provided by the registry to make policy decisions and to implement promotion and prevention programmes in a local context. The registry has contributed to international projects such as CI5 Volumes X and XI, CONCORD-2, and *Cancer in Central and South America*, as well as national projects. Incidence, mortality, and survival rates have been published in several articles, and registry data have been used in specific epidemiological studies, including on childhood cancer.

PUBLICATIONS

Yépez MC, Bravo LE, Hidalgo Troya A, Jurado DM, Bravo LM (2012). Cancer incidence and mortality in the municipality of Pasto, 1998–2007. Colomb Med (Cali). 43(4):256–66. https://doi.org/10.25100/cm.v43i4.1179 PMID:24893298

Yépez MC, Bravo LE, Hidalgo Troya A, Jurado DM, Bravo LM (2012). Incidencia y mortalidad por cáncer. Municipio de Pasto 2003–2007. Pasto, Colombia: Editorial Universitaria, Universidad de Nariño.

POPULATION AT RISK

See Colombia, above.

EDITORS' COMMENTS

The dates of birth and incidence were incomplete in a proportion of cases (Table A.8) because of suboptimal registration of personal data in the data sources during the reporting period. In the registry, age is calculated from exact dates if available; otherwise, age is registered as stated by the patients. The proportion of cases aged 19 years in the age group 15–19 years was high (27%) (Table A.9), but this could be explained by random variation in a small dataset. All non-malignant CNS tumours were registered, but the proportion was relatively low (Table A.9). All skin carcinomas were registered, but the registry staff acknowledged that some cases may have been missed. Laterality was available for 64% of the cases of interest. See also Colombia, above.

COLOMBIA, 4 registries (1992-2013)

	Age group (years)	Males	Females
Person-years	0	544 787	519 337
	1-4	2 262 273	2 191 378
	5-9	2 950 800	2 864 275
	10-14	3 094 907	3 032 602
	15-19	3 037 248	3 149 001
	0-14	8 852 767	8 607 592
	0-19	11 890 015	11 756 593

Please consult the quality indicators for this pool and its constituent registries

COLOMBIA, 4 registries (1992-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	40	383	313	239	249	**975**	**1224**	38.4	100.0	34.6	100.0	37.6	86.0	53.8	39.0	40.3	**58.4**	**54.3**	847	1049	98.9	0.5
	a. Lymphoid	24	312	250	170	137	**756**	**893**	29.8	77.5	25.2	73.0	22.6	70.1	43.0	27.7	22.1	**45.5**	**40.2**	658	769	99.7	0.1
	b. Acute myeloid	11	44	37	41	58	**133**	**191**	5.2	13.6	5.4	15.6	10.3	9.9	6.4	6.7	9.4	**7.9**	**8.2**	115	162	100.0	0.0
	c. CMD	1	2	3	8	17	**14**	**31**	0.6	1.4	0.9	2.5	0.9	0.4	0.5	1.3	2.7	**0.8**	**1.2**	12	26	100.0	0.0
	d. MDS & other	1	6	0	0	0	**7**	**7**	0.3	0.7	0.2	0.6	0.9	1.3	-	-	-	**0.5**	**0.4**	6	6	100.0	0.0
	e. Unspecified	3	19	23	20	37	**65**	**102**	2.6	6.7	2.9	8.3	2.8	4.3	4.0	3.3	6.0	**3.8**	**4.3**	56	86	90.2	4.9
II	LYMPHOMA & RELATED	5	91	136	127	169	**359**	**528**	14.2	100.0	14.9	100.0	4.7	20.4	23.4	20.7	27.3	**20.3**	**21.9**	308	444	99.1	0.0
	a. Hodgkin	0	11	40	53	84	**104**	**188**	4.1	29.0	5.3	35.6	-	2.5	6.9	8.6	13.6	**5.5**	**7.3**	88	156	100.0	0.0
	b. Non-Hodgkin except BL	2	29	42	46	68	**119**	**187**	4.7	33.1	5.3	35.4	1.9	6.5	7.2	7.5	11.0	**6.7**	**7.7**	102	157	99.5	0.0
	c. Burkitt (BL)	1	38	49	23	9	**111**	**120**	4.4	30.9	3.4	22.7	0.9	8.5	8.4	3.8	1.5	**6.5**	**5.4**	96	104	100.0	0.0
	d. Lymphoreticular	2	6	3	1	0	**12**	**12**	0.5	3.3	0.3	2.3	1.9	1.3	0.5	0.2	-	**0.8**	**0.6**	11	11	91.7	0.0
	e. Unspecified	0	7	2	4	8	**13**	**21**	0.5	3.6	0.6	4.0	-	1.6	0.3	0.7	1.3	**0.8**	**0.9**	11	18	85.7	0.0
III	CNS NEOPLASMS †	28	124	146	136	103	**434**	**537**	17.1	100.0	15.2	100.0	26.3	27.8	25.1	22.2	16.6	**25.2**	**23.3**	374	457	82.3	3.0
	a. Ependymoma	4	14	17	12	9	**47**	**56**	1.9	10.8	1.6	10.4	3.8	3.1	2.9	2.0	1.5	**2.8**	**2.5**	41	48	100.0	0.0
	b. Astrocytoma	5	47	56	54	34	**162**	**196**	6.4	37.3	5.5	36.5	4.7	10.6	9.6	8.8	5.5	**9.3**	**8.5**	139	167	97.4	0.0
	c. CNS embryonal	6	34	34	27	12	**101**	**113**	4.0	23.3	3.2	21.0	5.6	7.6	5.8	4.4	1.9	**6.0**	**5.1**	88	97	100.0	0.0
	d. Other gliomas	2	12	13	11	9	**38**	**47**	1.5	8.8	1.3	8.8	1.9	2.7	2.2	1.8	1.5	**2.2**	**2.1**	33	40	74.5	4.3
	e. Other specified	2	1	5	14	14	**22**	**36**	0.9	5.1	1.0	6.7	1.9	0.2	0.9	2.3	2.3	**1.2**	**1.4**	18	30	97.2	0.0
	f. Unspecified CNS	9	16	21	18	25	**64**	**89**	2.5	14.7	2.5	16.6	8.5	3.6	3.6	2.9	4.0	**3.8**	**3.8**	55	76	13.5	15.7
IV	NEUROBLASTOMA	16	33	8	4	4	**61**	**65**	2.4	100.0	1.8	100.0	15.0	7.4	1.4	0.7	0.6	**4.1**	**3.3**	55	58	96.9	0.0
	a. (Ganglio)neuroblastoma	16	33	7	3	2	**59**	**61**	2.3	96.7	1.7	93.8	15.0	7.4	1.2	0.5	0.3	**4.0**	**3.1**	53	54	96.7	0.0
	b. Peripheral nervous	0	0	1	1	2	**2**	**4**	0.1	3.3	0.1	6.2	-	-	0.2	0.2	0.3	**0.1**	**0.2**	2	3	100.0	0.0
V	RETINOBLASTOMA	22	65	7	0	0	**94**	**94**	3.7	100.0	2.7	100.0	20.7	14.6	1.2	-	-	**6.5**	**5.0**	85	85	90.4	0.0
VI	RENAL TUMOURS	7	76	27	3	7	**113**	**120**	4.5	100.0	3.4	100.0	6.6	17.1	4.6	0.5	1.1	**7.5**	**6.0**	101	107	93.3	0.8
	a. Nephroblastoma	7	75	26	2	0	**110**	**110**	4.3	97.3	3.1	91.7	6.6	16.8	4.5	0.3	-	**7.3**	**5.6**	98	98	97.3	0.0
	b. Renal carcinoma	0	0	0	0	4	**0**	**4**	-	-	0.1	3.3	-	-	-	-	0.6	**-**	**0.1**	-	3	100.0	0.0
	c. Unspecified	0	1	1	1	3	**3**	**6**	0.1	2.7	0.2	5.0	-	0.2	0.2	0.2	0.5	**0.2**	**0.2**	3	5	16.7	16.7
VII	HEPATIC TUMOURS	9	11	5	6	3	**31**	**34**	1.2	100.0	1.0	100.0	8.5	2.5	0.9	1.0	0.5	**2.0**	**1.6**	27	30	91.2	2.9
	a. Hepatoblastoma	7	11	3	2	1	**23**	**24**	0.9	74.2	0.7	70.6	6.6	2.5	0.5	0.3	0.2	**1.5**	**1.2**	21	21	100.0	0.0
	b. Hepatic carcinoma	0	0	1	2	2	**3**	**5**	0.1	9.7	0.1	14.7	-	-	0.2	0.3	0.3	**0.2**	**0.2**	2	4	100.0	0.0
	c. Unspecified	2	0	1	2	0	**5**	**5**	0.2	16.1	0.1	14.7	1.9	-	0.2	0.3	-	**0.3**	**0.2**	4	4	40.0	20.0
VIII	BONE TUMOURS	0	2	30	78	97	**110**	**207**	4.3	100.0	5.9	100.0	-	0.4	5.2	12.7	15.7	**5.5**	**7.8**	91	170	92.8	1.0
	a. Osteosarcoma	0	1	15	51	59	**67**	**126**	2.6	60.9	3.6	60.9	-	0.2	2.6	8.3	9.5	**3.3**	**4.7**	55	103	100.0	0.0
	b. Chondrosarcoma	0	0	0	3	4	**3**	**7**	0.1	2.7	0.2	3.4	-	-	-	0.5	0.6	**0.1**	**0.3**	2	6	100.0	0.0
	c. Ewing & related	0	1	10	18	23	**29**	**52**	1.1	26.4	1.5	25.1	-	0.2	1.7	2.9	3.7	**1.5**	**2.0**	24	43	100.0	0.0
	d. Other specified	0	0	1	0	2	**1**	**3**	0.0	0.9	0.1	1.4	-	-	0.2	-	0.3	**0.1**	**0.1**	1	2	100.0	0.0
	e. Unspecified	0	0	4	6	9	**10**	**19**	0.4	9.1	0.5	9.2	-	-	0.7	1.0	1.5	**0.5**	**0.7**	8	16	21.1	10.5
IX	SOFT TISSUE SARCOMA	11	43	41	63	66	**158**	**224**	6.2	100.0	6.3	100.0	10.3	9.7	7.1	10.3	10.7	**9.0**	**9.4**	136	189	99.6	0.0
	a. Rhabdomyosarcoma	8	27	21	22	19	**78**	**97**	3.1	49.4	2.7	43.3	7.5	6.1	3.6	3.6	3.1	**4.7**	**4.3**	68	83	100.0	0.0
	b. Fibrosarcoma	1	4	3	9	5	**17**	**22**	0.7	10.8	0.6	9.8	0.9	0.9	0.5	1.5	0.8	**0.9**	**0.9**	14	18	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	3	**0**	**3**	-	-	0.1	1.3	-	-	-	-	0.5	**-**	**0.1**	-	2	100.0	0.0
	d. Other specified	2	10	11	23	31	**46**	**77**	1.8	29.1	2.2	34.4	1.9	2.2	1.9	3.8	5.0	**2.5**	**3.1**	39	64	100.0	0.0
	e. Unspecified	0	2	6	9	8	**17**	**25**	0.7	10.8	0.7	11.2	-	0.4	1.0	1.5	1.3	**0.9**	**1.0**	14	21	96.0	0.0
X	GERM CELL TUMOURS	10	18	11	33	124	**72**	**196**	2.8	100.0	5.5	100.0	9.4	4.0	1.9	5.4	20.0	**4.1**	**7.7**	62	162	95.9	0.0
	a. CNS germ cell	0	0	3	6	5	**9**	**14**	0.4	12.5	0.4	7.1	-	-	0.5	1.0	0.8	**0.5**	**0.5**	7	12	100.0	0.0
	b. Other extragonadal	4	6	2	2	18	**14**	**32**	0.6	19.4	0.9	16.3	3.8	1.3	0.3	0.3	2.9	**0.9**	**1.4**	12	27	100.0	0.0
	c. Gonadal germ cell	6	11	6	22	88	**45**	**133**	1.8	62.5	3.8	67.9	5.6	2.5	1.0	3.6	14.2	**2.6**	**5.2**	39	110	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	6	**1**	**7**	0.0	1.4	0.2	3.6	-	-	-	0.2	1.0	**0.0**	**0.3**	1	6	100.0	0.0
	e. Unspecified gonadal	0	1	0	2	7	**3**	**10**	0.1	4.2	0.3	5.1	-	0.2	-	0.3	1.1	**0.2**	**0.4**	3	8	20.0	0.0
XI	CARCINOMA & MELANOMA	3	11	17	66	146	**97**	**243**	3.8	100.0	6.9	100.0	2.8	2.5	2.9	10.8	23.6	**5.1**	**9.2**	81	199	99.2	0.4
	a. Adrenocortical	0	3	2	0	0	**5**	**5**	0.2	5.2	0.1	2.1	-	0.7	0.3	-	-	**0.3**	**0.2**	4	4	100.0	0.0
	b. Thyroid	0	1	3	27	60	**31**	**91**	1.2	32.0	2.6	37.4	-	0.2	0.5	4.4	9.7	**1.5**	**3.4**	26	74	100.0	0.0
	c. Nasopharyngeal	0	0	0	3	3	**3**	**6**	0.1	3.1	0.2	2.5	-	-	-	0.5	0.5	**0.1**	**0.2**	2	5	100.0	0.0
	d. Melanoma	2	5	5	10	9	**22**	**31**	0.9	22.7	0.9	12.8	1.9	1.1	0.9	1.6	1.5	**1.2**	**1.3**	19	26	93.5	3.2
	e. Skin carcinoma	0	0	0	4	9	**4**	**13**	0.2	4.1	0.4	5.3	-	-	-	0.7	1.5	**0.2**	**0.5**	3	11	100.0	0.0
	f. Other & unspecified	1	2	7	22	65	**32**	**97**	1.3	33.0	2.7	39.9	0.9	0.4	1.2	3.6	10.5	**1.6**	**3.6**	27	79	100.0	0.0
XII	OTHER & UNSPECIFIED	7	9	10	7	32	**33**	**65**	1.3	100.0	1.8	100.0	6.6	2.0	1.7	1.1	5.2	**2.0**	**2.7**	29	55	29.2	21.5
	a. Other specified	0	1	1	2	1	**4**	**5**	0.2	12.1	0.1	7.7	-	0.2	0.2	0.3	0.2	**0.2**	**0.2**	3	4	100.0	0.0
	b. Other unspecified	7	8	9	5	31	**29**	**60**	1.1	87.9	1.7	92.3	6.6	1.8	1.5	0.8	5.0	**1.8**	**2.5**	25	50	23.3	23.3
	TOTAL	158	866	751	762	1000	**2537**	**3537**	100.0	100.0	100.0	100.0	148.5	194.4	129.1	124.4	161.6	**149.6**	**152.3**	2195	3004	94.1	1.2

† includes 102 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Costa Rica

Costa Rica National Tumour Registry, 1993–2012

Guillermo Torres Alvarado, Ma. Estebana Guevara Obando, Bernardo Moreira Moreira, Henry Wasserman Taitelbaum

Costa Rica is in Central America. It covers an area of 51 100 km^2. Costa Rica has a tropical climate, generally characterized by high temperatures and abundant rainfall during much of the year. The economy is based on tourism, agriculture, and exports of electronic equipment and services. The poverty indicators were significantly improved from the 1950s to the 1980s as the result of strong support by the government to increase production for the domestic market and to provide strong social investment in education, health care, electricity, telecommunications, and water supply services, among others.

In 2010, the population of Costa Rica was 4.5 million, and 34% of the population was younger than 20 years (Table A.6). Most of the population (> 80%) are White or Mestizo, and about 2.4% are Indigenous peoples. The national social security system covers more than 90% of the population and is organized in three levels. People who are suspected to have cancer are referred to the secondary and tertiary (specialized) levels. The social security system includes 29 hospitals, of which seven have an oncology department. National Children's Hospital "Dr. Carlos Sáenz Herrera" has specialized paediatric and adolescent oncology services as well as other specialized services for the care of patients with cancer.

The Costa Rica National Tumour Registry covers the entire country. It was established in December 1976 by executive order, and nationwide coverage was achieved in 1980 (Table A.10). The registry collects data on cancer incidence and mortality by age, sex, tumour site, and geographical distribution from all health-care facilities, including private medical services. The registry is part of the Unit of Monitoring Health Indicators within the Bureau of Health Surveillance of the Ministry of Health, which provides financial support. The registry has three full-time technicians, two of whom are professionals in health information systems. They are supported by medical staff members, epidemiologists, and public health specialists. An evaluation team visits hospitals and private clinics to check the quality of information. Data are collected from biopsy reports and other histological examinations with a diagnosis of cancer from all pathology services, death certificates, hospital discharge information, and mortality databases from the National Statistics Department. The registry is fully computerized and uses databases from the National Civil Registry to complete information. The level of underreporting is assumed to be low, because of the characteristics of the health system and the vital statistics system.

Costa Rica has made significant efforts to establish early detection programmes for cancer, including cancer types that affect children. The registry information is used in cancer control decision-making at several levels and is also used for research and teaching purposes.

POPULATION AT RISK

Population data were provided by the National Institute of Statistics and Census (https://www.inec.go.cr/). Annual estimates were calculated based on the censuses of 1984, 2000, and 2011. Data were provided in all requested detail.

EDITORS' COMMENTS

The Costa Rica National Tumour Registry participated in IICC-1 and IICC-2 (Table A.1). The proportion of cases with unspecified morphology was high (11%) (Table A.9). Thus, the resulting incidence rates may be lower for some specific tumour types (e.g. leukaemia, retinoblastoma) and higher for unspecified cancer types. Non-malignant CNS tumours were not registered, and pilocytic astrocytoma was coded with malignant behaviour. Laterality was complete. Skin carcinomas were reportable.

COSTA RICA (1993-2012)

	Age group (years)	Males	Females
Person-years	0	758 323	723 546
	1-4	3 131 817	2 983 830
	5-9	4 118 268	3 915 025
	10-14	4 200 494	3 989 587
	15-19	4 079 960	3 875 498
	0-14	12 208 902	11 611 988
	0-19	16 288 862	15 487 486
Average annual population	0-14	610 445	580 599
	0-19	814 443	774 374

Please consult the quality indicators for this registry

COSTA RICA (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	48	552	391	260	239	1251	1490	40.2	100.0	32.7	100.0	32.4	90.3	48.7	31.7	30.0	55.5	49.8	797	947	99.9	0.0
	a. Lymphoid	26	480	338	194	168	1038	1206	33.4	83.0	26.5	80.9	17.5	78.5	42.1	23.7	21.1	46.2	40.6	662	767	100.0	0.0
	b. Acute myeloid	20	60	43	46	46	169	215	5.4	13.5	4.7	14.4	13.5	9.8	5.4	5.6	5.8	7.4	7.1	107	136	99.5	0.0
	c. CMD	1	6	5	8	8	20	28	0.6	1.6	0.6	1.9	0.7	1.0	0.6	1.0	1.0	0.8	0.9	13	18	100.0	0.0
	d. MDS & other	0	0	0	1	0	1	1	0.0	0.1	0.0	0.1	-	-	-	0.1	-	0.0	0.0	1	1	100.0	0.0
	e. Unspecified	1	6	5	11	17	23	40	0.7	1.8	0.9	2.7	0.7	1.0	0.6	1.3	2.1	0.9	1.2	14	25	100.0	0.0
II	LYMPHOMA & RELATED	3	82	150	178	268	413	681	13.3	100.0	15.0	100.0	2.0	13.4	18.7	21.7	33.7	16.7	20.5	258	426	100.0	0.0
	a. Hodgkin	0	19	80	86	168	185	353	5.9	44.8	7.7	51.8	-	3.1	10.0	10.5	21.1	7.2	10.4	115	220	100.0	0.0
	b. Non-Hodgkin except BL	0	37	43	66	88	146	234	4.7	35.4	5.1	34.4	-	6.1	5.4	8.1	11.1	6.0	7.1	91	147	100.0	0.0
	c. Burkitt (BL)	0	16	16	19	5	51	56	1.6	12.3	1.2	8.2	-	2.6	2.0	2.3	0.6	2.1	1.8	32	35	100.0	0.0
	d. Lymphoreticular	3	7	3	3	0	16	16	0.5	3.9	0.4	2.3	2.0	1.1	0.4	0.4	-	0.7	0.6	10	10	100.0	0.0
	e. Unspecified	0	3	8	4	7	15	22	0.5	3.6	0.5	3.2	-	0.5	1.0	0.5	0.9	0.6	0.7	9	14	100.0	0.0
III	CNS NEOPLASMS	26	130	166	108	93	430	523	13.8	100.0	11.5	100.0	17.5	21.3	20.7	13.2	11.7	18.4	16.9	272	330	79.3	3.1
	a. Ependymoma	4	27	17	9	4	57	61	1.8	13.3	1.3	11.7	2.7	4.4	2.1	1.1	0.5	2.6	2.1	36	39	100.0	0.0
	b. Astrocytoma	7	33	42	40	38	122	160	3.9	28.4	3.5	30.6	4.7	5.4	5.2	4.9	4.8	5.1	5.1	77	101	100.0	0.0
	c. CNS embryonal	5	39	52	37	19	133	152	4.3	30.9	3.3	29.1	3.4	6.4	6.5	4.5	2.4	5.6	4.9	84	96	100.0	0.0
	d. Other gliomas	3	4	9	7	13	23	36	0.7	5.3	0.8	6.9	2.0	0.7	1.1	0.9	1.6	1.0	1.1	14	23	100.0	0.0
	e. Other specified	0	1	1	1	1	3	4	0.1	0.7	0.1	0.8	-	0.2	0.1	0.1	0.1	0.1	0.1	2	3	100.0	0.0
	f. Unspecified CNS	7	26	45	14	18	92	110	3.0	21.4	2.4	21.0	4.7	4.3	5.6	1.7	2.3	4.0	3.6	58	70	1.8	14.5
IV	NEUROBLASTOMA	29	39	11	3	4	82	86	2.6	100.0	1.9	100.0	19.6	6.4	1.4	0.4	0.5	4.0	3.2	53	56	100.0	0.0
	a. (Ganglio)neuroblastoma	29	39	11	3	2	82	84	2.6	100.0	1.8	97.7	19.6	6.4	1.4	0.4	0.3	4.0	3.2	53	55	100.0	0.0
	b. Peripheral nervous	0	0	0	0	2	0	2	-	-	0.0	2.3	-	-	-	-	0.3	-	0.1	-	1	100.0	0.0
V	RETINOBLASTOMA	26	54	7	0	0	87	87	2.8	100.0	1.9	100.0	17.5	8.8	0.9	-	-	4.4	3.4	57	57	100.0	0.0
VI	RENAL TUMOURS	14	66	27	16	4	123	127	4.0	100.0	2.8	100.0	9.4	10.8	3.4	2.0	0.5	5.7	4.6	79	82	92.1	0.0
	a. Nephroblastoma	13	60	25	12	0	110	110	3.5	89.4	2.4	86.6	8.8	9.8	3.1	1.5	-	5.1	4.0	71	71	100.0	0.0
	b. Renal carcinoma	0	0	0	4	3	4	7	0.1	3.3	0.2	5.5	-	-	-	0.5	0.4	0.1	0.2	2	4	100.0	0.0
	c. Unspecified	1	6	2	0	1	9	10	0.3	7.3	0.2	7.9	0.7	1.0	0.2	-	0.1	0.4	0.4	6	6	0.0	0.0
VII	HEPATIC TUMOURS	11	18	8	13	14	50	64	1.6	100.0	1.4	100.0	7.4	2.9	1.0	1.6	1.8	2.3	2.1	32	41	90.6	4.7
	a. Hepatoblastoma	9	16	7	2	1	34	35	1.1	68.0	0.8	54.7	6.1	2.6	0.9	0.2	0.1	1.6	1.3	22	23	100.0	0.0
	b. Hepatic carcinoma	0	0	1	9	12	10	22	0.3	20.0	0.5	34.4	-	-	0.1	1.1	1.5	0.4	0.6	6	14	100.0	0.0
	c. Unspecified	2	2	0	2	1	6	7	0.2	12.0	0.2	10.9	1.3	0.3	-	0.2	0.1	0.3	0.2	4	4	14.3	42.9
VIII	BONE TUMOURS	0	3	27	84	118	114	232	3.7	100.0	5.1	100.0	-	0.5	3.4	10.3	14.8	4.2	6.6	70	144	92.7	1.7
	a. Osteosarcoma	0	1	16	48	71	65	136	2.1	57.0	3.0	58.6	-	0.2	2.0	5.9	8.9	2.4	3.9	40	85	100.0	0.0
	b. Chondrosarcoma	0	0	0	2	6	2	8	0.1	1.8	0.2	3.4	-	-	-	0.2	0.8	0.1	0.2	1	5	100.0	0.0
	c. Ewing & related	0	1	8	27	27	36	63	1.2	31.6	1.4	27.2	-	0.2	1.0	3.3	3.4	1.3	1.8	22	39	100.0	0.0
	d. Other specified	0	0	1	1	3	2	5	0.1	1.8	0.1	2.2	-	-	0.1	0.1	0.4	0.1	0.1	1	3	100.0	0.0
	e. Unspecified	0	1	2	6	11	9	20	0.3	7.9	0.4	8.6	-	0.2	0.2	0.7	1.4	0.3	0.6	6	12	15.0	20.0
IX	SOFT TISSUE SARCOMA	14	33	33	62	85	142	227	4.6	100.0	5.0	100.0	9.4	5.4	4.1	7.6	10.7	5.9	7.0	89	143	100.0	0.0
	a. Rhabdomyosarcoma	6	24	18	20	18	68	86	2.2	47.9	1.9	37.9	4.0	3.9	2.2	2.4	2.3	3.0	2.8	43	54	100.0	0.0
	b. Fibrosarcoma	4	1	5	11	8	21	29	0.7	14.8	0.6	12.8	2.7	0.2	0.6	1.3	1.0	0.8	0.9	13	18	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	0	1	1	0.0	0.7	0.0	0.4	-	-	-	0.1	-	0.0	0.0	1	1	100.0	0.0
	d. Other specified	2	5	6	25	51	38	89	1.2	26.8	2.0	39.2	1.3	0.8	0.7	3.1	6.4	1.5	2.6	24	56	100.0	0.0
	e. Unspecified	2	3	4	5	8	14	22	0.4	9.9	0.5	9.7	1.3	0.5	0.5	0.6	1.0	0.6	0.7	9	14	100.0	0.0
X	GERM CELL TUMOURS	11	23	13	63	215	110	325	3.5	100.0	7.1	100.0	7.4	3.8	1.6	7.7	27.0	4.5	9.6	69	204	91.4	0.3
	a. CNS germ cell	0	2	4	5	2	11	13	0.4	10.0	0.3	4.0	-	0.3	0.5	0.6	0.3	0.4	0.4	7	8	100.0	0.0
	b. Other extragonadal	4	9	0	3	17	16	33	0.5	14.5	0.7	10.2	2.7	1.5	-	0.4	2.1	0.8	1.1	10	21	100.0	0.0
	c. Gonadal germ cell	7	9	8	43	163	67	230	2.2	60.9	5.0	70.8	4.7	1.5	1.0	5.3	20.5	2.7	6.7	42	144	100.0	0.0
	d. Gonadal carcinoma	0	0	0	6	14	6	20	0.2	5.5	0.4	6.2	-	-	-	0.7	1.8	0.2	0.6	4	12	100.0	0.0
	e. Unspecified gonadal	0	3	1	6	19	10	29	0.3	9.1	0.6	8.9	-	0.5	0.1	0.7	2.4	0.4	0.9	6	18	3.4	3.4
XI	CARCINOMA & MELANOMA	2	3	43	131	293	179	472	5.8	100.0	10.4	100.0	1.3	0.5	5.4	16.0	36.8	6.6	13.4	110	294	100.0	0.0
	a. Adrenocortical	0	0	0	1	0	1	1	0.0	0.6	0.0	0.2	-	-	-	0.1	-	0.0	0.0	1	1	100.0	0.0
	b. Thyroid	0	2	15	30	91	47	138	1.5	26.3	3.0	29.2	-	0.3	1.9	3.7	11.4	1.8	3.9	29	86	100.0	0.0
	c. Nasopharyngeal	0	0	12	58	56	70	126	2.2	39.1	2.8	26.7	-	-	1.5	7.1	7.0	2.5	3.6	43	78	100.0	0.0
	d. Melanoma	2	1	3	7	19	13	32	0.4	7.3	0.7	6.8	1.3	0.2	0.4	0.9	2.4	0.5	0.9	8	20	100.0	0.0
	e. Skin carcinoma	0	0	8	21	39	29	68	0.9	16.2	1.5	14.4	-	-	1.0	2.6	4.9	1.1	1.9	18	42	100.0	0.0
	f. Other & unspecified	0	0	5	14	88	19	107	0.6	10.6	2.3	22.7	-	-	0.6	1.7	11.1	0.7	3.0	12	67	100.0	0.0
XII	OTHER & UNSPECIFIED	17	45	29	40	110	131	241	4.2	100.0	5.3	100.0	11.5	7.4	3.6	4.9	13.8	5.7	7.6	83	152	4.1	16.6
	a. Other specified	0	0	0	0	6	0	6	-	-	0.1	2.5	-	-	-	-	0.8	-	0.2	-	4	100.0	0.0
	b. Other unspecified	17	45	29	40	104	131	235	4.2	100.0	5.2	97.5	11.5	7.4	3.6	4.9	13.1	5.7	7.4	83	149	1.7	17.0
	TOTAL	201	1048	905	958	1443	3112	4555	100.0	100.0	100.0	100.0	135.6	171.4	112.7	117.0	181.4	133.9	144.6	1970	2877	91.2	1.4

Please consult the quality indicators for this registry

Cuba

Cuba National Cancer Registry, 2000–2012

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Cuba is an island country located in the Caribbean Sea. It covers an area of 110 922 km^2. In 2010, the population was 11.3 million, and 24% of the population was younger than 20 years (Table A.6). Cuba has a public health-care system based on extended primary care and equity of access. Services for cancer diagnoses and surgery are widely available throughout the country; there are 325 oncologists.

Since the 1970s, considerable efforts have been made to centralize the management of childhood cancer. These efforts culminated in 1989 with the creation of the National Programme for Childhood Cancer Control. Patients with cancer who are younger than 20 years are diagnosed and treated in Cuba's nine paediatric oncology centres, which provide specialized diagnostic facilities, radiotherapy, and chemotherapy. Concentrating resources and treatment in these nine centres enables increased specialization of the medical personnel as well as provision of the most advanced treatments enabled by the country's economy.

The Cuba National Cancer Registry was established in 1964 and covers the entire population of the country (Table A.10). In 1986, it was upgraded to include mandatory reporting and improved data management systems. In 1994, the information system was decentralized to each provincial level. The Network of Cancer Registries has been operational since 2004. Data collection is passive. The national registry coded data according to ICD-O-1 until 2007 and according to ICD-O-3 thereafter (Table A.10). The major information sources are hospitals and death certificate notification. Physicians report cancer cases using the Cuba National Cancer Registry report form. Records based on only clinical or radiological information are verified using the discharge records. At the central offices of the registry, staff members double-check all reports from the whole country to detect any possible inter-provincial duplicates and perform quality assurance.

Each year, the Cuba National Cancer Registry database is paired with all deaths occurring in the country using the death database provided by the National Office of Statistics of the Ministry of Public Health. The completeness of the death notifications and the existence of a unique identification number for each person in the country enable unambiguous matching of the cases stored in the national registry database with deaths, using record-linkage techniques. The cancer deaths not stored in the national registry database are included as DCO cases.

Cancer in the age group 0–19 years accounted for 1.5% of the total cancer cases. The annual incidence rates are presented by ICCC categories in the annual Statistical Yearbook published by the Ministry of Public Health (https://files.sld.cu/dne/files/2016/04/Anuario_2015_electronico-1.pdf).

The Comprehensive Cancer Control Program was established in 1987 and reorganized in 2006 with the creation of the Cancer Control Section, which is responsible for all cancer control actions. In 2010, the newly redesigned programme and national strategy for cancer control were implemented as a platform to integrate cancer control actions throughout the National Health System.

PUBLICATIONS

Galán Y, García M, Torres P, Fernández L, Lezcano M, Grueiro S, et al. (2010). Programa Integral para el Control del Cáncer en Cuba. Manual de procedimientos del Registro Nacional de Cáncer 2010. Ministerio de Salud Pública.

Torres P, Galán Y, Lence J, García M, Lezcano M, Fernández L (2010). Childhood cancer incidence in Cuba, 2001 to 2003. MEDICC Rev. 12(2):19–25. https://doi.org/10.37757/MR2010.V12.N2.6 PMID:20486410

POPULATION AT RISK

The source of the population data was the National Office of Statistics and Information (https://www.onei.gob.cu/). The most recent censuses were conducted in 2002 and 2012. Data were provided in all requested detail.

EDITORS' COMMENTS

The registry participated in IICC-1 and IICC-2 (Table A.1). The DCO% was high (7%), and the proportion of cases with unspecified morphology was high (13%); this may lead to underestimation of the rates for specific categories, such as leukaemia (Table A.9). Non-malignant CNS tumours were not registered systematically, and the proportion was low (3%). Pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were reportable. Laterality was not collected.

CUBA (2000-2012)

	Age group (years)	Males	Females
Person-years	0	849 045	800 870
	1-4	3 477 409	3 277 227
	5-9	4 588 159	4 333 020
	10-14	5 077 464	4 800 416
	15-19	5 325 753	5 037 341
	0-14	13 992 077	13 211 533
	0-19	19 317 830	18 248 874
Average annual population	0-14	1 076 314	1 016 272
	0-19	1 485 987	1 403 760

Please consult the quality indicators for this registry

CUBA (2000-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	50	411	308	245	210	**1014**	**1224**	29.7	100.0	25.8	100.0	30.3	60.8	34.5	24.8	20.3	**39.6**	**35.2**	571	672	96.8	3.2
	a. Lymphoid	21	325	225	152	103	**723**	**826**	21.2	71.3	17.4	67.5	12.7	48.1	25.2	15.4	9.9	**28.5**	**24.4**	409	459	97.9	2.1
	b. Acute myeloid	13	38	50	50	62	**151**	**213**	4.4	14.9	4.5	17.4	7.9	5.6	5.6	5.1	6.0	**5.6**	**5.7**	84	114	98.1	1.9
	c. CMD	4	8	8	11	14	**31**	**45**	0.9	3.1	0.9	3.7	2.4	1.2	0.9	1.1	1.4	**1.2**	**1.2**	17	24	100.0	0.0
	d. MDS & other	1	3	0	1	0	**5**	**5**	0.1	0.5	0.1	0.4	0.6	0.4	-	0.1	-	**0.2**	**0.2**	3	3	100.0	0.0
	e. Unspecified	11	37	25	31	31	**104**	**135**	3.0	10.3	2.8	11.0	6.7	5.5	2.8	3.1	3.0	**4.0**	**3.8**	58	73	86.7	13.3
II	**LYMPHOMA & RELATED**	5	177	200	236	301	**618**	**919**	18.1	100.0	19.4	100.0	3.0	26.2	22.4	23.9	29.0	**22.6**	**24.0**	340	485	95.6	4.4
	a. Hodgkin	0	25	58	96	158	**179**	**337**	5.2	29.0	7.1	36.7	-	3.7	6.5	9.7	15.2	**6.1**	**8.1**	96	172	98.5	1.5
	b. Non-Hodgkin except BL	0	121	120	119	116	**360**	**476**	10.6	58.3	10.0	51.8	-	17.9	13.5	12.0	11.2	**13.4**	**12.9**	199	255	97.5	2.5
	c. Burkitt (BL)	0	11	10	8	3	**29**	**32**	0.9	4.7	0.7	3.5	-	1.6	1.1	0.8	0.3	**1.1**	**0.9**	16	18	100.0	0.0
	d. Lymphoreticular	5	16	5	3	3	**29**	**32**	0.9	4.7	0.7	3.5	3.0	2.4	0.6	0.3	0.3	**1.2**	**1.0**	17	18	96.9	3.1
	e. Unspecified	0	4	7	10	21	**21**	**42**	0.6	3.4	0.9	4.6	-	0.6	0.8	1.0	2.0	**0.7**	**1.0**	11	21	47.6	52.4
III	**CNS NEOPLASMS** †	20	173	187	185	114	**565**	**679**	16.6	100.0	14.3	100.0	12.1	25.6	21.0	18.7	11.0	**21.1**	**18.8**	313	368	72.3	12.2
	a. Ependymoma	6	26	14	9	9	**55**	**64**	1.6	9.7	1.3	9.4	3.6	3.8	1.6	0.9	0.9	**2.2**	**1.9**	31	36	93.8	6.3
	b. Astrocytoma	4	52	56	88	41	**200**	**241**	5.9	35.4	5.1	35.5	2.4	7.7	6.3	8.9	4.0	**7.2**	**6.5**	109	129	99.2	0.8
	c. CNS embryonal	1	37	31	24	13	**93**	**106**	2.7	16.5	2.2	15.6	0.6	5.5	3.5	2.4	1.3	**3.6**	**3.1**	52	58	98.1	1.9
	d. Other gliomas	0	19	23	20	12	**62**	**74**	1.8	11.0	1.6	10.9	-	2.8	2.6	2.0	1.2	**2.3**	**2.0**	34	40	100.0	0.0
	e. Other specified	1	3	4	7	0	**15**	**15**	0.4	2.7	0.3	2.2	0.6	0.4	0.4	0.7	-	**0.5**	**0.4**	8	8	93.3	0.0
	f. Unspecified CNS	8	36	59	37	39	**140**	**179**	4.1	24.8	3.8	26.4	4.8	5.3	6.6	3.7	3.8	**5.2**	**4.9**	78	97	0.0	41.9
IV	**NEUROBLASTOMA**	62	97	28	12	9	**199**	**208**	5.8	100.0	4.4	100.0	37.6	14.4	3.1	1.2	0.9	**8.7**	**6.9**	116	121	96.6	3.4
	a. (Ganglio)neuroblastoma	62	95	26	10	8	**193**	**201**	5.7	97.0	4.2	96.6	37.6	14.1	2.9	1.0	0.8	**8.5**	**6.7**	113	117	96.5	3.5
	b. Peripheral nervous	0	2	2	2	1	**6**	**7**	0.2	3.0	0.1	3.4	-	0.3	0.2	0.2	0.1	**0.2**	**0.2**	3	4	100.0	0.0
V	**RETINOBLASTOMA**	25	53	5	7	1	**90**	**91**	2.6	100.0	1.9	100.0	15.2	7.8	0.6	0.7	0.1	**4.0**	**3.1**	53	53	97.8	2.2
VI	**RENAL TUMOURS**	23	102	31	14	19	**170**	**189**	5.0	100.0	4.0	100.0	13.9	15.1	3.5	1.4	1.8	**7.3**	**6.1**	99	108	92.1	7.4
	a. Nephroblastoma	23	100	31	14	15	**168**	**183**	4.9	98.8	3.9	96.8	13.9	14.8	3.5	1.4	1.4	**7.2**	**5.9**	98	105	92.9	7.1
	b. Renal carcinoma	0	1	0	0	4	**1**	**5**	0.0	0.6	0.1	2.6	-	0.1	-	-	0.4	**0.0**	**0.1**	1	3	80.0	20.0
	c. Unspecified	0	1	0	0	0	**1**	**1**	0.0	0.6	0.0	0.5	-	0.1	-	-	-	**0.0**	**0.0**	1	1	0.0	0.0
VII	**HEPATIC TUMOURS**	11	9	3	9	9	**32**	**41**	0.9	100.0	0.9	100.0	6.7	1.3	0.3	0.9	0.9	**1.3**	**1.2**	18	22	82.9	12.2
	a. Hepatoblastoma	10	8	2	2	1	**22**	**23**	0.6	68.8	0.5	56.1	6.1	1.2	0.2	0.2	0.1	**1.0**	**0.8**	13	13	100.0	0.0
	b. Hepatic carcinoma	0	0	1	6	4	**7**	**11**	0.2	21.9	0.2	26.8	-	-	0.1	0.6	0.4	**0.2**	**0.3**	4	6	100.0	0.0
	c. Unspecified	1	1	0	1	4	**3**	**7**	0.1	9.4	0.1	17.1	0.6	0.1	-	0.1	0.4	**0.1**	**0.2**	2	4	0.0	71.4
VIII	**BONE TUMOURS**	1	11	31	123	136	**166**	**302**	4.9	100.0	6.4	100.0	0.6	1.6	3.5	12.5	13.1	**5.3**	**7.1**	87	152	90.4	6.6
	a. Osteosarcoma	0	1	18	76	77	**95**	**172**	2.8	57.2	3.6	57.0	-	0.1	2.0	7.7	7.4	**2.9**	**3.9**	49	86	97.7	2.3
	b. Chondrosarcoma	0	0	0	8	15	**8**	**23**	0.2	4.8	0.5	7.6	-	-	-	0.8	1.4	**0.2**	**0.5**	4	11	100.0	0.0
	c. Ewing & related	0	5	7	28	20	**40**	**60**	1.2	24.1	1.3	19.9	-	0.7	0.8	2.8	1.9	**1.3**	**1.4**	21	31	98.3	1.7
	d. Other specified	0	2	1	4	14	**7**	**21**	0.2	4.2	0.4	7.0	-	0.3	0.1	0.4	1.4	**0.2**	**0.5**	4	11	100.0	0.0
	e. Unspecified	1	3	5	7	10	**16**	**26**	0.5	9.6	0.5	8.6	0.6	0.4	0.6	0.7	1.0	**0.6**	**0.7**	9	14	7.7	57.7
IX	**SOFT TISSUE SARCOMA**	19	56	43	49	70	**167**	**237**	4.9	100.0	5.0	100.0	11.5	8.3	4.8	5.0	6.8	**6.4**	**6.5**	94	127	100.0	0.0
	a. Rhabdomyosarcoma	9	31	15	20	17	**75**	**92**	2.2	44.9	1.9	38.8	5.5	4.6	1.7	2.0	1.6	**3.0**	**2.7**	42	51	100.0	0.0
	b. Fibrosarcoma	2	5	10	4	10	**21**	**31**	0.6	12.6	0.7	13.1	1.2	0.7	1.1	0.4	1.0	**0.8**	**0.8**	12	17	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	4	**1**	**5**	0.0	0.6	0.1	2.1	-	-	-	0.1	0.4	**0.0**	**0.1**	1	2	100.0	0.0
	d. Other specified	4	9	8	14	22	**35**	**57**	1.0	21.0	1.2	24.1	2.4	1.3	0.9	1.4	2.1	**1.3**	**1.5**	19	30	100.0	0.0
	e. Unspecified	4	11	10	10	17	**35**	**52**	1.0	21.0	1.1	21.9	2.4	1.6	1.1	1.0	1.6	**1.3**	**1.4**	20	28	100.0	0.0
X	**GERM CELL TUMOURS**	9	36	20	42	78	**107**	**185**	3.1	100.0	3.9	100.0	5.5	5.3	2.2	4.3	7.5	**4.0**	**4.8**	59	97	94.6	1.6
	a. CNS germ cell	1	0	1	3	3	**5**	**8**	0.1	4.7	0.2	4.3	0.6	-	0.1	0.3	0.3	**0.2**	**0.2**	3	4	100.0	0.0
	b. Other extragonadal	3	11	0	1	6	**15**	**21**	0.4	14.0	0.4	11.4	1.8	1.6	-	0.1	0.6	**0.7**	**0.7**	9	12	100.0	0.0
	c. Gonadal germ cell	3	16	16	36	35	**71**	**106**	2.1	66.4	2.2	57.3	1.8	2.4	1.8	3.6	3.4	**2.5**	**2.7**	38	55	98.1	0.9
	d. Gonadal carcinoma	1	4	1	1	29	**7**	**36**	0.2	6.5	0.8	19.5	0.6	0.6	0.1	0.1	2.8	**0.3**	**0.9**	4	18	91.7	0.0
	e. Unspecified gonadal	1	5	2	1	5	**9**	**14**	0.3	8.4	0.3	7.6	0.6	0.7	0.2	0.1	0.5	**0.4**	**0.4**	5	8	64.3	14.3
XI	**CARCINOMA & MELANOMA**	8	23	22	116	325	**169**	**494**	5.0	100.0	10.4	100.0	4.8	3.4	2.5	11.7	31.4	**5.6**	**11.4**	89	246	98.8	0.8
	a. Adrenocortical	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Thyroid	0	0	4	45	99	**49**	**148**	1.4	29.0	3.1	30.0	-	-	0.4	4.6	9.6	**1.5**	**3.3**	25	73	100.0	0.0
	c. Nasopharyngeal	0	0	1	6	10	**7**	**17**	0.2	4.1	0.4	3.4	-	-	0.1	0.6	1.0	**0.2**	**0.4**	4	8	100.0	0.0
	d. Melanoma	0	3	5	7	13	**15**	**28**	0.4	8.9	0.6	5.7	-	0.4	0.6	0.7	1.3	**0.5**	**0.7**	8	14	96.4	3.6
	e. Skin carcinoma	6	8	5	21	87	**40**	**127**	1.2	23.7	2.7	25.7	3.6	1.2	0.6	2.1	8.4	**1.4**	**3.0**	22	64	98.4	0.0
	f. Other & unspecified	2	12	7	37	116	**58**	**174**	1.7	34.3	3.7	35.2	1.2	1.8	0.8	3.7	11.2	**2.0**	**4.1**	31	87	98.3	1.7
XII	**OTHER & UNSPECIFIED**	14	31	28	41	58	**114**	**172**	3.3	100.0	3.6	100.0	8.5	4.6	3.1	4.2	5.6	**4.3**	**4.6**	63	91	8.1	55.2
	a. Other specified	0	2	1	4	4	**7**	**11**	0.2	6.1	0.2	6.4	-	0.3	0.1	0.4	0.4	**0.2**	**0.3**	4	6	100.0	0.0
	b. Other unspecified	14	29	27	37	54	**107**	**161**	3.1	93.9	3.4	93.6	8.5	4.3	3.0	3.7	5.2	**4.0**	**4.3**	59	85	1.9	59.0
	TOTAL	247	1179	906	1079	1330	**3411**	**4741**	100.0	100.0	100.0	100.0	149.7	174.5	101.6	109.2	128.3	**130.2**	**129.7**	1902	2544	89.4	6.6

† includes 19 non-malignant

Please consult the quality indicators for this registry

Ecuador

Ecuador is located in the north-west of South America. It is bordered by Colombia to the north, Peru to the east and south, and the Pacific Ocean to the west. The Galápagos Islands are located about 1000 km west of the mainland in the Pacific Ocean.

Ecuador is a middle-income country, with a developing economy that is based on exports of commodities, i.e. petroleum and agricultural products. Tourism is also an important contributor to the economy. The capital city is Quito, and the largest city is Guayaquil. Ecuador is divided into 24 provinces; the provinces are divided into cantons, which are further subdivided into parishes.

As a result of historical movement of peoples in the area of what today is Ecuador, the country has a mixed population of Indigenous, Hispanic, European, and African descent. Most of the population is Mestizo, with large minorities of European, Amerindian, and African descent. Spanish is the official language and is spoken by most of the population; 13 Amerindian languages are also recognized. In 2010, the population of Ecuador was 14.9 million (Table A.7), and 41% of the population was younger than 20 years (Table A.6). Most of the population lives in the central provinces, in the Andes mountains, or along the Pacific coast. The tropical forest region to the east of the mountains is sparsely populated; only about 3% of the population lives there.

The National Health System of Ecuador is funded through the state and social insurance, which guarantee access to cancer treatment provided free of charge.

General practitioners in public general hospitals provide care and refer cancer cases for treatment by an oncologist. Oncology care costs are covered up to 75% by social security, the health ministry, and nongovernmental organizations. One quarter of patients with cancer receive care in the private sector. The Society to Fight Cancer (Sociedad de Lucha Contra el Cáncer del Ecuador [SOLCA]; https://www.solca.med.ec) is a non-profit nongovernmental organization that was founded in Guayaquil in 1951. SOLCA is responsible for cancer control by Legislative Decree of the Ecuadorian State of 15 October 1953 (published in Official Record No. 362 of 12 November 1953). Since then, several SOLCA centres have been created to fulfil the mission, including in Quito, Cuenca, Loja, Portoviejo, and Machala, which each serve the respective area of the country.

The six cancer registries in Ecuador collaborate within the framework of SOLCA and disseminate statistics on cancer incidence, trends, and mortality in the six covered regions and nationwide. This information is used for cancer monitoring and control in Ecuador as well as for epidemiological research. With support from the My Child Matters programme, the Quito, Cuenca, Manabí, and Loja registries have focused on registration and follow-up of patients with cancer who are younger than 20 years, in a project started in 2010. The project helped to improve and expand information on these patients with cancer from 2004. All registries use active case finding, and they exchange data on residents in other covered areas. Certification and reporting of all deaths to the National Institute of Statistics and Census is mandatory. The institute provides access to the records, which are recorded digitally from 2016. Death certificates of the residents in the covered areas are consulted by the registries for case ascertainment and for follow-up of the registered cases in regional offices of the population registry.

PUBLICATIONS

Cueva P, Yépez J, editors (2014). Cancer epidemiology in Quito 2006–2010. Epidemiología del cáncer en Quito 2006–2010. Quito, Ecuador: Registro Nacional de Tumores, SOLCA Quito.

POPULATION AT RISK

Population data were provided by the National Institute of Statistics and Census (https://www.ecuadorencifras.gob.ec/institucional/home/). Based on the censuses of 1990, 2001, and 2010, the population counts were estimated by administrative unit, sex, and age group, taking into account births, deaths, and migrations. All of the registries provided population data in all requested detail.

EDITORS' COMMENTS

Five cancer registries in Ecuador contributed to IICC-3; together, they cover almost 40% of the national population (Table A.6). A table with the combined data is presented in the IICC-3 book; the full tables for the Cuenca, Guayaquil, Manabí, and Quito registries, as well as an abbreviated

ECUADOR, 5 registries (1993-2013)

Registry	Period	Cases	%	Person-years	%
Cuenca	1996-2013	460	11.1	3 414 928	11.7
Guayaquil	2008-2012	758	18.3	4 469 368	15.3
Loja	1997-2013	226	5.5	1 403 326	4.8
Manabí	1995-2011	850	20.5	8 962 965	30.6
Quito	1993-2012	1851	44.7	11 023 570	37.7
ECUADOR	**1993-2013**	**4145**	**100.0**	**29 274 157**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

table for the Loja registry (within the combined dataset for Ecuador), are available online (Table A.12). The Quito registry contributed to IICC-2 (Table A.1).

For three of the five registries, the proportion of cases with unspecified morphology was high. Non-malignant CNS tumours were not registered before 2012, which explains their small or zero proportion in the constituent registries (Table A.9). Registration and coding of pilocytic astrocytoma varied between the registries, as described below. Skin carcinomas were reportable, but some underregistration cannot be excluded. Laterality was collected in all registries, with variable completeness.

Cuenca Tumour Registry, 1996–2013

Fray Martinez-Reyes, Cristian Castro Hugo, Lorena Abril Mogrovejo

Cuenca is the capital and the largest city of Azuay Province. The city is located 2550 m above sea level and has an average temperature of 15 °C. Cuenca is also the name of the province's largest canton, which occupies the north-west quarter of the province and covers an area of 3190 km^2. In 2010, the population of the canton was 0.5 million, and 39% of the population was younger than 20 years (Table A.6).

The Cuenca Tumour Registry, located in the city of Cuenca, began operation in November 1996 (Table A.10), and in 2005 it became a member of IACR. Inclusion of the registry's data in CI5 Volumes X and XI and in the GLOBOCAN database is a credit to the quality of its information. The registered cases are all new neoplasms, invasive or in situ, with or without histological verification, diagnosed in residents of the canton of Cuenca, incident in the years of the reporting period.

Registry staff members actively search for cases in primary sources, such as the records of pathology and haematology laboratories of public and private hospitals. Data from death certificates and hospital discharge records are also reviewed. The registry strives to identify the most valid basis of diagnosis and to avoid duplicate registrations. The lack of direct access to official sources of data hinders confirmation of some variables, such as residence; this limitation is overcome through the detailed review of multiple data sources, such as medical records, laboratory reports, death certificates, and published information. These processes result in high completeness of case ascertainment.

Cuenca has two public specialized hospitals and one private cancer hospital, which receives public funds. There are also private institutions that provide diagnostic and treatment services for children with cancer; these are all captured by the Cuenca Tumour Registry. A small percentage of patients may seek treatment in Quito.

POPULATION AT RISK

See Ecuador, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology was high (11%) (Table A.9). The proportion of non-malignant CNS tumours was low (Table A.9), and there were no cases of pilocytic astrocytoma in the dataset. Laterality was available for 91% of the cases of interest. See also Ecuador, above.

Guayaquil Cancer Registry, 2008–2012

Juan Tanca Campozano, Luis Espín Custodio, Leyda Jaramillo Feijoo, Rina Quinto Briones, Carlos Campoverde Ortiz, Ronald Bastidas Palacios, Geovanny Loor Mazamba, Jorge Villarroel Llerena

Guayaquil is the largest and most populous city in Ecuador and is the capital of Guayas Province. The city is located near the Pacific coast and has a humid tropical climate. There are two hospitals for paediatric oncology: a private non-profit hospital with a paediatric ward with all oncology facilities and specialists needed to provide medical care, and a public hospital with fewer facilities but with equally qualified medical care.

The Guayaquil Cancer Registry covers the population of the city of Guayaquil. In 2010, the population was 2.4 million, and 38% of the population was younger than 20 years (Table A.6). Data are collected by trained registrars at all registered private and public hospitals, clinics, pathology and cytology laboratories, and other sources, to ensure data completeness. Follow-up of the registered cases for vital status is conducted by the registrars by inspecting medical records and death certificates. The data are published online and include information on incidence and mortality, data of local interest, and cancer-specific reports.

POPULATION AT RISK

See Ecuador, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology was high (13%) (Table A.9). Non-malignant CNS tumours were not reportable, but pilocytic astrocytoma was registered and coded with malignant behaviour. Laterality was complete. See also Ecuador, above.

Loja Cancer Registry, 1997–2013

Jhoanna Castillo Calvas, Anny Gomez

The city of Loja is the capital of Loja Canton and Loja Province. Loja Province is located in the Cuxibamba Valley between the Malacatos River and the Zamora River; it is the southernmost province in the Ecuadorian mountains on the border with Peru. Loja Canton occupies the eastern strip of the province and has four urban and 13 rural parishes, including Vilcabamba, which is called the Valley of Longevity. The city of Loja is located 2060 m above sea level. It has a mild Andean climate, with temperatures ranging between 16 °C and 30 °C. Most residents of the canton live in the urban area (79%). In 2010, the population was 0.2 million, and 41% of the population was younger than 20 years (Table A.6). There are three major hospitals in Loja Canton, which provide specialized care in oncology, paediatric oncology, pathology, surgery, and radiotherapy to 80% of residents with cancer.

The Loja Cancer Registry covers the population of Loja Canton. The registry uses standard methodology. Data are collected actively from all histopathology, cytology, and immunohistochemistry reports. Other data sources are hospital records and death certificates. Data quality control includes searches for duplicate registrations, as well as several routine automated checks. Excellent collaboration with pathologists and staff of all data sources results in a completeness of more than 95%, as shown in evaluation of case-finding in alternative sources. The registry publishes incidence data every 5 years. Registry data are used for a variety of academic activities, including research in Loja Province.

POPULATION AT RISK

See Ecuador, above.

EDITORS' COMMENTS

The dates of birth and incidence were imprecise in a proportion of cases (Table A.8); this may have affected the age-specific incidence rates. There were no cases of non-malignant CNS tumours or pilocytic astrocytoma in the dataset. Cases of pilocytic astrocytoma, for which the ICD behaviour code changed from malignant to uncertain in 2003, were removed from the registry database. Laterality was complete for retinoblastoma and nephroblastoma. See also Ecuador, above.

Manabí Cancer Registry, 1995–2011

Mariela Mendoza, Juan Carlos González, Vanessa Zambrano

Manabí Province, which is located in central coastal Ecuador, is divided into 22 counties and covers an area of 18 939 km^2. The province has a relatively flat profile, with elevations that vary between 100 m and 600 m above sea level. In 2010, the population of the province was 1.4 million, and 42% of the population was younger than 20 years (Table A.6). Almost 60% the population lives in urban areas.

The Manabí Cancer Registry is located in the city of Portoviejo, which is the capital of Manabí Province. The registry covers the entire province. Data are collected actively from histopathology, cytology, and immunohistochemistry reports and from hospital records in public and private institutions. Cases are also ascertained from death certificates. Internal processes enable the identification of duplicate records and the recording of multiple tumours. Coding and validation are conducted in collaboration with pathologists and other health-care professionals, which results in a completeness of more than 95%.

POPULATION AT RISK

See Ecuador, above.

EDITORS' COMMENTS

Date of birth was incomplete for more than 10% of cases; age was inconsistent with date of birth and date of incidence in 6% of cases (Table A.8). The proportion of cases with unspecified morphology was high (almost 13%) (Table A.9). The overall incidence rate for the age group 0–19 years was low, especially for infants and adolescents. The proportion of cases aged 0–14 years in the age group 0–19 years was higher than expected, and the proportion of cases in age 0 years in the age group 0–14 years was lower than expected (4.6%) (Table A.9). The high DCO% also suggests some underregistration. There were no non-malignant CNS tumours in the dataset, and pilocytic astrocytoma was coded with malignant behaviour. Laterality was almost complete for nephroblastoma. See also Ecuador, above.

Quito Cancer Registry, 1993–2012

Patricia Cueva, José Yépez, María Belén Morejón, Mónica Galarza, Doris Chauca, Paulina Bedón, Silvia Jacho

Quito, the capital city of Ecuador, is located in the western part of the Andes mountain range, on the slopes of the active volcano Pichincha, and is located 2800 m above sea level. It has a subtropical highland climate, with temperatures ranging between 10 °C and 27 °C.

Quito has a population of 1.6 million and is the second most populous city in Ecuador. The population density is 4050 per km^2. The proportion of residents younger than 20 years (36%) is the lowest of all covered populations in Ecuador (Table A.6). The economy of Quito accounts for a high percentage of the country's industrial, commercial, and financial activity.

Cancer diagnostic and treatment services are provided by two major hospitals for 75% of patients and include paediatric oncology, pathology, and neuro-oncology.

The Quito Cancer Registry has actively collected data since 1985 from all histopathology, cytology, and immunohistochemistry reports and hospital discharge records in the public and private sector. Death certificates are also screened to ascertain new cases and to update the vital status of registered cases. Procedures are defined to prevent duplicate registrations, identify multiple primary tumours, evaluate data consistency, and validate coded information entered into the computer system. Excellent collaboration of pathologists and other data providers results in almost complete coverage.

POPULATION AT RISK

See Ecuador, above.

EDITORS' COMMENTS

The proportion of non-malignant CNS tumours was low (Table A.9). Pilocytic astrocytoma was coded with malignant behaviour until 2011 and with uncertain behaviour thereafter. Laterality was complete for 88% of the cases of interest. See also Ecuador, above.

ECUADOR, 5 registries (1993-2013)

	Age group (years)	Males	Females
Person-years	0	665 204	645 634
	1-4	2 980 373	2 901 610
	5-9	3 700 749	3 623 561
	10-14	3 715 906	3 671 713
	15-19	3 627 287	3 742 120
	0-14	11 062 232	10 842 518
	0-19	14 689 519	14 584 638

Please consult the quality indicators for this pool and its constituent registries

ECUADOR, 5 registries (1993-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	70	531	410	307	304	**1318**	**1622**	43.7	100.0	39.1	100.0	53.4	90.3	56.0	41.6	41.3	**62.5**	**57.7**	905	1112	96.0	2.7
	a. Lymphoid	33	433	326	217	183	**1009**	**1192**	33.4	76.6	28.8	73.5	25.2	73.6	44.5	29.4	24.8	**48.0**	**42.8**	693	818	100.0	0.0
	b. Acute myeloid	16	55	50	61	72	**182**	**254**	6.0	13.8	6.1	15.7	12.2	9.4	6.8	8.3	9.8	**8.4**	**8.7**	125	174	100.0	0.0
	c. CMD	6	9	5	6	26	**26**	**52**	0.9	2.0	1.3	3.2	4.6	1.5	0.7	0.8	3.5	**1.3**	**1.8**	18	36	100.0	0.0
	d. MDS & other	0	2	1	0	2	**3**	**5**	0.1	0.2	0.1	0.3	-	0.3	0.1	-	0.3	**0.2**	**0.2**	2	3	100.0	0.0
	e. Unspecified	15	32	28	23	21	**98**	**119**	3.2	7.4	2.9	7.3	11.4	5.4	3.8	3.1	2.8	**4.7**	**4.3**	67	82	45.4	37.0
II	LYMPHOMA & RELATED	14	113	155	135	189	**417**	**606**	13.8	100.0	14.6	100.0	10.7	19.2	21.2	18.3	25.6	**19.0**	**20.5**	285	414	95.7	1.2
	a. Hodgkin	1	25	53	50	66	**129**	**195**	4.3	30.9	4.7	32.2	0.8	4.3	7.2	6.8	9.0	**5.7**	**6.4**	88	133	99.5	0.0
	b. Non-Hodgkin except BL	0	48	71	53	99	**172**	**271**	5.7	41.2	6.5	44.7	-	8.2	9.7	7.2	13.4	**7.8**	**9.1**	118	185	100.0	0.0
	c. Burkitt (BL)	1	13	15	5	6	**34**	**40**	1.1	8.2	1.0	6.6	0.8	2.2	2.0	0.7	0.8	**1.6**	**1.4**	23	27	100.0	0.0
	d. Lymphoreticular	10	12	4	6	1	**32**	**33**	1.1	7.7	0.8	5.4	7.6	2.0	0.5	0.8	0.1	**1.6**	**1.3**	22	23	100.0	0.0
	e. Unspecified	2	15	12	21	17	**50**	**67**	1.7	12.0	1.6	11.1	1.5	2.6	1.6	2.8	2.3	**2.3**	**2.3**	34	46	62.7	10.4
III	CNS NEOPLASMS †	19	124	151	91	93	**385**	**478**	12.8	100.0	11.5	100.0	14.5	21.1	20.6	12.3	12.6	**17.9**	**16.7**	264	327	80.3	3.3
	a. Ependymoma	4	9	15	5	1	**33**	**34**	1.1	8.6	0.8	7.1	3.1	1.5	2.0	0.7	0.1	**1.6**	**1.2**	23	23	100.0	0.0
	b. Astrocytoma	3	43	66	34	52	**146**	**198**	4.8	37.9	4.8	41.4	2.3	7.3	9.0	4.6	7.1	**6.7**	**6.8**	100	135	93.4	0.0
	c. CNS embryonal	4	46	35	30	17	**115**	**132**	3.8	29.9	3.2	27.6	3.1	7.8	4.8	4.1	2.3	**5.4**	**4.7**	79	90	99.2	0.0
	d. Other gliomas	0	9	8	6	6	**23**	**29**	0.8	6.0	0.7	6.1	-	1.5	1.1	0.8	0.8	**1.1**	**1.0**	16	20	69.0	0.0
	e. Other specified	0	3	0	4	4	**7**	**11**	0.2	1.8	0.3	2.3	-	0.5	-	0.5	0.5	**0.3**	**0.4**	5	8	100.0	0.0
	f. Unspecified CNS	8	14	27	12	13	**61**	**74**	2.0	15.8	1.8	15.5	6.1	2.4	3.7	1.6	1.8	**2.8**	**2.6**	42	51	4.1	21.6
IV	NEUROBLASTOMA	8	16	7	10	3	**41**	**44**	1.4	100.0	1.1	100.0	6.1	2.7	1.0	1.4	0.4	**2.0**	**1.6**	28	30	88.6	0.0
	a. (Ganglio)neuroblastoma	7	16	7	9	2	**39**	**41**	1.3	95.1	1.0	93.2	5.3	2.7	1.0	1.2	0.3	**1.9**	**1.5**	27	28	87.8	0.0
	b. Peripheral nervous	1	0	0	1	1	**2**	**3**	0.1	4.9	0.1	6.8	0.8	-	-	0.1	0.1	**0.1**	**0.1**	1	2	100.0	0.0
V	RETINOBLASTOMA	28	99	8	0	0	**135**	**135**	4.5	100.0	3.3	100.0	21.4	16.8	1.1	-	-	**7.2**	**5.6**	94	94	94.8	0.0
VI	RENAL TUMOURS	14	80	28	5	4	**127**	**131**	4.2	100.0	3.2	100.0	10.7	13.6	3.8	0.7	0.5	**6.5**	**5.2**	88	91	83.2	3.8
	a. Nephroblastoma	11	76	26	5	1	**118**	**119**	3.9	92.9	2.9	90.8	8.4	12.9	3.5	0.7	0.1	**6.0**	**4.7**	82	82	89.9	1.7
	b. Renal carcinoma	0	0	0	0	2	**0**	**2**	-	-	0.0	1.5	-	-	-	-	0.3	**-**	**0.1**	-	1	100.0	0.0
	c. Unspecified	3	4	2	0	1	**9**	**10**	0.3	7.1	0.2	7.6	2.3	0.7	0.3	-	0.1	**0.5**	**0.4**	6	7	0.0	30.0
VII	HEPATIC TUMOURS	15	29	11	11	9	**66**	**75**	2.2	100.0	1.8	100.0	11.4	4.9	1.5	1.5	1.2	**3.3**	**2.8**	46	52	81.3	5.3
	a. Hepatoblastoma	14	23	7	5	2	**49**	**51**	1.6	74.2	1.2	68.0	10.7	3.9	1.0	0.7	0.3	**2.5**	**2.0**	34	35	96.1	2.0
	b. Hepatic carcinoma	0	0	2	5	5	**7**	**12**	0.2	10.6	0.3	16.0	-	-	0.3	0.7	0.7	**0.3**	**0.4**	5	8	100.0	0.0
	c. Unspecified	1	6	2	1	2	**10**	**12**	0.3	15.2	0.3	16.0	0.8	1.0	0.3	0.1	0.3	**0.5**	**0.5**	7	8	0.0	25.0
VIII	BONE TUMOURS	0	4	36	101	94	**141**	**235**	4.7	100.0	5.7	100.0	-	0.7	4.9	13.7	12.8	**5.8**	**7.3**	96	159	94.9	0.9
	a. Osteosarcoma	0	0	26	80	66	**106**	**172**	3.5	75.2	4.1	73.2	-	-	3.5	10.8	9.0	**4.3**	**5.3**	72	117	98.8	0.0
	b. Chondrosarcoma	0	0	3	3	1	**6**	**7**	0.2	4.3	0.2	3.0	-	-	0.4	0.4	0.1	**0.3**	**0.2**	4	5	100.0	0.0
	c. Ewing & related	0	4	6	10	15	**20**	**35**	0.7	14.2	0.8	14.9	-	0.7	0.8	1.4	2.0	**0.9**	**1.1**	14	24	100.0	0.0
	d. Other specified	0	0	0	2	5	**2**	**7**	0.1	1.4	0.2	3.0	-	-	-	0.3	0.7	**0.1**	**0.2**	1	5	100.0	0.0
	e. Unspecified	0	0	1	6	7	**7**	**14**	0.2	5.0	0.3	6.0	-	-	0.1	0.8	0.9	**0.3**	**0.4**	5	9	28.6	14.3
IX	SOFT TISSUE SARCOMA	14	34	30	56	66	**134**	**200**	4.4	100.0	4.8	100.0	10.7	5.8	4.1	7.6	9.0	**6.1**	**6.7**	92	137	98.5	0.5
	a. Rhabdomyosarcoma	7	20	16	26	18	**69**	**87**	2.3	51.5	2.1	43.5	5.3	3.4	2.2	3.5	2.4	**3.2**	**3.0**	47	60	98.9	1.1
	b. Fibrosarcoma	3	4	3	5	13	**15**	**28**	0.5	11.2	0.7	14.0	2.3	0.7	0.4	0.7	1.8	**0.7**	**0.9**	10	19	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	1	**1**	**2**	0.0	0.7	0.0	1.0	-	-	-	0.1	0.1	**0.0**	**0.1**	1	1	100.0	0.0
	d. Other specified	2	6	7	15	22	**30**	**52**	1.0	22.4	1.3	26.0	1.5	1.0	1.0	2.0	3.0	**1.3**	**1.7**	20	35	100.0	0.0
	e. Unspecified	2	4	4	9	12	**19**	**31**	0.6	14.2	0.7	15.5	1.5	0.7	0.5	1.2	1.6	**0.9**	**1.0**	13	21	93.5	0.0
X	GERM CELL TUMOURS	13	37	21	41	170	**112**	**282**	3.7	100.0	6.8	100.0	9.9	6.3	2.9	5.5	23.1	**5.2**	**9.2**	77	192	95.4	0.7
	a. CNS germ cell	1	3	1	3	3	**8**	**11**	0.3	7.1	0.3	3.9	0.8	0.5	0.1	0.4	0.4	**0.4**	**0.4**	5	8	90.9	0.0
	b. Other extragonadal	2	5	2	3	13	**12**	**25**	0.4	10.7	0.6	8.9	1.5	0.9	0.3	0.4	1.8	**0.6**	**0.8**	8	17	96.0	0.0
	c. Gonadal germ cell	10	29	15	30	130	**84**	**214**	2.8	75.0	5.2	75.9	7.6	4.9	2.0	4.1	17.6	**3.9**	**7.0**	58	146	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	15	**1**	**16**	0.0	0.9	0.4	5.7	-	-	-	0.1	2.0	**0.0**	**0.5**	1	11	100.0	0.0
	e. Unspecified gonadal	0	0	3	4	9	**7**	**16**	0.2	6.3	0.4	5.7	-	-	0.4	0.5	1.2	**0.3**	**0.5**	5	11	31.3	12.5
XI	CARCINOMA & MELANOMA	4	7	22	47	165	**80**	**245**	2.7	100.0	5.9	100.0	3.1	1.2	3.0	6.4	22.4	**3.4**	**7.7**	54	166	99.6	0.0
	a. Adrenocortical	0	0	0	0	1	**0**	**1**	-	-	0.0	0.4	-	-	-	-	0.1	**-**	**0.0**	-	1	100.0	0.0
	b. Thyroid	0	0	7	22	64	**29**	**93**	1.0	36.3	2.2	38.0	-	-	1.0	3.0	8.7	**1.2**	**2.9**	20	63	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	1	**0**	**1**	-	-	0.0	0.4	-	-	-	-	0.1	**-**	**0.0**	-	1	100.0	0.0
	d. Melanoma	4	4	6	3	6	**17**	**23**	0.6	21.3	0.6	9.4	3.1	0.7	0.8	0.4	0.8	**0.8**	**0.8**	12	16	95.7	0.0
	e. Skin carcinoma	0	2	5	12	27	**19**	**46**	0.6	23.8	1.1	18.8	-	0.3	0.7	1.6	3.7	**0.8**	**1.4**	13	31	100.0	0.0
	f. Other & unspecified	0	1	4	10	66	**15**	**81**	0.5	18.8	2.0	33.1	-	0.2	0.5	1.4	9.0	**0.6**	**2.5**	10	55	100.0	0.0
XII	OTHER & UNSPECIFIED	7	18	13	24	30	**62**	**92**	2.1	100.0	2.2	100.0	5.3	3.1	1.8	3.2	4.1	**2.9**	**3.1**	42	63	14.1	21.7
	a. Other specified	0	2	0	1	3	**3**	**6**	0.1	4.8	0.1	6.5	-	0.3	-	0.1	0.4	**0.1**	**0.2**	2	4	100.0	0.0
	b. Other unspecified	7	16	13	23	27	**59**	**86**	2.0	95.2	2.1	93.5	5.3	2.7	1.8	3.1	3.7	**2.7**	**2.9**	40	59	8.1	23.3
	TOTAL	206	1092	892	828	1127	**3018**	**4145**	100.0	100.0	100.0	100.0	157.2	185.7	121.8	112.1	152.9	**141.7**	**144.2**	2072	2836	91.8	2.4

† includes 5 non-malignant

Please consult the quality indicators for this pool and its constituent registries

France

France, 3 registries, 1990–2012

Three of the overseas administrative units of France that are located in Latin America are covered by cancer registries: French Guiana, Guadeloupe, and Martinique. As part of France, these areas are also part of the European Union and use the euro currency. The citizens have French nationality and vote for the president of France. The official language is French, but each ethnic community also speaks their variant of Creole language. The dominant religion is Roman Catholicism. Medical care is equivalent to that in mainland France, and all citizens participate in a compulsory national social security insurance system. The national health insurance can be complemented by optional private insurance.

Cancer registration follows the same principles as in mainland France. Support is provided by national institutions – the National Cancer Institute (INCa) and the National Institute for Public Health Surveillance (InVS) – and is conditioned on satisfactory periodic appraisals of the completeness and quality of cancer registration data. Registries are certified by the National Committee of Registries, which is part of the National Institute of Health and Medical Research (INSERM) and InVS. Registration is subject to approval by the National Commission for Information Technology and Civil Liberties (CNIL).

The three cancer registries in the French Caribbean – those of French Guiana, Guadeloupe, and Martinique – collaborate closely and aim to conduct studies using combined data on cancer. All three registries are members of the French Network of Cancer Registries (FRANCIM) and contribute to the FRANCIM database. They also exchange data with the French National Childhood Cancer Registries (see Europe, France).

POPULATION AT RISK

Population data were provided by the French National Institute of Statistics and Economic Studies (INSEE; https://www.insee.fr/fr/accueil) and are based on population censuses, vital statistics, and population movement. The last general population census was conducted in 1999. Since January 2004, a rolling census method has been used, with the goal of producing population updates annually and spreading the cost of the census over several years.

EDITORS' COMMENTS

The pooled dataset comprises the data provided by the three registries of the French Caribbean. Selected data are also available online in abbreviated tables for the two larger registries (French Guiana and Martinique) but not for Guadeloupe (Table A.12). Registration practices and data quality differ somewhat between the three registries, as described below.

FRANCE, 3 registries (1990-2012)

Registry	Period	Cases	%	Person-years	%
French Guiana	2003-2012	149	30.2	950 976	22.6
Guadeloupe	2008-2012	69	14.0	590 976	14.0
Martinique	1990-2012	275	55.8	2 668 301	63.4
FRANCE	**1990-2012**	**493**	**100.0**	**4 210 253**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

French Guiana Cancer Registry, 2003–2012

Tristan Roué, Sophie Belliardo, Juliette Plenet, Angela Fior

French Guiana is an overseas department and region of France, located on the north Atlantic coast of South America on the Guiana Shield. It is bordered by Brazil to the east and south and Suriname to the west. French Guiana has a tropical rainforest climate.

The main traditional industries are fishing, gold mining, and timber. A large part of the economy derives from jobs and businesses associated with the European Space Agency; the tourism sector is also growing. The region depends on mainland France for subsidies and has poor infrastructure, a high cost of living, a high unemployment rate, and high levels of crime; social unrest is common.

French Guiana covers a land area of 83 534 km^2. The population density is only 3.4 per km^2. In 2010, the population was 0.2 million (Table A.7), and 44% of the population was younger than 20 years (Table A.6). Half of the population lives in the metropolitan area of Cayenne, the capital. A large proportion of the general population is Creole; about 15% are of European descent, and less than 5% are of Asian descent. The region attracts numerous immigrants from South America and the Caribbean seeking better socioeconomic conditions. Immigrants account for 30% of the population. Immigrants can gain access to health insurance. Patients who require specialized care

are transferred to Metropolitan France or Martinique for treatment.

The French Guiana Cancer Registry was established in 2005, with retrospective data collection from 2003 (Table A.10). It is housed within the Regional Union of Health Care Professionals. The registry was officially certified in 2011; since then, it has undergone a quality audit every 3 years. The registry is staffed by three trained research technicians, a statistician, a secretary, and two medical doctors. It has a scientific board and an ethical review board.

Cases are actively identified from three main sources: pathology laboratories, medical information offices of public and private hospitals, and health insurance notifications. After first case notification, every medical file is checked at different laboratories, private and public hospital departments, administrative services, and medical specialists within and outside the registration area. Data coding strictly follows the FRANCIM and European Network of Cancer Registries (ENCR) recommendations. The capture–recapture method was used to estimate the completeness of cancer registration. For 2003–2008, the completeness of registration of childhood cancers was estimated to be 96%. The registered cases are followed up for vital status actively by linking with the National Directory for the Identification of Natural Persons (RNIPP) at INSEE, or passively by matching death certificates stored in the town hall.

POPULATION AT RISK

Data were provided by sex and 5-year age group for each calendar year of the period 2003–2005 and by sex and single year of age for each calendar year of the period 2006–2012. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also France, 3 registries, above.

EDITORS' COMMENTS

The MV% was low (85%), and the basis of diagnosis was unknown in almost 5% of cases. As a result, the proportion of cases with unspecified morphology was high (18%) (Table A.9). Thus, the resulting incidence rates may be lower for specific and higher for unspecified cancer types than expected. Non-malignant CNS tumours were reportable, and their percentage was high (40%) (Table A.9). The one case of pilocytic astrocytoma was registered with malignant behaviour. The unlikely dates of birth and incidence (Table A.8) and the high proportion of cases at the extremes of the considered age range shown in Table A.9 may be chance findings in the small dataset. Basal cell carcinomas of skin were not reportable. Laterality was not collected.

Guadeloupe Cancer Registry, 2008–2012

Jacqueline Deloumeaux, Bernard Bhakkan, Jessica Peruvien, Sara Kouyate

Guadeloupe is an insular overseas region and department of France. It is located in the Leeward Islands, part of the Lesser Antilles in the Caribbean Sea. The archipelago covers a total area of 1628 km^2. The population is mainly of African, Indian, and European descent. In 2010, the population was 0.5 million, and 30% of the population was younger than 20 years (Table A.6). The population lives mostly in urban areas, in which the population density is 326 per km^2. The economy is based on tourism, agriculture, light industry, and services. Guadeloupe is dependent on mainland France for subsidies and imports. The unemployment rate is especially high among young people.

Guadeloupe benefits from the French national health insurance, which is available for all citizens and is governed locally by a regional health agency. However, because there are few oncologists in Guadeloupe, most paediatric cases are managed in the university hospital and transferred to Metropolitan France for treatment.

The Guadeloupe Cancer Registry was established in 2008 and is located at the University Hospital of Pointe-à-Pitre. The registry is financed by INCa and InVS. It covers the entire population of Guadeloupe and records in a continuous and exhaustive manner all cancer-related data (date of incidence, stage and grade of diagnosis, treatment provided, and place of treatment). Data on follow-up and vital status are also collected, and survival statistics are provided in 5-year intervals. About 1700 incident cases are recorded annually; less than 1% of these occur in patients younger than 20 years.

Data are collected actively from the records of pathology laboratories, hospital registries, and the health insurance system. Information from all sources is linked to avoid duplicates and then validated by trained staff members according to IARC and IACR recommendations. Active collaboration with the French National Childhood Cancer Registries helps to achieve complete registration of children with cancer.

The incidence of most cancers is low in Guadeloupe, including in people younger than 20 years. A similar pattern is found in Martinique. Reports on incidence and mortality are routinely provided to both regional and national public health policy institutions. The registry conducts epidemiological research on environmental factors (pesticide contamination, infectious agents, and cancer in tropical areas) and social inequalities as determinants of cancer risk.

POPULATION AT RISK

Data were provided in all requested detail. The decimal numbers of the estimated population counts provided for some sex and age categories were rounded to the nearest integer at IARC (Table A.8). See also France, 3 registries, above.

EDITORS' COMMENTS

The registry only has access to de-identified death certificates; thus, a proportion of new cases may have been missed. Non-malignant CNS tumours were registered, but only cases with uncertain behaviour were found in the dataset, including cases of pilocytic astrocytoma. Basal cell carcinomas of skin were not reportable. Laterality was complete for retinoblastoma.

Martinique Cancer Registry, 1990–2012

Clarisse Joachim, Jonathan Macni, Mylène Vestris, Audrey Pomier, Stephen Ulric-Gervaise, Marie-Josée Dorival, Juliette Smith-Ravin, Jacqueline Véronique Baudin, Patrick Escarmant

Martinique is an insular overseas region of France located in the Lesser Antilles in the eastern Caribbean Sea. It covers a land area of 1128 km^2 and has a humid tropical climate in the north of the island and a drier climate in the south. The economy is sustained mainly by the service sector (82%) and to a lesser extent by industry (9%) and agriculture (4%). Tourism employs 7% of the total workforce.

The total population is 0.4 million, and 27% of the population is younger than 20 years (Table A.6). The residents are mainly of African descent, often mixed with French; other ethnicities include Amerindian, Indo-Martinican (the descendants of 19th-century immigrants from India), Lebanese, and Chinese. About 94% live in urban areas.

The diagnostic and treatment facilities include two pathology laboratories, a haematology laboratory, two public hospitals with facilities located throughout the region, and two private clinics. There is centralized organized screening for breast, colorectal, and cervical cancers, and there is a National Cancer Plan and Programme at the regional and public health levels.

The Martinique Cancer Registry was established in 1981 to conduct continuous recording of cancer in the entire population of the region. The registry complies with a legal framework for the registration with respect to data confidentiality, which includes encryption of data and informed consent.

The registry is financed by InVS, INCa, the University Hospital of Martinique, and local authorities. The staff consists of a medical director, a biostatistician and data manager, a scientific manager, clinical research associates, and a secretary.

Data are collected passively and actively from private and public pathology laboratories and from health insurance records on long-term illness; patient records are actively reviewed. Data on childhood cancer are also received from the French National Childhood Cancer Registries. The completeness of registration is estimated to be 98%. Data quality control is performed as recommended by FRANCIM and IARC.

The registry publishes a report every 5 years. The collected data are used to measure the effects of environmental pollutants on the incidence of cancer or in the workplace and the effects of new cancer treatments on survival. Cancer information is also provided to health authorities, who use it to evaluate health services and the effect of organized screening programmes.

POPULATION AT RISK

Data were provided in all requested detail. The decimal numbers of the estimated population counts provided for some sex and age categories were rounded to the nearest integer at IARC (Table A.8). See also France, 3 registries, above.

EDITORS' COMMENTS

The registry only has access to de-identified death certificates; thus, a proportion of new cases may have been missed. The basis of diagnosis was unknown in almost 3% of cases (Table A.9). Exact dates of birth and incidence are recorded, but they were not provided for data protection reasons (Table A.8); thus, the consistency between the dates and the age could not be verified at IARC. The proportion of cases aged 19 years in the age group 15–19 years is high (28%) (Table A.9), which probably reflects the age-related increase in incidence. Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Laterality was collected and was available for two thirds of the cases of interest.

FRANCE, 3 registries (1990-2012)

	Age group (years)	Males	Females
Person-years	0	102 218	99 695
	1-4	413 914	402 161
	5-9	531 176	519 475
	10-14	549 211	532 167
	15-19	537 620	522 616
	0-14	1 596 519	1 553 498
	0-19	2 134 139	2 076 114

Please consult the quality indicators for this pool and its constituent registries

FRANCE, 3 registries (1990-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	9	37	35	29	32	**110**	**142**	32.1	100.0	28.8	100.0	44.6	45.3	33.3	26.8	30.2	**36.0**	**34.7**	527	677	97.9	0.7
	a. Lymphoid	1	29	22	21	15	**73**	**88**	21.3	66.4	17.8	62.0	5.0	35.5	20.9	19.4	14.1	**23.8**	**21.6**	349	420	100.0	0.0
	b. Acute myeloid	3	2	8	8	7	**21**	**28**	6.1	19.1	5.7	19.7	14.9	2.5	7.6	7.4	6.6	**6.5**	**6.5**	100	133	89.3	3.6
	c. CMD	0	4	2	0	6	**6**	**12**	1.7	5.5	2.4	8.5	-	4.9	1.9	-	5.7	**2.1**	**2.9**	29	57	100.0	0.0
	d. MDS & other	3	0	1	0	2	**4**	**6**	1.2	3.6	1.2	4.2	14.9	-	1.0	-	1.9	**1.4**	**1.5**	19	29	100.0	0.0
	e. Unspecified	2	2	2	0	2	**6**	**8**	1.7	5.5	1.6	5.6	9.9	2.5	1.9	-	1.9	**2.1**	**2.1**	29	39	100.0	0.0
II	**LYMPHOMA & RELATED**	1	4	9	19	27	**33**	**60**	9.6	100.0	12.2	100.0	5.0	4.9	8.6	17.6	25.5	**9.8**	**13.3**	155	283	100.0	0.0
	a. Hodgkin	1	0	3	10	18	**14**	**32**	4.1	42.4	6.5	53.3	5.0	-	2.9	9.2	17.0	**4.0**	**6.9**	65	150	100.0	0.0
	b. Non-Hodgkin except BL	0	2	5	7	8	**14**	**22**	4.1	42.4	4.5	36.7	-	2.5	4.8	6.5	7.5	**4.2**	**4.9**	66	104	100.0	0.0
	c. Burkitt (BL)	0	2	1	2	0	**5**	**5**	1.5	15.2	1.0	8.3	-	2.5	1.0	1.8	-	**1.6**	**1.2**	24	24	100.0	0.0
	d. Lymphoreticular	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	0	0	0	0	1	**0**	**1**	-	-	0.2	1.7	-	-	-	-	0.9	**-**	**0.2**	-	5	100.0	0.0
III	**CNS NEOPLASMS** †	5	24	19	18	18	**66**	**84**	19.2	100.0	17.0	100.0	24.8	29.4	18.1	16.6	17.0	**21.7**	**20.6**	316	401	71.4	0.0
	a. Ependymoma	1	8	1	1	2	**11**	**13**	3.2	16.7	2.6	15.5	5.0	9.8	1.0	0.9	1.9	**4.0**	**3.5**	54	63	92.3	0.0
	b. Astrocytoma	0	6	7	3	3	**16**	**19**	4.7	24.2	3.9	22.6	-	7.4	6.7	2.8	2.8	**5.2**	**4.7**	77	91	94.7	0.0
	c. CNS embryonal	0	6	9	0	2	**15**	**17**	4.4	22.7	3.4	20.2	-	7.4	8.6	-	1.9	**5.0**	**4.3**	72	82	88.2	0.0
	d. Other gliomas	0	1	0	3	1	**4**	**5**	1.2	6.1	1.0	6.0	-	1.2	-	2.8	0.9	**1.2**	**1.1**	19	23	40.0	0.0
	e. Other specified	1	0	1	7	8	**9**	**17**	2.6	13.6	3.4	20.2	5.0	-	1.0	6.5	7.5	**2.6**	**3.7**	42	80	76.5	0.0
	f. Unspecified CNS	3	3	1	4	2	**11**	**13**	3.2	16.7	2.6	15.5	14.9	3.7	1.0	3.7	1.9	**3.7**	**3.3**	53	62	0.0	0.0
IV	**NEUROBLASTOMA**	2	9	6	3	0	**20**	**20**	5.8	100.0	4.1	100.0	9.9	11.0	5.7	2.8	-	**6.8**	**5.3**	96	96	80.0	0.0
	a. (Ganglio)neuroblastoma	2	9	6	1	0	**18**	**18**	5.2	90.0	3.7	90.0	9.9	11.0	5.7	0.9	-	**6.3**	**4.9**	87	87	83.3	0.0
	b. Peripheral nervous	0	0	0	2	0	**2**	**2**	0.6	10.0	0.4	10.0	-	-	-	1.8	-	**0.5**	**0.4**	9	9	50.0	0.0
V	**RETINOBLASTOMA**	1	9	0	0	0	**10**	**10**	2.9	100.0	2.0	100.0	5.0	11.0	-	-	-	**3.8**	**2.9**	49	49	80.0	0.0
VI	**RENAL TUMOURS**	0	11	4	2	5	**17**	**22**	5.0	100.0	4.5	100.0	-	13.5	3.8	1.8	4.7	**5.9**	**5.7**	82	106	95.5	0.0
	a. Nephroblastoma	0	11	4	2	1	**17**	**18**	5.0	100.0	3.7	81.8	-	13.5	3.8	1.8	0.9	**5.9**	**4.8**	82	87	94.4	0.0
	b. Renal carcinoma	0	0	0	0	4	**0**	**4**	-	-	0.8	18.2	-	-	-	-	3.8	**-**	**0.8**	-	19	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	**HEPATIC TUMOURS**	1	1	1	0	1	**3**	**4**	0.9	100.0	0.8	100.0	5.0	1.2	1.0	-	0.9	**1.1**	**1.0**	15	19	100.0	0.0
	a. Hepatoblastoma	1	1	1	0	0	**3**	**3**	0.9	100.0	0.6	75.0	5.0	1.2	1.0	-	-	**1.1**	**0.8**	15	15	100.0	0.0
	b. Hepatic carcinoma	0	0	0	0	1	**0**	**1**	-	-	0.2	25.0	-	-	-	-	0.9	**-**	**0.2**	-	5	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	0	2	4	12	11	**18**	**29**	5.2	100.0	5.9	100.0	-	2.5	3.8	11.1	10.4	**5.2**	**6.4**	84	136	86.2	0.0
	a. Osteosarcoma	0	1	2	9	5	**12**	**17**	3.5	66.7	3.4	58.6	-	1.2	1.9	8.3	4.7	**3.4**	**3.7**	56	80	100.0	0.0
	b. Chondrosarcoma	0	0	1	2	2	**3**	**5**	0.9	16.7	1.0	17.2	-	-	1.0	1.8	1.9	**0.8**	**1.1**	14	23	100.0	0.0
	c. Ewing & related	0	0	1	0	3	**1**	**4**	0.3	5.6	0.8	13.8	-	-	1.0	-	2.8	**0.3**	**0.9**	5	19	75.0	0.0
	d. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	0	1	0	1	1	**2**	**3**	0.6	11.1	0.6	10.3	-	1.2	-	0.9	0.9	**0.6**	**0.7**	10	14	0.0	0.0
IX	**SOFT TISSUE SARCOMA**	4	8	11	11	14	**34**	**48**	9.9	100.0	9.7	100.0	19.8	9.8	10.5	10.2	13.2	**10.9**	**11.4**	162	228	100.0	0.0
	a. Rhabdomyosarcoma	1	5	7	2	4	**15**	**19**	4.4	44.1	3.9	39.6	5.0	6.1	6.7	1.8	3.8	**5.0**	**4.7**	72	91	100.0	0.0
	b. Fibrosarcoma	1	0	0	1	2	**2**	**4**	0.6	5.9	0.8	8.3	5.0	-	-	0.9	1.9	**0.6**	**0.9**	10	19	100.0	0.0
	c. Kaposi sarcoma	1	0	0	0	0	**1**	**1**	0.3	2.9	0.2	2.1	5.0	-	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	d. Other specified	0	2	3	6	8	**11**	**19**	3.2	32.4	3.9	39.6	-	2.5	2.9	5.5	7.5	**3.3**	**4.2**	52	90	100.0	0.0
	e. Unspecified	1	1	1	2	0	**5**	**5**	1.5	14.7	1.0	10.4	5.0	1.2	1.0	1.8	-	**1.6**	**1.2**	24	24	100.0	0.0
X	**GERM CELL TUMOURS**	4	3	3	8	16	**18**	**34**	5.2	100.0	6.9	100.0	19.8	3.7	2.9	7.4	15.1	**5.7**	**7.8**	86	161	97.1	0.0
	a. CNS germ cell	2	0	1	1	0	**4**	**4**	1.2	22.2	0.8	11.8	9.9	-	1.0	0.9	-	**1.3**	**1.0**	19	19	75.0	0.0
	b. Other extragonadal	1	0	1	0	2	**2**	**4**	0.6	11.1	0.8	11.8	5.0	-	1.0	-	1.9	**0.7**	**1.0**	10	19	100.0	0.0
	c. Gonadal germ cell	1	3	1	6	12	**11**	**23**	3.2	61.1	4.7	67.6	5.0	3.7	1.0	5.5	11.3	**3.4**	**5.2**	52	109	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	1	**0**	**1**	-	-	0.2	2.9	-	-	-	-	0.9	**-**	**0.2**	-	5	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	1	**1**	**2**	0.3	5.6	0.4	5.9	-	-	-	0.9	0.9	**0.3**	**0.4**	5	9	100.0	0.0
XI	**CARCINOMA & MELANOMA**	0	1	1	10	23	**12**	**35**	3.5	100.0	7.1	100.0	-	1.2	1.0	9.2	21.7	**3.4**	**7.5**	56	164	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Thyroid	0	0	0	2	12	**2**	**14**	0.6	16.7	2.8	40.0	-	-	-	1.8	11.3	**0.5**	**3.0**	9	66	100.0	0.0
	c. Nasopharyngeal	0	0	0	3	1	**3**	**4**	0.9	25.0	0.8	11.4	-	-	-	2.8	0.9	**0.8**	**0.8**	14	19	100.0	0.0
	d. Melanoma	0	0	0	0	2	**0**	**2**	-	-	0.4	5.7	-	-	-	-	1.9	**-**	**0.4**	-	9	100.0	0.0
	e. Skin carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	f. Other & unspecified	0	1	1	5	8	**7**	**15**	2.0	58.3	3.0	42.9	-	1.2	1.0	4.6	7.5	**2.0**	**3.3**	33	71	100.0	0.0
XII	**OTHER & UNSPECIFIED**	0	1	1	0	3	**2**	**5**	0.6	100.0	1.0	100.0	-	1.2	1.0	-	2.8	**0.7**	**1.2**	10	24	20.0	0.0
	a. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Other unspecified	0	1	1	0	3	**2**	**5**	0.6	100.0	1.0	100.0	-	1.2	1.0	-	2.8	**0.7**	**1.2**	10	24	20.0	0.0
	TOTAL	27	110	94	112	150	**343**	**493**	100.0	100.0	100.0	100.0	133.7	134.8	89.5	103.6	141.5	**111.0**	**117.9**	1638	2345	91.3	0.2

† includes 31 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Honduras

Francisco Morazán, Honduras National Cancer Registry, 2002–2012

Flora Duarte Muñoz, Eda Sofía Cálix Santos, Nelli Saraí Padilla Ruíz

Honduras is located in Central America, between the Caribbean Sea and the Pacific Ocean. It is bordered by Guatemala to the north-west, El Salvador to the south-west, and Nicaragua to the south. Honduras covers an area of 112 492 km^2, with mountainous terrain and a tropical climate.

Honduras has a lower-middle-income economy with a medium Human Development Index. The unemployment rate is high, and in 2010 50% of the population was living below the poverty threshold. The main economic activity is agriculture. The availability of drinking-water and sanitation differs greatly between urban centres and rural villages. Natural disasters, such as Hurricane Mitch in 1998, contribute to high inequality in income levels because they particularly affect low-income rural areas.

The country is multi-ethnic; the four major ethnic groups are Mestizo (90%), Indigenous Amerindian (7%), English-speaking Black Creole (2%), and White (1%). In 2010, the population was 7.5 million (Table A.7), and 47% of the population was younger than 20 years (Table A.6).

On average, there are 0.80 doctors and 0.97 hospital beds per 1000 people. Cancer care is provided by 26 oncologists. Patients with cancer are managed in three public hospitals, the Honduran Social Security Institute, one private hospital, and two nongovernmental organizations: the Honduran Association Against Cancer (AHLC) and the League Against Cancer.

The Honduras National Cancer Registry is run by AHLC at the Cancer Centre Emma Romero de Callejas. This responsibility was entrusted to AHLC by the Ministry of Health in 2004. Since 2002, data have been collected in all hospitals involved in cancer care, the main pathology laboratories of the Cancer Centre Emma Romero de Callejas, departments of forensic medicine, and the National Registry of Persons. The registry covered 31% of the national childhood population in 2002–2006. However, for financial reasons the registration area was restricted thereafter to Francisco Morazán Department, which reduced the population coverage to 17.5% (Table A.6).

Francisco Morazán Department is one of the 18 departments of Honduras. This mountainous department is located in the centre of the country and covers a total area of 7946 km^2. In 2010, the population was 1.4 million, and 43% of the population was younger than 20 years (Table A.6). The city of Tegucigalpa is the capital of the country and of the department.

Data are collected actively by trained personnel. Data entry, validation, and storage are done using CanReg5. Registry staff members compare data from multiple sources to avoid missing cases and manually check for duplicate records and those with inconsistent information.

The data produced by the registry convey useful information on cancer burden in the country. Students and medical doctors use these data to generate knowledge on cancer in Honduras.

POPULATION AT RISK

The source of the population data was the National Statistics Institute (https://ine.gob.hn). The population projections for 2001–2015 were based on the 2001 census of population and housing (Table A.7). Data were provided by sex and 5-year age group for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The proportion of cases in infants (aged < 1 year) is lower than expected (5%) (Table A.9); this may be because of late diagnosis. Non-malignant CNS tumours are reportable, but the proportion was relatively low (20%) (Table A.9). Pilocytic astrocytoma was coded mostly with uncertain behaviour, but one case with malignant behaviour was also included in that dataset. Skin carcinomas were reportable, but some may have been missed because of limited access by the registry to some relevant data sources. Laterality was complete.

HONDURAS, Francisco Morazán (2002-2012)

	Age group (years)	Males	Females
Person-years	0	189 341	181 622
	1-4	732 472	705 247
	5-9	875 933	848 364
	10-14	802 938	793 682
	15-19	733 837	757 751
	0-14	2 600 684	2 528 915
	0-19	3 334 521	3 286 666
Average annual population	0-14	236 426	229 901
	0-19	303 138	298 788

Please consult the quality indicators for this registry

HONDURAS, Francisco Morazán (2002-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	6	69	62	50	45	187	232	38.3	100.0	34.3	100.0	16.2	48.0	36.0	31.3	30.2	36.7	35.3	544	695	99.6	0.0
	a. Lymphoid	4	62	50	39	27	155	182	31.8	82.9	26.9	78.4	10.8	43.1	29.0	24.4	18.1	30.6	27.8	450	540	100.0	0.0
	b. Acute myeloid	0	3	5	8	8	16	24	3.3	8.6	3.6	10.3	-	2.1	2.9	5.0	5.4	3.0	3.6	48	75	100.0	0.0
	c. CMD	0	0	2	2	4	4	8	0.8	2.1	1.2	3.4	-	-	1.2	1.3	2.7	0.7	1.2	12	25	100.0	0.0
	d. MDS & other	2	0	0	1	0	3	3	0.6	1.6	0.4	1.3	5.4	-	-	0.6	-	0.6	0.5	9	9	100.0	0.0
	e. Unspecified	0	4	5	0	6	9	15	1.8	4.8	2.2	6.5	-	2.8	2.9	-	4.0	1.8	2.3	26	46	93.3	0.0
II	LYMPHOMA & RELATED	0	9	18	34	17	61	78	12.5	100.0	11.5	100.0	-	6.3	10.4	21.3	11.4	11.5	11.5	184	241	100.0	0.0
	a. Hodgkin	0	3	9	26	9	38	47	7.8	62.3	7.0	60.3	-	2.1	5.2	16.3	6.0	7.1	6.8	116	146	100.0	0.0
	b. Non-Hodgkin except BL	0	3	7	5	7	15	22	3.1	24.6	3.3	28.2	-	2.1	4.1	3.1	4.7	2.9	3.3	44	68	100.0	0.0
	c. Burkitt (BL)	0	3	2	2	0	7	7	1.4	11.5	1.0	9.0	-	2.1	1.2	1.3	-	1.4	1.1	20	20	100.0	0.0
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	0	0	1	1	1	2	0.2	1.6	0.3	2.6	-	-	-	0.6	0.7	0.2	0.3	3	6	100.0	0.0
III	CNS NEOPLASMS †	0	20	29	31	19	80	99	16.4	100.0	14.6	100.0	-	13.9	16.8	19.4	12.7	15.3	14.8	236	300	79.8	1.0
	a. Ependymoma	0	4	5	1	2	10	12	2.0	12.5	1.8	12.1	-	2.8	2.9	0.6	1.3	2.0	1.8	29	35	100.0	0.0
	b. Astrocytoma	0	4	9	15	7	28	35	5.7	35.0	5.2	35.4	-	2.8	5.2	9.4	4.7	5.3	5.1	84	108	100.0	0.0
	c. CNS embryonal	0	6	4	3	1	13	14	2.7	16.3	2.1	14.1	-	4.2	2.3	1.9	0.7	2.6	2.1	38	41	100.0	0.0
	d. Other gliomas	0	1	5	4	5	10	15	2.0	12.5	2.2	15.2	-	0.7	2.9	2.5	3.4	1.9	2.2	30	47	60.0	0.0
	e. Other specified	0	2	1	4	3	7	10	1.4	8.8	1.5	10.1	-	1.4	0.6	2.5	2.0	1.3	1.5	21	31	90.0	0.0
	f. Unspecified CNS	0	3	5	4	1	12	13	2.5	15.0	1.9	13.1	-	2.1	2.9	2.5	0.7	2.3	1.9	35	39	0.0	7.7
IV	NEUROBLASTOMA	1	5	2	0	0	8	8	1.6	100.0	1.2	100.0	2.7	3.5	1.2	-	-	1.7	1.3	22	22	87.5	0.0
	a. (Ganglio)neuroblastoma	1	5	2	0	0	8	8	1.6	100.0	1.2	100.0	2.7	3.5	1.2	-	-	1.7	1.3	22	22	87.5	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	6	11	4	0	0	21	21	4.3	100.0	3.1	100.0	16.2	7.7	2.3	-	-	4.4	3.4	59	59	100.0	0.0
VI	RENAL TUMOURS	4	16	1	2	0	23	23	4.7	100.0	3.4	100.0	10.8	11.1	0.6	1.3	-	4.8	3.7	64	64	91.3	4.3
	a. Nephroblastoma	3	16	1	0	0	20	20	4.1	87.0	3.0	87.0	8.1	11.1	0.6	-	-	4.3	3.3	55	55	95.0	5.0
	b. Renal carcinoma	0	0	0	2	0	2	2	0.4	8.7	0.3	8.7	-	-	-	1.3	-	0.4	0.3	6	6	100.0	0.0
	c. Unspecified	1	0	0	0	0	1	1	0.2	4.3	0.1	4.3	2.7	-	-	-	-	0.2	0.2	3	3	0.0	0.0
VII	HEPATIC TUMOURS	1	6	1	12	16	20	36	4.1	100.0	5.3	100.0	2.7	4.2	0.6	7.5	10.7	3.9	5.4	60	113	88.9	0.0
	a. Hepatoblastoma	0	5	1	1	1	7	8	1.4	35.0	1.2	22.2	-	3.5	0.6	0.6	0.7	1.4	1.3	20	23	100.0	0.0
	b. Hepatic carcinoma	0	1	0	10	12	11	23	2.3	55.0	3.4	63.9	-	0.7	-	6.3	8.0	2.0	3.4	34	74	100.0	0.0
	c. Unspecified	1	0	0	1	3	2	5	0.4	10.0	0.7	13.9	2.7	-	-	0.6	2.0	0.4	0.8	6	16	20.0	0.0
VIII	BONE TUMOURS	0	1	5	19	23	25	48	5.1	100.0	7.1	100.0	-	0.7	2.9	11.9	15.4	4.6	7.0	77	154	97.9	0.0
	a. Osteosarcoma	0	0	3	13	14	16	30	3.3	64.0	4.4	62.5	-	-	1.7	8.1	9.4	2.9	4.4	49	96	100.0	0.0
	b. Chondrosarcoma	0	0	0	2	2	2	4	0.4	8.0	0.6	8.3	-	-	-	1.3	1.3	0.4	0.6	6	13	100.0	0.0
	c. Ewing & related	0	1	2	2	4	5	9	1.0	20.0	1.3	18.8	-	0.7	1.2	1.3	2.7	1.0	1.3	15	28	100.0	0.0
	d. Other specified	0	0	0	0	2	0	2	-	-	0.3	4.2	-	-	-	-	1.3	-	0.3	-	7	100.0	0.0
	e. Unspecified	0	0	0	2	1	2	3	0.4	8.0	0.4	6.3	-	-	-	1.3	0.7	0.4	0.4	6	10	66.7	0.0
IX	SOFT TISSUE SARCOMA	3	7	3	7	16	20	36	4.1	100.0	5.3	100.0	8.1	4.9	1.7	4.4	10.7	4.0	5.5	58	112	100.0	0.0
	a. Rhabdomyosarcoma	2	7	1	4	2	14	16	2.9	70.0	2.4	44.4	5.4	4.9	0.6	2.5	1.3	2.8	2.5	40	47	100.0	0.0
	b. Fibrosarcoma	0	0	1	2	1	3	4	0.6	15.0	0.6	11.1	-	-	0.6	1.3	0.7	0.6	0.6	9	13	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	1	0	0	1	12	2	14	0.4	10.0	2.1	38.9	2.7	-	-	0.6	8.0	0.4	2.1	6	46	100.0	0.0
	e. Unspecified	0	0	1	0	1	1	2	0.2	5.0	0.3	5.6	-	-	0.6	-	0.7	0.2	0.3	3	6	100.0	0.0
X	GERM CELL TUMOURS	0	2	2	13	14	17	31	3.5	100.0	4.6	100.0	-	1.4	1.2	8.1	9.4	3.2	4.6	52	99	90.3	0.0
	a. CNS germ cell	0	0	0	2	0	2	2	0.4	11.8	0.3	6.5	-	-	-	1.3	-	0.4	0.3	6	6	100.0	0.0
	b. Other extragonadal	0	0	0	1	2	1	3	0.2	5.9	0.4	9.7	-	-	-	0.6	1.3	0.2	0.4	3	10	66.7	0.0
	c. Gonadal germ cell	0	2	2	10	8	14	22	2.9	82.4	3.3	71.0	-	1.4	1.2	6.3	5.4	2.6	3.2	43	69	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	2	0	2	-	-	0.3	6.5	-	-	-	-	1.3	-	0.3	-	7	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	2	0	2	-	-	0.3	6.5	-	-	-	-	1.3	-	0.3	-	7	0.0	0.0
XI	CARCINOMA & MELANOMA	1	6	7	8	34	22	56	4.5	100.0	8.3	100.0	2.7	4.2	4.1	5.0	22.8	4.3	8.4	65	179	100.0	0.0
	a. Adrenocortical	1	1	0	0	0	2	2	0.4	9.1	0.3	3.6	2.7	0.7	-	-	-	0.4	0.3	6	6	100.0	0.0
	b. Thyroid	0	0	4	2	20	6	26	1.2	27.3	3.8	46.4	-	-	2.3	1.3	13.4	1.1	3.9	18	85	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	1	0	1	-	-	0.1	1.8	-	-	-	-	0.7	-	0.2	-	3	100.0	0.0
	d. Melanoma	0	1	0	1	1	2	3	0.4	9.1	0.4	5.4	-	0.7	-	0.6	0.7	0.4	0.5	6	9	100.0	0.0
	e. Skin carcinoma	0	3	1	2	2	6	8	1.2	27.3	1.2	14.3	-	2.1	0.6	1.3	1.3	1.2	1.2	17	24	100.0	0.0
	f. Other & unspecified	0	1	2	3	10	6	16	1.2	27.3	2.4	28.6	-	0.7	1.2	1.9	6.7	1.1	2.4	18	51	100.0	0.0
XII	OTHER & UNSPECIFIED	2	0	0	2	4	4	8	0.8	100.0	1.2	100.0	5.4	-	-	1.3	2.7	0.8	1.2	12	25	62.5	0.0
	a. Other specified	0	0	0	0	2	0	2	-	-	0.3	25.0	-	-	-	-	1.3	-	0.3	-	7	100.0	0.0
	b. Other unspecified	2	0	0	2	2	4	6	0.8	100.0	0.9	75.0	5.4	-	-	1.3	1.3	0.8	0.9	12	18	50.0	0.0
	TOTAL	24	152	134	178	188	488	676	100.0	100.0	100.0	100.0	64.7	105.7	77.7	111.5	126.0	95.1	102.1	1433	2063	94.8	0.3

† includes 20 non-malignant

Please consult the quality indicators for this registry

Jamaica

Kingston and St. Andrew, Jamaica Cancer Registry, 1982–2012

Barrie Hanchard, Tracey N. Gibson, Karen L. Bishop, Nadeen Waugh, Dawn McNaughton

The island of Jamaica is located in the central Caribbean Sea. It is divided into 14 parishes and covers a total area of 11 424 km^2, with a mountainous interior encircled by the northern, southern, western, and eastern coasts. The island has a semi-tropical climate. The capital city is Kingston, and the adjacent parishes of Kingston and St. Andrew, located in the south-east of the island, are administered together by the Kingston and St. Andrew Corporation. The population is 2.7 million, and 37% of the population is younger than 20 years (Table A.6). Most of the population is of African ancestry (92%), and the remainder is of European, East Indian, Chinese, and mixed ancestry. Tourism is the country's main income generator. Jamaica has a high Human Development Index.

Registration of cancer cases is restricted to the Kingston and St. Andrew region, which covers an area of 480 km^2. The region has a population of 0.7 million (~25% of the national population), and 33% of the population is younger than 20 years (Table A.6). This region is predominantly urban and provides the greatest density of medical facilities on the island, with widespread access to primary health-care providers and a wide range of specialists, including oncologists, paediatric surgeons, and paediatricians of various subspecialties, among many others. The proportion of the population covered by health insurance is variable, with coverage predominating among the middle- and upper-income groups. In one low-income suburban community in Kingston and St. Andrew, the prevalence of health insurance is about 32%.

The Jamaica Cancer Registry (Kingston and St. Andrew) was established in 1958 and since its inception has been housed in the Department of Pathology at the University of the West Indies, Mona. The registry receives all its funding from that department.

The routine work of the registry is conducted by two research nurses, who collect data from the following facilities in Kingston and St. Andrew: pathology departments at the University of the West Indies and the National Public Health Laboratory; private pathology laboratories; medical records offices and wards of public and private hospitals, including the country's main paediatric hospital; radiotherapy treatment facilities; and physicians' offices. Because cancer is not a legally reportable disease in Jamaica, registry staff members routinely visit these facilities to collect information.

Data collected on each patient are recorded on a cancer registration card and filed by site and year of diagnosis. Data are also filed alphabetically by patient name, to avoid duplication. Patients are registered more than once only when there is more than one primary malignancy as confirmed by microscopy. Data are entered into an electronic database (CanReg4). Each case is coded twice, according to ICD-10 and ICD-O-3. Limited human and capital resources prevent the routine follow-up of patients. The registry publishes regular 5-year cancer incidence reports, as well as papers dedicated to more detailed evaluation of incidence and demographic trends of specific cancers.

PUBLICATIONS

Gibson TN, Hanchard B, Waugh N, McNaughton D (2013). Cancer in adolescents and young adults, Kingston and St Andrew, Jamaica, 1988–2007. West Indian Med J. 62(1):21–7. PMID:24171323

Bishop KL, Hanchard B, Gibson TN, Lowe D, McNaughton D, Waugh N, et al. (2013). Incidence of childhood cancer in Kingston and St Andrew, Jamaica, 1983–2002. West Indian Med J. 62(7):575–81. PMID:24831892

POPULATION AT RISK

Population data were provided by the Statistical Institute of Jamaica (https://statinja.gov.jm) and are based on the censuses of 1982, 1991, 2001, and 2011 (Table A.7). Data were provided by sex and 5-year age group (0–4, 5–9, and 10–14 years) for 1982–2007 and by sex and single year of age for 2003–2012. The data for the missing year–age–sex categories in 1982–2002 were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The Jamaica Cancer Registry (Kingston and St. Andrew) participated in IICC-1. The IICC-3 dataset covers an extended period, covering the target years of both IICC-2 and IICC-3. The extended period resulted in a sufficiently large dataset, which ensured the continuity throughout the IICC volumes (Table A.1). The date of birth was unknown in more than 50% of cases (Table A.8). Registration of DCO cases may have been incomplete during the initial part of the covered period, when the cases ascertained from death certificates were registered only if they were also confirmed by checking medical records. Non-malignant CNS tumours were reportable, but the proportion was low (6%) (Table A.9), partly because radiology department records were not searched to ascertain such tumours. Pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were reportable, but none were registered. Laterality was complete for retinoblastoma. The registry covers a relatively small population, and the incidence rates are low (Table A.9). Because most of the residents who are treated abroad are first diagnosed in Jamaica, all are believed to be captured by the registry.

JAMAICA, Kingston and St Andrew (1982-2012)

	Age group (years)	Males	Females
Person-years	0	179 148	174 653
	1-4	789 690	763 942
	5-9	968 145	965 745
	10-14	991 961	999 742
	15-19	977 058	1 050 292
	0-14	2 928 944	2 904 082
	0-19	3 906 002	3 954 374
Average annual population	0-14	94 482	93 680
	0-19	126 000	127 560

Please consult the quality indicators for this registry

JAMAICA, Kingston and St Andrew (1982-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	7	33	37	32	24	**109**	**133**	25.2	100.0	21.6	100.0	19.8	21.2	19.1	16.1	11.8	**19.0**	**17.4**	281	340	99.2	0.0
	a. Lymphoid	4	28	25	17	14	**74**	**88**	17.1	67.9	14.3	66.2	11.3	18.0	12.9	8.5	6.9	**13.1**	**11.7**	191	226	98.9	0.0
	b. Acute myeloid	1	3	8	13	9	**25**	**34**	5.8	22.9	5.5	25.6	2.8	1.9	4.1	6.5	4.4	**4.0**	**4.1**	64	86	100.0	0.0
	c. CMD	2	1	1	2	0	**6**	**6**	1.4	5.5	1.0	4.5	5.7	0.6	0.5	1.0	-	**1.1**	**0.8**	15	15	100.0	0.0
	d. MDS & other	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	0	1	3	0	1	**4**	**5**	0.9	3.7	0.8	3.8	-	0.6	1.6	-	0.5	**0.7**	**0.7**	10	13	100.0	0.0
II	**LYMPHOMA & RELATED**	0	10	22	33	36	**65**	**101**	15.0	100.0	16.4	100.0	-	6.4	11.4	16.6	17.8	**10.5**	**12.1**	166	255	98.0	0.0
	a. Hodgkin	0	1	5	7	13	**13**	**26**	3.0	20.0	4.2	25.7	-	0.6	2.6	3.5	6.4	**2.1**	**3.0**	33	65	100.0	0.0
	b. Non-Hodgkin except BL	0	5	13	24	21	**42**	**63**	9.7	64.6	10.2	62.4	-	3.2	6.7	12.0	10.4	**6.7**	**7.5**	107	159	100.0	0.0
	c. Burkitt (BL)	0	2	1	0	0	**3**	**3**	0.7	4.6	0.5	3.0	-	1.3	0.5	-	-	**0.6**	**0.4**	8	8	100.0	0.0
	d. Lymphoreticular	0	2	0	0	0	**2**	**2**	0.5	3.1	0.3	2.0	-	1.3	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	e. Unspecified	0	0	3	2	2	**5**	**7**	1.2	7.7	1.1	6.9	-	-	1.6	1.0	1.0	**0.8**	**0.8**	13	18	71.4	0.0
III	**CNS NEOPLASMS** †	3	16	27	15	19	**61**	**80**	14.1	100.0	13.0	100.0	8.5	10.3	14.0	7.5	9.4	**10.5**	**10.3**	157	204	76.3	1.3
	a. Ependymoma	0	3	2	0	0	**5**	**5**	1.2	8.2	0.8	6.3	-	1.9	1.0	-	-	**0.9**	**0.7**	13	13	100.0	0.0
	b. Astrocytoma	0	5	4	8	9	**17**	**26**	3.9	27.9	4.2	32.5	-	3.2	2.1	4.0	4.4	**2.8**	**3.2**	44	66	96.2	0.0
	c. CNS embryonal	2	3	12	2	5	**19**	**24**	4.4	31.1	3.9	30.0	5.7	1.9	6.2	1.0	2.5	**3.3**	**3.1**	49	61	91.7	0.0
	d. Other gliomas	0	4	8	3	1	**15**	**16**	3.5	24.6	2.6	20.0	-	2.6	4.1	1.5	0.5	**2.6**	**2.1**	39	41	37.5	0.0
	e. Other specified	1	0	0	1	0	**2**	**2**	0.5	3.3	0.3	2.5	2.8	-	-	0.5	-	**0.3**	**0.3**	5	5	100.0	0.0
	f. Unspecified CNS	0	1	1	1	4	**3**	**7**	0.7	4.9	1.1	8.8	-	0.6	0.5	0.5	2.0	**0.5**	**0.8**	8	18	14.3	14.3
IV	**NEUROBLASTOMA**	4	21	10	2	3	**37**	**40**	8.5	100.0	6.5	100.0	11.3	13.5	5.2	1.0	1.5	**7.0**	**5.8**	96	104	97.5	0.0
	a. (Ganglio)neuroblastoma	4	20	10	2	0	**36**	**36**	8.3	97.3	5.8	90.0	11.3	12.9	5.2	1.0	-	**6.8**	**5.3**	94	94	97.2	0.0
	b. Peripheral nervous	0	1	0	0	3	**1**	**4**	0.2	2.7	0.6	10.0	-	0.6	-	-	1.5	**0.2**	**0.5**	3	10	100.0	0.0
V	**RETINOBLASTOMA**	6	22	2	1	1	**31**	**32**	7.2	100.0	5.2	100.0	17.0	14.2	1.0	0.5	0.5	**6.2**	**4.9**	81	84	93.8	0.0
VI	**RENAL TUMOURS**	4	29	9	0	3	**42**	**45**	9.7	100.0	7.3	100.0	11.3	18.7	4.7	-	1.5	**8.2**	**6.7**	110	117	93.3	0.0
	a. Nephroblastoma	4	29	9	0	0	**42**	**42**	9.7	100.0	6.8	93.3	11.3	18.7	4.7	-	-	**8.2**	**6.4**	110	110	92.9	0.0
	b. Renal carcinoma	0	0	0	0	3	**0**	**3**	-	-	0.5	6.7	-	-	-	-	1.5	**-**	**0.3**	-	7	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	**HEPATIC TUMOURS**	3	3	0	0	5	**6**	**11**	1.4	100.0	1.8	100.0	8.5	1.9	-	-	2.5	**1.2**	**1.5**	16	28	81.8	0.0
	a. Hepatoblastoma	3	2	0	0	1	**5**	**6**	1.2	83.3	1.0	54.5	8.5	1.3	-	-	0.5	**1.0**	**0.9**	13	16	100.0	0.0
	b. Hepatic carcinoma	0	1	0	0	4	**1**	**5**	0.2	16.7	0.8	45.5	-	0.6	-	-	2.0	**0.2**	**0.6**	3	12	60.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	0	0	4	12	24	**16**	**40**	3.7	100.0	6.5	100.0	-	-	2.1	6.0	11.8	**2.4**	**4.5**	40	100	100.0	0.0
	a. Osteosarcoma	0	0	4	11	21	**15**	**36**	3.5	93.8	5.8	90.0	-	-	2.1	5.5	10.4	**2.3**	**4.1**	38	90	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	1	**1**	**2**	0.2	6.3	0.3	5.0	-	-	-	0.5	0.5	**0.1**	**0.2**	3	5	100.0	0.0
	c. Ewing & related	0	0	0	0	1	**0**	**1**	-	-	0.2	2.5	-	-	-	-	0.5	**-**	**0.1**	-	2	100.0	0.0
	d. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	0	0	0	0	1	**0**	**1**	-	-	0.2	2.5	-	-	-	-	0.5	**-**	**0.1**	-	2	100.0	0.0
IX	**SOFT TISSUE SARCOMA**	3	5	8	8	18	**24**	**42**	5.5	100.0	6.8	100.0	8.5	3.2	4.1	4.0	8.9	**4.1**	**5.2**	62	106	97.6	0.0
	a. Rhabdomyosarcoma	0	3	3	1	3	**7**	**10**	1.6	29.2	1.6	23.8	-	1.9	1.6	0.5	1.5	**1.3**	**1.3**	18	26	100.0	0.0
	b. Fibrosarcoma	2	0	0	1	1	**3**	**4**	0.7	12.5	0.6	9.5	5.7	-	-	0.5	0.5	**0.6**	**0.5**	8	10	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	0	0	3	4	11	**7**	**18**	1.6	29.2	2.9	42.9	-	-	1.6	2.0	5.4	**1.1**	**2.1**	18	45	100.0	0.0
	e. Unspecified	1	2	2	2	3	**7**	**10**	1.6	29.2	1.6	23.8	2.8	1.3	1.0	1.0	1.5	**1.2**	**1.3**	18	25	90.0	0.0
X	**GERM CELL TUMOURS**	2	4	6	6	20	**18**	**38**	4.2	100.0	6.2	100.0	5.7	2.6	3.1	3.0	9.9	**3.1**	**4.6**	46	96	94.7	0.0
	a. CNS germ cell	0	0	2	0	0	**2**	**2**	0.5	11.1	0.3	5.3	-	-	1.0	-	-	**0.3**	**0.3**	5	5	100.0	0.0
	b. Other extragonadal	2	2	0	0	3	**4**	**7**	0.9	22.2	1.1	18.4	5.7	1.3	-	-	1.5	**0.8**	**1.0**	10	18	85.7	0.0
	c. Gonadal germ cell	0	2	4	6	12	**12**	**24**	2.8	66.7	3.9	63.2	-	1.3	2.1	3.0	5.9	**1.9**	**2.8**	31	60	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	4	**0**	**4**	-	-	0.6	10.5	-	-	-	-	2.0	**-**	**0.4**	-	10	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	1	**0**	**1**	-	-	0.2	2.6	-	-	-	-	0.5	**-**	**0.1**	-	2	0.0	0.0
XI	**CARCINOMA & MELANOMA**	0	0	1	16	24	**17**	**41**	3.9	100.0	6.7	100.0	-	-	0.5	8.0	11.8	**2.5**	**4.6**	43	102	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Thyroid	0	0	0	2	5	**2**	**7**	0.5	11.8	1.1	17.1	-	-	-	1.0	2.5	**0.3**	**0.8**	5	17	100.0	0.0
	c. Nasopharyngeal	0	0	1	8	7	**9**	**16**	2.1	52.9	2.6	39.0	-	-	0.5	4.0	3.5	**1.3**	**1.8**	23	40	100.0	0.0
	d. Melanoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Skin carcinoma	0	0	0	0	2	**0**	**2**	-	-	0.3	4.9	-	-	-	-	1.0	**-**	**0.2**	-	5	100.0	0.0
	f. Other & unspecified	0	0	0	6	10	**6**	**16**	1.4	35.3	2.6	39.0	-	-	-	3.0	4.9	**0.9**	**1.8**	15	40	100.0	0.0
XII	**OTHER & UNSPECIFIED**	2	3	0	2	6	**7**	**13**	1.6	100.0	2.1	100.0	5.7	1.9	-	1.0	3.0	**1.3**	**1.7**	18	33	84.6	15.4
	a. Other specified	0	0	0	1	3	**1**	**4**	0.2	14.3	0.6	30.8	-	-	-	0.5	1.5	**0.1**	**0.4**	3	10	100.0	0.0
	b. Other unspecified	2	3	0	1	3	**6**	**9**	1.4	85.7	1.5	69.2	5.7	1.9	-	0.5	1.5	**1.2**	**1.2**	16	23	77.8	22.2
	TOTAL	34	146	126	127	183	**433**	**616**	100.0	100.0	100.0	100.0	96.1	94.0	65.2	63.8	90.3	**76.1**	**79.3**	1116	1568	94.3	0.5

† includes 5 non-malignant

Please consult the quality indicators for this registry

Mexico

Mexico City Paediatric Cancer Registry, 1997–2013

Arturo Fajardo-Gutiérrez, Guadalupe González-Miranda, Liria Mitzuko Fajardo-Yamamoto

Mexico is located in the southern part of North America. The country is bordered by the USA to the north and Guatemala and Belize to the south-east. It is also bordered by the Pacific Ocean from the west to the south, the Caribbean Sea to the south-east, and the Gulf of Mexico to the east. Mexico covers an area of almost 2 million km^2. In 2010, the population was 118.6 million (Table A.7). Mexico is a federal democratic republic that is divided into 31 states and Mexico City, which is the capital and the most populous city.

Mexico is an upper-middle-income country with a high Human Development Index. The country is undergoing an epidemiological transition. Modern medical infrastructure is available in major cities, but rural communities lack the equipment needed to perform advanced medical procedures; thus, migration for treatment is common. The social security system is financed by state institutions such as the Mexican Social Security Institute (IMSS), which covers about 50% of the population, and the Institute for Social Security and Services for State Workers (ISSSTE). Private health services account for 13% of health-care delivery units.

Since 2008, the National Cancer Institute has coordinated the development and implementation of the first National Cancer Control Plan, which includes plans for national cancer registration. A national cancer registry was created in 1982, and registration cards were implemented in four hospitals. The registry was computerized in 1988, but in 1994 it was largely transformed into a histopathology registry. In 1996, IMSS established the Mexico City Paediatric Cancer Registry.

Mexico City is located in a large valley in the high plateau in the centre of the country, at an altitude of 2240 m. The city covers an area of 1485 km^2. In 2010, the population of the city was almost 9 million; the agglomeration of Greater Mexico City has a population of 21 million.

Mexico City is one of the most important economic hubs in Latin America and produces 16% of the national GDP. The high spending power of the residents makes the city attractive to companies that offer prestige and luxury goods. In the 1990s, the city was notorious for its high level of pollution. Although air quality had improved considerably by 2014, the metropolitan area is still the most ozone-polluted part of the country.

In Mexico City, 64% of the population (5.7 million) is affiliated with a social security plan. IMSS serves 54% of this insured population (3.0 million in 2010), of whom 20% (0.6 million) are younger than 15 years (Table A.6).

The Mexico City Paediatric Cancer Registry is located in the Unit of Medical Research in the Clinical Epidemiology Department of the Paediatric Hospital at the National Medical Centre Siglo XXI of IMSS. The registry began collecting records prospectively in 1996 (Table A.10) for all IMSS beneficiaries who reside in Mexico City. Information on cancer cases is obtained from the Paediatric Hospital and from the General Hospital of the National Medical Centre La Raza, both of which provide highly specialized care. Medical care for IMSS beneficiaries is regionalized. Patients who reside in the northern region of the city are referred to the General Hospital of the National Medical Centre La Raza, and those in the southern region are referred to the Paediatric Hospital. The study population (children who are IMSS beneficiaries) is eligible for care only in these hospitals.

Information on patients with cancer is obtained by two trained cancer registrars, who ascertain new cases in each hospital twice a week. Cases are ascertained from the oncology, haematology, surgery, neurosurgery, endocrinology, and ophthalmology paediatric services.

No follow-up of the registered cases is conducted. The registry data are used primarily to estimate the number of cases expected in other states in Mexico, to estimate the quantities of medications and the numbers of medical staff needed for patient care, and for the development of clinical, epidemiological, and basic research related to cancer in children.

PUBLICATIONS

Fajardo-Gutiérrez A, González-Miranda G (2011). The quality of cancer registry. From a methodology approach. [in Spanish] Rev Med Inst Mex Seguro Soc. 49(Suppl 1):S39–42. PMID:23383474

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Reynoso-Noverón N, Meneses-García A, Erazo-Valle A, Escudero-de Los Ríos P, Kuri-Morales PA, Mohar-Betancourt A (2016). Challenges in the development and implementation of the National Comprehensive Cancer Control Program in Mexico. Salud Publica Mex. 58(2):325–33. https://doi.org/10.21149/spm.v58i2.7804 PMID:27557393

POPULATION AT RISK

The source of the population data was the National Institute of Statistics and Geography (INEGI; https://www.inegi.org.mx/default.html), which also conducted the population censuses (Table A.7). The registry conducted linear interpolation of the INEGI data from the censuses of 2000, 2005, and 2010 to obtain annual figures for the intercensal years. The denominators for 1997–1999 were obtained from the Coordination of Medical Treatment of the Medical Financing Board of IMSS. The registry provided the population counts by sex and four age groups (0, 1–4, 5–9, and 10–14 years) in each calendar year covered. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

This paediatric cancer registry focused on registration of cases diagnosed in the age range 0–14 years. Data for the age groups 15–19 years and 0–19 years, which were collected less consistently, are not shown in the tables. Death certificates were not available for case

ascertainment; thus, a proportion of new cases may have been missed. The MV% is high (Table A.9), which may also suggest that some clinically diagnosed cases were missed and may thus affect the resulting incidence rates overall or in some diagnostic categories. Day of birth and day of incidence were not registered (Table A.8); this affects the accuracy of the age, which is calculated from the incomplete dates, and may slightly bias the age-specific incidence rates. All non-malignant CNS tumours are registered systematically; the low proportion (6%) (Table A.9) may be explained partly by pilocytic astrocytoma being coded with malignant behaviour and partly by limited use of CT and MRI technology. Skin carcinomas were registered, and registration is believed to be complete. Laterality was complete for retinoblastoma and nephroblastoma.

MEXICO, Mexico City, paediatric (1997-2013)

	Age group (years)	Males	Females
Person-years	0	314 088	296 612
	1-4	1 657 299	1 586 068
	5-9	2 093 030	2 012 494
	10-14	2 012 812	1 950 610
	0-14	6 077 229	5 845 784
Average annual population	0-14	357 484	343 870

Please consult the quality indicators for this registry

MEXICO, Mexico City, paediatric (1997-2013)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	**LEUKAEMIA**	31	292	212	171	**706**	45.3	100.0	50.8	90.0	51.6	43.1	**61.6**	893	100.0	0.0
	a. Lymphoid	24	247	182	126	**579**	37.1	82.0	39.3	76.2	44.3	31.8	**50.7**	732	100.0	0.0
	b. Acute myeloid	4	39	25	40	**108**	6.9	15.3	6.5	12.0	6.1	10.1	**9.2**	137	100.0	0.0
	c. CMD	1	3	3	3	**10**	0.6	1.4	1.6	0.9	0.7	0.8	**0.9**	13	100.0	0.0
	d. MDS & other	1	2	0	1	**4**	0.3	0.6	1.6	0.6	-	0.3	**0.4**	5	100.0	0.0
	e. Unspecified	1	1	2	1	**5**	0.3	0.7	1.6	0.3	0.5	0.3	**0.4**	6	100.0	0.0
II	**LYMPHOMA & RELATED**	10	42	59	67	**178**	11.4	100.0	16.4	12.9	14.4	16.9	**14.8**	224	99.4	0.0
	a. Hodgkin	0	5	14	25	**44**	2.8	24.7	-	1.5	3.4	6.3	**3.4**	55	100.0	0.0
	b. Non-Hodgkin except BL	0	23	30	32	**85**	5.4	47.8	-	7.1	7.3	8.1	**7.0**	107	100.0	0.0
	c. Burkitt (BL)	1	3	12	8	**24**	1.5	13.5	1.6	0.9	2.9	2.0	**1.9**	30	100.0	0.0
	d. Lymphoreticular	9	10	1	1	**21**	1.3	11.8	14.7	3.1	0.2	0.3	**2.1**	27	100.0	0.0
	e. Unspecified	0	1	2	1	**4**	0.3	2.2	-	0.3	0.5	0.3	**0.3**	5	75.0	0.0
III	**CNS NEOPLASMS** †	10	74	79	58	**221**	14.2	100.0	16.4	22.8	19.2	14.6	**18.9**	278	93.2	0.0
	a. Ependymoma	1	13	11	9	**34**	2.2	15.4	1.6	4.0	2.7	2.3	**2.9**	43	97.1	0.0
	b. Astrocytoma	4	27	35	29	**95**	6.1	43.0	6.5	8.3	8.5	7.3	**8.0**	119	93.7	0.0
	c. CNS embryonal	3	25	20	15	**63**	4.0	28.5	4.9	7.7	4.9	3.8	**5.5**	80	95.2	0.0
	d. Other gliomas	0	1	6	2	**9**	0.6	4.1	-	0.3	1.5	0.5	**0.7**	11	66.7	0.0
	e. Other specified	2	6	6	3	**17**	1.1	7.7	3.3	1.8	1.5	0.8	**1.5**	21	100.0	0.0
	f. Unspecified CNS	0	2	1	0	**3**	0.2	1.4	-	0.6	0.2	-	**0.3**	4	33.3	0.0
IV	**NEUROBLASTOMA**	14	17	5	0	**36**	2.3	100.0	22.9	5.2	1.2	-	**3.5**	46	100.0	0.0
	a. (Ganglio)neuroblastoma	14	17	5	0	**36**	2.3	100.0	22.9	5.2	1.2	-	**3.5**	46	100.0	0.0
	b. Peripheral nervous	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
V	**RETINOBLASTOMA**	6	39	1	0	**46**	2.9	100.0	9.8	12.0	0.2	-	**4.6**	60	97.8	0.0
VI	**RENAL TUMOURS**	6	29	14	6	**55**	3.5	100.0	9.8	8.9	3.4	1.5	**5.1**	70	100.0	0.0
	a. Nephroblastoma	6	29	14	6	**55**	3.5	100.0	9.8	8.9	3.4	1.5	**5.1**	70	100.0	0.0
	b. Renal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	**HEPATIC TUMOURS**	6	22	4	2	**34**	2.2	100.0	9.8	6.8	1.0	0.5	**3.3**	44	100.0	0.0
	a. Hepatoblastoma	6	22	3	0	**31**	2.0	91.2	9.8	6.8	0.7	-	**3.0**	40	100.0	0.0
	b. Hepatic carcinoma	0	0	1	2	**3**	0.2	8.8	-	-	0.2	0.5	**0.2**	4	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	**BONE TUMOURS**	0	9	25	50	**84**	5.4	100.0	-	2.8	6.1	12.6	**6.5**	105	100.0	0.0
	a. Osteosarcoma	0	6	17	35	**58**	3.7	69.0	-	1.8	4.1	8.8	**4.5**	73	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	**1**	0.1	1.2	-	-	-	0.3	**0.1**	1	100.0	0.0
	c. Ewing & related	0	3	5	13	**21**	1.3	25.0	-	0.9	1.2	3.3	**1.6**	26	100.0	0.0
	d. Other specified	0	0	2	1	**3**	0.2	3.6	-	-	0.5	0.3	**0.2**	4	100.0	0.0
	e. Unspecified	0	0	1	0	**1**	0.1	1.2	-	-	0.2	-	**0.1**	1	100.0	0.0
IX	**SOFT TISSUE SARCOMA**	3	21	23	31	**78**	5.0	100.0	4.9	6.5	5.6	7.8	**6.5**	98	100.0	0.0
	a. Rhabdomyosarcoma	2	13	13	11	**39**	2.5	50.0	3.3	4.0	3.2	2.8	**3.3**	49	100.0	0.0
	b. Fibrosarcoma	1	3	3	3	**10**	0.6	12.8	1.6	0.9	0.7	0.8	**0.9**	13	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	0	5	7	17	**29**	1.9	37.2	-	1.5	1.7	4.3	**2.3**	36	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
X	**GERM CELL TUMOURS**	8	24	11	61	**104**	6.7	100.0	13.1	7.4	2.7	15.4	**8.5**	132	100.0	0.0
	a. CNS germ cell	1	1	5	17	**24**	1.5	23.1	1.6	0.3	1.2	4.3	**1.8**	30	100.0	0.0
	b. Other extragonadal	1	2	0	3	**6**	0.4	5.8	1.6	0.6	-	0.8	**0.5**	8	100.0	0.0
	c. Gonadal germ cell	6	21	6	40	**73**	4.7	70.2	9.8	6.5	1.5	10.1	**6.1**	93	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	0	0	1	**1**	0.1	1.0	-	-	-	0.3	**0.1**	1	100.0	0.0
XI	**CARCINOMA & MELANOMA**	0	2	6	9	**17**	1.1	100.0	-	0.6	1.5	2.3	**1.3**	21	100.0	0.0
	a. Adrenocortical	0	1	0	1	**2**	0.1	11.8	-	0.3	-	0.3	**0.2**	3	100.0	0.0
	b. Thyroid	0	0	4	7	**11**	0.7	64.7	-	-	1.0	1.8	**0.8**	14	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	**1**	0.1	5.9	-	-	-	0.3	**0.1**	1	100.0	0.0
	d. Melanoma	0	1	1	0	**2**	0.1	11.8	-	0.3	0.2	-	**0.2**	3	100.0	0.0
	e. Skin carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	f. Other & unspecified	0	0	1	0	**1**	0.1	5.9	-	-	0.2	-	**0.1**	1	100.0	0.0
XII	**OTHER & UNSPECIFIED**	0	0	0	1	**1**	0.1	100.0	-	-	-	0.3	**0.1**	1	100.0	0.0
	a. Other specified	0	0	0	1	**1**	0.1	100.0	-	-	-	0.3	**0.1**	1	100.0	0.0
	b. Other unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	TOTAL	94	571	439	456	**1560**	100.0	100.0	153.9	176.1	106.9	115.1	**134.7**	1973	98.9	0.0

† includes 15 non-malignant

Please consult the quality indicators for this registry

Peru

Peru is located in the west of South America. It is bordered Ecuador and Colombia to the north, Brazil to the east, Bolivia to the south-east, Chile to the south, and the Pacific Ocean to the west. The country encompasses a variety of habitats, ranging from the arid plains of the Pacific coastal region to the peaks of the Andes mountains, which extend from the north to the south-east of the country, and the tropical Amazon basin rainforest in the east.

Peru is an upper-middle-income country with a high Human Development Index. The proportion of the population living below the poverty threshold decreased from 49% in 2005 to 23% in 2014. The main economic activities include mining, manufacturing, agriculture, and fishing, along with other growing sectors, such as telecommunications and biotechnology.

In 2010, the population was 29.4 million (Table A.7), and 39% of the population was younger than 20 years (Table A.6). The annual population growth rate decreased from 2.6% in 1950 to 1.6% in 2000. The fertility rate decreased to 2.5 children per woman in 2015, and the infant mortality rate decreased to 17 per 1000 live births in 2012. The life expectancy was 75 years in 2014. Peru has multiple ethnic groups, including Amerindian, European, African, and Asian. Most residents have mixed ancestry (Spanish and Indigenous), and a minority of residents are Black or White. The main spoken language is Spanish; several Indigenous languages are also widely spoken.

Health care is provided by the national health system and a set of subsystems for different sections of the population, such as low-income people, employees, and staff of security forces. Health insurance is financed by the Ministry of Health (37%), the social security system (18%), and private agencies (5%).

In 2012, the government approved a national cancer control plan, Plan Esperanza, which included funds for patients with cancer who were unable to access or afford care. Plan Esperanza initially focused on reducing the burden of cancers of the cervix, breast, stomach, lung, and prostate; in 2012, leukaemia and lymphoma were added.

Initially, three metropolitan regions in Peru were covered by population-based cancer registries: Lima, Trujillo, and Arequipa. The Trujillo Cancer Registry was closed in 2002, but the other two registries are active and are members of IACR. A mandatory cancer reporting system was established in 2006, in accordance with Plan Esperanza, but the Metropolitan Lima Cancer Registry still collects data actively. A web-based surveillance system includes 59 reporting hospitals, but ensuring data accuracy and completeness is challenging. The cancer registries have access to the records of the National Identification and Civil Registration Registry and to the vital statistics managed by the National Statistics Institute, but a large proportion of deaths are uncertified.

PUBLICATIONS

Piñeros M, Ramos W, Antoni S, Abriata G, Medina LE, Miranda JJ, et al. (2017). Cancer patterns, trends, and transitions in Peru: a regional perspective. Lancet Oncol. 18(10):e573–86. https://doi.org/10.1016/S1470-2045(17)30377-7 PMID:28971824

POPULATION AT RISK

Population data were provided by the Peruvian National Statistics Institute (https://www.inei.gob.pe/). The data are based on the censuses of 1981, 1993, 2005, and 2007, with adjustments for births, deaths, and migration. The 2017 census was not reflected in the data provided to IICC-3.

EDITORS' COMMENTS

Two cancer registries, the Metropolitan Lima Cancer Registry and the Trujillo Cancer Registry, are presented separately in full tables in the IICC-3 book (Table A.12), because they covered distinct and non-overlapping reporting periods. The Metropolitan Lima Cancer Registry was not able to provide data for 1992–2008 in a follow-up of the calendar years 1990–1991 presented in IICC-2 (Table A.1). Despite the different reporting periods and areas covered, the two cancer registries in Peru had a high proportion of cases with unspecified morphology (Table A.9).

Metropolitan Lima Cancer Registry, 2010–2012

Eduardo Payet, Patricia Pérez, Ebert Poquioma, Edgar Diaz, Saria Villanueva

Lima is the capital and the largest city in Peru. It is located in west-central Peru, on the Pacific coast. It is part of the Lima Metropolitan Area, which also includes the seaport of Callao. The Lima Metropolitan Area covers a total area of 2811 km^2 and is made up of 43 districts of Lima Province and 6 districts of Callao Province. Lima is the industrial and financial centre of the country, accounting for more than two thirds of the industrial sector and an even larger proportion of the tertiary sector.

About one third of the national population lives in this metropolitan area, in which the population increased from about 2 million in the early 1960s to 9.2 million in 2010; in 2010, 35% of the population was younger than 20 years (Table A.6).

The Metropolitan Lima Cancer Registry covers both provinces that constitute the Lima Metropolitan Area: Lima Province and Callao Province. The registry was active from 1968 to 1978; it was reactivated in 1990 at the Maes-Heller Cancer Research Centre. Currently, the registry is managed by the Department of Epidemiology and Statistics of the National Institute of Neoplastic Diseases (Instituto Nacional de Enfermedades Neoplásicas [INEN]). The oncology care facilities include radiology, pathology, surgery, radiotherapy, and chemotherapy departments, and they provide services to both paediatric and adult populations.

Data are collected actively from all health-care facilities in the Lima Metropolitan Area. The registry uses the IARC/IACR rules for multiple primary tumours. Quality control is performed using IARCcrgTools, and the residence status of the registered patients is assessed with particular attention. Registry staff members follow local regulations to ensure confidentiality.

The registry generates reports for health organizations and contributes to cancer control planning, policy development, and evaluation of the cancer plan. In addition, the registry provides cancer data to fellows, for staff research initiatives, for training of health-care providers, and to decision-makers.

PUBLICATIONS

Instituto Nacional de Enfermedades Neoplasicas, Metropolitan Lima Cancer Registry Commission (2013). Metropolitan Lima Cancer Registry, 2004–2005. Incidence and mortality study. Volume IV. Lima, Peru: Metropolitan Lima Cancer Registry.

POPULATION AT RISK

Data were provided in all requested detail. See also Peru, above.

EDITORS' COMMENTS

The MV% is low, which contributes to the high proportion of cases with unspecified morphology (Table A.9). Non-malignant CNS tumours were reportable (Table A.9), and pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were reportable, and registration is believed to be complete. Laterality was close to complete for retinoblastoma and nephroblastoma.

PERU, Lima (2010-2012)

	Age group (years)	Males	Females
Person-years	0	240 787	228 417
	1-4	961 714	922 924
	5-9	1 197 509	1 143 614
	10-14	1 194 767	1 155 912
	15-19	1 308 202	1 332 438
	0-14	3 594 777	3 450 867
	0-19	4 902 979	4 783 305
Average annual population	0-14	1 198 259	1 150 289
	0-19	1 634 326	1 594 435

Please consult the quality indicators for this registry

Trujillo Cancer Registry, 1990–2002

Pedro F. Albújar, Berenice S. Balarezo

The city of Trujillo is the capital of the La Libertad region, which is located on the northern part of the Pacific coast. The climate is subtropical, with an average temperature of 30 °C in summer and 14 °C in winter and an average annual rainfall of 5 mm.

The Trujillo Metropolitan Area covers an area of 1100 km^2. In 2010, the population was 0.8 million, and 35% of the population was younger than 20 years (Table A.6). Only 4% of the population of the Trujillo Metropolitan Area lives in rural areas. A sanitation service provides drinking-water to 85% of residences, and 87% of houses are connected to public sewage services. Electricity is available in 82% of homes. The illiteracy rate was 6.3% in people 15 years and older.

The main economic activities were commerce and services (68%). Transformative industries, including agro-industry, leather, metal, and mechanics processing, accounted for 26% of economic activity, and the extractive sector for 4%.

The Trujillo Cancer Registry covered the population of the Trujillo Metropolitan Area. The registry began collecting histopathology records in 1983 and became a population-based cancer registry in 1984 (Table A.10). Financial and technical assistance was provided by IARC until 2002 under a collaborative research agreement with the National University of Trujillo. The registry office was staffed by a pathologist (head of the registry), a statistician, a computer analyst, and a part-time statistical technician.

Trujillo has three general hospitals with paediatric units. Data were collected actively from these hospitals, the radiotherapy service, private clinics, pathology laboratories, and oncologists. An oncology hospital opened in 2008. Mortality data were obtained from original death certificates provided by the Regional Health Authority. The registry staff visited the data sources to screen the hospital discharge notes and scrutinize the cancer medical records to abstract the required information.

Registration was complete for all sites with the exception of skin carcinomas. No follow-up of patients was performed, except in the framework of specific studies.

POPULATION AT RISK

Population data were provided by sex and 5-year age group for 1996 and 2002 (Table A.8). The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Peru, above.

EDITORS' COMMENTS

Date of birth was incomplete in 26% of cases, and date of incidence was limited to the year; the provided age was inconsistent with the provided dates in 2% of cases (Table A.8). The imprecise dates may be the reason for the low proportion of infants among children aged 0–14 years (3.6%) (Table A.9). Despite a high MV%, the proportion of cases with unspecified morphology was high (16%), including among MV cases (Table A.9). Non-malignant CNS tumours (including pilocytic astrocytoma) were not reportable; this affects the resulting rates for the ICCC groups III, Xa, and overall. Skin carcinomas were reportable, but registration may have been incomplete. Laterality was not collected.

PERU, Trujillo (1990-2002)

	Age group (years)	Males	Females
Person-years	0	80 657	78 442
	1-4	322 628	313 768
	5-9	387 325	384 750
	10-14	403 250	412 490
	15-19	408 685	466 555
	0-14	1 193 860	1 189 450
	0-19	1 602 545	1 656 005
Average annual population	0-14	91 835	91 496
	0-19	123 273	127 385

Please consult the quality indicators for this registry

PERU, Lima (2010-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	28	184	112	102	113	**426**	**539**	40.5	100.0	36.0	100.0	59.7	97.6	47.8	43.4	42.8	**62.9**	**58.4**	906	1120	88.9	7.6
	a. Lymphoid	9	132	76	74	75	**291**	**366**	27.7	68.3	24.4	67.9	19.2	70.0	32.5	31.5	28.4	**42.8**	**39.6**	619	761	94.0	6.0
	b. Acute myeloid	8	19	15	11	20	**53**	**73**	5.0	12.4	4.9	13.5	17.1	10.1	6.4	4.7	7.6	**7.9**	**7.8**	113	151	95.9	4.1
	c. CMD	3	6	2	5	8	**16**	**24**	1.5	3.8	1.6	4.5	6.4	3.2	0.9	2.1	3.0	**2.4**	**2.5**	34	49	100.0	0.0
	d. MDS & other	3	5	3	1	2	**12**	**14**	1.1	2.8	0.9	2.6	6.4	2.7	1.3	0.4	0.8	**1.9**	**1.6**	26	29	92.9	7.1
	e. Unspecified	5	22	16	11	8	**54**	**62**	5.1	12.7	4.1	11.5	10.7	11.7	6.8	4.7	3.0	**8.0**	**6.9**	115	130	45.2	24.2
II	LYMPHOMA & RELATED	0	34	39	44	48	**117**	**165**	11.1	100.0	11.0	100.0	-	18.0	16.7	18.7	18.2	**16.4**	**16.8**	249	340	90.3	3.6
	a. Hodgkin	0	7	12	10	12	**29**	**41**	2.8	24.8	2.7	24.8	-	3.7	5.1	4.3	4.5	**4.0**	**4.2**	62	84	95.1	4.9
	b. Non-Hodgkin except BL	0	15	17	22	29	**54**	**83**	5.1	46.2	5.5	50.3	-	8.0	7.3	9.4	11.0	**7.5**	**8.3**	115	170	98.8	1.2
	c. Burkitt (BL)	0	5	6	3	1	**14**	**15**	1.3	12.0	1.0	9.1	-	2.7	2.6	1.3	0.4	**2.0**	**1.7**	30	32	100.0	0.0
	d. Lymphoreticular	0	3	1	0	1	**4**	**5**	0.4	3.4	0.3	3.0	-	1.6	0.4	-	0.4	**0.6**	**0.6**	9	10	80.0	20.0
	e. Unspecified	0	4	3	9	5	**16**	**21**	1.5	13.7	1.4	12.7	-	2.1	1.3	3.8	1.9	**2.2**	**2.1**	34	44	42.9	9.5
III	CNS NEOPLASMS †	8	64	78	62	72	**212**	**284**	20.2	100.0	19.0	100.0	17.1	34.0	33.3	26.4	27.3	**30.2**	**29.6**	451	588	65.1	3.9
	a. Ependymoma	2	10	8	7	2	**27**	**29**	2.6	12.7	1.9	10.2	4.3	5.3	3.4	3.0	0.8	**3.9**	**3.2**	57	61	100.0	0.0
	b. Astrocytoma	3	8	17	15	12	**43**	**55**	4.1	20.3	3.7	19.4	6.4	4.2	7.3	6.4	4.5	**6.0**	**5.7**	92	114	90.9	1.8
	c. CNS embryonal	1	19	11	5	8	**36**	**44**	3.4	17.0	2.9	15.5	2.1	10.1	4.7	2.1	3.0	**5.4**	**4.9**	77	92	97.7	0.0
	d. Other gliomas	0	5	8	7	5	**20**	**25**	1.9	9.4	1.7	8.8	-	2.7	3.4	3.0	1.9	**2.8**	**2.6**	43	52	56.0	0.0
	e. Other specified	0	6	18	16	27	**40**	**67**	3.8	18.9	4.5	23.6	-	3.2	7.7	6.8	10.2	**5.4**	**6.5**	85	136	64.2	1.5
	f. Unspecified CNS	2	16	16	12	18	**46**	**64**	4.4	21.7	4.3	22.5	4.3	8.5	6.8	5.1	6.8	**6.6**	**6.7**	98	132	9.4	14.1
IV	NEUROBLASTOMA	7	5	0	0	0	**12**	**12**	1.1	100.0	0.8	100.0	14.9	2.7	-	-	-	**2.0**	**1.5**	25	25	100.0	0.0
	a. (Ganglio)neuroblastoma	7	5	0	0	0	**12**	**12**	1.1	100.0	0.8	100.0	14.9	2.7	-	-	-	**2.0**	**1.5**	25	25	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	RETINOBLASTOMA	7	26	4	0	0	**37**	**37**	3.5	100.0	2.5	100.0	14.9	13.8	1.7	-	-	**6.0**	**4.6**	79	79	91.9	0.0
VI	RENAL TUMOURS	2	35	6	1	2	**44**	**46**	4.2	100.0	3.1	100.0	4.3	18.6	2.6	0.4	0.8	**7.0**	**5.6**	94	97	89.1	2.2
	a. Nephroblastoma	2	34	6	1	1	**43**	**44**	4.1	97.7	2.9	95.7	4.3	18.0	2.6	0.4	0.4	**6.9**	**5.4**	91	93	93.2	2.3
	b. Renal carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Unspecified	0	1	0	0	1	**1**	**2**	0.1	2.3	0.1	4.3	-	0.5	-	-	0.4	**0.2**	**0.2**	2	4	0.0	0.0
VII	HEPATIC TUMOURS	5	7	6	4	11	**22**	**33**	2.1	100.0	2.2	100.0	10.7	3.7	2.6	1.7	4.2	**3.3**	**3.5**	47	68	72.7	3.0
	a. Hepatoblastoma	1	5	2	1	0	**9**	**9**	0.9	40.9	0.6	27.3	2.1	2.7	0.9	0.4	-	**1.4**	**1.1**	19	19	100.0	0.0
	b. Hepatic carcinoma	0	0	4	3	7	**7**	**14**	0.7	31.8	0.9	42.4	-	-	1.7	1.3	2.7	**0.9**	**1.3**	15	28	100.0	0.0
	c. Unspecified	4	2	0	0	4	**6**	**10**	0.6	27.3	0.7	30.3	8.5	1.1	-	-	1.5	**1.0**	**1.1**	13	20	10.0	10.0
VIII	BONE TUMOURS	2	1	12	30	32	**45**	**77**	4.3	100.0	5.1	100.0	4.3	0.5	5.1	12.8	12.1	**5.9**	**7.3**	96	156	85.7	2.6
	a. Osteosarcoma	0	0	9	24	19	**33**	**52**	3.1	73.3	3.5	67.5	-	-	3.8	10.2	7.2	**4.2**	**4.9**	70	106	98.1	1.9
	b. Chondrosarcoma	0	0	1	0	5	**1**	**6**	0.1	2.2	0.4	7.8	-	-	0.4	-	1.9	**0.1**	**0.5**	2	12	100.0	0.0
	c. Ewing & related	0	0	1	3	3	**4**	**7**	0.4	8.9	0.5	9.1	-	-	0.4	1.3	1.1	**0.5**	**0.6**	9	14	100.0	0.0
	d. Other specified	0	1	0	0	0	**1**	**1**	0.1	2.2	0.1	1.3	-	0.5	-	-	-	**0.2**	**0.1**	2	2	100.0	0.0
	e. Unspecified	2	0	1	3	5	**6**	**11**	0.6	13.3	0.7	14.3	4.3	-	0.4	1.3	1.9	**0.8**	**1.1**	13	22	9.1	9.1
IX	SOFT TISSUE SARCOMA	8	18	14	16	28	**56**	**84**	5.3	100.0	5.6	100.0	17.1	9.6	6.0	6.8	10.6	**8.2**	**8.7**	119	172	95.2	2.4
	a. Rhabdomyosarcoma	5	7	5	6	5	**23**	**28**	2.2	41.1	1.9	33.3	10.7	3.7	2.1	2.6	1.9	**3.4**	**3.1**	49	58	92.9	7.1
	b. Fibrosarcoma	0	1	1	0	5	**2**	**7**	0.2	3.6	0.5	8.3	-	0.5	0.4	-	1.9	**0.3**	**0.7**	4	14	100.0	0.0
	c. Kaposi sarcoma	0	1	0	0	0	**1**	**1**	0.1	1.8	0.1	1.2	-	0.5	-	-	-	**0.2**	**0.1**	2	2	100.0	0.0
	d. Other specified	2	4	5	6	13	**17**	**30**	1.6	30.4	2.0	35.7	4.3	2.1	2.1	2.6	4.9	**2.4**	**3.0**	36	61	100.0	0.0
	e. Unspecified	1	5	3	4	5	**13**	**18**	1.2	23.2	1.2	21.4	2.1	2.7	1.3	1.7	1.9	**1.9**	**1.9**	28	37	88.9	0.0
X	GERM CELL TUMOURS	6	13	3	13	44	**35**	**79**	3.3	100.0	5.3	100.0	12.8	6.9	1.3	5.5	16.7	**5.1**	**7.7**	74	158	92.4	1.3
	a. CNS germ cell	0	0	0	1	1	**1**	**2**	0.1	2.9	0.1	2.5	-	-	-	0.4	0.4	**0.1**	**0.2**	2	4	100.0	0.0
	b. Other extragonadal	1	2	0	1	5	**4**	**9**	0.4	11.4	0.6	11.4	2.1	1.1	-	0.4	1.9	**0.6**	**0.9**	8	18	100.0	0.0
	c. Gonadal germ cell	5	11	1	7	36	**24**	**60**	2.3	68.6	4.0	75.9	10.7	5.8	0.4	3.0	13.6	**3.6**	**5.9**	51	119	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified gonadal	0	0	2	4	2	**6**	**8**	0.6	17.1	0.5	10.1	-	-	0.9	1.7	0.8	**0.8**	**0.8**	13	17	25.0	12.5
XI	CARCINOMA & MELANOMA	0	1	8	15	75	**24**	**99**	2.3	100.0	6.6	100.0	-	0.5	3.4	6.4	28.4	**3.1**	**8.8**	51	193	100.0	0.0
	a. Adrenocortical	0	1	1	0	0	**2**	**2**	0.2	8.3	0.1	2.0	-	0.5	0.4	-	-	**0.3**	**0.2**	4	4	100.0	0.0
	b. Thyroid	0	0	4	8	39	**12**	**51**	1.1	50.0	3.4	51.5	-	-	1.7	3.4	14.8	**1.5**	**4.5**	26	99	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	1	**1**	**2**	0.1	4.2	0.1	2.0	-	-	-	0.4	0.4	**0.1**	**0.2**	2	4	100.0	0.0
	d. Melanoma	0	0	2	1	3	**3**	**6**	0.3	12.5	0.4	6.1	-	-	0.9	0.4	1.1	**0.4**	**0.6**	6	12	100.0	0.0
	e. Skin carcinoma	0	0	1	1	5	**2**	**7**	0.2	8.3	0.5	7.1	-	-	0.4	0.4	1.9	**0.3**	**0.6**	4	14	100.0	0.0
	f. Other & unspecified	0	0	0	4	27	**4**	**31**	0.4	16.7	2.1	31.3	-	-	-	1.7	10.2	**0.5**	**2.7**	9	60	100.0	0.0
XII	OTHER & UNSPECIFIED	2	4	4	12	21	**22**	**43**	2.1	100.0	2.9	100.0	4.3	2.1	1.7	5.1	8.0	**3.0**	**4.1**	47	87	41.9	16.3
	a. Other specified	0	0	0	2	1	**2**	**3**	0.2	9.1	0.2	7.0	-	-	-	0.9	0.4	**0.2**	**0.3**	4	6	100.0	0.0
	b. Other unspecified	2	4	4	10	20	**20**	**40**	1.9	90.9	2.7	93.0	4.3	2.1	1.7	4.3	7.6	**2.8**	**3.9**	43	80	37.5	17.5
	TOTAL	75	392	286	299	446	**1052**	**1498**	100.0	100.0	100.0	100.0	159.8	208.0	122.2	127.2	168.9	**153.1**	**156.7**	2239	3083	84.1	4.8

† includes 114 non-malignant

Please consult the quality indicators for this registry

PERU, Trujillo (1990-2002)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	4	38	29	28	29	99	128	39.3	100.0	36.8	100.0	25.1	59.7	37.6	34.3	33.1	42.5	40.4	623	789	99.2	0.8
	a. Lymphoid	2	27	22	19	16	70	86	27.8	70.7	24.7	67.2	12.6	42.4	28.5	23.3	18.3	30.1	27.4	441	533	100.0	0.0
	b. Acute myeloid	2	7	3	7	7	19	26	7.5	19.2	7.5	20.3	12.6	11.0	3.9	8.6	8.0	8.1	8.1	119	159	100.0	0.0
	c. CMD	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. MDS & other	0	0	1	0	0	1	1	0.4	1.0	0.3	0.8	-	-	1.3	-	-	0.4	0.3	6	6	100.0	0.0
	e. Unspecified	0	4	3	2	6	9	15	3.6	9.1	4.3	11.7	-	6.3	3.9	2.5	6.9	3.9	4.6	57	91	93.3	6.7
II	LYMPHOMA & RELATED	0	12	13	17	11	42	53	16.7	100.0	15.2	100.0	-	18.9	16.8	20.8	12.6	17.3	16.3	264	327	98.1	1.9
	a. Hodgkin	0	4	8	2	1	14	15	5.6	33.3	4.3	28.3	-	6.3	10.4	2.5	1.1	6.0	4.9	89	95	100.0	0.0
	b. Non-Hodgkin except BL	0	5	4	9	9	18	27	7.1	42.9	7.8	50.9	-	7.9	5.2	11.0	10.3	7.3	8.0	112	164	96.3	3.7
	c. Burkitt (BL)	0	3	1	3	0	7	7	2.8	16.7	2.0	13.2	-	4.7	1.3	3.7	-	2.9	2.3	44	44	100.0	0.0
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	0	0	3	1	3	4	1.2	7.1	1.1	7.5	-	-	-	3.7	1.1	1.1	1.1	18	24	100.0	0.0
III	CNS NEOPLASMS	1	7	21	10	12	39	51	15.5	100.0	14.7	100.0	6.3	11.0	27.2	12.3	13.7	16.2	15.7	248	316	62.7	7.8
	a. Ependymoma	0	0	1	2	0	3	3	1.2	7.7	0.9	5.9	-	-	1.3	2.5	-	1.1	0.9	19	19	100.0	0.0
	b. Astrocytoma	0	1	7	5	3	13	16	5.2	33.3	4.6	31.4	-	1.6	9.1	6.1	3.4	5.2	4.8	82	99	100.0	0.0
	c. CNS embryonal	0	3	4	0	2	7	9	2.8	17.9	2.6	17.6	-	4.7	5.2	-	2.3	3.1	2.9	45	56	100.0	0.0
	d. Other gliomas	0	0	1	0	1	1	2	0.4	2.6	0.6	3.9	-	-	1.3	-	1.1	0.4	0.6	6	12	100.0	0.0
	e. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Unspecified CNS	1	3	8	3	6	15	21	6.0	38.5	6.0	41.2	6.3	4.7	10.4	3.7	6.9	6.4	6.5	95	130	9.5	19.0
IV	NEUROBLASTOMA	0	3	0	1	0	4	4	1.6	100.0	1.1	100.0	-	4.7	-	1.2	-	1.8	1.4	25	25	100.0	0.0
	a. (Ganglio)neuroblastoma	0	3	0	1	0	4	4	1.6	100.0	1.1	100.0	-	4.7	-	1.2	-	1.8	1.4	25	25	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	0	8	2	0	0	10	10	4.0	100.0	2.9	100.0	-	12.6	2.6	-	-	4.7	3.7	63	63	100.0	0.0
VI	RENAL TUMOURS	2	2	3	0	0	7	7	2.8	100.0	2.0	100.0	12.6	3.1	3.9	-	-	3.2	2.5	45	45	100.0	0.0
	a. Nephroblastoma	2	2	2	0	0	6	6	2.4	85.7	1.7	85.7	12.6	3.1	2.6	-	-	2.8	2.2	38	38	100.0	0.0
	b. Renal carcinoma	0	0	1	0	0	1	1	0.4	14.3	0.3	14.3	-	-	1.3	-	-	0.4	0.3	6	6	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	0	4	1	0	2	5	7	2.0	100.0	2.0	100.0	-	6.3	1.3	-	2.3	2.4	2.3	32	43	85.7	14.3
	a. Hepatoblastoma	0	3	1	0	0	4	4	1.6	80.0	1.1	57.1	-	4.7	1.3	-	-	1.9	1.5	25	25	100.0	0.0
	b. Hepatic carcinoma	0	0	0	0	2	0	2	-	-	0.6	28.6	-	-	-	-	2.3	-	0.5	-	11	100.0	0.0
	c. Unspecified	0	1	0	0	0	1	1	0.4	20.0	0.3	14.3	-	1.6	-	-	-	0.5	0.4	6	6	0.0	100.0
VIII	BONE TUMOURS	0	0	6	5	10	11	21	4.4	100.0	6.0	100.0	-	-	7.8	6.1	11.4	4.3	5.9	70	127	90.5	4.8
	a. Osteosarcoma	0	0	6	5	6	11	17	4.4	100.0	4.9	81.0	-	-	7.8	6.1	6.9	4.3	4.9	70	104	94.1	5.9
	b. Chondrosarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Ewing & related	0	0	0	0	2	0	2	-	-	0.6	9.5	-	-	-	-	2.3	-	0.5	-	11	100.0	0.0
	d. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	0	0	0	2	0	2	-	-	0.6	9.5	-	-	-	-	2.3	-	0.5	-	11	50.0	0.0
IX	SOFT TISSUE SARCOMA	0	6	5	5	10	16	26	6.3	100.0	7.5	100.0	-	9.4	6.5	6.1	11.4	6.8	7.8	101	158	100.0	0.0
	a. Rhabdomyosarcoma	0	5	2	1	1	8	9	3.2	50.0	2.6	34.6	-	7.9	2.6	1.2	1.1	3.6	3.1	51	56	100.0	0.0
	b. Fibrosarcoma	0	0	0	0	3	0	3	-	-	0.9	11.5	-	-	-	-	3.4	-	0.8	-	17	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	0	2	2	2	4	6	1.6	25.0	1.7	23.1	-	-	2.6	2.5	2.3	1.5	1.7	25	37	100.0	0.0
	e. Unspecified	0	1	1	2	4	4	8	1.6	25.0	2.3	30.8	-	1.6	1.3	2.5	4.6	1.6	2.3	25	48	100.0	0.0
X	GERM CELL TUMOURS	1	4	1	6	9	12	21	4.8	100.0	6.0	100.0	6.3	6.3	1.3	7.4	10.3	5.0	6.2	75	126	100.0	0.0
	a. CNS germ cell	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other extragonadal	0	0	0	2	3	2	5	0.8	16.7	1.4	23.8	-	-	-	2.5	3.4	0.7	1.3	12	29	100.0	0.0
	c. Gonadal germ cell	1	3	1	4	6	9	15	3.6	75.0	4.3	71.4	6.3	4.7	1.3	4.9	6.9	3.8	4.5	56	90	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified gonadal	0	1	0	0	0	1	1	0.4	8.3	0.3	4.8	-	1.6	-	-	-	0.5	0.4	6	6	100.0	0.0
XI	CARCINOMA & MELANOMA	1	0	1	4	13	6	19	2.4	100.0	5.5	100.0	6.3	-	1.3	4.9	14.9	2.3	5.1	37	112	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	0	2	7	2	9	0.8	33.3	2.6	47.4	-	-	-	2.5	8.0	0.7	2.4	12	52	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Melanoma	0	0	0	1	0	1	1	0.4	16.7	0.3	5.3	-	-	-	1.2	-	0.4	0.3	6	6	100.0	0.0
	e. Skin carcinoma	0	0	0	0	1	0	1	-	-	0.3	5.3	-	-	-	-	1.1	-	0.3	-	6	100.0	0.0
	f. Other & unspecified	1	0	1	1	5	3	8	1.2	50.0	2.3	42.1	6.3	-	1.3	1.2	5.7	1.3	2.3	19	47	100.0	0.0
XII	OTHER & UNSPECIFIED	0	1	0	0	0	1	1	0.4	100.0	0.3	100.0	-	1.6	-	-	-	0.5	0.4	6	6	0.0	0.0
	a. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other unspecified	0	1	0	0	0	1	1	0.4	100.0	0.3	100.0	-	1.6	-	-	-	0.5	0.4	6	6	0.0	0.0
	TOTAL	9	85	82	76	96	252	348	100.0	100.0	100.0	100.0	56.6	133.6	106.2	93.2	109.7	107.1	107.6	1588	2136	92.8	2.3

Please consult the quality indicators for this registry

USA, Puerto Rico

USA, Puerto Rico Central Cancer Registry, 1992–2012

Diego Zavala-Zegarra, Guillermo Tortolero-Luna, Yadira Román-Ruiz, Carlos Torres-Cintrón, Nivia Vázquez-Cubano, Omar Centeno-Rodríguez, Julio Arce, Mariela Alvarado-Ortiz, Yarenid Santiago-Colón

Puerto Rico is a territory of the USA and is located in the north-eastern Caribbean Sea, about 1600 km south-east of Miami, Florida. The territory comprises an archipelago of the Greater Antilles that is exposed to natural disasters. It covers a total area of 13 792 km^2 (8868 km^2 land, 4924 km^2 water) and has a tropical rainforest climate. The largest island, Puerto Rico, is mostly mountainous, with large coastal areas in the north and south. San Juan is the capital and the most populous city.

The heterogeneity of the population is the result of Amerindian settlement, European colonization, slavery, economic migration, and the status as a territory of the USA; however, most of the population (98%) is of Hispanic origin. The official languages are Spanish and English, with Spanish predominating. In 2010, the population was 3.7 million (a decrease from the 2000 census), and 27% of the population was younger than 20 years (Table A.6). About 40% of the population lives in urban areas.

Puerto Ricans are citizens of the USA and may move freely between the island and the mainland. However, as a territory, Puerto Rico does not have a vote in the United States Congress and its residents do not vote for president and vice president of the USA and do not pay federal income tax.

The high-income economy of Puerto Rico is driven mainly by manufacturing (pharmaceuticals, textiles, petrochemicals, and electronics) and the service industries (finance, insurance, real estate, and tourism). Agriculture contributes less than 1%. The cost of living is high, and the poverty rate is 45%.

Puerto Rico has 70 hospitals; 20 of them are located in San Juan, and half of these are operated by the government. The largest hospital is the Río Piedras Medical Center, a network of eight hospitals, including a paediatric hospital. The city of San Juan operates nine other hospitals. There are also 10 private hospitals in San Juan, including San Jorge Children's Hospital. Patients with cancer from primary and secondary care facilities are referred to hospitals in the metropolitan areas of San Juan, Ponce, Mayagüez, and Fajardo. An undetermined number of patients seek medical care on the United States mainland.

Puerto Rico Health Reform is a government-run programme instituted in 2006 that provides medical and health-care services to people without sufficient income. The programme covers a population of more than 1.5 million.

The Puerto Rico Central Cancer Registry (PRCCR) covers all 78 municipalities in Puerto Rico, including the islands of Vieques and Culebra. The registry is located at the University of Puerto Rico Comprehensive Cancer Center and is supported by United States federal and commonwealth funds. Since 1997, it has been a member of the United States National Program of Cancer Registries. It has 22 full-time employees and four units: Case Finding, Quality Control and Case Processing, Education and Training, and Information Technology.

Cancer has been a reportable disease since 1951. In 2010, a new law was approved to enhance the authority of the PRCCR and formalize electronic reporting. Active case finding is performed in general and oncology hospitals, pathology laboratories, and the Vital Statistics Office. The death registration system is adequate and complete; death certificates are required legal documents, and the registry reviews them all systematically. Currently, 95% of the institutions report electronically.

It is difficult to estimate the number of undiagnosed or unregistered cases, because of the high level of migration between Puerto Rico and the United States mainland. However, Puerto Rico has a wide range of diagnostic facilities, and the PRCCR has data exchange agreements with several states on the mainland, including Florida, New Jersey, New York, and Texas, to identify cases diagnosed and/or treated outside Puerto Rico. Data from the PRCCR are provided annually for inclusion in United States national cancer statistics reports.

The registry data are used for programme planning and evaluation, research, cluster investigations, annual reports, special reports, and various other uses. The PRCCR often participates in academic activities to disseminate and stimulate use of the data among stakeholders. In addition, the PRCCR actively collaborates in national and international projects.

POPULATION AT RISK

Data were provided by 5-year age group for 1992–1999 and by individual years of age for 2000–2012. The source of the population data was the United States Census Bureau. The most recent censuses were conducted in 1990, 2000, and 2010 (Table A.7). The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The registry participated in IICC-1 and IICC-2 (Table A.1). The proportion of MV cases with unspecified morphology was high (7%) (Table A.9). Non-malignant CNS tumours have been reportable only since 2004, which may explain the low proportion (Table A.9). Pilocytic astrocytoma was coded with malignant behaviour, with the exception of one case coded with uncertain behaviour. Basal cell and squamous cell carcinomas of skin were not reportable. Laterality was not sufficiently complete for the registry to be included in the tables in Chapter 13 in the IICC-3 book.

USA, Puerto Rico (1992-2012)

	Age group (years)	Males	Females
Person-years	0	564 894	542 416
	1-4	2 327 983	2 221 724
	5-9	3 067 789	2 925 929
	10-14	3 205 660	3 076 451
	15-19	3 237 985	3 127 188
	0-14	9 166 326	8 766 520
	0-19	12 404 311	11 893 708
Average annual population	0-14	436 492	417 453
	0-19	590 681	566 367

Please consult the quality indicators for this registry

USA, Puerto Rico (1992-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	41	283	183	175	170	**682**	**852**	31.2	100.0	26.5	100.0	37.0	62.2	30.5	27.9	26.7	**40.1**	**37.1**	578	712	95.2	2.0
	a. Lymphoid	16	218	124	94	66	**452**	**518**	20.7	66.3	16.1	60.8	14.4	47.9	20.7	15.0	10.4	**27.0**	**23.3**	385	437	98.5	0.8
	b. Acute myeloid	9	22	28	53	65	**112**	**177**	5.1	16.4	5.5	20.8	8.1	4.8	4.7	8.4	10.2	**6.1**	**7.0**	93	144	96.0	2.8
	c. CMD	4	13	11	8	18	**36**	**54**	1.6	5.3	1.7	6.3	3.6	2.9	1.8	1.3	2.8	**2.1**	**2.3**	31	45	72.2	0.0
	d. MDS & other	4	1	1	6	2	**12**	**14**	0.5	1.8	0.4	1.6	3.6	0.2	0.2	1.0	0.3	**0.7**	**0.6**	10	12	78.6	7.1
	e. Unspecified	8	29	19	14	19	**70**	**89**	3.2	10.3	2.8	10.4	7.2	6.4	3.2	2.2	3.0	**4.2**	**3.9**	60	75	91.0	7.9
II	LYMPHOMA & RELATED	6	40	81	127	252	**254**	**506**	11.6	100.0	15.7	100.0	5.4	8.8	13.5	20.2	39.6	**13.4**	**19.3**	209	407	98.4	0.4
	a. Hodgkin	1	12	38	78	166	**129**	**295**	5.9	50.8	9.2	58.3	0.9	2.6	6.3	12.4	26.1	**6.5**	**10.9**	105	236	99.3	0.0
	b. Non-Hodgkin except BL	2	12	29	33	69	**76**	**145**	3.5	29.9	4.5	28.7	1.8	2.6	4.8	5.3	10.8	**4.0**	**5.6**	63	117	97.9	0.0
	c. Burkitt (BL)	0	12	9	11	6	**32**	**38**	1.5	12.6	1.2	7.5	-	2.6	1.5	1.8	0.9	**1.8**	**1.6**	27	32	100.0	0.0
	d. Lymphoreticular	3	2	1	1	1	**7**	**8**	0.3	2.8	0.2	1.6	2.7	0.4	0.2	0.2	0.2	**0.4**	**0.4**	6	7	87.5	0.0
	e. Unspecified	0	2	4	4	10	**10**	**20**	0.5	3.9	0.6	4.0	-	0.4	0.7	0.6	1.6	**0.5**	**0.8**	8	16	90.0	10.0
III	CNS NEOPLASMS †	21	150	159	136	133	**466**	**599**	21.3	100.0	18.6	100.0	19.0	33.0	26.5	21.6	20.9	**26.5**	**25.3**	392	496	93.8	2.0
	a. Ependymoma	3	23	17	8	10	**51**	**61**	2.3	10.9	1.9	10.2	2.7	5.1	2.8	1.3	1.6	**3.1**	**2.7**	44	51	98.4	0.0
	b. Astrocytoma	6	67	72	57	51	**202**	**253**	9.2	43.3	7.9	42.2	5.4	14.7	12.0	9.1	8.0	**11.5**	**10.7**	170	210	97.6	0.8
	c. CNS embryonal	8	40	39	32	19	**119**	**138**	5.4	25.5	4.3	23.0	7.2	8.8	6.5	5.1	3.0	**6.9**	**6.0**	100	115	100.0	0.0
	d. Other gliomas	0	2	12	10	8	**24**	**32**	1.1	5.2	1.0	5.3	-	0.4	2.0	1.6	1.3	**1.2**	**1.2**	20	26	81.3	3.1
	e. Other specified	0	10	9	16	25	**35**	**60**	1.6	7.5	1.9	10.0	-	2.2	1.5	2.5	3.9	**1.9**	**2.4**	29	49	95.0	0.0
	f. Unspecified CNS	4	8	10	13	20	**35**	**55**	1.6	7.5	1.7	9.2	3.6	1.8	1.7	2.1	3.1	**2.0**	**2.2**	29	45	61.8	16.4
IV	NEUROBLASTOMA	37	68	25	4	3	**134**	**137**	6.1	100.0	4.3	100.0	33.4	14.9	4.2	0.6	0.5	**8.7**	**6.9**	117	119	97.1	0.7
	a. (Ganglio)neuroblastoma	37	68	24	3	2	**132**	**134**	6.0	98.5	4.2	97.8	33.4	14.9	4.0	0.5	0.3	**8.6**	**6.7**	115	117	97.0	0.7
	b. Peripheral nervous	0	0	1	1	1	**2**	**3**	0.1	1.5	0.1	2.2	-	-	0.2	0.2	0.2	**0.1**	**0.1**	2	2	100.0	0.0
V	RETINOBLASTOMA	12	29	2	1	0	**44**	**44**	2.0	100.0	1.4	100.0	10.8	6.4	0.3	0.2	-	**3.0**	**2.3**	39	39	79.5	0.0
VI	RENAL TUMOURS	15	74	23	9	13	**121**	**134**	5.5	100.0	4.2	100.0	13.5	16.3	3.8	1.4	2.0	**7.7**	**6.5**	105	115	95.5	3.0
	a. Nephroblastoma	13	70	20	8	1	**111**	**112**	5.1	91.7	3.5	83.6	11.7	15.4	3.3	1.3	0.2	**7.1**	**5.6**	96	97	98.2	0.9
	b. Renal carcinoma	0	1	2	1	11	**4**	**15**	0.2	3.3	0.5	11.2	-	0.2	0.3	0.2	1.7	**0.2**	**0.6**	3	12	100.0	0.0
	c. Unspecified	2	3	1	0	1	**6**	**7**	0.3	5.0	0.2	5.2	1.8	0.7	0.2	-	0.2	**0.4**	**0.3**	5	6	42.9	42.9
VII	HEPATIC TUMOURS	13	4	4	6	2	**27**	**29**	1.2	100.0	0.9	100.0	11.7	0.9	0.7	1.0	0.3	**1.7**	**1.4**	23	25	82.8	13.8
	a. Hepatoblastoma	11	3	0	0	0	**14**	**14**	0.6	51.9	0.4	48.3	9.9	0.7	-	-	-	**1.0**	**0.7**	12	12	92.9	0.0
	b. Hepatic carcinoma	1	1	3	6	2	**11**	**13**	0.5	40.7	0.4	44.8	0.9	0.2	0.5	1.0	0.3	**0.6**	**0.5**	9	11	84.6	15.4
	c. Unspecified	1	0	1	0	0	**2**	**2**	0.1	7.4	0.1	6.9	0.9	-	0.2	-	-	**0.1**	**0.1**	2	2	0.0	100.0
VIII	BONE TUMOURS	2	4	30	67	72	**103**	**175**	4.7	100.0	5.4	100.0	1.8	0.9	5.0	10.7	11.3	**5.1**	**6.5**	84	140	96.0	2.3
	a. Osteosarcoma	0	1	17	51	41	**69**	**110**	3.2	67.0	3.4	62.9	-	0.2	2.8	8.1	6.4	**3.3**	**4.0**	56	88	96.4	0.9
	b. Chondrosarcoma	0	0	0	1	7	**1**	**8**	0.0	1.0	0.2	4.6	-	-	-	0.2	1.1	**0.0**	**0.3**	1	6	100.0	0.0
	c. Ewing & related	0	1	13	11	13	**25**	**38**	1.1	24.3	1.2	21.7	-	0.2	2.2	1.8	2.0	**1.3**	**1.4**	20	31	100.0	0.0
	d. Other specified	1	1	0	2	4	**4**	**8**	0.2	3.9	0.2	4.6	0.9	0.2	-	0.3	0.6	**0.2**	**0.3**	3	7	100.0	0.0
	e. Unspecified	1	1	0	2	7	**4**	**11**	0.2	3.9	0.3	6.3	0.9	0.2	-	0.3	1.1	**0.2**	**0.4**	3	9	72.7	27.3
IX	SOFT TISSUE SARCOMA	17	39	37	52	69	**145**	**214**	6.6	100.0	6.7	100.0	15.4	8.6	6.2	8.3	10.8	**8.2**	**8.8**	122	176	98.6	0.5
	a. Rhabdomyosarcoma	8	29	16	17	17	**70**	**87**	3.2	48.3	2.7	40.7	7.2	6.4	2.7	2.7	2.7	**4.2**	**3.8**	60	73	98.9	1.1
	b. Fibrosarcoma	5	1	3	4	3	**13**	**16**	0.6	9.0	0.5	7.5	4.5	0.2	0.5	0.6	0.5	**0.8**	**0.7**	11	13	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	**0**	**1**	-	-	0.0	0.5	-	-	-	-	0.2	**-**	**0.0**	-	1	100.0	0.0
	d. Other specified	3	6	17	28	43	**54**	**97**	2.5	37.2	3.0	45.3	2.7	1.3	2.8	4.5	6.8	**2.8**	**3.7**	44	78	99.0	0.0
	e. Unspecified	1	3	1	3	5	**8**	**13**	0.4	5.5	0.4	6.1	0.9	0.7	0.2	0.5	0.8	**0.5**	**0.5**	7	11	92.3	0.0
X	GERM CELL TUMOURS	11	16	13	33	112	**73**	**185**	3.3	100.0	5.7	100.0	9.9	3.5	2.2	5.3	17.6	**4.1**	**7.1**	61	149	98.4	0.5
	a. CNS germ cell ‡	0	2	5	7	5	**14**	**19**	0.6	19.2	0.6	10.3	-	0.4	0.8	1.1	0.8	**0.7**	**0.7**	12	15	100.0	0.0
	b. Other extragonadal	7	9	1	4	15	**21**	**36**	1.0	28.8	1.1	19.5	6.3	2.0	0.2	0.6	2.4	**1.3**	**1.6**	18	30	97.2	0.0
	c. Gonadal germ cell	3	4	7	20	80	**34**	**114**	1.6	46.6	3.5	61.6	2.7	0.9	1.2	3.2	12.6	**1.8**	**4.2**	28	91	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	8	**0**	**8**	-	-	0.2	4.3	-	-	-	-	1.3	**-**	**0.3**	-	6	100.0	0.0
	e. Unspecified gonadal	1	1	0	2	4	**4**	**8**	0.2	5.5	0.2	4.3	0.9	0.2	-	0.3	0.6	**0.2**	**0.3**	3	7	75.0	12.5
XI	CARCINOMA & MELANOMA	1	2	12	73	188	**88**	**276**	4.0	100.0	8.6	100.0	0.9	0.4	2.0	11.6	29.5	**4.2**	**9.9**	71	218	99.6	0.0
	a. Adrenocortical	0	1	1	0	1	**2**	**3**	0.1	2.3	0.1	1.1	-	0.2	0.2	-	0.2	**0.1**	**0.1**	2	3	100.0	0.0
	b. Thyroid	0	1	4	41	112	**46**	**158**	2.1	52.3	4.9	57.2	-	0.2	0.7	6.5	17.6	**2.2**	**5.6**	37	125	100.0	0.0
	c. Nasopharyngeal	0	0	0	6	9	**6**	**15**	0.3	6.8	0.5	5.4	-	-	-	1.0	1.4	**0.3**	**0.5**	5	12	100.0	0.0
	d. Melanoma	1	0	4	4	11	**9**	**20**	0.4	10.2	0.6	7.2	0.9	-	0.7	0.6	1.7	**0.5**	**0.8**	7	16	95.0	0.0
	e. Skin carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	f. Other & unspecified	0	0	3	22	55	**25**	**80**	1.1	28.4	2.5	29.0	-	-	0.5	3.5	8.6	**1.2**	**2.9**	20	63	100.0	0.0
XII	OTHER & UNSPECIFIED	10	12	9	20	16	**51**	**67**	2.3	100.0	2.1	100.0	9.0	2.6	1.5	3.2	2.5	**2.9**	**2.8**	43	55	67.2	23.9
	a. Other specified	0	1	0	0	2	**1**	**3**	0.0	2.0	0.1	4.5	-	0.2	-	-	0.3	**0.1**	**0.1**	1	2	100.0	0.0
	b. Other unspecified	10	11	9	20	14	**50**	**64**	2.3	98.0	2.0	95.5	9.0	2.4	1.5	3.2	2.2	**2.8**	**2.7**	42	53	65.6	25.0
	TOTAL	186	721	578	703	1030	**2188**	**3218**	100.0	100.0	100.0	100.0	168.0	158.5	96.4	111.9	161.8	**125.7**	**133.8**	1843	2652	95.5	1.9

† includes 77 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this registry

Uruguay

Uruguay National Cancer Registry, 1993–2012

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Uruguay covers an area of 176 215 km^2 and is bordered by Argentina, Brazil, and the Atlantic Ocean. Uruguay is located entirely within the temperate zone; thus, the climate is relatively mild and uniform nationwide.

Uruguay is a democratic constitutional republic, with a president who serves as head of state and head of government. It is a high-income country with a very high Human Development Index. Uruguay is a global exporter of combed wool, rice, soybeans, frozen beef, malt, and milk. Nearly 95% of the country's electricity is generated by renewable energy from hydroelectric facilities and wind parks. The country had a major economic and financial crisis in 1999–2002, when the unemployment rate reached 21%. In 2005, the Ministry of Social Development launched a plan, which resulted in a reduction in the poverty rate from 33% in 2002 to 22% in 2008. In exchange for the support received, the low-income families were expected to participate in community work, ensure that their children attended school daily, and undergo regular health check-ups.

In 2010, the population was 3.4 million, and 30% of the population was younger than 20 years (Table A.6). Overall, 95% of the population lives in urban areas and about 50% lives in the capital of Montevideo and its metropolitan area. The population is predominantly White; an estimated 88% of the population is of European ancestry.

The life expectancy at birth is 76 years. The infant mortality rate decreased from 20.2 per 1000 live births in 1993 to 9.8 per 1000 live births in 2012. The demographic pyramid corresponds to a stationary phase of the demographic transition.

Health care is provided by private facilities and free public services. Until 2007, the public State Health Services Administration provided health services free of charge to predominantly people with low income, and a collective of small insurers and lenders covered cancer care for employees, managed within a network of private hospitals and clinics. In 2007, the National Integrated Health System brought together the private and public systems to provide comprehensive, equitable, universal health coverage under a single benefits plan. This Integrated Health Care Plan shifted the focus of service delivery back towards primary health care, prevention of noncommunicable diseases, and health promotion activities.

The Uruguay National Cancer Registry (UNCR) was created in 1984 (Table A.10), and population-based data have been collected at the national level since 1991. The registry is currently hosted by the Honorary Committee for the Fight Against Cancer.

The UNCR employs 7 staff in its central unit and actively collects data throughout the country through 30 registrars. All staff members sign confidentiality agreements. Documents and databases are protected according to national and international guidelines.

The UNCR accesses all the death certificates of the whole country and records cancer deaths, linked to the corresponding incidence, when they have already been registered. Non-registered cases identified through a death certificate are traced back to medical records.

The Paediatric Haemato-Oncology Centre is a National Reference Centre that provides full assistance for people who receive public health services, and for most of those covered by the private system. A few additional patients are assisted in private services, but most of them have at least one outpatient evaluation in the Reference Centre. A paediatric cancer registry operates in this centre and records all incident cases. The UNCR receives these data annually, and the few remaining cases are collected by the registrars in the usual registration process.

New cases are checked for duplication, coded according to ICD-O-3 (ICD-O was used until 2004) (Table A.10) and according to IARC rules for multiple primary tumours, and recorded using software developed by the registry. Quality control procedures are performed both manually and automatically through Can-Check and UNCR software. No follow-up for vital status is done by the UNCR.

Incidence and mortality atlases are regularly published, usually involving data for a 5-year period. More frequently published reports as well as specific reports are also produced.

The UNCR has been involved in several projects at the national and international level and in cancer epidemiological research.

POPULATION AT RISK

Population data were provided by the National Institute of Statistics (https://www.ine.gub.uy/) and are based on the censuses of 1985, 1996, 2004, and 2011 (Table A.7) and intercensal estimates. Linear interpolation and extrapolation were performed by the registry. Data were provided in all requested detail.

EDITORS' COMMENTS

The registry participated in IICC-2 (Table A.1). Day of incidence was unknown in more than 50% of cases, and month of incidence was unknown in 20% of cases (Table A.8). The registry considers age to be recorded correctly and independently of the collected dates. The DCO% was high (8%) (Table A.9). Non-malignant CNS tumours were not reportable, but pilocytic astrocytoma was registered and coded with malignant behaviour throughout the reporting period. Skin carcinomas were reportable, and registration is believed to be complete. Malignant carcinoid of appendix made up 1.1% of all cases (Table A.11). Laterality was not collected.

URUGUAY (1993-2012)

	Age group (years)	Males	Females
Person-years	0	484 433	465 542
	1-4	2 023 794	1 949 459
	5-9	2 653 987	2 548 474
	10-14	2 652 255	2 557 155
	15-19	2 637 084	2 550 149
	0-14	7 814 469	7 520 630
	0-19	10 451 553	10 070 779
Average annual population	0-14	390 723	376 032
	0-19	522 578	503 539

Please consult the quality indicators for this registry

URUGUAY (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	29	278	190	157	146	654	800	30.9	100.0	27.3	100.0	30.5	70.0	36.5	30.1	28.1	44.7	41.0	645	786	87.6	12.4
	a. Lymphoid	12	221	136	98	64	467	531	22.1	71.4	18.1	66.4	12.6	55.6	26.1	18.8	12.3	32.2	27.7	461	523	91.1	8.9
	b. Acute myeloid	13	37	33	44	42	127	169	6.0	19.4	5.8	21.1	13.7	9.3	6.3	8.4	8.1	8.4	8.4	125	165	87.6	12.4
	c. CMD	0	6	2	3	16	11	27	0.5	1.7	0.9	3.4	-	1.5	0.4	0.6	3.1	0.8	1.3	11	26	92.6	7.4
	d. MDS & other	2	0	0	3	10	5	15	0.2	0.8	0.5	1.9	2.1	-	-	0.6	1.9	0.3	0.7	5	15	100.0	0.0
	e. Unspecified	2	14	19	9	14	44	58	2.1	6.7	2.0	7.2	2.1	3.5	3.7	1.7	2.7	2.9	2.9	43	57	50.0	50.0
II	LYMPHOMA & RELATED	9	57	117	114	184	297	481	14.0	100.0	16.4	100.0	9.5	14.3	22.5	21.9	35.5	18.8	22.5	289	466	94.6	5.4
	a. Hodgkin	0	8	38	64	104	110	214	5.2	37.0	7.3	44.5	-	2.0	7.3	12.3	20.0	6.6	9.6	106	206	98.1	1.9
	b. Non-Hodgkin except BL	3	15	33	30	43	81	124	3.8	27.3	4.2	25.8	3.2	3.8	6.3	5.8	8.3	5.1	5.8	79	120	98.4	1.6
	c. Burkitt (BL)	0	18	34	9	5	61	66	2.9	20.5	2.3	13.7	-	4.5	6.5	1.7	1.0	4.0	3.3	60	64	100.0	0.0
	d. Lymphoreticular	6	10	5	6	1	27	28	1.3	9.1	1.0	5.8	6.3	2.5	1.0	1.2	0.2	1.9	1.5	27	28	89.3	10.7
	e. Unspecified	0	6	7	5	31	18	49	0.9	6.1	1.7	10.2	-	1.5	1.3	1.0	6.0	1.2	2.3	18	48	65.3	34.7
III	CNS NEOPLASMS	16	134	133	99	61	382	443	18.1	100.0	15.1	100.0	16.8	33.7	25.6	19.0	11.8	25.6	22.5	375	434	78.6	11.1
	a. Ependymoma	1	27	12	23	5	63	68	3.0	16.5	2.3	15.3	1.1	6.8	2.3	4.4	1.0	4.2	3.5	62	67	88.2	11.8
	b. Astrocytoma	8	29	41	27	13	105	118	5.0	27.5	4.0	26.6	8.4	7.3	7.9	5.2	2.5	7.0	6.0	103	115	90.7	2.5
	c. CNS embryonal	3	30	31	15	10	79	89	3.7	20.7	3.0	20.1	3.2	7.6	6.0	2.9	1.9	5.4	4.6	78	87	93.3	4.5
	d. Other gliomas	3	20	31	22	17	76	93	3.6	19.9	3.2	21.0	3.2	5.0	6.0	4.2	3.3	5.0	4.6	74	91	83.9	3.2
	e. Other specified	0	1	3	5	4	9	13	0.4	2.4	0.4	2.9	-	0.3	0.6	1.0	0.8	0.5	0.6	9	13	92.3	7.7
	f. Unspecified CNS	1	27	15	7	12	50	62	2.4	13.1	2.1	14.0	1.1	6.8	2.9	1.3	2.3	3.5	3.2	50	61	12.9	48.4
IV	NEUROBLASTOMA	44	78	19	7	7	148	155	7.0	100.0	5.3	100.0	46.3	19.6	3.7	1.3	1.3	11.2	9.0	149	156	94.2	5.8
	a. (Ganglio)neuroblastoma	44	78	19	7	7	148	155	7.0	100.0	5.3	100.0	46.3	19.6	3.7	1.3	1.3	11.2	9.0	149	156	94.2	5.8
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	23	39	7	0	0	69	69	3.3	100.0	2.4	100.0	24.2	9.8	1.3	-	-	5.3	4.1	70	70	95.7	4.3
VI	RENAL TUMOURS	16	52	15	4	3	87	90	4.1	100.0	3.1	100.0	16.8	13.1	2.9	0.8	0.6	6.5	5.2	87	90	96.7	2.2
	a. Nephroblastoma	16	50	13	3	0	82	82	3.9	94.3	2.8	91.1	16.8	12.6	2.5	0.6	-	6.2	4.8	82	82	98.8	1.2
	b. Renal carcinoma	0	1	1	1	1	3	4	0.1	3.4	0.1	4.4	-	0.3	0.2	0.2	0.2	0.2	0.2	3	4	100.0	0.0
	c. Unspecified	0	1	1	0	2	2	4	0.1	2.3	0.1	4.4	-	0.3	0.2	-	0.4	0.1	0.2	2	4	50.0	25.0
VII	HEPATIC TUMOURS	4	9	5	2	3	20	23	0.9	100.0	0.8	100.0	4.2	2.3	1.0	0.4	0.6	1.4	1.2	20	23	91.3	0.0
	a. Hepatoblastoma	4	8	2	0	0	14	14	0.7	70.0	0.5	60.9	4.2	2.0	0.4	-	-	1.1	0.8	14	14	100.0	0.0
	b. Hepatic carcinoma	0	1	2	1	3	4	7	0.2	20.0	0.2	30.4	-	0.3	0.4	0.2	0.6	0.3	0.3	4	7	100.0	0.0
	c. Unspecified	0	0	1	1	0	2	2	0.1	10.0	0.1	8.7	-	-	0.2	0.2	-	0.1	0.1	2	2	0.0	0.0
VIII	BONE TUMOURS	1	8	38	77	71	124	195	5.9	100.0	6.7	100.0	1.1	2.0	7.3	14.8	13.7	7.4	8.8	120	188	97.4	1.5
	a. Osteosarcoma	0	1	19	43	33	63	96	3.0	50.8	3.3	49.2	-	0.3	3.7	8.3	6.4	3.7	4.3	61	92	97.9	1.0
	b. Chondrosarcoma	0	0	0	0	2	0	2	-	-	0.1	1.0	-	-	-	-	0.4	-	0.1	-	2	100.0	0.0
	c. Ewing & related	1	6	17	32	31	56	87	2.6	45.2	3.0	44.6	1.1	1.5	3.3	6.1	6.0	3.4	4.0	54	84	97.7	2.3
	d. Other specified	0	0	1	1	2	2	4	0.1	1.6	0.1	2.1	-	-	0.2	0.2	0.4	0.1	0.2	2	4	100.0	0.0
	e. Unspecified	0	1	1	1	3	3	6	0.1	2.4	0.2	3.1	-	0.3	0.2	0.2	0.6	0.2	0.3	3	6	83.3	0.0
IX	SOFT TISSUE SARCOMA	13	48	41	41	41	143	184	6.8	100.0	6.3	100.0	13.7	12.1	7.9	7.9	7.9	9.6	9.2	141	180	94.6	5.4
	a. Rhabdomyosarcoma	5	32	21	16	10	74	84	3.5	51.7	2.9	45.7	5.3	8.1	4.0	3.1	1.9	5.1	4.4	73	83	94.0	6.0
	b. Fibrosarcoma	2	6	5	7	8	20	28	0.9	14.0	1.0	15.2	2.1	1.5	1.0	1.3	1.5	1.3	1.4	20	27	100.0	0.0
	c. Kaposi sarcoma	1	0	0	0	0	1	1	0.0	0.7	0.0	0.5	1.1	-	-	-	-	0.1	0.1	1	1	100.0	0.0
	d. Other specified	3	4	8	17	15	32	47	1.5	22.4	1.6	25.5	3.2	1.0	1.5	3.3	2.9	2.0	2.2	31	46	100.0	0.0
	e. Unspecified	2	6	7	1	8	16	24	0.8	11.2	0.8	13.0	2.1	1.5	1.3	0.2	1.5	1.1	1.2	16	24	79.2	20.8
X	GERM CELL TUMOURS	14	20	10	25	107	69	176	3.3	100.0	6.0	100.0	14.7	5.0	1.9	4.8	20.6	4.7	8.3	68	171	92.6	4.5
	a. CNS germ cell	0	1	3	3	3	7	10	0.3	10.1	0.3	5.7	-	0.3	0.6	0.6	0.6	0.4	0.5	7	10	90.0	10.0
	b. Other extragonadal	12	4	0	0	11	16	27	0.8	23.2	0.9	15.3	12.6	1.0	-	-	2.1	1.3	1.5	16	27	88.9	11.1
	c. Gonadal germ cell	2	11	5	20	69	38	107	1.8	55.1	3.7	60.8	2.1	2.8	1.0	3.8	13.3	2.4	4.9	37	104	100.0	0.0
	d. Gonadal carcinoma	0	0	1	1	12	2	14	0.1	2.9	0.5	8.0	-	-	0.2	0.2	2.3	0.1	0.6	2	13	92.9	7.1
	e. Unspecified gonadal	0	4	1	1	12	6	18	0.3	8.7	0.6	10.2	-	1.0	0.2	0.2	2.3	0.4	0.9	6	18	55.6	16.7
XI	CARCINOMA & MELANOMA	1	4	17	67	152	89	241	4.2	100.0	8.2	100.0	1.1	1.0	3.3	12.9	29.3	5.2	10.6	86	232	99.6	0.4
	a. Adrenocortical	0	0	0	1	0	1	1	0.0	1.1	0.0	0.4	-	-	-	0.2	-	0.1	0.0	1	1	100.0	0.0
	b. Thyroid	0	0	4	28	57	32	89	1.5	36.0	3.0	36.9	-	-	0.8	5.4	11.0	1.8	3.9	31	86	100.0	0.0
	c. Nasopharyngeal	0	0	1	2	9	3	12	0.1	3.4	0.4	5.0	-	-	0.2	0.4	1.7	0.2	0.5	3	12	100.0	0.0
	d. Melanoma	0	2	0	2	9	4	13	0.2	4.5	0.4	5.4	-	0.5	-	0.4	1.7	0.3	0.6	4	13	100.0	0.0
	e. Skin carcinoma	0	1	3	7	20	11	31	0.5	12.4	1.1	12.9	-	0.3	0.6	1.3	3.9	0.7	1.4	11	30	100.0	0.0
	f. Other & unspecified	1	1	9	27	57	38	95	1.8	42.7	3.2	39.4	1.1	0.3	1.7	5.2	11.0	2.2	4.2	37	92	98.9	1.1
XII	OTHER & UNSPECIFIED	4	8	4	16	41	32	73	1.5	100.0	2.5	100.0	4.2	2.0	0.8	3.1	7.9	2.1	3.4	31	71	53.4	15.1
	a. Other specified	0	3	0	1	1	4	5	0.2	12.5	0.2	6.8	-	0.8	-	0.2	0.2	0.3	0.3	4	5	100.0	0.0
	b. Other unspecified	4	5	4	15	40	28	68	1.3	87.5	2.3	93.2	4.2	1.3	0.8	2.9	7.7	1.8	3.1	27	66	50.0	16.2
	TOTAL	174	735	596	609	816	2114	2930	100.0	100.0	100.0	100.0	183.2	185.0	114.6	116.9	157.3	142.4	145.7	2080	2867	89.8	7.5

Please consult the quality indicators for this registry

NORTH AMERICA

Canada

Canada is located in the northern part of North America. It is the second largest country in the world, with an area of 9.9 million km^2. The country is sparsely populated, and most of its land area is dominated by forest and tundra. Consequently, the population is highly urbanized; more than 80% of residents are concentrated in large and medium-sized cities, many near the southern border. Almost one third of the population lives in the metropolitan areas of Toronto, Montreal, and Vancouver. In 2010, the estimated population was 34.1 million (Table A.7), and 23% of the population was younger than 20 years (Table A.6). Canada is a multicultural society. In 2006, members of visible minorities constituted 16.2% of the population, including Aboriginal people, who accounted for 3.8% of the total population. English is the first language of 56% of the population, and French is the first language of 22% of the population. Canada is divided into 10 provinces and three territories.

The highly globalized economy is dominated by the service sector, in which 75% of the workforce is employed. There is also a strong primary sector, which includes forestry, petroleum industries, and mining. Agriculture is also important; products such as wheat, canola, and other grains are grown, including for export. A sizeable manufacturing sector is centred in southern Ontario and Quebec; automobiles and aeronautics are particularly important industries. The Canadian Space Agency operates a highly active space programme. The country has a relatively low level of income disparity.

Health-care delivery is backed by a publicly funded universal health insurance system. Health care falls under provincial or territorial jurisdiction; therefore, each province and territory manages its own health insurance system. The Canada Health Act specifies the conditions that the provincial and territorial health insurance systems must abide by. Access to health care is universal, with no fees for use of most services. Diagnostic and treatment services for children with cancer are available at 17 specialized paediatric cancer centres.

Cancer registration started in some areas of Canada in the 1930s, and it became population-based in the 1950s (Table A.10). Since 1969, Statistics Canada has collected population-based cancer incidence data. Since 1992, these data have been compiled in the person-oriented Canadian Cancer Registry, which replaced the event-oriented National Cancer Incidence Reporting System. The Canadian Cancer Registry falls under the governance of the Canadian Council of Cancer Registries, a collaboration between the 13 Canadian provincial and territorial cancer registries and the Centre for Population Health Data of Statistics Canada. The ultimate authority and responsibility for the completeness and quality of the data reside with the provinces and territories, whereas Statistics Canada is the custodian of the Canadian Cancer Registry. All provincial and territorial registries participate in an annual linkage of data through the national Canadian Cancer Registry and identify any duplicate registrations across jurisdictions. This process improves completeness of registration across Canada, reduces the likelihood of duplicate registration, and captures patients treated outside their province of residence. The Canadian Cancer Registry provides national incidence and survival information required for cancer control programmes. Statistics Canada produces an annual report based on the data provided by the provincial and territorial registries.

POPULATION AT RISK

Population estimates were provided by Statistics Canada (https://www.statcan.gc.ca/eng/start) and are based on the national censuses conducted every 5 years. The censuses of 1991, 1996, 2001, 2006, and 2011 were used to generate the population data required for IICC-3 (Table A.7). The intercensal and postcensal estimates are adjusted for census underenumeration and account for demographic changes. The reference date is 1 July. The individual cancer registries submitted the population data in the requested detail as provided by the Population Estimates Section

CANADA, 9 registries (1992-2013)

Registry	Period	Cases	%	Person-years	%
Alberta	1992-2013	3329	12.2	19 224 736	12.2
British Columbia	1992-2013	3503	12.8	21 521 989	13.6
Manitoba	1992-2013	1199	4.4	7 127 938	4.5
Northwest Territories	1992-2012	33	0.1	292 880	0.2
Nova Scotia	1992-2013	831	3.0	4 917 182	3.1
Ontario	1992-2012	11374	41.5	64 102 963	40.6
Quebec	1992-2010	6039	22.0	34 199 625	21.7
Saskatchewan	1992-2013	1066	3.9	6 356 782	4.0
Yukon	1992-2013	22	0.1	191 578	0.1
CANADA	**1992-2013**	**27396**	**100.0**	**157 935 673**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

in the Demography Division of Statistics Canada, unless otherwise specified below.

EDITORS' COMMENTS

Although the cancer data are assembled by Statistics Canada, the provincial and territorial cancer registries are responsible for data provision and protection. Therefore, the long time series required by the IICC-3 call for data could be provided only through the individual cancer registries. All 12 jurisdictions in existence at the time contributed data to IICC-2; data from 8 provinces were presented as the Atlantic Provinces or Western Provinces pooled datasets in IICC-1 (Table A.1). However, not all registries were able to supply data for IICC-3, because of restrictions on data sharing. As a result, nine registries provided data and were included in IICC-3. These data are presented in a pooled dataset in the IICC-3 book. The individual tables are available online for Alberta, British Columbia, Manitoba, Nova Scotia, Ontario, Quebec, and Saskatchewan. The registries of the Northwest Territories and the Yukon contributed data to the pool, but their tables are not published because of the very small numbers of cases (Table A.12).

Dates of birth and incidence were incomplete in several registries (Table A.8). The proportion of cases with an unknown basis of diagnosis was rather high in the combined dataset (Table A.9). Non-malignant CNS tumours are reportable in all included Canadian registries except that of Quebec, although their registration may be incomplete (Table A.9). Pilocytic astrocytoma was coded with malignant behaviour since 2001 in most registries; it was coded with uncertain behaviour until 2000 in some registries, as specified below. Basal and squamous cell skin carcinomas were registered in Alberta, Manitoba, and Saskatchewan but not in other registries. Laterality information was missing for 30% of the cases of interest in the pooled dataset, mostly as a result of its incomplete provision from Quebec.

Alberta Cancer Registry, 1992–2013

Carol Russell, Zoran Miladinovic, Cindy Nikiforuk

Alberta covers an area of 661 688 km^2 and is bordered to the north by the Northwest Territories, to the east by Saskatchewan, to the west by British Columbia, and to the south by the USA (the state of Montana). In 2010, the population was 3.7 million, and 25% of the population was younger than 20 years (Table A.6). Most of the population is urban, and 64% of residents live in the metropolitan areas of the two largest cities: Edmonton and Calgary. About 78% of the population is of European descent, mostly of British origin. The remainder of the population is multi-ethnic, with people of Chinese and South Asian origin predominating. Alberta has had a net gain in population from immigration because of employment opportunities in the petrochemical industry, which was built on large reserves of oil, gas, and bitumen. Other natural resources have enabled the development of forestry and agriculture.

The Alberta Cancer Registry is operated by Alberta Health Services Cancer Care. All cancer records are stored in an electronic database. The earliest records are from 1941, and the registration is considered to be population-based from 1951 onwards (Table A.10). Since 1973, new processes have been implemented to improve the collection and recording of data and to upgrade the registration system. Legislation was passed that requires the Alberta Cancer Registry to seek registration of all reportable cancers diagnosed in the province. All laboratories and physicians must report a person with a diagnosis of a reportable cancer, and the registry may request any additional necessary information. All malignant neoplasms and all non-malignant CNS tumours are reportable.

An extensive system of case tracking has been established within the Cancer Care Appointment Offices, Department of Patient Information, and Cancer Registry Department to ensure that any information about a cancer case is followed up and the maximum amount of data is gathered. The Alberta Cancer Registry also has access to multiple electronic databases to complete or verify the recorded data. Pathology reports and vital statistics abstracts that are received are followed up to ensure complete registration information. A follow-up system tracks whether the patient is known to have active provincial health-care coverage (is presumed to be alive), is known to be dead, or is otherwise lost to follow-up.

The registry data are used to assess and improve the standards of treatment and care provided to patients with cancer; to assist in cancer research, education, and prevention; and to compile statistics on cancer. Registry data can also help identify Albertans who may be eligible for participation in research studies that have been approved by a research ethics committee. Every 2 years, the Surveillance and Reporting Department of Alberta Health Services publishes *Report on Cancer Statistics in Alberta* (https://www.albertahealthservices.ca/cancer/Page1774.aspx).

POPULATION AT RISK

See Canada, above.

EDITORS' COMMENTS

Although cancer cases are ascertained from death certificates, no DCO cases were identified (Table A.9). Pilocytic astrocytoma was coded with uncertain behaviour in the period 1992–2000 and with malignant behaviour thereafter. Skin carcinomas are registered. Laterality was almost complete. See also Canada, above.

British Columbia Cancer Registry, 1992–2013

Ryan Woods, Colleen Wong, Cathy MacKay, John Spinelli

British Columbia (BC) is the westernmost province of Canada. It is bordered to the east by the province of Alberta, to the north by the Yukon and the Northwest Territories, to the south by the USA (the states of Washington, Idaho,

and Montana), and to the west by the Pacific Ocean. The province covers an area of 926 492 km^2, a considerable portion of which is mountainous. Most of the population is concentrated in the south-western area of BC, where the climate is mildest.

In 2010, the estimated population was 4.5 million, and 22% of the population was younger than 20 years (Table A.6). More than half of the population lives in the Vancouver metropolitan area. The capital city is Victoria. Immigration to BC has increased in recent years. At the 2006 Canadian census, it was estimated that 27.2% of BC residents had immigrated to Canada; of these, one sixth had immigrated between the 2001 and 2006 censuses. At the 2006 census, 25.5% of BC residents identified as a member of a visible minority group, of which the largest groups were Chinese, South Asian, and Korean. Aboriginal people comprised 4.8% of the population.

Health care in BC is delivered by a publicly funded system (BC Cancer), which operates six regional cancer centres. These centres are the exclusive providers of radiotherapy in the province and provide about 50% of chemotherapy services. Specialist paediatric oncology services are provided by a single paediatric hospital, located in Vancouver.

The BC Cancer Registry is a population-based registry that is integrated with other clinical databases maintained by BC Cancer. The registry receives notification of cancer cases diagnosed in the province by submission of pathology and other diagnostic reports from hospitals or from one of the regional cancer centres. The registry also receives listings of all deaths in the province from the BC Vital Statistics Agency and registers cases of cancer first reported at death. Case listings extracted from hospital discharge data from the paediatric cancer specialty centre are routinely shared with the registry to ensure the ascertainment of all paediatric cancers. The registry is funded by the public health-care system and is permitted by provincial law to request information from sources relevant to the registration of cancer in BC.

The registry serves as a source of data for epidemiological, health services, and outcomes research. Surveillance reports of cancer statistics (https://www.bccancer.bc.ca/health-info/disease-system-statistics) are regularly generated and are used for services and facilities planning, for budgeting, and to monitor system performance. In particular, the registry has provided case identification, diagnosis, sociodemographic, and death follow-up data for the childhood cancer survivor research programme: the Childhood, Adolescent, and Young Adult Cancer Survivors Research Program (CAYACS). This programme links registry, clinical, and administrative data on all survivors of cancers diagnosed in BC residents younger than 25 years since 1970, to identify and characterize long-term medical, educational, and vocational problems, utilization of health services, and access to quality care. Findings from this research programme led the BC government to announce in 2015 the funding and establishment of a special programme to provide appropriate follow-up care guidelines and monitoring to survivors of childhood and adolescent cancer.

PUBLICATIONS

McBride ML, Rogers PC, Sheps SB, Glickman V, Broemeling AM, Goddard K, et al. (2010). Childhood, Adolescent, and Young Adult Cancer Survivors Research Program of British Columbia: objectives, study design, and cohort characteristics. Pediatr Blood Cancer. 55(2):324–30. https://doi.org/10.1002/pbc.22476 PMID:20582971

POPULATION AT RISK

Population estimates are produced by the provincial statistical agency BC Stats (https://www2.gov.bc.ca/gov/content/data/about-data-management/bc-stats) and are based on estimates obtained from Canadian national censuses. See also Canada, above.

EDITORS' COMMENTS

The registry collects the full dates of birth and incidence, but because of privacy laws only year of birth and incidence were included in the dataset provided (Table A.8). Pilocytic astrocytoma was coded with malignant behaviour throughout the reporting period. Skin carcinomas have not been registered since 1994. Laterality was almost complete for nephroblastoma. See also Canada, above.

Manitoba Cancer Registry, 1992–2013

Gail Noonan, Sheila Fukumura, Grace Musto, Lin Xue, Donna Turner

Manitoba is located in central Canada. It is bordered to the east by Ontario, to the west by Saskatchewan, to the north by Nunavut, and to the south by the Northwest Territories and the USA (the states of North Dakota and Minnesota). Manitoba covers an area of 649 947 km^2. In 2010, the population was 1.2 million, and 26% of the population was younger than 20 years (Table A.6). About 16.7% of all residents had an Aboriginal identity (58.3% First Nations, 40.2% Métis, 0.3% Inuit, and 0.5% other Aboriginal identity). Immigrants accounted for 15.7% of the population, and 31.2% of them immigrated to Canada between 2006 and 2011. The three most common countries of birth of the recent immigrants residing in Manitoba are the Philippines (accounting for 36.2% of the immigrant population in Manitoba), India (17.3%), and China (5.4%).

CancerCare Manitoba is a provincial cancer agency with a mandate to coordinate all aspects of cancer control in the province. Treatment services are provided in two outpatient-based radiotherapy centres, one in the major urban centre of Winnipeg and the other in the rural city of Brandon, where chemotherapy is also provided. The agency partners with other community care facilities to provide cancer services through the Community Cancer Programs Network, to deliver cancer care (primarily chemotherapy) in local communities throughout the province.

The registry became fully population-based and mandated by law in 1956 (Table A.10), although it has cases from 1937. The registry is funded through CancerCare Manitoba by the provincial health department. In the Department of Epidemiology and Cancer Registry, the registry staff includes a manager and 10 cancer registrars, and the epidemiology staff includes a director, five epidemiologists, one health economist, seven analysts, and two project managers. The staff is supported by

one administrative assistant. Multiple sources for case ascertainment are used. The registry has been certified by the North American Association of Central Cancer Registries (NAACCR) for the past 14 consecutive years.

The registry data are used for surveillance, research, evaluation, planning, and teaching purposes and to provide diagnostic confirmation and treatment-related information to health-care providers.

POPULATION AT RISK

See Canada, above.

EDITORS' COMMENTS

The registry collects the full date of birth, but only the month and year of birth were included in the dataset provided (Table A.8), because the full date of birth is considered to be a patient identifier and was withheld for privacy reasons. The proportion of cases aged 19 years in the age group 15–19 years was high (28.0%) (Table A.9). All cases of pilocytic astrocytoma were coded with malignant behaviour. Skin carcinomas are registered. Information on laterality is complete. See also Canada, above.

Northwest Territories Cancer Registry, 1992–2012

Heather Hannah, Helen MacPherson, Yalda Jafari, Shannon LeBlanc, Megan McCallum, Kami Kandola, André Corriveau, Andrew Min, Cindy Nikiforuk

The Northwest Territories (NWT) is a federal territory of Canada located between the Yukon and Nunavut territories in northern Canada and bordered to the south by the provinces of British Columbia, Alberta, and Saskatchewan. It covers an area of about 1.1 million km^2, which is covered by boreal forest (taiga) and tundra and extends to the northern regions of the Canadian Arctic Archipelago. Natural resources include gold, diamonds, natural gas, and petroleum and contribute to a high GDP per capita.

In 2010, the estimated population was 43 000, and about 30% of the population was younger than 20 years (Table A.6). The residents of the NWT rely heavily on the health-care services provided in the province of Alberta, including laboratory diagnostic and medical referral services. Most NWT residents who require cancer care are diagnosed and treated in Alberta.

The NWT Cancer Registry has recorded tumour-specific descriptions and demographic information on residents of the territory since 1992 (Table A.10). The registry was established under the authority of the Public Health Act and the Disease Surveillance Regulations. The Chief Public Health Officer of the NWT holds the statutory appointment of registrar for the Public Health Registries, and the Territorial Epidemiologist is responsible for managing the NWT Cancer Registry. The NWT Cancer Registry is located within the Population Health Division, under the authority of the Chief Public Health Officer, NWT Department of Health and Social Services. Management and oversight of the registry is one of many mandates of the Epidemiology and Surveillance Unit.

Since 2007, the NWT Cancer Registry has contracted with Alberta Health Services to administer NWT cancer data by creating a territorial registry within its infrastructure. Cancer Control Alberta provides collaborative staging of all tumours diagnosed from 2006 onwards and submits all relevant datasets to Statistics Canada and the NAACCR. The NWT Cancer Registry is responsible for case ascertainment and the provision of all information required for collaborative staging.

The comprehensive listing of data on tumours and screening tests among NWT residents has become an important tool for evidence-based, data-driven decision-making. The registry actively participates in various projects, which increase the value of the registry in the betterment of the health of NWT residents.

POPULATION AT RISK

The population estimates are based on data from the national census, as provided by the NWT Bureau of Statistics. See also Canada, above.

EDITORS' COMMENTS

Although cancer cases are ascertained from death certificates, no DCO cases were identified. Non-malignant CNS tumours are collected, but none were registered during the reporting period. Pilocytic astrocytoma was coded with malignant behaviour. Laterality is collected and is complete. See also Canada, above.

Nova Scotia Cancer Registry, 1992–2013

Gordon Walsh, Nathalie St-Jacques

Nova Scotia is a province located on Canada's eastern coast. The province is largely surrounded by the Atlantic Ocean and is joined to the adjacent province of New Brunswick by a narrow isthmus of land. Nova Scotia covers an area of about 55 940 km^2. In 2011, the population was 0.9 million, and 21% of the population was younger than 20 years (Table A.6); 65% of the total population lived within a census metropolitan area. The traditionally resource-based economy diversified after the closure of fishery, mining, and forestry industries in the early 1990s and the negative effect of those closures on the income level. The newer sectors mostly include offshore oil and gas production, defence, film-making, tourism, information and communication technology, and manufacturing. Agriculture remains an important contributor to the economy.

Residents are covered by a publicly funded, comprehensive health insurance programme, including family physician visits and hospital-based care, accessed through a unique, lifetime-assigned health card number. The Nova Scotia Health Authority, which is funded by the provincial Department of Health and Wellness, manages health-care services (e.g. hospitals, home care, public health). Cancer care is highly centralized, with coordination through a provincial cancer programme. Two main cancer

centres, based in Halifax and Sydney, offer specialized treatment (e.g. radiotherapy services), and numerous satellite clinics located throughout the province provide specialist oncology referral, chemotherapy, and follow-up care.

The Nova Scotia Cancer Registry operates as part of the government-funded provincial cancer programme. Eighteen programme staff (registrars, analysts, and administrative staff) work with abstraction staff located at cancer centres to collect data. Cancer has been a reportable disease in Nova Scotia since 1964, and multiple reporting sources (e.g. pathology laboratories, hospital records, cancer centre referrals) are used to ensure completeness. Since 2004, standardized data on stage at diagnosis are part of routine data abstraction. Only limited data on treatment are collected, but these are being expanded. Routine linkage with vital statistics death data began with cases diagnosed in 1969. The registry follows standards outlined by the Canadian Council of Cancer Registries.

Data are reported annually to the Canadian Cancer Registry at Statistics Canada and are submitted to the NAACCR for certification and inclusion in the publication *Cancer in North America*. Provincial data (e.g. incidence, mortality, survival) are reported annually to local stakeholders and are used for programme evaluation and planning purposes. Data are frequently made available for use in approved studies.

POPULATION AT RISK

See Canada, above.

EDITORS' COMMENTS

The registry receives the full dates of birth and incidence, but these were truncated to year and month in the dataset provided (Table A.8), because of patient privacy regulations; thus, age calculations could not be verified at IARC. Pilocytic astrocytoma was reported with benign or uncertain behaviour until 2000 and with malignant behaviour thereafter. Laterality was complete for gonadal tumours. See also Canada, above.

Ontario Cancer Registry, 1992–2012

Tanya Navaneelan, Mary Jane King

Ontario is located in east-central Canada. It is bordered by Quebec to the east, Manitoba to the west, Hudson Bay and James Bay to the north, and the USA to the south. An abundance of natural resources and excellent transportation links with the USA and the Great Lakes contributed to the development of the manufacture of motor vehicles, iron, steel, food, electrical appliances, machinery, chemicals, and paper. The rivers provide hydroelectric power. Information technology, transportation, petrochemical production, mining, forestry, and tourism contribute to the developed economy. Agriculture is an important sector, although it employs a small percentage of the population. Toronto, the capital of Ontario, is the largest city in Canada and the centre of the country's financial services and banking industry. Ottawa, the capital city of Canada, is also located in Ontario.

Ontario is the country's most populous province, accounting for 38% of the national population; most of the population (85%) is urban. In 2010, the estimated population was 13.1 million, and 24% of the population was younger than 20 years (Table A.6). The major racial or ethnic groups among Ontario children are European (67.9%), South Asian (8.5%), Black (4.9%), Chinese (4.0%), and Aboriginal (2.9%). All children have access to universal health care. The province has five paediatric cancer centres (located in Toronto, Ottawa, London, Hamilton, and Kingston), six satellite centres, and aftercare programmes for survivors of childhood cancer.

The Ontario Cancer Registry covers the entire province. It has been operated by Cancer Care Ontario (an agency of the Ministry of Health and Long-Term Care) since 1964 (Table A.10). Cancer is not a reportable disease in Ontario; however, the Cancer Act provides a legal mandate for Cancer Care Ontario to establish and maintain a cancer registry. Cancer registration is passive, relying on electronic records collected for other purposes. Almost 750 000 source records are submitted to the registry per year. The four major data sources are hospital discharge summaries and outpatient surgeries with a cancer diagnosis, pathology reports with any mention of cancer, records of patients referred to the regional cancer centres for treatment, and death certificates for all underlying causes of death. Because multiple sources are used, the completeness of registration is believed to be quite high. The data sources switched coding systems at different times; all have used ICD-10 or ICD-O-3 since 2003. Follow-up of patients relies solely on routine death linkages.

The registry data (https://www.cancercareontario.ca/en/cancer-care-ontario/programs/data-research/ontario-cancer-registry) have been used in studies of reproductive outcomes in survivors of childhood cancer and of the incidence of childhood leukaemia around nuclear facilities. Other uses of registry data include studies of utilization of health-care services, estimation of relative survival, occupational cohort studies, and projections of incidence and mortality trends to predict future cancer burdens.

PUBLICATIONS

Chiarelli AM, Marrett LD, Darlington GA (2000). Pregnancy outcomes in females after treatment for childhood cancer. Epidemiology. 11(2):161–6. https://doi.org/10.1097/00001648-200003000-00013 PMID:11021613

McLaughlin JR, Clarke EA, Nishri ED, Anderson TW (1993). Childhood leukemia in the vicinity of Canadian nuclear facilities. Cancer Causes Control. 4(1):51–8. https://doi.org/10.1007/BF00051714 PMID:8431531

POPULATION AT RISK

See Canada, above.

EDITORS' COMMENTS

The MV% was low (Table A.9). According to the registry, this is because of possibly incomplete notification from the two major children's hospitals in Ontario. The proportion of cases with an unknown basis of diagnosis was high (5.9%) (Table A.9); this denotes the cases in which no

surgery was performed and no pathology report exists. Non-malignant CNS tumours were recorded from 2010 onwards. Pilocytic astrocytoma was coded with malignant behaviour, but cases were found in the dataset only in the last 3 years. Laterality was provided for 80% of the cases of interest. See also Canada, above.

Quebec Cancer Registry, 1992–2010

Rabia Louchini, Christine Bertrand

The province of Quebec covers a vast area of 1 667 441 km^2, only 2.3% of which is used as urban or agricultural land. In 2010, the population was 7.9 million; 22% of the population was younger than 20 years (Table A.6), and 15.7% was aged 65 years and older. About 80% of the population resides in urban areas. French is the first language of 79% of the population, and the life expectancy at birth is 79 years for men and 83 years for women. The economy has traditionally been reliant on the abundant natural resources and a well-developed infrastructure. It is currently based mainly on the services sector.

In Quebec, health services have been available to the whole population through a comprehensive public system since 1970. Cancer is diagnosed and treated in 70 hospital facilities. Of those, 11 offer radiation oncology services. Children with cancer are treated mainly in four paediatric centres, located in Montreal, Quebec City, and Sherbrooke.

The Quebec Cancer Registry is maintained by the Ministry of Health and Social Services of Quebec and covers the population of the entire province. Notification of cancer is mandatory under the Public Health Act of Quebec. Before 2011, cancer cases were notified after hospitalization or a visit to the outpatient surgery unit of a hospital offering specialized care, or via death certificates. Therefore, melanoma not requiring a hospital stay or a visit to an outpatient surgery unit may be underreported. Since 2011, pathology reports have also been used to collect cancer cases. Since 2014, data on extent of disease, stage, and treatment for some cancers have been collected.

The registry data are used mainly for monitoring, surveillance, prevention, programme evaluation, and research. Special reports on survival, prevalence, data quality, and projections are published periodically. Specific databases for regional cancer surveillance are produced annually, and a variety of statistics are made available for general and specific purposes.

POPULATION AT RISK

See Canada, above.

EDITORS' COMMENTS

Non-malignant CNS tumours were not registered (Table A.9). Pilocytic astrocytoma was coded with malignant behaviour. There was no melanoma before 2000. Laterality was provided for only 7% of the cases of interest. See also Canada, above.

Saskatchewan Cancer Registry, 1992–2013

Heather Stuart-Panko, Raelene Hobson

Saskatchewan is a landlocked province in south-central Canada. It is bordered by Alberta to the west, the Northwest Territories to the north, Manitoba to the east, Nunavut to the north-east, and the USA to the south (the states of Montana and North Dakota). Almost 10% of the province's area of 651 900 km^2 is fresh water. The climate is extremely continental, with severe winters throughout the province and hot summers in southern areas. In 2010, the population was 1.0 million, and 26% of the population was younger than 20 years (Table A.6). Residents live mainly in the southern half of the province; the northern, boreal half is mostly forested and is sparsely populated. The population is of mixed origin; 64% of the population lives in urban areas, and half of the population lives in the largest city, Saskatoon, or the provincial capital, Regina. The economy is based on agriculture, forestry, mining, and energy.

The Saskatchewan Cancer Registry is located within the Saskatchewan Cancer Agency, which is responsible for treatment, prevention, and early detection programmes, research, education, and supportive care services. By mandate of the Cancer Agency Act, all cancers must be reported to the Saskatchewan Cancer Agency. This mandate results in case ascertainment of about 95%. Other case ascertainment strategies, such as notification of deaths by the Vital Statistics agency, result in the capture of the other 5% of cases.

The registry is staffed by 14 registrars, two training and education coordinators, two clerks, two site managers, one coordinator, one data quality specialist, one business specialist, and a director. The registry captures about 10 000 cancer cases per year, including non-melanoma skin cancers. The registry also uses active follow-up procedures to capture outcomes information.

The registry is patient- and case-oriented. Electronic data are available for all cancers diagnosed since 1967, and paper records are available from 1932. Collection of collaborative staging data began in 2005. Quality control practices include re-abstraction of cases, internal and external audits, and electronic editing. The data are also edited by Statistics Canada and the NAACCR upon submission to these databases.

The registry data are used for business and planning purposes, research, outcomes analysis, performance measurement, evaluation of early detection and screening programmes, and statistics. Statistical data are published at the provincial, national, and international levels.

POPULATION AT RISK

See Canada, above.

EDITORS' COMMENTS

Pilocytic astrocytoma was coded with malignant behaviour throughout the reporting period, and some cases were coded with uncertain behaviour until 1996. Skin carcinomas are registered. Laterality is complete for all of the cases of interest. See also Canada, above.

Yukon Cancer Registry, 1992–2013

Shauna Demers, Ryan Woods, Colleen Wong, Cathy MacKay

The Yukon Territory is located in north-western Canada. It is bordered by the Northwest Territories to the east, the province of British Columbia to the south, and the USA to the west (the state of Alaska). It covers a land area of 482 443 km^2. Most of the territory has a subarctic climate, characterized by long, cold winters and brief, warm summers. The Arctic Ocean coast has a tundra climate.

Historically, the major industry was mining for lead, zinc, silver, gold, asbestos, and copper. The scenic landscape and outdoor recreation opportunities make tourism the second most important industry in the territory. Other sectors include manufacturing (furniture, clothing, and handicrafts), hydroelectricity, and government services.

The Yukon has a small population. In 2010, the population was 34 600, and 24% of the population was younger than 20 years (Table A.6). About 75% of the territory's population lives in Whitehorse, the capital of the Yukon. The population increased by 18.2% from 2001 to 2011. The Yukon has a low proportion of elderly people; only 8.9% of the population is older than 65 years, compared with 14.8% of the population of Canada. One quarter of the Yukon's population is of Aboriginal origin. Despite the small population, all of the many small communities (except one) are accessible by road.

Health programmes and services in the Yukon are provided through 14 health centres and two hospitals. There are no dedicated cancer centres or specialist paediatric hospitals. Specialized cancer services are provided by visiting specialists, or patients travel to adjacent provinces where such care is available.

The Yukon Cancer Registry includes information dating back to 1987 (Table A.10). BC Cancer (in the province of British Columbia) maintains the Yukon Cancer Registry along with its own provincial data. Data from the Yukon are submitted to the Canadian Cancer Registry.

POPULATION AT RISK

See Canada, above.

EDITORS' COMMENTS

The registry collects the full dates of birth and incidence, but because of privacy laws only year of birth and incidence were included in the dataset provided. Pilocytic astrocytoma was coded with malignant behaviour. Skin carcinomas have not been registered since 1994. Laterality was available for the two registered cases of interest. See also Canada, above.

CANADA, 9 registries (1992-2013)

	Age group (years)	Males	Females
Person-years	0	3 703 315	3 516 426
	1-4	15 246 812	14 501 895
	5-9	19 749 514	18 792 301
	10-14	20 722 059	19 691 038
	15-19	21 583 941	20 428 372
	0-14	59 421 700	56 501 660
	0-19	81 005 641	76 930 032

Please consult the quality indicators for this pool and its constituent registries

CANADA, 9 registries (1992-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	399	2798	1577	1110	1079	**5884**	**6963**	32.1	100.0	25.4	100.0	55.3	94.1	40.9	27.5	25.7	**54.6**	**48.1**	774	903	86.5	0.2
	a. Lymphoid	136	2395	1298	728	549	**4557**	**5106**	24.9	77.4	18.6	73.3	18.8	80.5	33.7	18.0	13.1	**42.6**	**36.0**	601	666	88.0	0.1
	b. Acute myeloid	121	268	176	258	305	**823**	**1128**	4.5	14.0	4.1	16.2	16.8	9.0	4.6	6.4	7.3	**7.4**	**7.4**	107	144	89.7	0.0
	c. CMD	67	32	36	56	116	**191**	**307**	1.0	3.2	1.1	4.4	9.3	1.1	0.9	1.4	2.8	**1.7**	**2.0**	25	39	68.4	0.3
	d. MDS & other	24	27	18	32	38	**101**	**139**	0.6	1.7	0.5	2.0	3.3	0.9	0.5	0.8	0.9	**0.9**	**0.9**	13	18	72.7	1.4
	e. Unspecified	51	76	49	36	71	**212**	**283**	1.2	3.6	1.0	4.1	7.1	2.6	1.3	0.9	1.7	**2.0**	**1.9**	28	36	73.1	1.8
II	LYMPHOMA & RELATED	65	345	577	1078	2435	**2065**	**4500**	11.3	100.0	16.4	100.0	9.0	11.6	15.0	26.7	58.0	**16.9**	**26.1**	264	553	94.5	0.1
	a. Hodgkin	1	26	141	596	1676	**764**	**2440**	4.2	37.0	8.9	54.2	0.1	0.9	3.7	14.7	39.9	**5.7**	**13.4**	96	295	97.5	0.0
	b. Non-Hodgkin except BL	13	175	260	311	572	**759**	**1331**	4.1	36.8	4.9	29.6	1.8	5.9	6.7	7.7	13.6	**6.4**	**8.0**	98	166	95.3	0.1
	c. Burkitt (BL)	0	70	124	119	95	**313**	**408**	1.7	15.2	1.5	9.1	-	2.4	3.2	2.9	2.3	**2.6**	**2.5**	40	52	95.8	0.0
	d. Lymphoreticular	46	65	34	20	20	**165**	**185**	0.9	8.0	0.7	4.1	6.4	2.2	0.9	0.5	0.5	**1.6**	**1.3**	22	24	75.1	0.0
	e. Unspecified	5	9	18	32	72	**64**	**136**	0.3	3.1	0.5	3.0	0.7	0.3	0.5	0.8	1.7	**0.5**	**0.8**	8	17	55.1	2.9
III	CNS NEOPLASMS †	235	1152	1214	1087	1042	**3688**	**4730**	20.1	100.0	17.3	100.0	32.5	38.7	31.5	26.9	24.8	**32.5**	**30.8**	480	604	75.8	0.5
	a. Ependymoma	43	187	75	74	67	**379**	**446**	2.1	10.3	1.6	9.4	6.0	6.3	1.9	1.8	1.6	**3.6**	**3.1**	50	58	93.9	0.0
	b. Astrocytoma	68	399	472	455	399	**1394**	**1793**	7.6	37.8	6.5	37.9	9.4	13.4	12.2	11.3	9.5	**12.1**	**11.5**	181	228	87.3	0.0
	c. CNS embryonal	56	310	300	176	99	**842**	**941**	4.6	22.8	3.4	19.9	7.8	10.4	7.8	4.4	2.4	**7.6**	**6.4**	110	122	94.8	0.0
	d. Other gliomas	18	150	224	173	183	**565**	**748**	3.1	15.3	2.7	15.8	2.5	5.0	5.8	4.3	4.4	**4.9**	**4.8**	73	95	37.4	0.0
	e. Other specified	21	44	85	134	211	**284**	**495**	1.6	7.7	1.8	10.5	2.9	1.5	2.2	3.3	5.0	**2.4**	**3.0**	36	62	75.8	0.0
	f. Unspecified CNS	29	62	58	75	83	**224**	**307**	1.2	6.1	1.1	6.5	4.0	2.1	1.5	1.9	2.0	**2.0**	**2.0**	29	39	17.6	7.2
IV	NEUROBLASTOMA	502	665	172	46	29	**1385**	**1414**	7.6	100.0	5.2	100.0	69.5	22.4	4.5	1.1	0.7	**14.0**	**11.0**	186	189	92.6	0.1
	a. (Ganglio)neuroblastoma	500	658	169	32	15	**1359**	**1374**	7.4	98.1	5.0	97.2	69.3	22.1	4.4	0.8	0.4	**13.8**	**10.8**	183	184	92.6	0.1
	b. Peripheral nervous	2	7	3	14	14	**26**	**40**	0.1	1.9	0.1	2.8	0.3	0.2	0.1	0.3	0.3	**0.2**	**0.2**	3	5	92.5	0.0
V	RETINOBLASTOMA	167	278	14	4	1	**463**	**464**	2.5	100.0	1.7	100.0	23.1	9.3	0.4	0.1	0.0	**4.8**	**3.7**	62	63	71.6	0.0
VI	RENAL TUMOURS	141	582	221	53	60	**997**	**1057**	5.4	100.0	3.9	100.0	19.5	19.6	5.7	1.3	1.4	**9.8**	**7.9**	133	140	93.8	0.2
	a. Nephroblastoma	131	572	210	32	12	**945**	**957**	5.2	94.8	3.5	90.5	18.1	19.2	5.4	0.8	0.3	**9.3**	**7.3**	126	128	95.2	0.0
	b. Renal carcinoma	1	5	9	19	45	**34**	**79**	0.2	3.4	0.3	7.5	0.1	0.2	0.2	0.5	1.1	**0.3**	**0.5**	4	10	100.0	0.0
	c. Unspecified	9	5	2	2	3	**18**	**21**	0.1	1.8	0.1	2.0	1.2	0.2	0.1	0.0	0.1	**0.2**	**0.2**	2	3	4.8	9.5
VII	HEPATIC TUMOURS	67	150	34	37	42	**288**	**330**	1.6	100.0	1.2	100.0	9.3	5.0	0.9	0.9	1.0	**2.8**	**2.4**	38	43	90.9	0.0
	a. Hepatoblastoma	64	140	24	12	1	**240**	**241**	1.3	83.3	0.9	73.0	8.9	4.7	0.6	0.3	0.0	**2.4**	**1.9**	32	32	93.8	0.0
	b. Hepatic carcinoma	0	6	10	24	38	**40**	**78**	0.2	13.9	0.3	23.6	-	0.2	0.3	0.6	0.9	**0.3**	**0.5**	5	10	93.6	0.0
	c. Unspecified	3	4	0	1	3	**8**	**11**	0.0	2.8	0.0	3.3	0.4	0.1	-	0.0	0.1	**0.1**	**0.1**	1	1	9.1	0.0
VIII	BONE TUMOURS	4	66	229	513	618	**812**	**1430**	4.4	100.0	5.2	100.0	0.6	2.2	5.9	12.7	14.7	**6.3**	**8.2**	103	176	94.4	0.0
	a. Osteosarcoma	0	15	107	293	317	**415**	**732**	2.3	51.1	2.7	51.2	-	0.5	2.8	7.3	7.5	**3.2**	**4.1**	52	90	97.3	0.0
	b. Chondrosarcoma	0	0	2	12	41	**14**	**55**	0.1	1.7	0.2	3.8	-	-	0.1	0.3	1.0	**0.1**	**0.3**	2	7	96.4	0.0
	c. Ewing & related	0	45	104	179	201	**328**	**529**	1.8	40.4	1.9	37.0	-	1.5	2.7	4.4	4.8	**2.6**	**3.1**	42	66	95.1	0.0
	d. Other specified	1	3	7	16	41	**27**	**68**	0.1	3.3	0.2	4.8	0.1	0.1	0.2	0.4	1.0	**0.2**	**0.4**	3	8	91.2	0.0
	e. Unspecified	3	3	9	13	18	**28**	**46**	0.2	3.4	0.2	3.2	0.4	0.1	0.2	0.3	0.4	**0.2**	**0.3**	4	6	43.5	0.0
IX	SOFT TISSUE SARCOMA	119	318	307	407	613	**1151**	**1764**	6.3	100.0	6.4	100.0	16.5	10.7	8.0	10.1	14.6	**10.1**	**11.1**	149	222	94.8	0.0
	a. Rhabdomyosarcoma	32	243	167	118	136	**560**	**696**	3.1	48.7	2.5	39.5	4.4	8.2	4.3	2.9	3.2	**5.1**	**4.7**	73	90	95.7	0.0
	b. Fibrosarcoma	36	9	27	44	70	**116**	**186**	0.6	10.1	0.7	10.5	5.0	0.3	0.7	1.1	1.7	**1.0**	**1.2**	15	23	93.0	0.0
	c. Kaposi sarcoma	0	0	0	0	5	**0**	**5**	-	-	0.0	0.3	-	-	-	-	0.1	**-**	**0.0**	-	1	100.0	0.0
	d. Other specified	27	45	87	183	308	**342**	**650**	1.9	29.7	2.4	36.8	3.7	1.5	2.3	4.5	7.3	**2.8**	**3.8**	44	80	95.8	0.0
	e. Unspecified	24	21	26	62	94	**133**	**227**	0.7	11.6	0.8	12.9	3.3	0.7	0.7	1.5	2.2	**1.1**	**1.4**	17	28	90.7	0.0
X	GERM CELL TUMOURS	117	118	83	303	1139	**621**	**1760**	3.4	100.0	6.4	100.0	16.2	4.0	2.2	7.5	27.1	**5.3**	**10.2**	80	216	92.3	0.0
	a. CNS germ cell ‡	8	17	40	116	104	**181**	**285**	1.0	29.1	1.0	16.2	1.1	0.6	1.0	2.9	2.5	**1.4**	**1.7**	23	35	82.5	0.0
	b. Other extragonadal	79	51	2	17	56	**149**	**205**	0.8	24.0	0.7	11.6	10.9	1.7	0.1	0.4	1.3	**1.5**	**1.5**	20	27	88.8	0.0
	c. Gonadal germ cell	25	43	39	152	897	**259**	**1156**	1.4	41.7	4.2	65.7	3.5	1.4	1.0	3.8	21.4	**2.1**	**6.5**	33	140	98.3	0.0
	d. Gonadal carcinoma	0	0	0	6	52	**6**	**58**	0.0	1.0	0.2	3.3	-	-	-	0.1	1.2	**0.0**	**0.3**	1	7	93.1	0.0
	e. Unspecified gonadal	5	7	2	12	30	**26**	**56**	0.1	4.2	0.2	3.2	0.7	0.2	0.1	0.3	0.7	**0.2**	**0.3**	3	7	32.1	0.0
XI	CARCINOMA & MELANOMA	43	42	146	524	1888	**755**	**2643**	4.1	100.0	9.6	100.0	6.0	1.4	3.8	13.0	44.9	**5.9**	**14.7**	95	320	96.5	0.0
	a. Adrenocortical	11	7	4	7	10	**29**	**39**	0.2	3.8	0.1	1.5	1.5	0.2	0.1	0.2	0.2	**0.3**	**0.3**	4	5	97.4	0.0
	b. Thyroid	2	8	58	207	873	**275**	**1148**	1.5	36.4	4.2	43.4	0.3	0.3	1.5	5.1	20.8	**2.1**	**6.3**	34	138	98.1	0.0
	c. Nasopharyngeal	0	0	0	19	46	**19**	**65**	0.1	2.5	0.2	2.5	-	-	-	0.5	1.1	**0.1**	**0.4**	2	8	100.0	0.0
	d. Melanoma	8	17	34	98	405	**157**	**562**	0.9	20.8	2.1	21.3	1.1	0.6	0.9	2.4	9.6	**1.3**	**3.1**	20	68	92.0	0.2
	e. Skin carcinoma	3	1	20	44	106	**68**	**174**	0.4	9.0	0.6	6.6	0.4	0.0	0.5	1.1	2.5	**0.5**	**1.0**	9	21	97.7	0.0
	f. Other & unspecified	19	9	30	149	448	**207**	**655**	1.1	27.4	2.4	24.8	2.6	0.3	0.8	3.7	10.7	**1.6**	**3.7**	26	79	96.9	0.0
XII	OTHER & UNSPECIFIED	51	54	32	63	141	**200**	**341**	1.1	100.0	1.2	100.0	7.1	1.8	0.8	1.6	3.4	**1.8**	**2.2**	26	43	30.2	6.7
	a. Other specified	8	16	6	16	13	**46**	**59**	0.3	23.0	0.2	17.3	1.1	0.5	0.2	0.4	0.3	**0.4**	**0.4**	6	8	89.8	0.0
	b. Other unspecified	43	38	26	47	128	**154**	**282**	0.8	77.0	1.0	82.7	6.0	1.3	0.7	1.2	3.0	**1.4**	**1.8**	20	35	17.7	8.2
	TOTAL	1910	6568	4606	5225	9087	**18309**	**27396**	100.0	100.0	100.0	100.0	264.6	220.8	119.5	129.3	216.3	**164.9**	**176.4**	2391	3472	88.0	0.2

† includes 684 non-malignant ‡ includes 8 non-malignant

Please consult the quality indicators for this pool and its constituent registries

USA, 1998–2012

The USA is a federal republic composed of 50 states, the District of Columbia, and several territories, including Puerto Rico. The country covers an area of 98 million km^2. In 2010, the estimated population was 309.9 million (Table A.7). The USA is a highly developed country, with a leading role in politics, the economy, and science.

The population of the USA grew by about 10% between the 2000 census (281.4 million) and the 2010 census (308.8 million); more than half of the growth resulted from the increase in the Hispanic population. Information on Hispanic origin is collected separately from information on race. About 3% of the population reported multiple races. Of the 97% who reported one race, 72% were White, 13% Black, 5% Asian, 0.9% Native American, 0.2% Native Hawaiian or Other Pacific Islander, and 6% some other race. About 13% of the population is foreign-born. In 2010, 27% of the population of the USA was younger than 20 years; this percentage ranged from 23% for Non-Hispanic White (White NH) to 37% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 56% White NH, 20% Hispanic White, 16.5% Black, 5.5% Asian or Pacific Islander (API), and 2% Native American.

The USA currently operates under a mixed-market health-care system. Governmental sources (federal, state, and local) account for 45% of health-care expenditures in the USA. Private sources account for the remainder of costs. The USA does not have universal health-care insurance; 38% of people receive health coverage through their employers, and the other 17% are covered by private insurance or pay out of pocket. However, publicly funded programmes include Medicare, which covers people aged 65 years and older with a work record and certain people with disabilities. Medicaid is available for some, but not all, people with low income, and the State Children's Health Insurance Program covers children from low-income families.

The United States Centers for Medicare and Medicaid Services estimated the country's health-care spending at $3.3 trillion in 2016, accounting for 18% of the GDP. About 11% of total health-care expenditure is spent on people younger than 19 years.

Cancer is a reportable disease in all states. Each state or regional geographical area has a legislative mandate to collect information on every cancer case among the residents of that area. De-identified data are submitted to the National Program of Cancer Registries (NPCR) at the United States Centers for Disease Control and Prevention (CDC), and 18 cancer registries also report data to the Surveillance, Epidemiology, and End Results (SEER) Program at the National Cancer Institute (NCI). All registries are funded partly by the federal government (Table 6.1) and by local sources.

The NAACCR is a professional organization that develops and promotes uniform data standards for cancer registration, provides education and training, certifies population-based cancer registries, aggregates and publishes data from central cancer registries, and promotes the use of cancer surveillance data and systems for cancer control and epidemiological research, public health programmes, and patient care, to reduce the burden of cancer in North America (https://www.naaccr.org). The NAACCR was established in 1987, and all central cancer registries in Canada and the USA are full members. Most states in the USA participate in a National Interstate Data Exchange Agreement to ensure complete reporting of cases and to eliminate duplicate reporting. Registries that meet or exceed all standards for completeness, timeliness, and quality achieve NAACCR certification. Cancer incidence statistics for the member registries are available at https://www.cancer-rates.info/naaccr.

There may be slight inconsistencies in classification of race, ethnic origin, and place of residency between the population and the cancer cases. In the population, race and ethnicity are self-reported (or reported by a family member), whereas for the cancer cases, race and ethnicity are based on hospital records and other sources, in which the assessment of these variables may differ from the self-reported values. For example, information on Hispanic ethnicity and Asian subgroup may be supplemented using the NAACCR Hispanic Identification Algorithm and Asian and Pacific Islander Identification Algorithm, which take into account birthplace and surname. The residency status is recorded in the census data as place of usual residence, and for the cancer case it is usually the same place. However, for college students, the census uses the college as the place of residence, whereas the cancer diagnosis may be reported at their parents' home. This difference in the assessment of place of residence for students, mostly aged 17 or 18 years and older, would result in some underestimation of incidence rates in the age group 15–19 years in the states with a large student population.

POPULATION AT RISK

The population data are derived from censuses conducted in 1990, 2000, and 2010, with intercensal estimates for the years between two censuses and postcensal estimates for 2011 and 2012, as provided by the United States Census Bureau (https://www.census.gov). The estimates include the bridged single-race estimates derived from the original multiple-race categories and take into consideration the numbers of births and deaths. See also NPCR and SEER, below.

EDITORS' COMMENTS

The data for IICC-3 were provided by the NPCR and the SEER Program. The combined USA national dataset for 1998–2012 was created at IARC by including data from each state and the District of Columbia as authorized and by excluding any overlapping areas that contribute to both programmes to avoid double counting. The data from Puerto Rico are presented separately and are reported in the section on Latin America and the Caribbean.

In the IICC-3 book, full USA tables are shown for all races combined and for five racial or ethnic groups: API, Black, Hispanic White, Native American, and White NH. Two tables show all races combined for NPCR and SEER, and a table for Native Hawaiians in Hawaii is also provided. The tables for the individual registries, combined and by racial or ethnic origin, are available online, as specified in Table A.12.

Table 6.1 describes the contribution of the USA registries to IICC-3. Only data for the period 1998–2012 are included in the combined USA estimates; the period was shorter for three registries. Unless otherwise specified in the narratives of individual cancer registries, data on CNS tumours with benign or uncertain behaviour were collected by all registries since 2004 and were submitted by the NPCR. The SEER Program did not submit non-malignant tumours, because they were not collected over the entire reporting period. However, pilocytic astrocytoma was coded with

Table 6.1. Overview of the contribution of the USA registries and programmes to IICC-3

Registry or pooled dataset	Programme	Data source in national dataset	Period	Contributing to pooled datasets	Laterality	Number of cases: total and by race and ethnic origin								
						Total	API†	Black	Hawaiian	Hispanic White	Native American	White NH	White‡	Unknown
USA, national dataset	–	NPCR, SEER	1998–2012	USA	*	216 741	7 965	26 339	–	38 677	1 849	135 752	–	6 159
NPCR	NPCR	NPCR	1998–2012	USA, NPCR	*	207 568	7 247	25 946	–	37 198	1 669	129 458	–	6 050
SEER 18	SEER	SEER	1993–2012	USA, SEER 18		65 217	4 889	7 104	–	16 750	667	34 916	–	891
SEER 9	SEER	SEER	1993–2012	SEER 9		2 956	–	2 956	–	–	–	–	19 796	–
Alabama	NPCR	NPCR	1998–2012	USA, NPCR	*	2 881	23	772	–	90	#	1 949	–	42
Alaska	NPCR	NPCR	1998–2012	USA, NPCR	*	553	43	#	–	19	154	306	–	16
Alaska Natives	SEER	SEER	1993–2012	SEER 18		159	–	–	–	–	159	–	–	–
Arizona	NPCR	NPCR	1998–2012	USA, NPCR	*	4 341	72	145	–	1 427	249	2 220	–	228
Arkansas	NPCR	NPCR	1998–2012	USA, NPCR	*	1 914	22	336	–	91	#	1 437	–	20
California	NPCR, SEER	NPCR	1998–2012	USA, NPCR		27 570	2 708	1 638	–	12 306	103	10 556	–	259
California, Greater California	SEER	SEER	2000–2012	SEER 18		13 237	973	631	–	5 785	142	5 520	–	186
California, Los Angeles	SEER	SEER	1993–2012	SEER 18		9 333	830	770	–	5 281	#	2 336	–	106
California, San Francisco	SEER	SEER	1993–2012	SEER 18, SEER 9		3 358	670	325	–	832	#	1 411	2 243	110
California, San José-Monterey	SEER	SEER	1993–2012	SEER 18		2 363	434	54	–	952	#	889	–	31
Colorado	NPCR	NPCR	1998–2012	USA, NPCR	*	3 356	86	127	–	823	23	2 217	–	80
Connecticut	SEER	SEER	1993–2012	USA, SEER 18, SEER 9		3 297	77	333	–	472	#	2 353	2 825	58
Delaware	NPCR	NPCR	1998–2012	USA, NPCR	*	663	#	164	–	58	#	415	–	16
District of Columbia	NPCR	NPCR	1998–2012	USA, NPCR	*	338	#	188	–	24	#	80	–	37
Florida	NPCR	NPCR	1998–2012	USA, NPCR	*	11 510	143	2 033	–	2 876	18	6 198	–	242
Georgia	NPCR, SEER	NPCR	1998–2012	USA, NPCR		6 541	163	1 944	–	505	#	3 844	–	76
Georgia, Atlanta	SEER	SEER	1993–2012	SEER 18, SEER 9		2 681	129	1 002	–	287	#	1 233	1 520	23
Georgia, Greater Georgia	SEER	SEER	2000–2012	SEER 18		3 533	43	879	–	251	#	2 316	–	41
Georgia, Rural	SEER	SEER	1993–2012	SEER 18		91	#	39	–	#	#	51	–	#
Hawaii	SEER	SEER	1993–2012	USA, SEER 18, SEER 9		1 059	775	24	317	24	#	211	235	20
Idaho	NPCR	NPCR	1998–2012	USA, NPCR	*	1 201	#	#	–	119	#	1 037	–	#
Illinois	NPCR	NPCR	1998–2012	USA, NPCR		9 369	304	1 322	–	1 623	#	5 934	–	175
Indiana	NPCR	NPCR	1998–2012	USA, NPCR	*	4 757	55	417	–	267	#	3 938	–	79
Iowa	SEER	SEER	1993–2012	USA, SEER 18, SEER 9		2 869	40	96	–	144	#	2 549	2 693	30
Kentucky	NPCR, SEER	NPCR	1998–2012	USA, NPCR, SEER 18		3 160	28	245	–	78	#	2 695	–	112
Louisiana	NPCR, SEER	NPCR	1998–2012	USA, NPCR, SEER 18		3 162	54	999	–	95	#	1 950	–	61
Maine	NPCR	NPCR	1998–2012	USA, NPCR	*	962	#	#	–	#	#	921	–	#
Massachusetts	NPCR	NPCR	1998–2012	USA, NPCR	*	4 643	150	302	–	452	#	3 606	–	123
Michigan	NPCR	NPCR	1998–2012	USA, NPCR	*	7 752	93	1 089	–	306	35	5 937	–	292
Michigan, Detroit	SEER	SEER	1993–2012	SEER 18, SEER 9		3 772	92	888	–	163	#	2 578	2 741	43
Minnesota	NPCR	NPCR	1998–2012	USA, NPCR		3 872	191	204	–	95	58	2 899	–	425
Mississippi	NPCR	NPCR	2002–2012	USA, NPCR	*	1 435	#	540	–	22	#	837	–	19
Missouri	NPCR	NPCR	1998–2012	USA, NPCR		3 951	47	515	–	116	#	2 792	–	476
Montana	NPCR	NPCR	1998–2012	USA, NPCR	*	678	#	#	–	21	70	564	–	#
Nebraska	NPCR	NPCR	1998–2012	USA, NPCR		1 447	26	85	–	122	#	1 153	–	48
Nevada	NPCR	NPCR	1998–2012	USA, NPCR	*	1 571	76	112	–	485	#	835	–	48
New Hampshire	NPCR	NPCR	1998–2012	USA, NPCR	*	999	#	#	–	36	#	922	–	17
New Jersey	NPCR, SEER	NPCR	1998–2012	USA, NPCR, SEER 18		6 735	411	916	–	971	#	4 250	–	181
New Mexico	SEER	SEER	1993–2012	USA, SEER 18, SEER 9		1 712	23	39	–	778	182	675	1 453	#
New York State	NPCR	NPCR	1998–2012	USA, NPCR	*	14 435	851	2 336	–	2 279	25	8 602	10 881	342
North Carolina	NPCR	NPCR	1998–2012	USA, NPCR	*	5 982	96	1 262	–	536	53	3 932	–	103
North Dakota	NPCR	NPCR	1998–2012	USA, NPCR	*	425	#	#	–	#	42	372	–	#
Ohio	NPCR	NPCR	1998–2012	USA, NPCR	*	7 931	85	959	–	160	#	6 463	–	257
Oklahoma	NPCR	NPCR	1998–2012	USA, NPCR	*	2 552	41	230	–	207	345	1 661	–	68
Oregon	NPCR	NPCR	1998–2012	USA, NPCR	*	2 758	93	54	–	352	41	2 137	–	81
Pennsylvania	NPCR	NPCR	1998–2012	USA, NPCR	*	9 053	158	1 053	–	309	#	7 178	–	346
Rhode Island	NPCR	NPCR	1998–2012	USA, NPCR	*	736	#	41	–	104	#	559	–	16
South Carolina	NPCR	NPCR	1998–2012	USA, NPCR	*	2 698	27	753	–	109	#	1 764	–	43
South Dakota	NPCR	NPCR	2001–2012	USA, NPCR	*	404	#	#	–	#	50	337	–	#
Tennessee	NPCR	NPCR	1999–2012	USA, NPCR	*	3 901	42	721	–	140	#	2 897	–	94
Texas	NPCR	NPCR	1998–2012	USA, NPCR	*	19 914	384	1 976	–	8 467	60	8 483	–	544
Utah	SEER	SEER	1993–2012	USA, SEER 18, SEER 9		2 917	52	31	–	367	29	2 435	2 802	#
Vermont	NPCR	NPCR	1998–2012	USA, NPCR	*	448	#	#	–	#	#	435	–	#
Virginia	NPCR	NPCR	1998–2012	USA, NPCR	*	4 727	153	851	–	306	#	3 189	–	224
Washington State	NPCR	NPCR	1998–2012	USA, NPCR	*	4 910	285	204	–	537	106	3 559	–	219
Washington, Seattle	SEER	SEER	1993–2012	SEER 18, SEER 9		3 956	336	218	–	303	84	2 981	3 284	34
West Virginia	NPCR	NPCR	1998–2012	USA, NPCR	*	1 157	#	34	–	#	#	1 100	–	#
Wisconsin	NPCR	NPCR	1998–2012	USA, NPCR	*	4 197	107	272	–	218	55	3 344	–	201
Wyoming	NPCR	NPCR	1998–2012	USA, NPCR	*	341	#	#	–	23	#	294	–	#

API, Asian Pacific Islander; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology, and End Results.
Two additional NPCR registries are not shown separately but contribute to the totals. See Table A.12 to locate other relevant tables with more detail.
* Laterality not available for period 2003–2007.
† API includes Hawaiian.
‡ White overlaps with Hispanic White and White Non-Hispanic.
# 15 cases or fewer.

malignant behaviour for all years from all USA registries. This should be taken into account when interpreting the incidence rates of CNS tumours. Basal and squamous cell skin carcinomas were not registered by any registries, except for the genital sites (unless mentioned otherwise below). For the pooled USA data, laterality is shown for 1998–2002 and for 2008–2012, because information on laterality of tumours was not provided by the NPCR for 2003–2007. In the Native American population, the cancer incidence rate in the age group 0–19 years was low (95.3 per million) (Table A.9). In the IICC-3 book, Tables A.6, A.8, A.9, and A.11 do not contain information for racial and ethnic groups in the individual cancer registries, but these data are available in the online version of these tables. The narratives provided by the NPCR, the SEER Program, and individual registries and the editors' comments for these entities should be consulted for further information.

Day of birth was unknown in 21% of cases of the pooled dataset, and this percentage varied by ethnicity (Table A.8). The variations in data patterns that are outside the arbitrary limits outlined in Fig. 4.1 are highlighted in Table A.9 and Table A.11 for the datasets including all ethnicities, and the editors refer to these in their comments below. The online version of Table A.9 and Table A.11 also show the indicators for each ethnic group or origin for the registries with enough cases to constitute a separate standard or abbreviated table, as indicated in Table A.12.

USA (1998-2012)

	Age group (years)	Males	Females
Person-years	0	30 309 463	28 970 428
	1-4	120 470 737	115 261 137
	5-9	152 989 283	146 180 503
	10-14	159 136 159	151 672 416
	15-19	162 669 855	153 727 595
	0-14	462 905 642	442 084 484
	0-19	625 575 497	595 812 079

Please consult the quality indicators for this pool and its constituent registries

USA, Asian and Pacific Islander (1998-2012)

	Age group (years)	Males	Females
Person-years	0	1 609 044	1 523 973
	1-4	6 270 082	6 101 931
	5-9	7 520 570	7 389 136
	10-14	7 507 148	7 221 783
	15-19	7 875 780	7 508 741
	0-14	22 906 844	22 236 823
	0-19	30 782 624	29 745 564

Please consult the quality indicators for this pool and its constituent registries

USA, Black (1998-2012)

	Age group (years)	Males	Females
Person-years	0	4 909 404	4 750 348
	1-4	19 438 753	18 813 913
	5-9	24 941 709	24 137 534
	10-14	26 071 814	25 224 828
	15-19	26 044 717	25 239 513
	0-14	75 361 680	72 926 623
	0-19	101 406 397	98 166 136

Please consult the quality indicators for this pool and its constituent registries

USA, Hispanic White (1998-2012)

	Age group (years)	Males	Females
Person-years	0	6 439 076	6 194 071
	1-4	24 454 187	23 439 688
	5-9	28 323 588	27 117 904
	10-14	27 065 074	25 870 784
	15-19	27 114 996	24 569 778
	0-14	86 281 925	82 622 447
	0-19	113 396 921	107 192 225

Please consult the quality indicators for this pool and its constituent registries

USA, Native American (1998-2012)

	Age group (years)	Males	Females
Person-years	0	493 405	481 178
	1-4	1 924 249	1 867 388
	5-9	2 426 806	2 355 697
	10-14	2 537 735	2 481 822
	15-19	2 617 240	2 470 856
	0-14	7 382 195	7 186 085
	0-19	9 999 435	9 656 941

Please consult the quality indicators for this pool and its constituent registries

USA, White non-Hispanic (1998-2012)

	Age group (years)	Males	Females
Person-years	0	16 858 534	16 020 858
	1-4	68 383 466	65 038 217
	5-9	89 776 610	85 180 232
	10-14	95 954 388	90 873 199
	15-19	99 017 122	93 938 707
	0-14	270 972 998	257 112 506
	0-19	369 990 120	351 051 213

Please consult the quality indicators for this pool and its constituent registries

USA (1998-2012)

Registry	Period	Cases	%	Person-years	%
Alabama	1998-2012	2881	1.3	18 860 359	1.5
Alaska	1998-2012	553	0.3	3 109 822	0.3
Arizona	1998-2012	4341	2.0	25 079 066	2.1
Arkansas	1998-2012	1914	0.9	11 601 340	0.9
California	1998-2012	27570	12.7	155 288 043	12.7
Colorado	1998-2012	3356	1.5	19 423 554	1.6
Connecticut	1998-2012	2551	1.2	13 898 598	1.1
Delaware	1998-2012	663	0.3	3 388 357	0.3
District of Columbia	1998-2012	338	0.2	1 947 572	0.2
Florida	1998-2012	11510	5.3	64 860 345	5.3
Georgia	1998-2012	6541	3.0	39 042 726	3.2
Hawaii	1998-2012	782	0.4	4 991 355	0.4
Idaho	1998-2012	1201	0.6	6 638 966	0.5
Illinois	1998-2012	9369	4.3	53 143 088	4.4
Indiana	1998-2012	4757	2.2	26 693 628	2.2
Iowa	1998-2012	2157	1.0	12 278 747	1.0
Kentucky	1998-2012	3160	1.5	16 875 855	1.4
Louisiana	1998-2012	3162	1.5	19 403 680	1.6
Maine	1998-2012	962	0.4	4 873 435	0.4
Massachusetts	1998-2012	4643	2.1	24 758 690	2.0
Michigan	1998-2012	7752	3.6	41 670 814	3.4
Minnesota	1998-2012	3872	1.8	21 489 556	1.8
Mississippi	2002-2012	1435	0.7	9 324 749	0.8
Missouri	1998-2012	3951	1.8	23 895 810	2.0
Montana	1998-2012	678	0.3	3 795 661	0.3
Nebraska	1998-2012	1447	0.7	7 606 671	0.6
Nevada	1998-2012	1571	0.7	9 814 134	0.8
New Hampshire	1998-2012	999	0.5	5 072 869	0.4
New Jersey	1998-2012	6735	3.1	34 475 321	2.8
New Mexico	1998-2012	1363	0.6	8 513 738	0.7
New York State	1998-2012	14435	6.7	75 632 915	6.2
North Carolina	1998-2012	5982	2.8	35 642 902	2.9
North Dakota	1998-2012	425	0.2	2 643 880	0.2
Ohio	1998-2012	7931	3.7	47 030 420	3.9
Oklahoma	1998-2012	2552	1.2	15 177 646	1.2
Oregon	1998-2012	2758	1.3	14 317 432	1.2
Pennsylvania	1998-2012	9053	4.2	48 300 780	4.0
Rhode Island	1998-2012	736	0.3	4 099 993	0.3
South Carolina	1998-2012	2698	1.2	17 634 636	1.4
South Dakota	2001-2012	404	0.2	2 696 431	0.2
Tennessee	1999-2012	3901	1.8	22 670 397	1.9
Texas	1998-2012	19914	9.2	105 930 232	8.7
Utah	1998-2012	2320	1.1	13 154 819	1.1
Vermont	1998-2012	448	0.2	2 381 221	0.2
Virginia	1998-2012	4727	2.2	30 256 338	2.5
Washington State	1998-2012	4910	2.3	25 726 192	2.1
West Virginia	1998-2012	1157	0.5	6 659 911	0.5
Wisconsin	1998-2012	4197	1.9	22 738 594	1.9
Wyoming	1998-2012	341	0.2	2 186 831	0.2
USA*	**1998-2012**	**216741**	**100.0**	**1 221 387 576**	**100.0**

* Data not shown for two registries included in the total

Please consult the quality indicators for this pool and its constituent registries

USA (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	2935	20672	11809	9180	9536	**44596**	**54132**	30.5	100.0	25.0	100.0	49.5	87.7	39.5	29.5	30.1	**52.3**	**47.3**	745	896	96.9	0.5
	a. Lymphoid	1172	17328	9744	6064	4969	**34308**	**39277**	23.5	76.9	18.1	72.6	19.8	73.5	32.6	19.5	15.7	**40.4**	**34.9**	574	652	98.3	0.3
	b. Acute myeloid	1018	2354	1351	2062	2819	**6785**	**9604**	4.6	15.2	4.4	17.7	17.2	10.0	4.5	6.6	8.9	**7.8**	**8.1**	113	157	97.9	0.5
	c. CMD	250	238	256	546	1124	**1290**	**2414**	0.9	2.9	1.1	4.5	4.2	1.0	0.9	1.8	3.6	**1.4**	**1.9**	21	39	79.2	1.4
	d. MDS & other	314	410	211	256	312	**1191**	**1503**	0.8	2.7	0.7	2.8	5.3	1.7	0.7	0.8	1.0	**1.4**	**1.3**	20	25	92.1	0.9
	e. Unspecified	181	342	247	252	312	**1022**	**1334**	0.7	2.3	0.6	2.5	3.1	1.5	0.8	0.8	1.0	**1.2**	**1.1**	17	22	84.6	5.4
II	**LYMPHOMA & RELATED**	685	2539	4431	7630	15498	**15285**	**30783**	10.5	100.0	14.2	100.0	11.6	10.8	14.8	24.5	49.0	**16.1**	**23.5**	251	496	98.4	0.3
	a. Hodgkin	3	240	1131	3704	9986	**5078**	**15064**	3.5	33.2	7.0	48.9	0.1	1.0	3.8	11.9	31.6	**5.0**	**11.0**	83	240	99.4	0.1
	b. Non-Hodgkin except BL	196	1052	1903	2741	4434	**5892**	**10326**	4.0	38.5	4.8	33.5	3.3	4.5	6.4	8.8	14.0	**6.2**	**8.0**	97	167	98.6	0.3
	c. Burkitt (BL)	7	474	954	823	681	**2258**	**2939**	1.5	14.8	1.4	9.5	0.1	2.0	3.2	2.6	2.2	**2.4**	**2.4**	37	48	99.4	0.1
	d. Lymphoreticular	458	724	350	254	156	**1786**	**1942**	1.2	11.7	0.9	6.3	7.7	3.1	1.2	0.8	0.5	**2.2**	**1.8**	30	32	95.5	0.9
	e. Unspecified	21	49	93	108	241	**271**	**512**	0.2	1.8	0.2	1.7	0.4	0.2	0.3	0.3	0.8	**0.3**	**0.4**	4	8	73.4	6.6
III	**CNS NEOPLASMS** †	2432	10869	11551	10550	11308	**35402**	**46710**	24.2	100.0	21.6	100.0	41.0	46.1	38.6	33.9	35.7	**39.8**	**38.9**	588	767	79.3	0.6
	a. Ependymoma	446	1342	737	664	740	**3189**	**3929**	2.2	9.0	1.8	8.4	7.5	5.7	2.5	2.1	2.3	**3.8**	**3.4**	53	65	97.4	0.1
	b. Astrocytoma	790	4661	4902	4585	3859	**14938**	**18797**	10.2	42.2	8.7	40.2	13.3	19.8	16.4	14.8	12.2	**16.7**	**15.7**	248	309	87.1	0.1
	c. CNS embryonal	655	2502	2205	1325	898	**6687**	**7585**	4.6	18.9	3.5	16.2	11.0	10.6	7.4	4.3	2.8	**7.8**	**6.7**	112	126	98.8	0.3
	d. Other gliomas	158	1318	2023	1457	1275	**4956**	**6231**	3.4	14.0	2.9	13.3	2.7	5.6	6.8	4.7	4.0	**5.5**	**5.2**	82	102	45.0	0.5
	e. Other specified	238	781	1400	2138	4042	**4557**	**8599**	3.1	12.9	4.0	18.4	4.0	3.3	4.7	6.9	12.8	**4.8**	**6.6**	75	139	70.4	0.3
	f. Unspecified CNS	145	265	284	381	494	**1075**	**1569**	0.7	3.0	0.7	3.4	2.4	1.1	0.9	1.2	1.6	**1.2**	**1.3**	18	26	32.2	12.1
IV	**NEUROBLASTOMA**	3412	5022	1036	382	244	**9852**	**10096**	6.7	100.0	4.7	100.0	57.6	21.3	3.5	1.2	0.8	**12.5**	**9.9**	166	170	97.5	0.2
	a. (Ganglio)neuroblastoma	3401	4991	1007	310	129	**9709**	**9838**	6.6	98.5	4.5	97.4	57.4	21.2	3.4	1.0	0.4	**12.4**	**9.7**	164	166	97.6	0.2
	b. Peripheral nervous	11	31	29	72	115	**143**	**258**	0.1	1.5	0.1	2.6	0.2	0.1	0.1	0.2	0.4	**0.2**	**0.2**	2	4	96.1	0.0
V	**RETINOBLASTOMA**	1624	1963	134	14	8	**3735**	**3743**	2.6	100.0	1.7	100.0	27.4	8.3	0.4	0.0	0.0	**4.9**	**3.8**	63	63	76.8	0.4
VI	**RENAL TUMOURS**	964	4669	1617	401	498	**7651**	**8149**	5.2	100.0	3.8	100.0	16.3	19.8	5.4	1.3	1.6	**9.5**	**7.7**	129	137	98.7	0.3
	a. Nephroblastoma	941	4631	1513	215	103	**7300**	**7403**	5.0	95.4	3.4	90.8	15.9	19.6	5.1	0.7	0.3	**9.1**	**7.2**	123	125	99.1	0.1
	b. Renal carcinoma	17	26	95	181	388	**319**	**707**	0.2	4.2	0.3	8.7	0.3	0.1	0.3	0.6	1.2	**0.3**	**0.5**	5	11	97.9	0.4
	c. Unspecified	6	12	9	5	7	**32**	**39**	0.0	0.4	0.0	0.5	0.1	0.1	0.0	0.0	0.0	**0.0**	**0.0**	1	1	38.5	30.8
VII	**HEPATIC TUMOURS**	690	1202	242	293	424	**2427**	**2851**	1.7	100.0	1.3	100.0	11.6	5.1	0.8	0.9	1.3	**3.0**	**2.6**	41	48	96.2	0.8
	a. Hepatoblastoma	664	1150	161	104	47	**2079**	**2126**	1.4	85.7	1.0	74.6	11.2	4.9	0.5	0.3	0.1	**2.7**	**2.1**	35	36	97.8	0.4
	b. Hepatic carcinoma	16	47	79	184	372	**326**	**698**	0.2	13.4	0.3	24.5	0.3	0.2	0.3	0.6	1.2	**0.3**	**0.5**	5	11	93.3	1.4
	c. Unspecified	10	5	2	5	5	**22**	**27**	0.0	0.9	0.0	0.9	0.2	0.0	0.0	0.0	0.0	**0.0**	**0.0**	0	0	48.1	18.5
VIII	**BONE TUMOURS**	40	368	1647	4100	4611	**6155**	**10766**	4.2	100.0	5.0	100.0	0.7	1.6	5.5	13.2	14.6	**6.1**	**8.0**	100	173	98.0	0.4
	a. Osteosarcoma	3	88	883	2475	2656	**3449**	**6105**	2.4	56.0	2.8	56.7	0.1	0.4	3.0	8.0	8.4	**3.4**	**4.5**	56	98	98.8	0.1
	b. Chondrosarcoma	1	8	26	114	275	**149**	**424**	0.1	2.4	0.2	3.9	0.0	0.0	0.1	0.4	0.9	**0.1**	**0.3**	2	7	97.9	0.5
	c. Ewing & related	17	226	636	1285	1338	**2164**	**3502**	1.5	35.2	1.6	32.5	0.3	1.0	2.1	4.1	4.2	**2.2**	**2.7**	35	57	98.8	0.2
	d. Other specified	9	30	71	144	249	**254**	**503**	0.2	4.1	0.2	4.7	0.2	0.1	0.2	0.5	0.8	**0.3**	**0.4**	4	8	97.8	0.2
	e. Unspecified	10	16	31	82	93	**139**	**232**	0.1	2.3	0.1	2.2	0.2	0.1	0.1	0.3	0.3	**0.1**	**0.2**	2	4	65.9	10.3
IX	**SOFT TISSUE SARCOMA**	976	2490	2397	3425	4854	**9288**	**14142**	6.4	100.0	6.5	100.0	16.5	10.6	8.0	11.0	15.3	**10.3**	**11.5**	154	231	99.0	0.2
	a. Rhabdomyosarcoma	337	1770	1263	1034	1117	**4404**	**5521**	3.0	47.4	2.5	39.0	5.7	7.5	4.2	3.3	3.5	**5.1**	**4.7**	73	91	99.3	0.2
	b. Fibrosarcoma	277	123	193	363	576	**956**	**1532**	0.7	10.3	0.7	10.8	4.7	0.5	0.6	1.2	1.8	**1.1**	**1.2**	16	25	98.6	0.0
	c. Kaposi sarcoma	8	4	2	6	35	**20**	**55**	0.0	0.2	0.0	0.4	0.1	0.0	0.0	0.0	0.1	**0.0**	**0.0**	0	1	87.3	1.8
	d. Other specified	251	440	712	1575	2511	**2978**	**5489**	2.0	32.1	2.5	38.8	4.2	1.9	2.4	5.1	7.9	**3.1**	**4.2**	49	89	99.5	0.1
	e. Unspecified	103	153	227	447	615	**930**	**1545**	0.6	10.0	0.7	10.9	1.7	0.6	0.8	1.4	1.9	**1.0**	**1.2**	15	25	97.3	0.6
X	**GERM CELL TUMOURS**	1190	839	765	2175	8531	**4969**	**13500**	3.4	100.0	6.2	100.0	20.1	3.6	2.6	7.0	27.0	**5.5**	**10.3**	82	217	97.0	0.1
	a. CNS germ cell ‡	172	124	374	824	763	**1494**	**2257**	1.0	30.1	1.0	16.7	2.9	0.5	1.3	2.7	2.4	**1.6**	**1.8**	25	37	87.5	0.3
	b. Other extragonadal	722	349	40	98	523	**1209**	**1732**	0.8	24.3	0.8	12.8	12.2	1.5	0.1	0.3	1.7	**1.5**	**1.6**	20	29	96.6	0.2
	c. Gonadal germ cell	284	354	320	1090	6620	**2048**	**8668**	1.4	41.2	4.0	64.2	4.8	1.5	1.1	3.5	20.9	**2.2**	**6.4**	34	138	99.7	0.0
	d. Gonadal carcinoma	3	1	10	81	394	**95**	**489**	0.1	1.9	0.2	3.6	0.1	0.0	0.0	0.3	1.2	**0.1**	**0.4**	2	8	97.5	0.2
	e. Unspecified gonadal	9	11	21	82	231	**123**	**354**	0.1	2.5	0.2	2.6	0.2	0.0	0.1	0.3	0.7	**0.1**	**0.3**	2	6	90.1	2.3
XI	**CARCINOMA & MELANOMA**	308	408	1120	4192	14803	**6028**	**20831**	4.1	100.0	9.6	100.0	5.2	1.7	3.7	13.5	46.8	**6.1**	**15.2**	98	332	99.3	0.1
	a. Adrenocortical	25	95	40	50	73	**210**	**283**	0.1	3.5	0.1	1.4	0.4	0.4	0.1	0.2	0.2	**0.2**	**0.2**	4	5	97.9	0.0
	b. Thyroid	14	58	356	1735	6396	**2163**	**8559**	1.5	35.9	3.9	41.1	0.2	0.2	1.2	5.6	20.2	**2.1**	**6.2**	35	136	99.8	0.1
	c. Nasopharyngeal	0	0	25	236	428	**261**	**689**	0.2	4.3	0.3	3.3	-	-	0.1	0.8	1.4	**0.2**	**0.5**	4	11	99.6	0.0
	d. Melanoma	180	210	410	1043	4480	**1843**	**6323**	1.3	30.6	2.9	30.4	3.0	0.9	1.4	3.4	14.2	**1.9**	**4.7**	30	101	99.0	0.2
	e. Skin carcinoma	4	1	8	40	62	**53**	**115**	0.0	0.9	0.1	0.6	0.1	0.0	0.0	0.1	0.2	**0.1**	**0.1**	1	2	99.1	0.0
	f. Other & unspecified	85	44	281	1088	3364	**1498**	**4862**	1.0	24.9	2.2	23.3	1.4	0.2	0.9	3.5	10.6	**1.5**	**3.5**	24	78	98.6	0.2
XII	**OTHER & UNSPECIFIED**	128	214	104	181	411	**627**	**1038**	0.4	100.0	0.5	100.0	2.2	0.9	0.3	0.6	1.3	**0.7**	**0.9**	10	17	70.8	11.2
	a. Other specified	50	145	42	77	170	**314**	**484**	0.2	50.1	0.2	46.6	0.8	0.6	0.1	0.2	0.5	**0.4**	**0.4**	5	8	99.2	0.4
	b. Other unspecified	78	69	62	104	241	**313**	**554**	0.2	49.9	0.3	53.4	1.3	0.3	0.2	0.3	0.8	**0.4**	**0.4**	5	9	46.0	20.6
	TOTAL	15384	51255	36853	42523	70726	**146015**	**216741**	100.0	100.0	100.0	100.0	259.5	217.4	123.2	136.8	223.5	**166.9**	**179.6**	2429	3547	93.4	0.5

† includes 10178 non-malignant ‡ includes 233 non-malignant

Please consult the quality indicators for this pool and its constituent registries

USA, Asian and Pacific Islander (1998-2012)

Registry	Period	Cases	%	Person-years	%
Alabama	1998-2012	23	0.3	216 500	0.4
Alaska	1998-2012	43	0.5	202 610	0.3
Arizona	1998-2012	72	0.9	737 081	1.2
Arkansas	1998-2012	22	0.3	166 481	0.3
California	1998-2012	2708	34.0	19 245 093	31.8
Colorado	1998-2012	86	1.1	639 507	1.1
Connecticut	1998-2012	67	0.8	542 163	0.9
Delaware	1998-2012	#	0.1	106 178	0.2
District of Columbia	1998-2012	#	0.1	50 994	0.1
Florida	1998-2012	143	1.8	1 755 096	2.9
Georgia	1998-2012	163	2.0	1 208 881	2.0
Hawaii	1998-2012	563	7.1	3 964 128	6.5
Idaho	1998-2012	#	0.1	94 196	0.2
Illinois	1998-2012	304	3.8	2 238 140	3.7
Indiana	1998-2012	55	0.7	424 062	0.7
Iowa	1998-2012	27	0.3	238 695	0.4
Kentucky	1998-2012	28	0.4	209 928	0.3
Louisiana	1998-2012	54	0.7	297 827	0.5
Maine	1998-2012	#	0.1	66 081	0.1
Massachusetts	1998-2012	150	1.9	1 379 920	2.3
Michigan	1998-2012	93	1.2	1 103 510	1.8
Minnesota	1998-2012	191	2.4	1 131 848	1.9
Mississippi	2002-2012	#	0.1	87 481	0.1
Missouri	1998-2012	47	0.6	416 956	0.7
Montana	1998-2012	#	0.1	31 846	0.1
Nebraska	1998-2012	26	0.3	152 452	0.3
Nevada	1998-2012	76	1.0	682 717	1.1
New Hampshire	1998-2012	#	0.1	115 590	0.2
New Jersey	1998-2012	411	5.2	2 734 790	4.5
New Mexico	1998-2012	20	0.3	134 460	0.2
New York State	1998-2012	851	10.7	5 139 575	8.5
North Carolina	1998-2012	96	1.2	868 246	1.4
North Dakota	1998-2012	#	0.0	25 646	0.0
Ohio	1998-2012	85	1.1	797 249	1.3
Oklahoma	1998-2012	41	0.5	291 870	0.5
Oregon	1998-2012	93	1.2	670 569	1.1
Pennsylvania	1998-2012	158	2.0	1 363 986	2.3
Rhode Island	1998-2012	#	0.2	153 499	0.3
South Carolina	1998-2012	27	0.3	242 754	0.4
South Dakota	2001-2012	#	0.0	29 530	0.0
Tennessee	1999-2012	42	0.5	370 530	0.6
Texas	1998-2012	384	4.8	3 756 079	6.2
Utah	1998-2012	41	0.5	402 136	0.7
Vermont	1998-2012	#	0.0	36 415	0.1
Virginia	1998-2012	153	1.9	1 636 581	2.7
Washington State	1998-2012	285	3.6	2 074 625	3.4
West Virginia	1998-2012	#	0.1	48 721	0.1
Wisconsin	1998-2012	107	1.3	725 827	1.2
Wyoming	1998-2012	#	0.1	18 738	0.0
USA*	**1998-2012**	**7965**	**100.0**	**60 528 188**	**100.0**

15 cases or fewer

* Data not shown for two registries included in the total

Please consult the quality indicators for this pool and its constituent registries

USA, Asian and Pacific Islander (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	137	918	544	389	385	**1988**	**2373**	35.5	100.0	29.8	100.0	43.7	74.2	36.5	26.4	25.0	**45.8**	**41.1**	655	780	97.6	0.6
	a. Lymphoid	61	745	430	234	177	**1470**	**1647**	26.3	73.9	20.7	69.4	19.5	60.2	28.8	15.9	11.5	**34.0**	**29.0**	484	541	98.8	0.3
	b. Acute myeloid	50	130	79	105	124	**364**	**488**	6.5	18.3	6.1	20.6	16.0	10.5	5.3	7.1	8.1	**8.3**	**8.2**	120	160	99.0	0.4
	c. CMD	8	7	13	33	50	**61**	**111**	1.1	3.1	1.4	4.7	2.6	0.6	0.9	2.2	3.3	**1.3**	**1.7**	20	37	84.7	5.4
	d. MDS & other	14	22	12	6	18	**54**	**72**	1.0	2.7	0.9	3.0	4.5	1.8	0.8	0.4	1.2	**1.3**	**1.3**	18	24	87.5	0.0
	e. Unspecified	4	14	10	11	16	**39**	**55**	0.7	2.0	0.7	2.3	1.3	1.1	0.7	0.7	1.0	**0.9**	**0.9**	13	18	89.1	3.6
II	LYMPHOMA & RELATED	34	136	187	261	462	**618**	**1080**	11.0	100.0	13.6	100.0	10.9	11.0	12.5	17.7	30.0	**13.4**	**17.2**	206	356	98.5	0.4
	a. Hodgkin	0	18	42	99	235	**159**	**394**	2.8	25.7	4.9	36.5	-	1.5	2.8	6.7	15.3	**3.3**	**6.0**	53	130	99.5	0.0
	b. Non-Hodgkin except BL	7	50	91	124	181	**272**	**453**	4.9	44.0	5.7	41.9	2.2	4.0	6.1	8.4	11.8	**5.8**	**7.2**	91	150	99.3	0.0
	c. Burkitt (BL)	0	24	39	26	30	**89**	**119**	1.6	14.4	1.5	11.0	-	1.9	2.6	1.8	2.0	**2.0**	**2.0**	30	39	98.3	0.8
	d. Lymphoreticular	27	42	13	9	8	**91**	**99**	1.6	14.7	1.2	9.2	8.6	3.4	0.9	0.6	0.5	**2.2**	**1.8**	30	32	97.0	2.0
	e. Unspecified	0	2	2	3	8	**7**	**15**	0.1	1.1	0.2	1.4	-	0.2	0.1	0.2	0.5	**0.2**	**0.2**	2	5	60.0	6.7
III	CNS NEOPLASMS †	92	358	368	285	335	**1103**	**1438**	19.7	100.0	18.1	100.0	29.4	28.9	24.7	19.3	21.8	**24.8**	**24.1**	365	474	79.4	0.8
	a. Ependymoma	19	47	28	16	31	**110**	**141**	2.0	10.0	1.8	9.8	6.1	3.8	1.9	1.1	2.0	**2.6**	**2.4**	36	46	98.6	0.0
	b. Astrocytoma	27	138	124	121	109	**410**	**519**	7.3	37.2	6.5	36.1	8.6	11.2	8.3	8.2	7.1	**9.2**	**8.7**	136	171	89.4	0.2
	c. CNS embryonal	29	87	99	39	30	**254**	**284**	4.5	23.0	3.6	19.7	9.3	7.0	6.6	2.6	2.0	**5.8**	**4.9**	84	94	98.6	0.4
	d. Other gliomas	3	44	82	45	36	**174**	**210**	3.1	15.8	2.6	14.6	1.0	3.6	5.5	3.1	2.3	**3.8**	**3.5**	58	70	38.1	1.4
	e. Other specified	5	31	34	55	121	**125**	**246**	2.2	11.3	3.1	17.1	1.6	2.5	2.3	3.7	7.9	**2.7**	**3.9**	42	81	67.9	0.0
	f. Unspecified CNS	9	11	1	9	8	**30**	**38**	0.5	2.7	0.5	2.6	2.9	0.9	0.1	0.6	0.5	**0.7**	**0.7**	10	12	31.6	15.8
IV	NEUROBLASTOMA	105	182	36	5	13	**328**	**341**	5.9	100.0	4.3	100.0	33.5	14.7	2.4	0.3	0.8	**8.0**	**6.4**	106	111	97.4	0.0
	a. (Ganglio)neuroblastoma	105	182	36	4	6	**327**	**333**	5.8	99.7	4.2	97.7	33.5	14.7	2.4	0.3	0.4	**8.0**	**6.3**	106	108	97.3	0.0
	b. Peripheral nervous	0	0	0	1	7	**1**	**8**	0.0	0.3	0.1	2.3	-	-	-	0.1	0.5	**0.0**	**0.1**	0	3	100.0	0.0
V	RETINOBLASTOMA	62	101	6	1	0	**170**	**170**	3.0	100.0	2.1	100.0	19.8	8.2	0.4	0.1	-	**4.2**	**3.3**	55	55	77.6	1.2
VI	RENAL TUMOURS	27	114	26	9	15	**176**	**191**	3.1	100.0	2.4	100.0	8.6	9.2	1.7	0.6	1.0	**4.3**	**3.5**	57	62	98.4	1.0
	a. Nephroblastoma	27	112	24	6	5	**169**	**174**	3.0	96.0	2.2	91.1	8.6	9.1	1.6	0.4	0.3	**4.1**	**3.3**	55	57	100.0	0.0
	b. Renal carcinoma	0	0	2	3	10	**5**	**15**	0.1	2.8	0.2	7.9	-	-	0.1	0.2	0.7	**0.1**	**0.2**	2	5	93.3	6.7
	c. Unspecified	0	2	0	0	0	**2**	**2**	0.0	1.1	0.0	1.0	-	0.2	-	-	-	**0.0**	**0.0**	1	1	0.0	50.0
VII	HEPATIC TUMOURS	43	81	19	16	30	**159**	**189**	2.8	100.0	2.4	100.0	13.7	6.5	1.3	1.1	2.0	**3.8**	**3.4**	52	62	96.3	0.0
	a. Hepatoblastoma	39	80	9	3	2	**131**	**133**	2.3	82.4	1.7	70.4	12.4	6.5	0.6	0.2	0.1	**3.2**	**2.5**	42	43	97.7	0.0
	b. Hepatic carcinoma	3	0	10	13	28	**26**	**54**	0.5	16.4	0.7	28.6	1.0	-	0.7	0.9	1.8	**0.5**	**0.8**	9	18	92.6	0.0
	c. Unspecified	1	1	0	0	0	**2**	**2**	0.0	1.3	0.0	1.1	0.3	0.1	-	-	-	**0.0**	**0.0**	1	1	100.0	0.0
VIII	BONE TUMOURS	3	15	69	139	175	**226**	**401**	4.0	100.0	5.0	100.0	1.0	1.2	4.6	9.4	11.4	**4.7**	**6.2**	76	133	99.0	0.2
	a. Osteosarcoma	0	3	46	99	107	**148**	**255**	2.6	65.5	3.2	63.6	-	0.2	3.1	6.7	7.0	**3.0**	**3.9**	50	85	100.0	0.0
	b. Chondrosarcoma	0	1	0	2	7	**3**	**10**	0.1	1.3	0.1	2.5	-	0.1	-	0.1	0.5	**0.1**	**0.2**	1	3	90.0	0.0
	c. Ewing & related	3	9	16	30	46	**58**	**104**	1.0	25.7	1.3	25.9	1.0	0.7	1.1	2.0	3.0	**1.2**	**1.6**	19	34	100.0	0.0
	d. Other specified	0	2	7	6	12	**15**	**27**	0.3	6.6	0.3	6.7	-	0.2	0.5	0.4	0.8	**0.3**	**0.4**	5	9	96.3	0.0
	e. Unspecified	0	0	0	2	3	**2**	**5**	0.0	0.9	0.1	1.2	-	-	-	0.1	0.2	**0.0**	**0.1**	1	2	60.0	20.0
IX	SOFT TISSUE SARCOMA	29	80	63	106	166	**278**	**444**	5.0	100.0	5.6	100.0	9.3	6.5	4.2	7.2	10.8	**6.2**	**7.2**	92	146	99.3	0.2
	a. Rhabdomyosarcoma	15	62	33	34	33	**144**	**177**	2.6	51.8	2.2	39.9	4.8	5.0	2.2	2.3	2.1	**3.3**	**3.0**	47	58	99.4	0.0
	b. Fibrosarcoma	7	6	6	12	16	**31**	**47**	0.6	11.2	0.6	10.6	2.2	0.5	0.4	0.8	1.0	**0.7**	**0.8**	10	15	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	**0**	**1**	-	-	0.0	0.2	-	-	-	-	0.1	**-**	**0.0**	-	0	100.0	0.0
	d. Other specified	3	11	16	45	86	**75**	**161**	1.3	27.0	2.0	36.3	1.0	0.9	1.1	3.1	5.6	**1.6**	**2.5**	25	53	100.0	0.0
	e. Unspecified	4	1	8	15	30	**28**	**58**	0.5	10.1	0.7	13.1	1.3	0.1	0.5	1.0	2.0	**0.6**	**0.9**	9	19	96.6	1.7
X	GERM CELL TUMOURS	58	64	54	152	303	**328**	**631**	5.9	100.0	7.9	100.0	18.5	5.2	3.6	10.3	19.7	**7.2**	**10.0**	109	208	96.2	0.0
	a. CNS germ cell ‡	5	10	28	83	63	**126**	**189**	2.3	38.4	2.4	30.0	1.6	0.8	1.9	5.6	4.1	**2.6**	**2.9**	42	63	92.1	0.0
	b. Other extragonadal	33	21	3	8	40	**65**	**105**	1.2	19.8	1.3	16.6	10.5	1.7	0.2	0.5	2.6	**1.6**	**1.8**	21	34	94.3	0.0
	c. Gonadal germ cell	19	33	23	57	169	**132**	**301**	2.4	40.2	3.8	47.7	6.1	2.7	1.5	3.9	11.0	**2.9**	**4.7**	44	99	99.7	0.0
	d. Gonadal carcinoma	0	0	0	3	26	**3**	**29**	0.1	0.9	0.4	4.6	-	-	-	0.2	1.7	**0.1**	**0.4**	1	9	96.6	0.0
	e. Unspecified gonadal	1	0	0	1	5	**2**	**7**	0.0	0.6	0.1	1.1	0.3	-	-	0.1	0.3	**0.0**	**0.1**	1	2	85.7	0.0
XI	CARCINOMA & MELANOMA	7	17	33	147	477	**204**	**681**	3.6	100.0	8.5	100.0	2.2	1.4	2.2	10.0	31.0	**4.2**	**10.2**	69	224	99.0	0.3
	a. Adrenocortical	1	3	1	2	1	**7**	**8**	0.1	3.4	0.1	1.2	0.3	0.2	0.1	0.1	0.1	**0.2**	**0.1**	2	3	87.5	0.0
	b. Thyroid	0	2	10	83	294	**95**	**389**	1.7	46.6	4.9	57.1	-	0.2	0.7	5.6	19.1	**1.9**	**5.8**	32	128	100.0	0.0
	c. Nasopharyngeal	0	0	3	11	31	**14**	**45**	0.3	6.9	0.6	6.6	-	-	0.2	0.7	2.0	**0.3**	**0.7**	5	15	97.8	0.0
	d. Melanoma	2	11	6	11	23	**30**	**53**	0.5	14.7	0.7	7.8	0.6	0.9	0.4	0.7	1.5	**0.7**	**0.9**	10	17	96.2	0.0
	e. Skin carcinoma	1	0	1	0	0	**2**	**2**	0.0	1.0	0.0	0.3	0.3	-	0.1	-	-	**0.0**	**0.0**	1	1	100.0	0.0
	f. Other & unspecified	3	1	12	40	128	**56**	**184**	1.0	27.5	2.3	27.0	1.0	0.1	0.8	2.7	8.3	**1.1**	**2.8**	19	60	98.4	1.1
XII	OTHER & UNSPECIFIED	3	9	2	4	8	**18**	**26**	0.3	100.0	0.3	100.0	1.0	0.7	0.1	0.3	0.5	**0.4**	**0.4**	6	8	73.1	3.8
	a. Other specified	1	8	1	1	3	**11**	**14**	0.2	61.1	0.2	53.8	0.3	0.6	0.1	0.1	0.2	**0.3**	**0.3**	4	5	100.0	0.0
	b. Other unspecified	2	1	1	3	5	**7**	**12**	0.1	38.9	0.2	46.2	0.6	0.1	0.1	0.2	0.3	**0.2**	**0.2**	2	4	41.7	8.3
	TOTAL	600	2075	1407	1514	2369	**5596**	**7965**	100.0	100.0	100.0	100.0	191.5	167.7	94.4	102.8	154.0	**127.1**	**133.1**	1848	2618	94.1	0.5

† includes 306 non-malignant ‡ includes 9 non-malignant

Please consult the quality indicators for this pool and its constituent registries

USA, Black (1998-2012)

Registry	Period	Cases	%	Person-years	%
Alabama	1998-2012	772	2.9	6 091 863	3.1
Alaska	1998-2012	#	0.1	178 645	0.1
Arizona	1998-2012	145	0.6	1 405 205	0.7
Arkansas	1998-2012	336	1.3	2 409 950	1.2
California	1998-2012	1638	6.2	13 116 262	6.6
Colorado	1998-2012	127	0.5	1 168 006	0.6
Connecticut	1998-2012	252	1.0	1 998 676	1.0
Delaware	1998-2012	164	0.6	935 064	0.5
District of Columbia	1998-2012	188	0.7	1 357 430	0.7
Florida	1998-2012	2033	7.7	14 955 787	7.5
Georgia	1998-2012	1944	7.4	13 996 387	7.0
Hawaii	1998-2012	18	0.1	184 042	0.1
Idaho	1998-2012	#	0.0	85 257	0.0
Illinois	1998-2012	1322	5.0	10 127 021	5.1
Indiana	1998-2012	417	1.6	3 259 441	1.6
Iowa	1998-2012	73	0.3	587 476	0.3
Kentucky	1998-2012	245	0.9	1 744 382	0.9
Louisiana	1998-2012	999	3.8	7 754 960	3.9
Maine	1998-2012	#	0.0	108 977	0.1
Massachusetts	1998-2012	302	1.1	2 533 575	1.3
Michigan	1998-2012	1089	4.1	7 774 052	3.9
Minnesota	1998-2012	204	0.8	1 644 072	0.8
Mississippi	2002-2012	540	2.1	4 187 757	2.1
Missouri	1998-2012	515	2.0	3 707 288	1.9
Montana	1998-2012	#	0.0	42 116	0.0
Nebraska	1998-2012	85	0.3	520 931	0.3
Nevada	1998-2012	112	0.4	1 082 627	0.5
New Hampshire	1998-2012	#	0.1	98 890	0.0
New Jersey	1998-2012	916	3.5	6 237 283	3.1
New Mexico	1998-2012	25	0.1	284 220	0.1
New York State	1998-2012	2336	8.9	16 463 884	8.2
North Carolina	1998-2012	1262	4.8	9 589 062	4.8
North Dakota	1998-2012	#	0.0	53 057	0.0
Ohio	1998-2012	959	3.6	7 650 872	3.8
Oklahoma	1998-2012	230	0.9	1 664 103	0.8
Oregon	1998-2012	54	0.2	478 597	0.2
Pennsylvania	1998-2012	1053	4.0	7 245 219	3.6
Rhode Island	1998-2012	41	0.2	428 091	0.2
South Carolina	1998-2012	753	2.9	6 290 688	3.2
South Dakota	2001-2012	#	0.0	62 616	0.0
Tennessee	1999-2012	721	2.7	4 979 072	2.5
Texas	1998-2012	1976	7.5	14 441 073	7.2
Utah	1998-2012	25	0.1	227 839	0.1
Vermont	1998-2012	#	0.0	43 863	0.0
Virginia	1998-2012	851	3.2	7 349 994	3.7
Washington State	1998-2012	204	0.8	1 543 055	0.8
West Virginia	1998-2012	34	0.1	312 176	0.2
Wisconsin	1998-2012	272	1.0	2 228 283	1.1
Wyoming	1998-2012	#	0.0	37 114	0.0
USA*	**1998-2012**	**26339**	**100.0**	**199 572 533**	**100.0**

15 cases or fewer

* Data not shown for two registries included in the total

Please consult the quality indicators for this pool and its constituent registries

USA, Black (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	299	1722	1154	1205	1116	**4380**	**5496**	24.0	100.0	20.9	100.0	31.0	45.0	23.5	23.5	21.8	**30.7**	**28.7**	446	555	96.3	0.8
	a. Lymphoid	124	1256	865	701	456	**2946**	**3402**	16.1	67.3	12.9	61.9	12.8	32.8	17.6	13.7	8.9	**20.8**	**18.1**	300	345	97.9	0.5
	b. Acute myeloid	114	348	199	337	381	**998**	**1379**	5.5	22.8	5.2	25.1	11.8	9.1	4.1	6.6	7.4	**6.9**	**7.1**	101	138	97.5	0.7
	c. CMD	24	31	40	94	188	**189**	**377**	1.0	4.3	1.4	6.9	2.5	0.8	0.8	1.8	3.7	**1.2**	**1.8**	19	37	83.3	1.3
	d. MDS & other	27	46	23	35	47	**131**	**178**	0.7	3.0	0.7	3.2	2.8	1.2	0.5	0.7	0.9	**0.9**	**0.9**	13	18	94.4	0.0
	e. Unspecified	10	41	27	38	44	**116**	**160**	0.6	2.6	0.6	2.9	1.0	1.1	0.6	0.7	0.9	**0.8**	**0.8**	12	16	85.0	7.5
II	**LYMPHOMA & RELATED**	61	268	601	1192	2006	**2122**	**4128**	11.6	100.0	15.7	100.0	6.3	7.0	12.2	23.2	39.1	**13.4**	**19.2**	212	407	98.4	0.3
	a. Hodgkin	0	34	189	548	1150	**771**	**1921**	4.2	36.3	7.3	46.5	-	0.9	3.9	10.7	22.4	**4.6**	**8.6**	76	188	99.3	0.1
	b. Non-Hodgkin except BL	22	128	277	538	758	**965**	**1723**	5.3	45.5	6.5	41.7	2.3	3.3	5.6	10.5	14.8	**6.1**	**8.0**	96	170	98.5	0.4
	c. Burkitt (BL)	2	43	95	79	57	**219**	**276**	1.2	10.3	1.0	6.7	0.2	1.1	1.9	1.5	1.1	**1.4**	**1.4**	22	28	98.6	0.4
	d. Lymphoreticular	36	55	27	13	6	**131**	**137**	0.7	6.2	0.5	3.3	3.7	1.4	0.6	0.3	0.1	**1.0**	**0.8**	14	14	96.4	0.7
	e. Unspecified	1	8	13	14	35	**36**	**71**	0.2	1.7	0.3	1.7	0.1	0.2	0.3	0.3	0.7	**0.2**	**0.3**	4	7	74.6	2.8
III	**CNS NEOPLASMS** †	305	1324	1551	1322	1422	**4502**	**5924**	24.6	100.0	22.5	100.0	31.6	34.6	31.6	25.8	27.7	**30.8**	**30.1**	457	596	78.3	0.7
	a. Ependymoma	52	165	95	64	82	**376**	**458**	2.1	8.4	1.7	7.7	5.4	4.3	1.9	1.2	1.6	**2.7**	**2.5**	39	47	96.9	0.2
	b. Astrocytoma	95	520	623	563	461	**1801**	**2262**	9.8	40.0	8.6	38.2	9.8	13.6	12.7	11.0	9.0	**12.2**	**11.5**	183	227	90.0	0.1
	c. CNS embryonal	84	288	225	143	113	**740**	**853**	4.0	16.4	3.2	14.4	8.7	7.5	4.6	2.8	2.2	**5.3**	**4.6**	76	87	98.9	0.0
	d. Other gliomas	21	196	324	173	130	**714**	**844**	3.9	15.9	3.2	14.2	2.2	5.1	6.6	3.4	2.5	**4.9**	**4.3**	73	85	39.2	0.2
	e. Other specified	36	120	237	316	575	**709**	**1284**	3.9	15.7	4.9	21.7	3.7	3.1	4.8	6.2	11.2	**4.6**	**6.1**	71	127	71.0	0.2
	f. Unspecified CNS	17	35	47	63	61	**162**	**223**	0.9	3.6	0.8	3.8	1.8	0.9	1.0	1.2	1.2	**1.1**	**1.1**	16	22	33.6	14.3
IV	**NEUROBLASTOMA**	320	715	170	65	47	**1270**	**1317**	6.9	100.0	5.0	100.0	33.1	18.7	3.5	1.3	0.9	**9.8**	**7.8**	132	136	98.0	0.2
	a. (Ganglio)neuroblastoma	320	708	163	58	26	**1249**	**1275**	6.8	98.3	4.8	96.8	33.1	18.5	3.3	1.1	0.5	**9.7**	**7.6**	130	132	98.1	0.2
	b. Peripheral nervous	0	7	7	7	21	**21**	**42**	0.1	1.7	0.2	3.2	-	0.2	0.1	0.1	0.4	**0.1**	**0.2**	2	4	95.2	0.0
V	**RETINOBLASTOMA**	270	348	20	2	1	**640**	**641**	3.5	100.0	2.4	100.0	28.0	9.1	0.4	0.0	0.0	**5.1**	**4.0**	67	67	78.5	0.3
VI	**RENAL TUMOURS**	147	848	342	110	125	**1447**	**1572**	7.9	100.0	6.0	100.0	15.2	22.2	7.0	2.1	2.4	**10.9**	**9.0**	149	162	98.5	0.3
	a. Nephroblastoma	145	837	311	46	23	**1339**	**1362**	7.3	92.5	5.2	86.6	15.0	21.9	6.3	0.9	0.4	**10.2**	**8.0**	139	141	98.9	0.1
	b. Renal carcinoma	1	9	30	62	102	**102**	**204**	0.6	7.0	0.8	13.0	0.1	0.2	0.6	1.2	2.0	**0.6**	**0.9**	10	20	97.5	0.0
	c. Unspecified	1	2	1	2	0	**6**	**6**	0.0	0.4	0.0	0.4	0.1	0.1	0.0	0.0	-	**0.0**	**0.0**	1	1	50.0	50.0
VII	**HEPATIC TUMOURS**	55	129	34	40	61	**258**	**319**	1.4	100.0	1.2	100.0	5.7	3.4	0.7	0.8	1.2	**1.9**	**1.8**	27	33	94.7	0.9
	a. Hepatoblastoma	51	124	21	20	5	**216**	**221**	1.2	83.7	0.8	69.3	5.3	3.2	0.4	0.4	0.1	**1.7**	**1.3**	22	23	97.7	0.0
	b. Hepatic carcinoma	2	5	13	20	55	**40**	**95**	0.2	15.5	0.4	29.8	0.2	0.1	0.3	0.4	1.1	**0.3**	**0.4**	4	9	90.5	2.1
	c. Unspecified	2	0	0	0	1	**2**	**3**	0.0	0.8	0.0	0.9	0.2	-	-	-	0.0	**0.0**	**0.0**	0	0	0.0	33.3
VIII	**BONE TUMOURS**	4	32	211	542	601	**789**	**1390**	4.3	100.0	5.3	100.0	0.4	0.8	4.3	10.6	11.7	**4.7**	**6.3**	78	137	97.3	0.1
	a. Osteosarcoma	0	16	173	448	466	**637**	**1103**	3.5	80.7	4.2	79.4	-	0.4	3.5	8.7	9.1	**3.8**	**5.0**	63	108	98.1	0.0
	b. Chondrosarcoma	0	2	5	12	34	**19**	**53**	0.1	2.4	0.2	3.8	-	0.1	0.1	0.2	0.7	**0.1**	**0.2**	2	5	94.3	1.9
	c. Ewing & related	1	7	21	43	44	**72**	**116**	0.4	9.1	0.4	8.3	0.1	0.2	0.4	0.8	0.9	**0.4**	**0.5**	7	11	96.6	0.0
	d. Other specified	0	2	7	24	45	**33**	**78**	0.2	4.2	0.3	5.6	-	0.1	0.1	0.5	0.9	**0.2**	**0.4**	3	8	100.0	0.0
	e. Unspecified	3	5	5	15	12	**28**	**40**	0.2	3.5	0.2	2.9	0.3	0.1	0.1	0.3	0.2	**0.2**	**0.2**	3	4	77.5	0.0
IX	**SOFT TISSUE SARCOMA**	134	366	390	656	844	**1546**	**2390**	8.5	100.0	9.1	100.0	13.9	9.6	7.9	12.8	16.5	**10.3**	**11.7**	156	238	98.7	0.1
	a. Rhabdomyosarcoma	46	246	211	210	215	**713**	**928**	3.9	46.1	3.5	38.8	4.8	6.4	4.3	4.1	4.2	**4.9**	**4.8**	72	93	99.0	0.1
	b. Fibrosarcoma	35	25	35	73	111	**168**	**279**	0.9	10.9	1.1	11.7	3.6	0.7	0.7	1.4	2.2	**1.1**	**1.4**	17	28	97.1	0.0
	c. Kaposi sarcoma	3	1	0	3	24	**7**	**31**	0.0	0.5	0.1	1.3	0.3	0.0	-	0.1	0.5	**0.0**	**0.1**	1	3	83.9	0.0
	d. Other specified	37	67	109	284	385	**497**	**882**	2.7	32.1	3.3	36.9	3.8	1.8	2.2	5.5	7.5	**3.2**	**4.1**	50	87	99.4	0.1
	e. Unspecified	13	27	35	86	109	**161**	**270**	0.9	10.4	1.0	11.3	1.3	0.7	0.7	1.7	2.1	**1.0**	**1.3**	16	27	98.1	0.0
X	**GERM CELL TUMOURS**	149	81	107	269	635	**606**	**1241**	3.3	100.0	4.7	100.0	15.4	2.1	2.2	5.2	12.4	**4.1**	**6.0**	61	123	96.3	0.2
	a. CNS germ cell ‡	22	14	32	69	90	**137**	**227**	0.7	22.6	0.9	18.3	2.3	0.4	0.7	1.3	1.8	**0.9**	**1.1**	14	23	87.2	0.0
	b. Other extragonadal	111	43	3	13	89	**170**	**259**	0.9	28.1	1.0	20.9	11.5	1.1	0.1	0.3	1.7	**1.3**	**1.4**	18	26	96.9	0.0
	c. Gonadal germ cell	16	21	68	160	370	**265**	**635**	1.4	43.7	2.4	51.2	1.7	0.5	1.4	3.1	7.2	**1.7**	**2.9**	26	62	99.7	0.0
	d. Gonadal carcinoma	0	0	1	8	32	**9**	**41**	0.0	1.5	0.2	3.3	-	-	0.0	0.2	0.6	**0.1**	**0.2**	1	4	97.6	0.0
	e. Unspecified gonadal	0	3	3	19	54	**25**	**79**	0.1	4.1	0.3	6.4	-	0.1	0.1	0.4	1.1	**0.2**	**0.4**	2	8	92.4	3.8
XI	**CARCINOMA & MELANOMA**	26	33	109	458	1116	**626**	**1742**	3.4	100.0	6.6	100.0	2.7	0.9	2.2	8.9	21.8	**3.8**	**7.8**	62	171	99.2	0.1
	a. Adrenocortical	0	10	2	2	2	**14**	**16**	0.1	2.2	0.1	0.9	-	0.3	0.0	0.0	0.0	**0.1**	**0.1**	1	2	100.0	0.0
	b. Thyroid	2	2	27	120	348	**151**	**499**	0.8	24.1	1.9	28.6	0.2	0.1	0.6	2.3	6.8	**0.9**	**2.2**	15	49	100.0	0.0
	c. Nasopharyngeal	0	0	9	122	177	**131**	**308**	0.7	20.9	1.2	17.7	-	-	0.2	2.4	3.5	**0.7**	**1.4**	13	30	99.7	0.0
	d. Melanoma	7	11	24	12	45	**54**	**99**	0.3	8.6	0.4	5.7	0.7	0.3	0.5	0.2	0.9	**0.4**	**0.5**	5	10	99.0	1.0
	e. Skin carcinoma	0	0	4	7	7	**11**	**18**	0.1	1.8	0.1	1.0	-	-	0.1	0.1	0.1	**0.1**	**0.1**	1	2	100.0	0.0
	f. Other & unspecified	17	10	43	195	537	**265**	**802**	1.4	42.3	3.0	46.0	1.8	0.3	0.9	3.8	10.5	**1.6**	**3.6**	26	79	98.5	0.1
XII	**OTHER & UNSPECIFIED**	17	25	23	35	79	**100**	**179**	0.5	100.0	0.7	100.0	1.8	0.7	0.5	0.7	1.5	**0.7**	**0.9**	10	18	70.9	15.1
	a. Other specified	5	17	8	15	31	**45**	**76**	0.2	45.0	0.3	42.5	0.5	0.4	0.2	0.3	0.6	**0.3**	**0.4**	5	8	100.0	0.0
	b. Other unspecified	12	8	15	20	48	**55**	**103**	0.3	55.0	0.4	57.5	1.2	0.2	0.3	0.4	0.9	**0.4**	**0.5**	6	10	49.5	26.2
	TOTAL	1787	5891	4712	5896	8053	**18286**	**26339**	100.0	100.0	100.0	100.0	185.0	154.0	96.0	114.9	157.0	**126.4**	**133.3**	1856	2641	92.6	0.5

† includes 1388 non-malignant ‡ includes 32 non-malignant

Please consult the quality indicators for this pool and its constituent registries

USA, Hispanic White (1998-2012)

Registry	Period	Cases	%	Person-years	%
Alabama	1998-2012	90	0.2	644 851	0.3
Alaska	1998-2012	19	0.0	148 576	0.1
Arizona	1998-2012	1427	3.7	9 162 160	4.2
Arkansas	1998-2012	91	0.2	807 661	0.4
California	1998-2012	12306	31.8	67 563 885	30.6
Colorado	1998-2012	823	2.1	4 780 278	2.2
Connecticut	1998-2012	389	1.0	1 914 331	0.9
Delaware	1998-2012	58	0.1	270 992	0.1
District of Columbia	1998-2012	24	0.1	149 684	0.1
Florida	1998-2012	2876	7.4	14 098 597	6.4
Georgia	1998-2012	505	1.3	3 260 534	1.5
Hawaii	1998-2012	17	0.0	151 486	0.1
Idaho	1998-2012	119	0.3	875 723	0.4
Illinois	1998-2012	1623	4.2	9 795 267	4.4
Indiana	1998-2012	267	0.7	1 713 042	0.8
Iowa	1998-2012	124	0.3	721 244	0.3
Kentucky	1998-2012	78	0.2	499 886	0.2
Louisiana	1998-2012	95	0.2	590 110	0.3
Maine	1998-2012	#	0.0	77 170	0.0
Massachusetts	1998-2012	452	1.2	2 473 826	1.1
Michigan	1998-2012	306	0.8	2 145 280	1.0
Minnesota	1998-2012	95	0.2	1 132 251	0.5
Mississippi	2002-2012	22	0.1	220 741	0.1
Missouri	1998-2012	116	0.3	905 962	0.4
Montana	1998-2012	21	0.1	123 171	0.1
Nebraska	1998-2012	122	0.3	791 609	0.4
Nevada	1998-2012	485	1.3	3 093 647	1.4
New Hampshire	1998-2012	36	0.1	164 165	0.1
New Jersey	1998-2012	971	2.5	5 692 322	2.6
New Mexico	1998-2012	621	1.6	4 304 859	2.0
New York State	1998-2012	2279	5.9	11 908 970	5.4
North Carolina	1998-2012	536	1.4	3 019 683	1.4
North Dakota	1998-2012	#	0.0	58 701	0.0
Ohio	1998-2012	160	0.4	1 499 991	0.7
Oklahoma	1998-2012	207	0.5	1 395 949	0.6
Oregon	1998-2012	352	0.9	2 151 142	1.0
Pennsylvania	1998-2012	309	0.8	2 691 923	1.2
Rhode Island	1998-2012	104	0.3	542 388	0.2
South Carolina	1998-2012	109	0.3	761 051	0.3
South Dakota	2001-2012	#	0.0	76 010	0.0
Tennessee	1999-2012	140	0.4	1 035 691	0.5
Texas	1998-2012	8467	21.9	45 052 405	20.4
Utah	1998-2012	328	0.8	1 663 725	0.8
Vermont	1998-2012	#	0.0	38 359	0.0
Virginia	1998-2012	306	0.8	2 188 174	1.0
Washington State	1998-2012	537	1.4	3 442 668	1.6
West Virginia	1998-2012	#	0.0	86 392	0.0
Wisconsin	1998-2012	218	0.6	1 544 539	0.7
Wyoming	1998-2012	23	0.1	216 805	0.1
USA*	**1998-2012**	**38677**	**100.0**	**220 589 146**	**100.0**

15 cases or fewer

* Data not shown for two registries included in the total

Please consult the quality indicators for this pool and its constituent registries

USA, Hispanic White (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	704	4811	2836	2164	2134	**10515**	**12649**	37.8	100.0	32.7	100.0	55.7	100.5	51.2	40.9	41.3	**63.6**	**58.6**	916	1122	96.8	0.5
	a. Lymphoid	271	4071	2414	1541	1335	**8297**	**9632**	29.8	78.9	24.9	76.1	21.5	85.0	43.5	29.1	25.8	**50.3**	**44.8**	722	851	98.4	0.2
	b. Acute myeloid	234	508	263	419	492	**1424**	**1916**	5.1	13.5	5.0	15.1	18.5	10.6	4.7	7.9	9.5	**8.6**	**8.8**	125	172	97.8	0.3
	c. CMD	86	54	49	88	194	**277**	**471**	1.0	2.6	1.2	3.7	6.8	1.1	0.9	1.7	3.8	**1.7**	**2.1**	24	43	72.0	2.1
	d. MDS & other	67	82	45	51	45	**245**	**290**	0.9	2.3	0.7	2.3	5.3	1.7	0.8	1.0	0.9	**1.5**	**1.4**	21	26	90.0	2.1
	e. Unspecified	46	96	65	65	68	**272**	**340**	1.0	2.6	0.9	2.7	3.6	2.0	1.2	1.2	1.3	**1.6**	**1.6**	24	30	84.1	5.0
II	LYMPHOMA & RELATED	164	647	901	1183	1895	**2895**	**4790**	10.4	100.0	12.4	100.0	13.0	13.5	16.3	22.3	36.7	**16.9**	**21.4**	260	443	98.0	0.4
	a. Hodgkin	0	92	329	575	1164	**996**	**2160**	3.6	34.4	5.6	45.1	-	1.9	5.9	10.9	22.5	**5.7**	**9.5**	92	204	99.2	0.1
	b. Non-Hodgkin except BL	23	233	350	445	590	**1051**	**1641**	3.8	36.3	4.2	34.3	1.8	4.9	6.3	8.4	11.4	**6.1**	**7.3**	95	152	98.5	0.4
	c. Burkitt (BL)	2	98	118	90	77	**308**	**385**	1.1	10.6	1.0	8.0	0.2	2.0	2.1	1.7	1.5	**1.8**	**1.7**	27	35	99.2	0.0
	d. Lymphoreticular	134	208	84	56	24	**482**	**506**	1.7	16.6	1.3	10.6	10.6	4.3	1.5	1.1	0.5	**3.0**	**2.4**	41	43	96.4	0.6
	e. Unspecified	5	16	20	17	40	**58**	**98**	0.2	2.0	0.3	2.0	0.4	0.3	0.4	0.3	0.8	**0.3**	**0.4**	5	9	68.4	7.1
III	CNS NEOPLASMS †	466	1876	1830	1515	1607	**5687**	**7294**	20.4	100.0	18.9	100.0	36.9	39.2	33.0	28.6	31.1	**33.9**	**33.3**	502	657	78.4	0.8
	a. Ependymoma	88	273	145	115	119	**621**	**740**	2.2	10.9	1.9	10.1	7.0	5.7	2.6	2.2	2.3	**3.8**	**3.4**	54	65	97.2	0.0
	b. Astrocytoma	134	709	709	562	443	**2114**	**2557**	7.6	37.2	6.6	35.1	10.6	14.8	12.8	10.6	8.6	**12.6**	**11.7**	187	230	88.6	0.3
	c. CNS embryonal	145	484	368	194	154	**1191**	**1345**	4.3	20.9	3.5	18.4	11.5	10.1	6.6	3.7	3.0	**7.2**	**6.3**	103	118	97.8	0.3
	d. Other gliomas	31	231	331	205	124	**798**	**922**	2.9	14.0	2.4	12.6	2.5	4.8	6.0	3.9	2.4	**4.7**	**4.2**	71	83	40.5	0.7
	e. Other specified	40	128	221	379	676	**768**	**1444**	2.8	13.5	3.7	19.8	3.2	2.7	4.0	7.2	13.1	**4.4**	**6.4**	70	135	66.2	0.4
	f. Unspecified CNS	28	51	56	60	91	**195**	**286**	0.7	3.4	0.7	3.9	2.2	1.1	1.0	1.1	1.8	**1.2**	**1.3**	17	26	32.5	11.9
IV	NEUROBLASTOMA	495	682	114	46	26	**1337**	**1363**	4.8	100.0	3.5	100.0	39.2	14.2	2.1	0.9	0.5	**8.4**	**6.7**	112	114	96.7	0.2
	a. (Ganglio)neuroblastoma	490	676	110	33	12	**1309**	**1321**	4.7	97.9	3.4	96.9	38.8	14.1	2.0	0.6	0.2	**8.3**	**6.5**	109	111	96.7	0.2
	b. Peripheral nervous	5	6	4	13	14	**28**	**42**	0.1	2.1	0.1	3.1	0.4	0.1	0.1	0.2	0.3	**0.2**	**0.2**	2	4	95.2	0.0
V	RETINOBLASTOMA	360	500	27	8	1	**895**	**896**	3.2	100.0	2.3	100.0	28.5	10.4	0.5	0.2	0.0	**5.7**	**4.4**	74	74	79.9	0.2
VI	RENAL TUMOURS	163	741	216	43	54	**1163**	**1217**	4.2	100.0	3.1	100.0	12.9	15.5	3.9	0.8	1.0	**7.3**	**5.9**	98	103	98.4	0.2
	a. Nephroblastoma	162	736	200	25	8	**1123**	**1131**	4.0	96.6	2.9	92.9	12.8	15.4	3.6	0.5	0.2	**7.0**	**5.5**	95	95	98.9	0.1
	b. Renal carcinoma	1	2	14	18	44	**35**	**79**	0.1	3.0	0.2	6.5	0.1	0.0	0.3	0.3	0.9	**0.2**	**0.3**	3	7	96.2	1.3
	c. Unspecified	0	3	2	0	2	**5**	**7**	0.0	0.4	0.0	0.6	-	0.1	0.0	-	0.0	**0.0**	**0.0**	0	1	57.1	14.3
VII	HEPATIC TUMOURS	170	269	53	64	69	**556**	**625**	2.0	100.0	1.6	100.0	13.5	5.6	1.0	1.2	1.3	**3.5**	**3.0**	47	54	96.2	0.6
	a. Hepatoblastoma	164	253	40	27	6	**484**	**490**	1.7	87.1	1.3	78.4	13.0	5.3	0.7	0.5	0.1	**3.0**	**2.4**	41	41	97.1	0.6
	b. Hepatic carcinoma	3	15	13	36	62	**67**	**129**	0.2	12.1	0.3	20.6	0.2	0.3	0.2	0.7	1.2	**0.4**	**0.6**	6	12	95.3	0.0
	c. Unspecified	3	1	0	1	1	**5**	**6**	0.0	0.9	0.0	1.0	0.2	0.0	-	0.0	0.0	**0.0**	**0.0**	0	1	33.3	16.7
VIII	BONE TUMOURS	9	73	302	746	717	**1130**	**1847**	4.1	100.0	4.8	100.0	0.7	1.5	5.4	14.1	13.9	**6.4**	**8.1**	104	174	97.2	0.6
	a. Osteosarcoma	0	18	177	485	441	**680**	**1121**	2.4	60.2	2.9	60.7	-	0.4	3.2	9.2	8.5	**3.8**	**4.9**	63	106	98.7	0.1
	b. Chondrosarcoma	0	1	7	23	31	**31**	**62**	0.1	2.7	0.2	3.4	-	0.0	0.1	0.4	0.6	**0.2**	**0.3**	3	6	98.4	0.0
	c. Ewing & related	6	44	95	197	186	**342**	**528**	1.2	30.3	1.4	28.6	0.5	0.9	1.7	3.7	3.6	**2.0**	**2.3**	31	49	97.5	0.4
	d. Other specified	1	7	14	22	40	**44**	**84**	0.2	3.9	0.2	4.5	0.1	0.1	0.3	0.4	0.8	**0.3**	**0.4**	4	8	97.6	0.0
	e. Unspecified	2	3	9	19	19	**33**	**52**	0.1	2.9	0.1	2.8	0.2	0.1	0.2	0.4	0.4	**0.2**	**0.2**	3	5	61.5	17.3
IX	SOFT TISSUE SARCOMA	198	429	446	551	712	**1624**	**2336**	5.8	100.0	6.0	100.0	15.7	9.0	8.0	10.4	13.8	**9.6**	**10.6**	144	213	98.6	0.3
	a. Rhabdomyosarcoma	76	299	225	165	149	**765**	**914**	2.7	47.1	2.4	39.1	6.0	6.2	4.1	3.1	2.9	**4.6**	**4.2**	67	81	99.5	0.0
	b. Fibrosarcoma	50	14	39	64	93	**167**	**260**	0.6	10.3	0.7	11.1	4.0	0.3	0.7	1.2	1.8	**1.0**	**1.2**	15	24	97.7	0.0
	c. Kaposi sarcoma	1	1	1	1	3	**4**	**7**	0.0	0.2	0.0	0.3	0.1	0.0	0.0	0.0	0.1	**0.0**	**0.0**	0	1	100.0	0.0
	d. Other specified	46	87	135	256	391	**524**	**915**	1.9	32.3	2.4	39.2	3.6	1.8	2.4	4.8	7.6	**3.0**	**4.1**	47	85	99.5	0.2
	e. Unspecified	25	28	46	65	76	**164**	**240**	0.6	10.1	0.6	10.3	2.0	0.6	0.8	1.2	1.5	**1.0**	**1.1**	15	22	93.3	2.1
X	GERM CELL TUMOURS	230	186	167	523	1904	**1106**	**3010**	4.0	100.0	7.8	100.0	18.2	3.9	3.0	9.9	36.8	**6.5**	**13.3**	99	283	97.4	0.1
	a. CNS germ cell ‡	27	25	70	172	134	**294**	**428**	1.1	26.6	1.1	14.2	2.1	0.5	1.3	3.2	2.6	**1.7**	**1.9**	27	40	90.7	0.2
	b. Other extragonadal	117	52	14	30	169	**213**	**382**	0.8	19.3	1.0	12.7	9.3	1.1	0.3	0.6	3.3	**1.3**	**1.8**	18	34	95.5	0.0
	c. Gonadal germ cell	84	108	77	296	1484	**565**	**2049**	2.0	51.1	5.3	68.1	6.6	2.3	1.4	5.6	28.7	**3.3**	**9.0**	51	194	99.6	0.0
	d. Gonadal carcinoma	1	0	1	12	73	**14**	**87**	0.1	1.3	0.2	2.9	0.1	-	0.0	0.2	1.4	**0.1**	**0.4**	1	8	97.7	0.0
	e. Unspecified gonadal	1	1	5	13	44	**20**	**64**	0.1	1.8	0.2	2.1	0.1	0.0	0.1	0.2	0.9	**0.1**	**0.3**	2	6	82.8	3.1
XI	CARCINOMA & MELANOMA	18	60	167	591	1635	**836**	**2471**	3.0	100.0	6.4	100.0	1.4	1.3	3.0	11.2	31.6	**4.7**	**10.8**	77	235	99.2	0.1
	a. Adrenocortical	6	16	8	12	10	**42**	**52**	0.2	5.0	0.1	2.1	0.5	0.3	0.1	0.2	0.2	**0.3**	**0.2**	4	5	100.0	0.0
	b. Thyroid	1	9	72	295	941	**377**	**1318**	1.4	45.1	3.4	53.3	0.1	0.2	1.3	5.6	18.2	**2.1**	**5.7**	35	126	99.8	0.1
	c. Nasopharyngeal	0	0	4	33	48	**37**	**85**	0.1	4.4	0.2	3.4	-	-	0.1	0.6	0.9	**0.2**	**0.4**	3	8	100.0	0.0
	d. Melanoma	8	27	44	74	144	**153**	**297**	0.5	18.3	0.8	12.0	0.6	0.6	0.8	1.4	2.8	**0.9**	**1.3**	14	28	98.3	0.0
	e. Skin carcinoma	0	0	0	5	8	**5**	**13**	0.0	0.6	0.0	0.5	-	-	-	0.1	0.2	**0.0**	**0.1**	0	1	92.3	0.0
	f. Other & unspecified	3	8	39	172	484	**222**	**706**	0.8	26.6	1.8	28.6	0.2	0.2	0.7	3.2	9.4	**1.2**	**3.1**	21	67	98.3	0.3
XII	OTHER & UNSPECIFIED	17	43	21	29	69	**110**	**179**	0.4	100.0	0.5	100.0	1.3	0.9	0.4	0.5	1.3	**0.7**	**0.8**	10	16	68.2	14.5
	a. Other specified	5	27	8	13	26	**53**	**79**	0.2	48.2	0.2	44.1	0.4	0.6	0.1	0.2	0.5	**0.3**	**0.4**	5	7	97.5	1.3
	b. Other unspecified	12	16	13	16	43	**57**	**100**	0.2	51.8	0.3	55.9	0.9	0.3	0.2	0.3	0.8	**0.3**	**0.5**	5	9	45.0	25.0
	TOTAL	2994	10317	7080	7463	10823	**27854**	**38677**	100.0	100.0	100.0	100.0	237.0	215.4	127.7	141.0	209.4	**167.3**	**176.7**	2443	3490	93.3	0.5

† includes 1763 non-malignant ‡ includes 37 non-malignant

Please consult the quality indicators for this pool and its constituent registries

USA, Native American (1998-2012)

Registry	Period	Cases	%	Person-years	%
Alabama	1998-2012	#	0.3	138 295	0.7
Alaska	1998-2012	154	8.3	700 022	3.6
Arizona	1998-2012	249	13.5	1 941 195	9.9
Arkansas	1998-2012	#	0.4	120 551	0.6
California	1998-2012	103	5.6	3 168 323	16.1
Colorado	1998-2012	23	1.2	388 276	2.0
Connecticut	1998-2012	#	0.2	83 934	0.4
Delaware	1998-2012	#	0.0	23 301	0.1
District of Columbia	1998-2012	#	0.1	11 019	0.1
Florida	1998-2012	18	1.0	386 774	2.0
Georgia	1998-2012	#	0.5	197 045	1.0
Hawaii	1998-2012	#	0.2	21 507	0.1
Idaho	1998-2012	#	0.8	144 328	0.7
Illinois	1998-2012	#	0.6	340 728	1.7
Indiana	1998-2012	#	0.1	116 915	0.6
Iowa	1998-2012	#	0.4	77 274	0.4
Kentucky	1998-2012	#	0.1	45 098	0.2
Louisiana	1998-2012	#	0.2	162 310	0.8
Maine	1998-2012	#	0.3	47 682	0.2
Massachusetts	1998-2012	#	0.5	142 092	0.7
Michigan	1998-2012	35	1.9	425 478	2.2
Minnesota	1998-2012	58	3.1	432 330	2.2
Mississippi	2002-2012	#	0.5	64 660	0.3
Missouri	1998-2012	#	0.3	165 987	0.8
Montana	1998-2012	70	3.8	405 895	2.1
Nebraska	1998-2012	#	0.7	140 811	0.7
Nevada	1998-2012	#	0.8	213 479	1.1
New Hampshire	1998-2012	#	0.1	19 719	0.1
New Jersey	1998-2012	#	0.3	208 976	1.1
New Mexico	1998-2012	144	7.8	1 169 182	5.9
New York State	1998-2012	25	1.4	838 487	4.3
North Carolina	1998-2012	53	2.9	674 088	3.4
North Dakota	1998-2012	42	2.3	234 062	1.2
Ohio	1998-2012	#	0.4	160 087	0.8
Oklahoma	1998-2012	345	18.7	2 050 180	10.4
Oregon	1998-2012	41	2.2	370 293	1.9
Pennsylvania	1998-2012	#	0.5	179 635	0.9
Rhode Island	1998-2012	#	0.2	49 849	0.3
South Carolina	1998-2012	#	0.1	98 597	0.5
South Dakota	2001-2012	50	2.7	401 309	2.0
Tennessee	1999-2012	#	0.4	94 691	0.5
Texas	1998-2012	60	3.2	1 083 009	5.5
Utah	1998-2012	21	1.1	248 719	1.3
Vermont	1998-2012	#	0.0	13 278	0.1
Virginia	1998-2012	#	0.2	159 528	0.8
Washington State	1998-2012	106	5.7	725 331	3.7
West Virginia	1998-2012	#	0.0	12 927	0.1
Wisconsin	1998-2012	55	3.0	348 937	1.8
Wyoming	1998-2012	#	0.8	85 260	0.4
USA*	**1998-2012**	**1849**	**100.0**	**19 656 376**	**100.0**

15 cases or fewer

* Data not shown for two registries included in the total

Please consult the quality indicators for this pool and its constituent registries

USA, Native American (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	36	196	114	97	119	443	562	35.9	100.0	30.4	100.0	36.9	51.7	23.8	19.3	23.4	32.1	30.2	459	576	97.2	1.2
	a. Lymphoid	15	163	87	53	56	318	374	25.8	71.8	20.2	66.5	15.4	43.0	18.2	10.6	11.0	23.4	20.6	330	386	97.9	1.1
	b. Acute myeloid	9	24	17	34	40	84	124	6.8	19.0	6.7	22.1	9.2	6.3	3.6	6.8	7.9	5.8	6.3	86	126	99.2	0.8
	c. CMD	2	2	1	5	12	10	22	0.8	2.3	1.2	3.9	2.1	0.5	0.2	1.0	2.4	0.7	1.1	10	22	86.4	0.0
	d. MDS & other	9	4	5	3	5	21	26	1.7	4.7	1.4	4.6	9.2	1.1	1.0	0.6	1.0	1.6	1.4	22	27	96.2	0.0
	e. Unspecified	1	3	4	2	6	10	16	0.8	2.3	0.9	2.8	1.0	0.8	0.8	0.4	1.2	0.7	0.8	10	16	81.3	12.5
II	LYMPHOMA & RELATED	8	32	25	53	83	118	201	9.6	100.0	10.9	100.0	8.2	8.4	5.2	10.6	16.3	8.0	9.9	121	202	98.0	0.5
	a. Hodgkin	0	3	4	15	49	22	71	1.8	18.6	3.8	35.3	-	0.8	0.8	3.0	9.6	1.4	3.2	22	70	100.0	0.0
	b. Non-Hodgkin except BL	0	8	12	29	26	49	75	4.0	41.5	4.1	37.3	-	2.1	2.5	5.8	5.1	3.1	3.6	50	75	94.7	1.3
	c. Burkitt (BL)	0	4	4	7	6	15	21	1.2	12.7	1.1	10.4	-	1.1	0.8	1.4	1.2	1.0	1.0	15	21	100.0	0.0
	d. Lymphoreticular	7	17	5	2	1	31	32	2.5	26.3	1.7	15.9	7.2	4.5	1.0	0.4	0.2	2.4	1.9	32	33	100.0	0.0
	e. Unspecified	1	0	0	0	1	1	2	0.1	0.8	0.1	1.0	1.0	-	-	-	0.2	0.1	0.1	1	2	100.0	0.0
III	CNS NEOPLASMS †	15	73	91	87	118	266	384	21.6	100.0	20.8	100.0	15.4	19.3	19.0	17.3	23.2	18.3	19.4	274	390	77.3	0.8
	a. Ependymoma	4	13	6	4	8	27	35	2.2	10.2	1.9	9.1	4.1	3.4	1.3	0.8	1.6	2.0	1.9	28	36	97.1	2.9
	b. Astrocytoma	6	28	33	31	27	98	125	7.9	36.8	6.8	32.6	6.2	7.4	6.9	6.2	5.3	6.8	6.4	101	128	88.0	0.0
	c. CNS embryonal	4	16	22	8	12	50	62	4.1	18.8	3.4	16.1	4.1	4.2	4.6	1.6	2.4	3.6	3.3	52	64	98.4	1.6
	d. Other gliomas	0	10	16	14	11	40	51	3.2	15.0	2.8	13.3	-	2.6	3.3	2.8	2.2	2.7	2.6	41	52	45.1	0.0
	e. Other specified	1	3	12	27	52	43	95	3.5	16.2	5.1	24.7	1.0	0.8	2.5	5.4	10.2	2.7	4.4	44	95	62.1	0.0
	f. Unspecified CNS	0	3	2	3	8	8	16	0.6	3.0	0.9	4.2	-	0.8	0.4	0.6	1.6	0.6	0.8	8	16	62.5	6.3
IV	NEUROBLASTOMA	27	36	5	1	3	69	72	5.6	100.0	3.9	100.0	27.7	9.5	1.0	0.2	0.6	5.5	4.4	72	75	100.0	0.0
	a. (Ganglio)neuroblastoma	27	36	5	1	1	69	70	5.6	100.0	3.8	97.2	27.7	9.5	1.0	0.2	0.2	5.5	4.3	72	73	100.0	0.0
	b. Peripheral nervous	0	0	0	0	2	0	2	-	-	0.1	2.8	-	-	-	-	0.4	-	0.1	-	2	100.0	0.0
V	RETINOBLASTOMA	12	12	2	0	1	26	27	2.1	100.0	1.5	100.0	12.3	3.2	0.4	-	0.2	2.1	1.7	27	28	77.8	3.7
VI	RENAL TUMOURS	10	42	9	2	6	63	69	5.1	100.0	3.7	100.0	10.3	11.1	1.9	0.4	1.2	4.9	4.1	66	72	98.6	0.0
	a. Nephroblastoma	10	41	7	0	1	58	59	4.7	92.1	3.2	85.5	10.3	10.8	1.5	-	0.2	4.6	3.6	61	62	100.0	0.0
	b. Renal carcinoma	0	1	2	2	5	5	10	0.4	7.9	0.5	14.5	-	0.3	0.4	0.4	1.0	0.3	0.5	5	10	90.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	6	18	4	2	3	30	33	2.4	100.0	1.8	100.0	6.2	4.7	0.8	0.4	0.6	2.3	1.9	31	34	100.0	0.0
	a. Hepatoblastoma	6	17	3	0	0	26	26	2.1	86.7	1.4	78.8	6.2	4.5	0.6	-	-	2.1	1.6	27	27	100.0	0.0
	b. Hepatic carcinoma	0	1	1	2	3	4	7	0.3	13.3	0.4	21.2	-	0.3	0.2	0.4	0.6	0.3	0.3	4	7	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	3	19	40	43	62	105	5.0	100.0	5.7	100.0	-	0.8	4.0	8.0	8.5	3.8	4.9	63	105	96.2	1.9
	a. Osteosarcoma	0	0	11	24	27	35	62	2.8	56.5	3.4	59.0	-	-	2.3	4.8	5.3	2.1	2.8	35	62	98.4	0.0
	b. Chondrosarcoma	0	0	1	0	2	1	3	0.1	1.6	0.2	2.9	-	-	0.2	-	0.4	0.1	0.1	1	3	100.0	0.0
	c. Ewing & related	0	3	6	13	10	22	32	1.8	35.5	1.7	30.5	-	0.8	1.3	2.6	2.0	1.4	1.5	22	32	96.9	3.1
	d. Other specified	0	0	1	2	1	3	4	0.2	4.8	0.2	3.8	-	-	0.2	0.4	0.2	0.2	0.2	3	4	100.0	0.0
	e. Unspecified	0	0	0	1	3	1	4	0.1	1.6	0.2	3.8	-	-	-	0.2	0.6	0.1	0.2	1	4	50.0	25.0
IX	SOFT TISSUE SARCOMA	6	28	12	26	46	72	118	5.8	100.0	6.4	100.0	6.2	7.4	2.5	5.2	9.0	5.1	6.0	74	119	100.0	0.0
	a. Rhabdomyosarcoma	1	20	3	8	8	32	40	2.6	44.4	2.2	33.9	1.0	5.3	0.6	1.6	1.6	2.4	2.2	33	41	100.0	0.0
	b. Fibrosarcoma	4	0	2	1	2	7	9	0.6	9.7	0.5	7.6	4.1	-	0.4	0.2	0.4	0.5	0.5	7	9	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	1	7	6	15	32	29	61	2.4	40.3	3.3	51.7	1.0	1.8	1.3	3.0	6.3	1.9	2.9	30	61	100.0	0.0
	e. Unspecified	0	1	1	2	4	4	8	0.3	5.6	0.4	6.8	-	0.3	0.2	0.4	0.8	0.3	0.4	4	8	100.0	0.0
X	GERM CELL TUMOURS	8	5	4	16	75	33	108	2.7	100.0	5.8	100.0	8.2	1.3	0.8	3.2	14.7	2.3	5.1	34	107	98.1	0.0
	a. CNS germ cell	2	1	1	8	3	12	15	1.0	36.4	0.8	13.9	2.1	0.3	0.2	1.6	0.6	0.8	0.7	12	15	93.3	0.0
	b. Other extragonadal	4	1	2	0	9	7	16	0.6	21.2	0.9	14.8	4.1	0.3	0.4	-	1.8	0.5	0.8	7	16	93.8	0.0
	c. Gonadal germ cell	2	3	1	7	61	13	74	1.1	39.4	4.0	68.5	2.1	0.8	0.2	1.4	12.0	0.9	3.4	13	73	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	1	0	1	-	-	0.1	0.9	-	-	-	-	0.2	-	0.0	-	1	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	1	1	2	0.1	3.0	0.1	1.9	-	-	-	0.2	0.2	0.1	0.1	1	2	100.0	0.0
XI	CARCINOMA & MELANOMA	1	4	10	29	115	44	159	3.6	100.0	8.6	100.0	1.0	1.1	2.1	5.8	22.6	2.8	7.2	45	158	100.0	0.0
	a. Adrenocortical	1	3	1	0	0	5	5	0.4	11.4	0.3	3.1	1.0	0.8	0.2	-	-	0.4	0.3	5	5	100.0	0.0
	b. Thyroid	0	1	2	13	47	16	63	1.3	36.4	3.4	39.6	-	0.3	0.4	2.6	9.2	1.0	2.8	16	62	100.0	0.0
	c. Nasopharyngeal	0	0	0	4	8	4	12	0.3	9.1	0.6	7.5	-	-	-	0.8	1.6	0.2	0.5	4	12	100.0	0.0
	d. Melanoma	0	0	4	5	10	9	19	0.7	20.5	1.0	11.9	-	-	0.8	1.0	2.0	0.6	0.9	9	19	100.0	0.0
	e. Skin carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Other & unspecified	0	0	3	7	50	10	60	0.8	22.7	3.2	37.7	-	-	0.6	1.4	9.8	0.6	2.7	10	59	100.0	0.0
XII	OTHER & UNSPECIFIED	3	2	0	2	4	7	11	0.6	100.0	0.6	100.0	3.1	0.5	-	0.4	0.8	0.5	0.6	7	11	72.7	9.1
	a. Other specified	2	1	0	0	1	3	4	0.2	42.9	0.2	36.4	2.1	0.3	-	-	0.2	0.2	0.2	3	4	100.0	0.0
	b. Other unspecified	1	1	0	2	3	4	7	0.3	57.1	0.4	63.6	1.0	0.3	-	0.4	0.6	0.3	0.3	4	7	57.1	14.3
	TOTAL	132	451	295	355	616	1233	1849	100.0	100.0	100.0	100.0	135.4	118.9	61.7	70.7	121.1	87.8	95.3	1274	1879	93.3	0.8

† includes 104 non-malignant

Please consult the quality indicators for this pool and its constituent registries

USA, White non-Hispanic (1998-2012)

Registry	Period	Cases	%	Person-years	%
Alabama	1998-2012	1949	1.4	11 768 850	1.6
Alaska	1998-2012	306	0.2	1 879 969	0.3
Arizona	1998-2012	2220	1.6	11 833 425	1.6
Arkansas	1998-2012	1437	1.1	8 096 697	1.1
California	1998-2012	10556	7.8	52 194 480	7.2
Colorado	1998-2012	2217	1.6	12 447 487	1.7
Connecticut	1998-2012	1794	1.3	9 359 494	1.3
Delaware	1998-2012	415	0.3	2 052 822	0.3
District of Columbia	1998-2012	80	0.1	378 445	0.1
Florida	1998-2012	6198	4.6	33 664 091	4.7
Georgia	1998-2012	3844	2.8	20 379 879	2.8
Hawaii	1998-2012	164	0.1	670 192	0.1
Idaho	1998-2012	1037	0.8	5 439 462	0.8
Illinois	1998-2012	5934	4.4	30 641 932	4.2
Indiana	1998-2012	3938	2.9	21 180 168	2.9
Iowa	1998-2012	1896	1.4	10 654 058	1.5
Kentucky	1998-2012	2695	2.0	14 376 561	2.0
Louisiana	1998-2012	1950	1.4	10 598 473	1.5
Maine	1998-2012	921	0.7	4 573 525	0.6
Massachusetts	1998-2012	3606	2.7	18 229 277	2.5
Michigan	1998-2012	5937	4.4	30 222 494	4.2
Minnesota	1998-2012	2899	2.1	17 149 055	2.4
Mississippi	2002-2012	837	0.6	4 764 110	0.7
Missouri	1998-2012	2792	2.1	18 699 617	2.6
Montana	1998-2012	564	0.4	3 192 633	0.4
Nebraska	1998-2012	1153	0.8	6 000 868	0.8
Nevada	1998-2012	835	0.6	4 741 664	0.7
New Hampshire	1998-2012	922	0.7	4 674 505	0.6
New Jersey	1998-2012	4250	3.1	19 601 950	2.7
New Mexico	1998-2012	538	0.4	2 621 017	0.4
New York State	1998-2012	8602	6.3	41 281 999	5.7
North Carolina	1998-2012	3932	2.9	21 491 823	3.0
North Dakota	1998-2012	372	0.3	2 272 414	0.3
Ohio	1998-2012	6463	4.8	36 922 221	5.1
Oklahoma	1998-2012	1661	1.2	9 775 544	1.4
Oregon	1998-2012	2137	1.6	10 646 831	1.5
Pennsylvania	1998-2012	7178	5.3	36 820 017	5.1
Rhode Island	1998-2012	559	0.4	2 926 166	0.4
South Carolina	1998-2012	1764	1.3	10 241 546	1.4
South Dakota	2001-2012	337	0.2	2 126 966	0.3
Tennessee	1999-2012	2897	2.1	16 190 413	2.2
Texas	1998-2012	8483	6.2	41 597 666	5.8
Utah	1998-2012	1902	1.4	10 612 400	1.5
Vermont	1998-2012	435	0.3	2 249 306	0.3
Virginia	1998-2012	3189	2.3	18 922 061	2.6
Washington State	1998-2012	3559	2.6	17 940 513	2.5
West Virginia	1998-2012	1100	0.8	6 199 695	0.9
Wisconsin	1998-2012	3344	2.5	17 891 008	2.5
Wyoming	1998-2012	294	0.2	1 828 914	0.3
USA*	**1998-2012**	**135752**	**100.0**	**721 041 333**	**100.0**

* Data not shown for two registries included in the total

Please consult the quality indicators for this pool and its constituent registries

USA, White non-Hispanic (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)					0-14	0-19	0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19			All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	1673	12414	6889	5125	5595	**26101**	**31696**	29.3	100.0	23.3	100.0	50.9	93.0	39.4	27.4	29.0	**53.5**	**48.0**	758	903	97.0	0.4
	a. Lymphoid	671	10590	5726	3398	2860	**20385**	**23245**	22.9	78.1	17.1	73.3	20.4	79.4	32.7	18.2	14.8	**42.0**	**35.9**	593	667	98.3	0.3
	b. Acute myeloid	580	1278	762	1128	1730	**3748**	**5478**	4.2	14.4	4.0	17.3	17.6	9.6	4.4	6.0	9.0	**7.5**	**7.8**	108	153	98.0	0.4
	c. CMD	122	133	146	308	642	**709**	**1351**	0.8	2.7	1.0	4.3	3.7	1.0	0.8	1.6	3.3	**1.3**	**1.8**	20	37	80.2	0.9
	d. MDS & other	187	239	123	157	189	**706**	**895**	0.8	2.7	0.7	2.8	5.7	1.8	0.7	0.8	1.0	**1.5**	**1.4**	21	25	92.8	0.7
	e. Unspecified	113	174	132	134	174	**553**	**727**	0.6	2.1	0.5	2.3	3.4	1.3	0.8	0.7	0.9	**1.1**	**1.1**	16	20	84.9	5.0
II	LYMPHOMA & RELATED	389	1386	2578	4747	10659	**9100**	**19759**	10.2	100.0	14.6	100.0	11.8	10.4	14.7	25.4	55.2	**16.3**	**25.0**	254	530	98.6	0.3
	a. Hodgkin	2	88	540	2388	7139	**3018**	**10157**	3.4	33.2	7.5	51.4	0.1	0.7	3.1	12.8	37.0	**4.9**	**12.1**	82	267	99.4	0.1
	b. Non-Hodgkin except BL	131	609	1108	1525	2767	**3373**	**6140**	3.8	37.1	4.5	31.1	4.0	4.6	6.3	8.2	14.3	**6.1**	**8.0**	95	166	98.7	0.3
	c. Burkitt (BL)	3	293	678	599	500	**1573**	**2073**	1.8	17.3	1.5	10.5	0.1	2.2	3.9	3.2	2.6	**2.9**	**2.8**	44	57	99.6	0.1
	d. Lymphoreticular	241	374	198	168	111	**981**	**1092**	1.1	10.8	0.8	5.5	7.3	2.8	1.1	0.9	0.6	**2.1**	**1.7**	29	32	94.4	1.0
	e. Unspecified	12	22	54	67	142	**155**	**297**	0.2	1.7	0.2	1.5	0.4	0.2	0.3	0.4	0.7	**0.3**	**0.4**	4	8	74.7	7.4
III	CNS NEOPLASMS †	1482	6925	7376	7061	7487	**22844**	**30331**	25.7	100.0	22.3	100.0	45.1	51.9	42.2	37.8	38.8	**44.1**	**42.9**	653	847	80.1	0.6
	a. Ependymoma	273	817	444	448	487	**1982**	**2469**	2.2	8.7	1.8	8.1	8.3	6.1	2.5	2.4	2.5	**4.1**	**3.7**	57	70	97.6	0.0
	b. Astrocytoma	502	3123	3249	3196	2732	**10070**	**12802**	11.3	44.1	9.4	42.2	15.3	23.4	18.6	17.1	14.2	**19.4**	**18.2**	287	358	86.4	0.1
	c. CNS embryonal	382	1563	1453	918	579	**4316**	**4895**	4.9	18.9	3.6	16.1	11.6	11.7	8.3	4.9	3.0	**8.6**	**7.4**	125	140	99.1	0.3
	d. Other gliomas	100	800	1214	978	940	**3092**	**4032**	3.5	13.5	3.0	13.3	3.0	6.0	6.9	5.2	4.9	**5.9**	**5.6**	88	112	47.7	0.5
	e. Other specified	144	471	849	1299	2441	**2763**	**5204**	3.1	12.1	3.8	17.2	4.4	3.5	4.9	7.0	12.7	**5.0**	**6.7**	78	141	72.4	0.2
	f. Unspecified CNS	81	151	167	222	308	**621**	**929**	0.7	2.7	0.7	3.1	2.5	1.1	1.0	1.2	1.6	**1.2**	**1.3**	18	26	31.5	11.5
IV	NEUROBLASTOMA	2367	3299	693	252	151	**6611**	**6762**	7.4	100.0	5.0	100.0	72.0	24.7	4.0	1.3	0.8	**14.9**	**11.7**	197	201	97.8	0.2
	a. (Ganglio)neuroblastoma	2361	3283	675	203	81	**6522**	**6603**	7.3	98.7	4.9	97.6	71.8	24.6	3.9	1.1	0.4	**14.7**	**11.5**	194	197	97.8	0.2
	b. Peripheral nervous	6	16	18	49	70	**89**	**159**	0.1	1.3	0.1	2.4	0.2	0.1	0.1	0.3	0.4	**0.2**	**0.2**	2	4	96.2	0.0
V	RETINOBLASTOMA	854	934	75	2	4	**1865**	**1869**	2.1	100.0	1.4	100.0	26.0	7.0	0.4	0.0	0.0	**4.3**	**3.3**	56	56	74.8	0.3
VI	RENAL TUMOURS	582	2792	986	232	282	**4592**	**4874**	5.2	100.0	3.6	100.0	17.7	20.9	5.6	1.2	1.5	**10.0**	**8.1**	136	143	98.8	0.3
	a. Nephroblastoma	562	2775	937	135	64	**4409**	**4473**	5.0	96.0	3.3	91.8	17.1	20.8	5.4	0.7	0.3	**9.7**	**7.6**	131	132	99.2	0.1
	b. Renal carcinoma	15	12	43	94	213	**164**	**377**	0.2	3.6	0.3	7.7	0.5	0.1	0.2	0.5	1.1	**0.3**	**0.5**	5	10	98.7	0.3
	c. Unspecified	5	5	6	3	5	**19**	**24**	0.0	0.4	0.0	0.5	0.2	0.0	0.0	0.0	0.0	**0.0**	**0.0**	1	1	33.3	29.2
VII	HEPATIC TUMOURS	392	673	126	163	250	**1354**	**1604**	1.5	100.0	1.2	100.0	11.9	5.0	0.7	0.9	1.3	**3.0**	**2.6**	40	46	96.4	1.0
	a. Hepatoblastoma	380	647	84	53	31	**1164**	**1195**	1.3	86.0	0.9	74.5	11.6	4.8	0.5	0.3	0.2	**2.6**	**2.1**	35	36	98.0	0.5
	b. Hepatic carcinoma	8	24	40	106	216	**178**	**394**	0.2	13.1	0.3	24.6	0.2	0.2	0.2	0.6	1.1	**0.3**	**0.5**	5	11	93.4	1.8
	c. Unspecified	4	2	2	4	3	**12**	**15**	0.0	0.9	0.0	0.9	0.1	0.0	0.0	0.0	0.0	**0.0**	**0.0**	0	0	53.3	20.0
VIII	BONE TUMOURS	22	235	1013	2559	2980	**3829**	**6809**	4.3	100.0	5.0	100.0	0.7	1.8	5.8	13.7	15.4	**6.4**	**8.5**	105	182	98.4	0.3
	a. Osteosarcoma	3	48	454	1379	1567	**1884**	**3451**	2.1	49.2	2.5	50.7	0.1	0.4	2.6	7.4	8.1	**3.1**	**4.2**	51	92	99.0	0.2
	b. Chondrosarcoma	1	4	13	72	193	**90**	**283**	0.1	2.4	0.2	4.2	0.0	0.0	0.1	0.4	1.0	**0.1**	**0.3**	2	7	98.9	0.0
	c. Ewing & related	6	159	488	983	1027	**1636**	**2663**	1.8	42.7	2.0	39.1	0.2	1.2	2.8	5.3	5.3	**2.8**	**3.4**	45	72	99.1	0.2
	d. Other specified	8	19	41	86	141	**154**	**295**	0.2	4.0	0.2	4.3	0.2	0.1	0.2	0.5	0.7	**0.3**	**0.4**	4	8	97.6	0.0
	e. Unspecified	4	5	17	39	52	**65**	**117**	0.1	1.7	0.1	1.7	0.1	0.0	0.1	0.2	0.3	**0.1**	**0.1**	2	3	67.5	9.4
IX	SOFT TISSUE SARCOMA	581	1531	1406	1973	2942	**5491**	**8433**	6.2	100.0	6.2	100.0	17.7	11.5	8.0	10.6	15.2	**10.6**	**11.6**	156	233	99.3	0.2
	a. Rhabdomyosarcoma	191	1109	760	594	684	**2654**	**3338**	3.0	48.3	2.5	39.6	5.8	8.3	4.3	3.2	3.5	**5.4**	**4.9**	77	94	99.4	0.3
	b. Fibrosarcoma	172	76	103	201	348	**552**	**900**	0.6	10.1	0.7	10.7	5.2	0.6	0.6	1.1	1.8	**1.1**	**1.2**	16	25	99.3	0.0
	c. Kaposi sarcoma	3	2	1	2	7	**8**	**15**	0.0	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	**0.0**	**0.0**	0	0	86.7	6.7
	d. Other specified	159	253	415	911	1521	**1738**	**3259**	2.0	31.7	2.4	38.6	4.8	1.9	2.4	4.9	7.9	**3.1**	**4.2**	49	88	99.6	0.0
	e. Unspecified	56	91	127	265	382	**539**	**921**	0.6	9.8	0.7	10.9	1.7	0.7	0.7	1.4	2.0	**1.0**	**1.2**	15	25	98.0	0.2
X	GERM CELL TUMOURS	689	462	411	1169	5382	**2731**	**8113**	3.1	100.0	6.0	100.0	21.0	3.5	2.3	6.3	27.9	**5.3**	**10.3**	78	217	96.9	0.1
	a. CNS germ cell ‡	105	70	232	478	464	**885**	**1349**	1.0	32.4	1.0	16.6	3.2	0.5	1.3	2.6	2.4	**1.6**	**1.8**	25	37	86.1	0.3
	b. Other extragonadal	425	219	16	46	201	**706**	**907**	0.8	25.9	0.7	11.2	12.9	1.6	0.1	0.2	1.0	**1.6**	**1.5**	21	26	97.4	0.3
	c. Gonadal germ cell	151	168	143	543	4347	**1005**	**5352**	1.1	36.8	3.9	66.0	4.6	1.3	0.8	2.9	22.5	**1.8**	**6.5**	28	141	99.8	0.0
	d. Gonadal carcinoma	2	0	8	55	249	**65**	**314**	0.1	2.4	0.2	3.9	0.1	-	0.0	0.3	1.3	**0.1**	**0.4**	2	8	97.5	0.3
	e. Unspecified gonadal	6	5	12	47	121	**70**	**191**	0.1	2.6	0.1	2.4	0.2	0.0	0.1	0.3	0.6	**0.1**	**0.2**	2	5	91.1	1.6
XI	CARCINOMA & MELANOMA	224	281	749	2825	10825	**4079**	**14904**	4.6	100.0	11.0	100.0	6.8	2.1	4.3	15.1	56.1	**6.9**	**18.0**	112	393	99.3	0.1
	a. Adrenocortical	17	59	25	34	58	**135**	**193**	0.2	3.3	0.1	1.3	0.5	0.4	0.1	0.2	0.3	**0.3**	**0.3**	4	5	97.4	0.0
	b. Thyroid	10	41	233	1181	4549	**1465**	**6014**	1.6	35.9	4.4	40.4	0.3	0.3	1.3	6.3	23.6	**2.4**	**7.2**	40	158	99.9	0.1
	c. Nasopharyngeal	0	0	8	65	157	**73**	**230**	0.1	1.8	0.2	1.5	-	-	0.0	0.3	0.8	**0.1**	**0.3**	2	6	99.6	0.0
	d. Melanoma	139	155	306	875	3962	**1475**	**5437**	1.7	36.2	4.0	36.5	4.2	1.2	1.7	4.7	20.5	**2.6**	**6.6**	41	144	99.1	0.1
	e. Skin carcinoma	3	1	3	25	41	**32**	**73**	0.0	0.8	0.1	0.5	0.1	0.0	0.0	0.1	0.2	**0.1**	**0.1**	1	2	100.0	0.0
	f. Other & unspecified	55	25	174	645	2058	**899**	**2957**	1.0	22.0	2.2	19.8	1.7	0.2	1.0	3.5	10.7	**1.5**	**3.6**	25	78	98.7	0.1
XII	OTHER & UNSPECIFIED	81	129	57	98	233	**365**	**598**	0.4	100.0	0.4	100.0	2.5	1.0	0.3	0.5	1.2	**0.7**	**0.8**	11	17	72.9	9.7
	a. Other specified	36	91	25	46	105	**198**	**303**	0.2	54.2	0.2	50.7	1.1	0.7	0.1	0.2	0.5	**0.4**	**0.4**	6	8	99.3	0.3
	b. Other unspecified	45	38	32	52	128	**167**	**295**	0.2	45.8	0.2	49.3	1.4	0.3	0.2	0.3	0.7	**0.3**	**0.4**	5	8	45.8	19.3
	TOTAL	9336	31061	22359	26206	46790	**88962**	**135752**	100.0	100.0	100.0	100.0	283.9	232.8	127.8	140.3	242.5	**176.0**	**190.9**	2555	3767	93.6	0.4

† includes 6211 non-malignant ‡ includes 138 non-malignant

Please consult the quality indicators for this pool and its constituent registries

National Program of Cancer Registries (NPCR), United States Centers for Disease Control and Prevention (CDC), 1998–2012

Reda Wilson, Jonathan Stanger, Yuan Ren

The National Program of Cancer Registries (NPCR) was established by the United States Centers for Disease Control and Prevention (CDC) in 1992 through the federal Cancer Registries Amendment Act (Public Law 102-515). As authorized by the United States Congress, the CDC provides financial and technical support for the NPCR, which includes population-based cancer registries in 45 states, the District of Columbia, Puerto Rico, and the Pacific Island Jurisdictions, and covers 95% of the population of the USA.

Annually, NPCR contributing cancer registries transmit data to the CDC electronically using a standardized record layout and coding system. These data must meet stringent quality criteria for incidence reporting as established by the CDC, which in 1998–2012 included the following data quality criteria for all cancer sites and all ages combined: at least 90% completeness of case ascertainment, a maximum of 5% of DCO cases, a maximum of 3% of cases with missing information on sex or age, a maximum of 5% of cases with missing information on race, and at least 97% of the registry records passing a set of electronic edits.

The CDC and the NCI, in collaboration with the NAACCR, annually publish the *United States Cancer Statistics* report. These federal cancer statistics are available to the public and cancer control planners through public-use and restricted-access datasets. In addition, several monographs, peer-reviewed publications, and special topic reports have been published (https://www.cdc.gov/cancer/npcr/about.htm). United States Cancer Statistics data visualizations are available at https://gis.cdc.gov/Cancer/USCS/DataViz.html, and state cancer profiles are available at https://statecancerprofiles.cancer.gov.

POPULATION AT RISK

The data were provided by age, sex, race (API, Black, Native American, and White), and ethnic origin (Hispanic and Non-Hispanic) at the 1 July mid-year point of each calendar year. See also USA, above.

EDITORS' COMMENTS

Data from 45 states and the District of Columbia were used for the pooled estimate for the NPCR and as part of the pooled estimate for the USA (Table 6.1). The common reporting period for the contributing cancer registries was 1998–2012; this period was covered by all registries except three: Mississippi (2002–2012), South Dakota (2001–2012), and Tennessee (1999–2012) (Table 6.1). Two states requested that their data not be shown separately. Data for API, Black, Hispanic White, Native American, and White NH are available online, as specified in Table A.12. Tables for the constituent registries, both overall and by race and ethnic group, are also provided online. In addition, data for the New York State Cancer Registry, which also contributed to IICC-1 and IICC-2 (Table A.1), are also tabulated online for White.

Exact dates of birth and incidence were provided. Although day of birth was missing for 18% of cases overall (the proportion differed between the races), the provided age was consistent with the provided dates. Overall incidence rates of CNS tumours in the combined tables and in registry-specific tables may be low because some non-malignant tumours were not registered before 2004. The tables showing incidence rates of CNS tumours by behaviour in Chapter 8 include the NPCR dataset for 2004–2012. For most constituent registries, laterality was not provided for 2003–2007; thus, the tables in Chapter 13 show laterality data for 1998–2002 and 2008–2012 in these registries, USA SEER, and USA total. In the Native American population, the cancer incidence rate in the age group 0–19 years was low (93.7 per million) (Table A.9). See also USA, above.

USA, National Program of Cancer Registries (NPCR) (1998-2012)

	Age group (years)	Males	Females
Person-years	0	28 979 248	27 701 346
	1-4	115 191 796	110 220 761
	5-9	146 345 907	139 853 020
	10-14	152 321 915	145 188 264
	15-19	155 685 757	147 062 305
	0-14	442 838 866	422 963 391
	0-19	598 524 623	570 025 696

Please consult the quality indicators for this pool and its constituent registries

USA, National Program of Cancer Registries (NPCR) (1998-2012)

Registry	Period	Cases	%	Person-years	%
Alabama	1998-2012	2881	1.4	18 860 359	1.6
Alaska	1998-2012	553	0.3	3 109 822	0.3
Arizona	1998-2012	4341	2.1	25 079 066	2.1
Arkansas	1998-2012	1914	0.9	11 601 340	1.0
California	1998-2012	27570	13.3	155 288 043	13.3
Colorado	1998-2012	3356	1.6	19 423 554	1.7
Delaware	1998-2012	663	0.3	3 388 357	0.3
District of Columbia	1998-2012	338	0.2	1 947 572	0.2
Florida	1998-2012	11510	5.5	64 860 345	5.6
Georgia	1998-2012	6541	3.2	39 042 726	3.3
Idaho	1998-2012	1201	0.6	6 638 966	0.6
Illinois	1998-2012	9369	4.5	53 143 088	4.5
Indiana	1998-2012	4757	2.3	26 693 628	2.3
Kentucky	1998-2012	3160	1.5	16 875 855	1.4
Louisiana	1998-2012	3162	1.5	19 403 680	1.7
Maine	1998-2012	962	0.5	4 873 435	0.4
Massachusetts	1998-2012	4643	2.2	24 758 690	2.1
Michigan	1998-2012	7752	3.7	41 670 814	3.6
Minnesota	1998-2012	3872	1.9	21 489 556	1.8
Mississippi	2002-2012	1435	0.7	9 324 749	0.8
Missouri	1998-2012	3951	1.9	23 895 810	2.0
Montana	1998-2012	678	0.3	3 795 661	0.3
Nebraska	1998-2012	1447	0.7	7 606 671	0.7
Nevada	1998-2012	1571	0.8	9 814 134	0.8
New Hampshire	1998-2012	999	0.5	5 072 869	0.4
New Jersey	1998-2012	6735	3.2	34 475 321	3.0
New York State	1998-2012	14435	7.0	75 632 915	6.5
North Carolina	1998-2012	5982	2.9	35 642 902	3.1
North Dakota	1998-2012	425	0.2	2 643 880	0.2
Ohio	1998-2012	7931	3.8	47 030 420	4.0
Oklahoma	1998-2012	2552	1.2	15 177 646	1.3
Oregon	1998-2012	2758	1.3	14 317 432	1.2
Pennsylvania	1998-2012	9053	4.4	48 300 780	4.1
Rhode Island	1998-2012	736	0.4	4 099 993	0.4
South Carolina	1998-2012	2698	1.3	17 634 636	1.5
South Dakota	2001-2012	404	0.2	2 696 431	0.2
Tennessee	1999-2012	3901	1.9	22 670 397	1.9
Texas	1998-2012	19914	9.6	105 930 232	9.1
Vermont	1998-2012	448	0.2	2 381 221	0.2
Virginia	1998-2012	4727	2.3	30 256 338	2.6
Washington State	1998-2012	4910	2.4	25 726 192	2.2
West Virginia	1998-2012	1157	0.6	6 659 911	0.6
Wisconsin	1998-2012	4197	2.0	22 738 594	1.9
Wyoming	1998-2012	341	0.2	2 186 831	0.2
NPCR*	**1998-2012**	**207568**	**100.0**	**1 168 550 319**	**100.0**

* Data not shown for two registries included in total

Please consult the quality indicators for this pool and its constituent registries

USA, National Program of Cancer Registries (NPCR) (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	2807	19738	11310	8789	9131	**42644**	**51775**	30.5	100.0	24.9	100.0	49.5	87.6	39.5	29.5	30.2	**52.3**	**47.3**	745	896	96.9	0.5
	a. Lymphoid	1120	16533	9325	5798	4759	**32776**	**37535**	23.4	76.9	18.1	72.5	19.8	73.3	32.6	19.5	15.7	**40.4**	**34.8**	573	652	98.3	0.3
	b. Acute myeloid	968	2256	1304	1971	2676	**6499**	**9175**	4.6	15.2	4.4	17.7	17.1	10.0	4.6	6.6	8.8	**7.8**	**8.0**	113	157	97.9	0.5
	c. CMD	242	225	245	530	1090	**1242**	**2332**	0.9	2.9	1.1	4.5	4.3	1.0	0.9	1.8	3.6	**1.4**	**1.9**	21	39	79.0	1.4
	d. MDS & other	305	395	201	248	305	**1149**	**1454**	0.8	2.7	0.7	2.8	5.4	1.8	0.7	0.8	1.0	**1.4**	**1.3**	20	25	92.1	0.9
	e. Unspecified	172	329	235	242	301	**978**	**1279**	0.7	2.3	0.6	2.5	3.0	1.5	0.8	0.8	1.0	**1.2**	**1.1**	17	22	84.6	5.5
II	LYMPHOMA & RELATED	668	2445	4227	7280	14837	**14620**	**29457**	10.5	100.0	14.2	100.0	11.8	10.8	14.8	24.5	49.0	**16.1**	**23.5**	251	496	98.4	0.4
	a. Hodgkin	3	232	1079	3549	9568	**4863**	**14431**	3.5	33.3	7.0	49.0	0.1	1.0	3.8	11.9	31.6	**5.0**	**11.0**	83	241	99.4	0.1
	b. Non-Hodgkin except BL	194	1013	1810	2600	4242	**5617**	**9859**	4.0	38.4	4.7	33.5	3.4	4.5	6.3	8.7	14.0	**6.2**	**8.0**	97	167	98.6	0.3
	c. Burkitt (BL)	7	460	907	779	647	**2153**	**2800**	1.5	14.7	1.3	9.5	0.1	2.0	3.2	2.6	2.1	**2.4**	**2.4**	37	48	99.4	0.1
	d. Lymphoreticular	443	691	340	248	150	**1722**	**1872**	1.2	11.8	0.9	6.4	7.8	3.1	1.2	0.8	0.5	**2.2**	**1.8**	30	33	95.6	0.9
	e. Unspecified	21	49	91	104	230	**265**	**495**	0.2	1.8	0.2	1.7	0.4	0.2	0.3	0.3	0.8	**0.3**	**0.4**	5	8	73.3	6.9
III	CNS NEOPLASMS †	2345	10390	11115	10197	11042	**34047**	**45089**	24.3	100.0	21.7	100.0	41.4	46.1	38.8	34.3	36.5	**40.0**	**39.2**	591	774	79.2	0.6
	a. Ependymoma	432	1284	712	641	724	**3069**	**3793**	2.2	9.0	1.8	8.4	7.6	5.7	2.5	2.2	2.4	**3.8**	**3.5**	54	66	97.3	0.1
	b. Astrocytoma	751	4439	4696	4379	3713	**14265**	**17978**	10.2	41.9	8.7	39.9	13.2	19.7	16.4	14.7	12.3	**16.7**	**15.7**	248	309	87.1	0.1
	c. CNS embryonal	631	2380	2107	1282	860	**6400**	**7260**	4.6	18.8	3.5	16.1	11.1	10.6	7.4	4.3	2.8	**7.8**	**6.7**	112	126	98.8	0.2
	d. Other gliomas	152	1256	1924	1388	1216	**4720**	**5936**	3.4	13.9	2.9	13.2	2.7	5.6	6.7	4.7	4.0	**5.5**	**5.1**	82	102	45.1	0.5
	e. Other specified	236	775	1394	2131	4038	**4536**	**8574**	3.2	13.3	4.1	19.0	4.2	3.4	4.9	7.2	13.3	**5.0**	**6.9**	78	145	70.3	0.3
	f. Unspecified CNS	143	256	282	376	491	**1057**	**1548**	0.8	3.1	0.7	3.4	2.5	1.1	1.0	1.3	1.6	**1.2**	**1.3**	18	26	31.9	12.3
IV	NEUROBLASTOMA	3257	4821	993	365	229	**9436**	**9665**	6.7	100.0	4.7	100.0	57.5	21.4	3.5	1.2	0.8	**12.6**	**9.9**	167	170	97.5	0.2
	a. (Ganglio)neuroblastoma	3247	4791	965	295	122	**9298**	**9420**	6.6	98.5	4.5	97.5	57.3	21.3	3.4	1.0	0.4	**12.4**	**9.7**	164	166	97.5	0.2
	b. Peripheral nervous	10	30	28	70	107	**138**	**245**	0.1	1.5	0.1	2.5	0.2	0.1	0.1	0.2	0.4	**0.2**	**0.2**	2	4	95.9	0.0
V	RETINOBLASTOMA	1549	1885	128	13	7	**3575**	**3582**	2.6	100.0	1.7	100.0	27.3	8.4	0.4	0.0	0.0	**4.9**	**3.8**	63	63	76.9	0.4
VI	RENAL TUMOURS	931	4515	1561	387	480	**7394**	**7874**	5.3	100.0	3.8	100.0	16.4	20.0	5.5	1.3	1.6	**9.6**	**7.8**	130	138	98.7	0.3
	a. Nephroblastoma	908	4479	1459	208	102	**7054**	**7156**	5.0	95.4	3.4	90.9	16.0	19.9	5.1	0.7	0.3	**9.2**	**7.2**	124	126	99.1	0.1
	b. Renal carcinoma	17	24	93	174	371	**308**	**679**	0.2	4.2	0.3	8.6	0.3	0.1	0.3	0.6	1.2	**0.3**	**0.5**	5	11	97.8	0.4
	c. Unspecified	6	12	9	5	7	**32**	**39**	0.0	0.4	0.0	0.5	0.1	0.1	0.0	0.0	0.0	**0.0**	**0.0**	1	1	38.5	30.8
VII	HEPATIC TUMOURS	658	1131	228	279	409	**2296**	**2705**	1.6	100.0	1.3	100.0	11.6	5.0	0.8	0.9	1.4	**3.0**	**2.6**	40	47	96.3	0.8
	a. Hepatoblastoma	633	1084	153	101	45	**1971**	**2016**	1.4	85.8	1.0	74.5	11.2	4.8	0.5	0.3	0.1	**2.6**	**2.1**	35	36	97.9	0.4
	b. Hepatic carcinoma	15	43	74	173	359	**305**	**664**	0.2	13.3	0.3	24.5	0.3	0.2	0.3	0.6	1.2	**0.3**	**0.5**	5	11	93.5	1.2
	c. Unspecified	10	4	1	5	5	**20**	**25**	0.0	0.9	0.0	0.9	0.2	0.0	0.0	0.0	0.0	**0.0**	**0.0**	0	0	44.0	20.0
VIII	BONE TUMOURS	40	352	1556	3921	4408	**5869**	**10277**	4.2	100.0	5.0	100.0	0.7	1.6	5.4	13.2	14.6	**6.1**	**8.0**	100	173	97.9	0.4
	a. Osteosarcoma	3	82	843	2375	2548	**3303**	**5851**	2.4	56.3	2.8	56.9	0.1	0.4	2.9	8.0	8.4	**3.4**	**4.5**	56	98	98.8	0.1
	b. Chondrosarcoma	1	7	25	104	258	**137**	**395**	0.1	2.3	0.2	3.8	0.0	0.0	0.1	0.3	0.9	**0.1**	**0.3**	2	7	98.0	0.5
	c. Ewing & related	17	221	595	1223	1278	**2056**	**3334**	1.5	35.0	1.6	32.4	0.3	1.0	2.1	4.1	4.2	**2.2**	**2.6**	35	56	98.7	0.2
	d. Other specified	9	27	62	139	232	**237**	**469**	0.2	4.0	0.2	4.6	0.2	0.1	0.2	0.5	0.8	**0.3**	**0.4**	4	8	97.9	0.2
	e. Unspecified	10	15	31	80	92	**136**	**228**	0.1	2.3	0.1	2.2	0.2	0.1	0.1	0.3	0.3	**0.1**	**0.2**	2	4	65.8	10.1
IX	SOFT TISSUE SARCOMA	922	2397	2278	3258	4636	**8855**	**13491**	6.3	100.0	6.5	100.0	16.3	10.6	8.0	11.0	15.3	**10.3**	**11.4**	153	230	99.0	0.2
	a. Rhabdomyosarcoma	321	1705	1202	987	1077	**4215**	**5292**	3.0	47.6	2.5	39.2	5.7	7.6	4.2	3.3	3.6	**5.1**	**4.8**	73	91	99.3	0.2
	b. Fibrosarcoma	259	117	183	346	551	**905**	**1456**	0.6	10.2	0.7	10.8	4.6	0.5	0.6	1.2	1.8	**1.1**	**1.2**	16	25	98.5	0.0
	c. Kaposi sarcoma	8	4	2	6	35	**20**	**55**	0.0	0.2	0.0	0.4	0.1	0.0	0.0	0.0	0.1	**0.0**	**0.0**	0	1	87.3	1.8
	d. Other specified	234	423	673	1492	2387	**2822**	**5209**	2.0	31.9	2.5	38.6	4.1	1.9	2.4	5.0	7.9	**3.1**	**4.2**	48	88	99.5	0.1
	e. Unspecified	100	148	218	427	586	**893**	**1479**	0.6	10.1	0.7	11.0	1.8	0.7	0.8	1.4	1.9	**1.0**	**1.2**	15	25	97.2	0.6
X	GERM CELL TUMOURS	1128	801	732	2081	8107	**4742**	**12849**	3.4	100.0	6.2	100.0	19.9	3.6	2.6	7.0	26.8	**5.5**	**10.3**	82	216	96.9	0.1
	a. CNS germ cell ‡	167	123	358	789	728	**1437**	**2165**	1.0	30.3	1.0	16.8	2.9	0.5	1.3	2.7	2.4	**1.6**	**1.8**	25	37	87.3	0.3
	b. Other extragonadal	678	331	37	90	507	**1136**	**1643**	0.8	24.0	0.8	12.8	12.0	1.5	0.1	0.3	1.7	**1.5**	**1.6**	20	28	96.5	0.2
	c. Gonadal germ cell	271	335	307	1043	6266	**1956**	**8222**	1.4	41.2	4.0	64.0	4.8	1.5	1.1	3.5	20.7	**2.2**	**6.4**	34	137	99.8	0.0
	d. Gonadal carcinoma	3	1	10	81	380	**95**	**475**	0.1	2.0	0.2	3.7	0.1	0.0	0.0	0.3	1.3	**0.1**	**0.4**	2	8	97.5	0.2
	e. Unspecified gonadal	9	11	20	78	226	**118**	**344**	0.1	2.5	0.2	2.7	0.2	0.0	0.1	0.3	0.7	**0.1**	**0.3**	2	6	89.8	2.3
XI	CARCINOMA & MELANOMA	304	391	1059	4004	14037	**5758**	**19795**	4.1	100.0	9.5	100.0	5.4	1.7	3.7	13.5	46.4	**6.1**	**15.1**	98	330	99.2	0.1
	a. Adrenocortical	23	92	39	50	68	**204**	**272**	0.1	3.5	0.1	1.4	0.4	0.4	0.1	0.2	0.2	**0.3**	**0.2**	4	5	97.8	0.0
	b. Thyroid	14	55	344	1657	6056	**2070**	**8126**	1.5	35.9	3.9	41.1	0.2	0.2	1.2	5.6	20.0	**2.1**	**6.1**	35	135	99.8	0.1
	c. Nasopharyngeal	0	0	25	230	417	**255**	**672**	0.2	4.4	0.3	3.4	-	-	0.1	0.8	1.4	**0.3**	**0.5**	4	11	99.6	0.0
	d. Melanoma	178	202	377	983	4249	**1740**	**5989**	1.2	30.2	2.9	30.3	3.1	0.9	1.3	3.3	14.0	**1.9**	**4.6**	30	100	99.0	0.2
	e. Skin carcinoma	4	1	8	39	59	**52**	**111**	0.0	0.9	0.1	0.6	0.1	0.0	0.0	0.1	0.2	**0.1**	**0.1**	1	2	99.1	0.0
	f. Other & unspecified	85	41	266	1045	3188	**1437**	**4625**	1.0	25.0	2.2	23.4	1.5	0.2	0.9	3.5	10.5	**1.5**	**3.5**	24	77	98.6	0.2
XII	OTHER & UNSPECIFIED	124	203	102	176	404	**605**	**1009**	0.4	100.0	0.5	100.0	2.2	0.9	0.4	0.6	1.3	**0.7**	**0.9**	11	17	70.6	11.2
	a. Other specified	49	140	42	74	164	**305**	**469**	0.2	50.4	0.2	46.5	0.9	0.6	0.1	0.2	0.5	**0.4**	**0.4**	5	8	99.1	0.4
	b. Other unspecified	75	63	60	102	240	**300**	**540**	0.2	49.6	0.3	53.5	1.3	0.3	0.2	0.3	0.8	**0.4**	**0.5**	5	9	45.7	20.6
	TOTAL	14733	49069	35289	40750	67727	**139841**	**207568**	100.0	100.0	100.0	100.0	259.9	217.7	123.3	137.0	223.7	**167.1**	**179.8**	2432	3551	93.3	0.5

† includes 10178 non-malignant ‡ includes 233 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Surveillance, Epidemiology, and End Results (SEER), National Cancer Institute (NCI), 1993–2012

Serban Negoita, Carol Kosary

The Surveillance, Epidemiology, and End Results (SEER) Program is managed by the Surveillance Research Program of the Division of Cancer Control and Population Sciences at the NCI. The SEER Program began collecting data on cancer cases on 1 January 1973, in the states of Connecticut, Iowa, New Mexico, Utah, and Hawaii and the metropolitan areas of Detroit (Michigan) and San Francisco–Oakland (California). In 1974–1975, the metropolitan area of Atlanta (Georgia) and the Seattle–Puget Sound area (Washington State) were added, and together these constitute SEER-9. SEER-18 includes SEER-9 plus nine areas added in various years: Los Angeles and San José–Monterey (both in California), 10 rural counties in Georgia, Alaska Natives in Alaska, the remaining counties in Georgia, and the remaining counties in California, Louisiana, Kentucky, and New Jersey. The NCI and the CDC provide partial funding for the registries in Kentucky, California, New Jersey, Louisiana, and Georgia. The participating registries are shown on the map of North America. More information is available at https://seer.cancer.gov. In 2010, the total population covered by SEER-18 was 86.2 million (29% of the population of the USA). People aged 0–19 years made up 28% of the population covered by SEER registries; the racial and ethnic distribution in that age group was 73% White, 15% Black, 10% API (including 1.2% Chinese, 1.3% Filipino, 0.4% Japanese, and 0.6% Native Hawaiian), and 2% Native American. In addition, at least 27% of people aged 0–19 years residing in SEER areas were identified as Hispanic. Table A.6 shows the proportion of the national population covered by age, race, and ethnicity for the final dataset included in IICC-3.

Cancer records are collected from several sources, including pathology laboratories, hospitals, oncology practices, and radiology facilities. Data are also gathered through data exchange agreements with other states and a death clearance process. Completeness is estimated to be 98% or higher. Incident cases are compared with national and state mortality files to complete case ascertainment and for follow-up of the registered patients.

All registries are required to report all malignancies (except papillary, squamous and basal cell, and histologically unspecified carcinomas of the skin other than genital sites) and in situ neoplasms (except in situ cervix and prostatic intraepithelial neoplasia grade III) listed in ICD-O-3. Data on CNS neoplasms with benign or uncertain behaviour were collected since 2004, but they were not submitted because they were not collected over the entire reporting period and were not reported in IICC-1 or IICC-2. Pilocytic astrocytoma was coded with malignant behaviour throughout and submitted with malignant behaviour, for consistency with IICC-1 and IICC-2.

The data collected must be in sufficient detail to be classified according to the *SEER Program Coding and Staging Manual*. Data from multiple sources are consolidated into a single record for each individual cancer. The registries use SEER Multiple Primary and Histology Coding Rules, which can be converted to international rules. Because of privacy concerns, the SEER Program did not submit day of birth; however, the full date of birth was used to calculate age at diagnosis. Data are edited for legitimate codes and internal consistency.

POPULATION AT RISK

The data were provided by age, sex, race (API, Black, Native American, and White), and ethnic origin (Hispanic and Non-Hispanic) at the 1 July mid-year point of each calendar year. See also USA, above.

EDITORS' COMMENTS

In the IICC-3 book, data are presented for all races combined for SEER-18 for the overall period 1993–2012, with the exception of five registries, which provided data for shorter periods (Table 6.1). The tables for SEER-18 by race and ethnicity, and those for individual registries and their subpopulations, are available online, as specified in Table A.12. In addition, data for the SEER-9 registries, which also contributed to IICC-1 and IICC-2, are also available online for the period 1993–2012 for the same racial groups as previously (White and Black) for the combined SEER-9 dataset and for individual registries with sufficient numbers of cases for the racial and ethnic groups.

Day of birth and day of incidence were not provided for any SEER registry (Table A.8). In the Native American population, the proportion of cases aged 19 years in the age group 15–19 years was high (26.5%) (Table A.9). In the Native American population, the cancer incidence rate in the age group 0–19 years was low (93.3 per million) (Table A.9). See also USA, above.

USA, Surveillance, Epidemiology and End Results Programme, 18 registries (SEER 18) (1993-2012)

	Age group (years)	Males	Females
Person-years	0	9 720 146	9 281 072
	1-4	38 721 190	37 012 926
	5-9	48 290 296	46 126 868
	10-14	49 749 901	47 416 271
	15-19	49 639 436	46 712 952
	0-14	146 481 533	139 837 137
	0-19	196 120 969	186 550 089

Please consult the quality indicators for this pool and its constituent registries

USA, Surveillance, Epidemiology and End Results Programme, 18 registries (SEER 18)
1993-2012

Registry	Period	Cases	%	Person-years	%
Alaska Natives	1993-2012	159	0.2	912 127	0.2
California*					
California, Greater California	2000-2012	13237	20.3	76 459 077	20.0
California, Los Angeles	1993-2012	9333	14.3	56 663 992	14.8
California, San Francisco	1993-2012	3358	5.1	20 247 600	5.3
California, San José-Monterey	1993-2012	2363	3.6	13 310 401	3.5
Connecticut	1993-2012	3297	5.1	18 314 349	4.8
Georgia*					
Georgia, Atlanta	1993-2012	2681	4.1	17 138 008	4.5
Georgia, Greater Georgia	2000-2012	3533	5.4	21 987 621	5.7
Georgia, Rural	1993-2012	91	0.1	664 320	0.2
Hawaii	1993-2012	1059	1.6	6 685 312	1.7
Iowa	1993-2012	2869	4.4	16 343 420	4.3
Kentucky	2000-2012	2586	4.0	14 642 066	3.8
Louisiana	2000-2012	2579	4.0	16 647 484	4.4
Michigan, Detroit	1993-2012	3772	5.8	22 376 592	5.8
New Jersey	2000-2012	5715	8.8	29 972 596	7.8
New Mexico	1993-2012	1712	2.6	11 280 048	2.9
Utah	1993-2012	2917	4.5	16 960 655	4.4
Washington, Seattle	1993-2012	3956	6.1	22 065 390	5.8
SEER-18	**1993-2012**	**65217**	**100.0**	**382 671 058**	**100.0**

*The entire state is covered by the listed registries

Please consult the quality indicators for this pool and its constituent registries

USA, Surveillance, Epidemiology and End Results Programme, 18 registries (SEER 18) (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	953	6889	3882	3000	3043	**14724**	**17767**	32.9	100.0	27.2	100.0	50.2	91.0	41.1	30.9	31.6	**54.3**	**49.2**	774	932	98.0	0.1
	a. Lymphoid	394	5825	3225	2018	1640	**11462**	**13102**	25.6	77.8	20.1	73.7	20.7	76.9	34.2	20.8	17.0	**42.5**	**36.7**	603	688	98.9	0.1
	b. Acute myeloid	358	779	450	703	914	**2290**	**3204**	5.1	15.6	4.9	18.0	18.8	10.3	4.8	7.2	9.5	**8.3**	**8.6**	120	167	98.8	0.1
	c. CMD	63	59	62	162	318	**346**	**664**	0.8	2.3	1.0	3.7	3.3	0.8	0.7	1.7	3.3	**1.2**	**1.7**	18	35	83.9	0.5
	d. MDS & other	88	121	63	60	95	**332**	**427**	0.7	2.3	0.7	2.4	4.6	1.6	0.7	0.6	1.0	**1.2**	**1.2**	17	22	93.0	0.5
	e. Unspecified	50	105	82	57	76	**294**	**370**	0.7	2.0	0.6	2.1	2.6	1.4	0.9	0.6	0.8	**1.1**	**1.0**	15	19	88.6	1.6
II	LYMPHOMA & RELATED	174	803	1418	2410	4688	**4805**	**9493**	10.7	100.0	14.6	100.0	9.2	10.6	15.0	24.8	48.7	**16.0**	**23.4**	251	494	98.8	0.0
	a. Hodgkin	1	83	412	1134	2951	**1630**	**4581**	3.6	33.9	7.0	48.3	0.1	1.1	4.4	11.7	30.6	**5.1**	**10.9**	85	238	99.7	0.0
	b. Non-Hodgkin except BL	28	345	592	914	1395	**1879**	**3274**	4.2	39.1	5.0	34.5	1.5	4.6	6.3	9.4	14.5	**6.3**	**8.1**	98	170	98.9	0.0
	c. Burkitt (BL)	3	145	286	257	220	**691**	**911**	1.5	14.4	1.4	9.6	0.2	1.9	3.0	2.6	2.3	**2.3**	**2.3**	36	48	99.6	0.0
	d. Lymphoreticular	139	213	104	76	54	**532**	**586**	1.2	11.1	0.9	6.2	7.3	2.8	1.1	0.8	0.6	**2.0**	**1.7**	28	31	95.6	0.0
	e. Unspecified	3	17	24	29	68	**73**	**141**	0.2	1.5	0.2	1.5	0.2	0.2	0.3	0.3	0.7	**0.3**	**0.4**	4	7	78.0	0.7
III	CNS NEOPLASMS	641	3083	3068	2455	1955	**9247**	**11202**	20.7	100.0	17.2	100.0	33.7	40.7	32.5	25.3	20.3	**33.0**	**30.2**	485	587	83.8	0.3
	a. Ependymoma	95	389	195	155	152	**834**	**986**	1.9	9.0	1.5	8.8	5.0	5.1	2.1	1.6	1.6	**3.1**	**2.8**	44	52	98.4	0.2
	b. Astrocytoma	246	1389	1463	1377	1084	**4475**	**5559**	10.0	48.4	8.5	49.6	12.9	18.3	15.5	14.2	11.3	**15.8**	**14.8**	235	291	88.7	0.1
	c. CNS embryonal	213	843	703	409	275	**2168**	**2443**	4.8	23.4	3.7	21.8	11.2	11.1	7.4	4.2	2.9	**7.9**	**6.8**	114	128	98.6	0.2
	d. Other gliomas	51	376	646	442	376	**1515**	**1891**	3.4	16.4	2.9	16.9	2.7	5.0	6.8	4.5	3.9	**5.3**	**5.0**	79	99	43.9	0.3
	e. Other specified	15	51	41	43	47	**150**	**197**	0.3	1.6	0.3	1.8	0.8	0.7	0.4	0.4	0.5	**0.5**	**0.5**	8	10	97.5	0.0
	f. Unspecified CNS	21	35	20	29	21	**105**	**126**	0.2	1.1	0.2	1.1	1.1	0.5	0.2	0.3	0.2	**0.4**	**0.3**	6	7	41.3	11.9
IV	NEUROBLASTOMA	997	1519	345	127	83	**2988**	**3071**	6.7	100.0	4.7	100.0	52.5	20.1	3.7	1.3	0.9	**11.8**	**9.4**	158	162	97.9	0.0
	a. (Ganglio)neuroblastoma	992	1508	334	110	39	**2944**	**2983**	6.6	98.5	4.6	97.1	52.2	19.9	3.5	1.1	0.4	**11.7**	**9.1**	155	157	97.9	0.0
	b. Peripheral nervous	5	11	11	17	44	**44**	**88**	0.1	1.5	0.1	2.9	0.3	0.1	0.1	0.2	0.5	**0.2**	**0.2**	2	5	96.6	0.0
V	RETINOBLASTOMA	519	703	42	6	2	**1270**	**1272**	2.8	100.0	2.0	100.0	27.3	9.3	0.4	0.1	0.0	**5.2**	**4.0**	67	67	81.1	0.1
VI	RENAL TUMOURS	299	1438	496	104	143	**2337**	**2480**	5.2	100.0	3.8	100.0	15.7	19.0	5.3	1.1	1.5	**9.1**	**7.4**	123	131	99.2	0.0
	a. Nephroblastoma	296	1426	470	59	27	**2251**	**2278**	5.0	96.3	3.5	91.9	15.6	18.8	5.0	0.6	0.3	**8.8**	**6.9**	119	120	99.3	0.0
	b. Renal carcinoma	2	8	25	45	116	**80**	**196**	0.2	3.4	0.3	7.9	0.1	0.1	0.3	0.5	1.2	**0.3**	**0.5**	4	10	99.0	0.5
	c. Unspecified	1	4	1	0	0	**6**	**6**	0.0	0.3	0.0	0.2	0.1	0.1	0.0	-	-	**0.0**	**0.0**	0	0	50.0	0.0
VII	HEPATIC TUMOURS	223	409	91	99	128	**822**	**950**	1.8	100.0	1.5	100.0	11.7	5.4	1.0	1.0	1.3	**3.2**	**2.8**	43	50	96.7	0.3
	a. Hepatoblastoma	216	395	61	36	10	**708**	**718**	1.6	86.1	1.1	75.6	11.4	5.2	0.6	0.4	0.1	**2.8**	**2.2**	37	38	97.4	0.1
	b. Hepatic carcinoma	6	12	29	63	118	**110**	**228**	0.2	13.4	0.3	24.0	0.3	0.2	0.3	0.6	1.2	**0.4**	**0.6**	6	12	94.7	0.9
	c. Unspecified	1	2	1	0	0	**4**	**4**	0.0	0.5	0.0	0.4	0.1	0.0	0.0	-	-	**0.0**	**0.0**	0	0	100.0	0.0
VIII	BONE TUMOURS	14	120	526	1277	1409	**1937**	**3346**	4.3	100.0	5.1	100.0	0.7	1.6	5.6	13.1	14.6	**6.2**	**8.1**	101	174	98.6	0.1
	a. Osteosarcoma	1	33	291	805	807	**1130**	**1937**	2.5	58.3	3.0	57.9	0.1	0.4	3.1	8.3	8.4	**3.5**	**4.6**	59	101	99.1	0.0
	b. Chondrosarcoma	0	1	10	52	85	**63**	**148**	0.1	3.3	0.2	4.4	-	0.0	0.1	0.5	0.9	**0.2**	**0.3**	3	8	97.3	0.0
	c. Ewing & related	6	71	189	365	397	**631**	**1028**	1.4	32.6	1.6	30.7	0.3	0.9	2.0	3.8	4.1	**2.1**	**2.5**	33	53	99.4	0.0
	d. Other specified	4	11	25	36	91	**76**	**167**	0.2	3.9	0.3	5.0	0.2	0.1	0.3	0.4	0.9	**0.3**	**0.4**	4	9	98.2	0.0
	e. Unspecified	3	4	11	19	29	**37**	**66**	0.1	1.9	0.1	2.0	0.2	0.1	0.1	0.2	0.3	**0.1**	**0.2**	2	3	74.2	4.5
IX	SOFT TISSUE SARCOMA	319	788	767	1127	1550	**3001**	**4551**	6.7	100.0	7.0	100.0	16.8	10.4	8.1	11.6	16.1	**10.5**	**11.8**	157	237	99.3	0.0
	a. Rhabdomyosarcoma	107	566	411	351	329	**1435**	**1764**	3.2	47.8	2.7	38.8	5.6	7.5	4.4	3.6	3.4	**5.2**	**4.8**	75	92	99.5	0.1
	b. Fibrosarcoma	95	46	62	110	176	**313**	**489**	0.7	10.4	0.7	10.7	5.0	0.6	0.7	1.1	1.8	**1.1**	**1.3**	16	26	98.8	0.0
	c. Kaposi sarcoma	3	0	1	1	10	**5**	**15**	0.0	0.2	0.0	0.3	0.2	-	0.0	0.0	0.1	**0.0**	**0.0**	0	1	86.7	0.0
	d. Other specified	82	132	241	526	860	**981**	**1841**	2.2	32.7	2.8	40.5	4.3	1.7	2.6	5.4	8.9	**3.3**	**4.5**	51	96	99.7	0.0
	e. Unspecified	32	44	52	139	175	**267**	**442**	0.6	8.9	0.7	9.7	1.7	0.6	0.6	1.4	1.8	**0.9**	**1.1**	14	23	97.7	0.0
X	GERM CELL TUMOURS	393	274	244	753	2816	**1664**	**4480**	3.7	100.0	6.9	100.0	20.7	3.6	2.6	7.7	29.2	**5.8**	**11.1**	87	233	97.5	0.0
	a. CNS germ cell	42	13	112	282	265	**449**	**714**	1.0	27.0	1.1	15.9	2.2	0.2	1.2	2.9	2.8	**1.4**	**1.7**	23	37	91.0	0.0
	b. Other extragonadal	259	123	13	47	193	**442**	**635**	1.0	26.6	1.0	14.2	13.6	1.6	0.1	0.5	2.0	**1.7**	**1.8**	23	33	96.2	0.2
	c. Gonadal germ cell	89	136	111	381	2181	**717**	**2898**	1.6	43.1	4.4	64.7	4.7	1.8	1.2	3.9	22.6	**2.4**	**7.0**	37	151	99.6	0.0
	d. Gonadal carcinoma	0	0	1	23	130	**24**	**154**	0.1	1.4	0.2	3.4	-	-	0.0	0.2	1.3	**0.1**	**0.4**	1	8	96.1	0.6
	e. Unspecified gonadal	3	2	7	20	47	**32**	**79**	0.1	1.9	0.1	1.8	0.2	0.0	0.1	0.2	0.5	**0.1**	**0.2**	2	4	94.9	0.0
XI	CARCINOMA & MELANOMA	33	126	348	1287	4565	**1794**	**6359**	4.0	100.0	9.8	100.0	1.7	1.7	3.7	13.2	47.4	**5.7**	**15.1**	93	330	99.5	0.0
	a. Adrenocortical	10	29	16	17	19	**72**	**91**	0.2	4.0	0.1	1.4	0.5	0.4	0.2	0.2	0.2	**0.3**	**0.2**	4	5	98.9	0.0
	b. Thyroid	2	15	115	524	1957	**656**	**2613**	1.5	36.6	4.0	41.1	0.1	0.2	1.2	5.4	20.3	**2.0**	**6.1**	34	136	99.8	0.0
	c. Nasopharyngeal	0	0	5	73	128	**78**	**206**	0.2	4.3	0.3	3.2	-	-	0.1	0.8	1.3	**0.2**	**0.5**	4	11	100.0	0.0
	d. Melanoma	12	66	132	327	1363	**537**	**1900**	1.2	29.9	2.9	29.9	0.6	0.9	1.4	3.4	14.1	**1.7**	**4.5**	28	99	99.4	0.0
	e. Skin carcinoma	1	0	2	12	23	**15**	**38**	0.0	0.8	0.1	0.6	0.1	-	0.0	0.1	0.2	**0.0**	**0.1**	1	2	100.0	0.0
	f. Other & unspecified	8	16	78	334	1075	**436**	**1511**	1.0	24.3	2.3	23.8	0.4	0.2	0.8	3.4	11.2	**1.4**	**3.6**	23	78	99.1	0.1
XII	OTHER & UNSPECIFIED	27	51	26	48	94	**152**	**246**	0.3	100.0	0.4	100.0	1.4	0.7	0.3	0.5	1.0	**0.6**	**0.6**	8	13	82.5	6.9
	a. Other specified	14	36	10	31	48	**91**	**139**	0.2	59.9	0.2	56.5	0.7	0.5	0.1	0.3	0.5	**0.3**	**0.4**	5	7	99.3	0.0
	b. Other unspecified	13	15	16	17	46	**61**	**107**	0.1	40.1	0.2	43.5	0.7	0.2	0.2	0.2	0.5	**0.2**	**0.3**	3	6	60.7	15.9
	TOTAL	4592	16203	11253	12693	20476	**44741**	**65217**	100.0	100.0	100.0	100.0	241.7	213.9	119.2	130.6	212.5	**161.3**	**172.9**	2347	3409	95.5	0.1

Please consult the quality indicators for this pool and its constituent registries

USA, Hawaii, Hawaiian (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	6	34	22	18	10	**80**	**90**	35.4	100.0	28.4	100.0	52.9	76.1	41.2	34.0	20.0	**50.8**	**43.9**	733	833	97.8	1.1
	a. Lymphoid	3	27	21	8	3	**59**	**62**	26.1	73.8	19.6	68.9	26.4	60.4	39.4	15.1	6.0	**37.8**	**30.6**	540	570	98.4	1.6
	b. Acute myeloid	3	6	0	8	7	**17**	**24**	7.5	21.3	7.6	26.7	26.4	13.4	-	15.1	14.0	**10.6**	**11.4**	156	226	95.8	0.0
	c. CMD	0	0	1	2	0	**3**	**3**	1.3	3.8	0.9	3.3	-	-	1.9	3.8	-	**1.7**	**1.3**	28	28	100.0	0.0
	d. MDS & other	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	0	1	0	0	0	**1**	**1**	0.4	1.3	0.3	1.1	-	2.2	-	-	-	**0.7**	**0.5**	9	9	100.0	0.0
II	LYMPHOMA & RELATED	0	4	10	13	13	**27**	**40**	11.9	100.0	12.6	100.0	-	9.0	18.7	24.5	26.0	**15.9**	**18.2**	252	382	95.0	2.5
	a. Hodgkin	0	0	3	3	8	**6**	**14**	2.7	22.2	4.4	35.0	-	-	5.6	5.7	16.0	**3.5**	**6.3**	56	136	100.0	0.0
	b. Non-Hodgkin except BL	0	2	7	8	5	**17**	**22**	7.5	63.0	6.9	55.0	-	4.5	13.1	15.1	10.0	**10.0**	**10.0**	159	209	90.9	4.5
	c. Burkitt (BL)	0	1	0	1	0	**2**	**2**	0.9	7.4	0.6	5.0	-	2.2	-	1.9	-	**1.2**	**1.0**	18	18	100.0	0.0
	d. Lymphoreticular	0	1	0	1	0	**2**	**2**	0.9	7.4	0.6	5.0	-	2.2	-	1.9	-	**1.2**	**1.0**	18	18	100.0	0.0
	e. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
III	CNS NEOPLASMS	5	12	18	14	9	**49**	**58**	21.7	100.0	18.3	100.0	44.1	26.9	33.7	26.4	18.0	**30.3**	**27.5**	452	543	89.7	0.0
	a. Ependymoma	1	1	1	0	2	**3**	**5**	1.3	6.1	1.6	8.6	8.8	2.2	1.9	-	4.0	**2.0**	**2.4**	27	47	100.0	0.0
	b. Astrocytoma	0	4	11	12	5	**27**	**32**	11.9	55.1	10.1	55.2	-	9.0	20.6	22.6	10.0	**16.0**	**14.6**	252	302	93.8	0.0
	c. CNS embryonal	2	5	6	1	1	**14**	**15**	6.2	28.6	4.7	25.9	17.6	11.2	11.2	1.9	2.0	**9.0**	**7.4**	128	138	100.0	0.0
	d. Other gliomas	2	2	0	1	1	**5**	**6**	2.2	10.2	1.9	10.3	17.6	4.5	-	1.9	2.0	**3.3**	**3.0**	45	55	33.3	0.0
	e. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	f. Unspecified CNS	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
IV	NEUROBLASTOMA	4	8	0	0	2	**12**	**14**	5.3	100.0	4.4	100.0	35.3	17.9	-	-	4.0	**8.3**	**7.3**	107	127	100.0	0.0
	a. (Ganglio)neuroblastoma	4	8	0	0	1	**12**	**13**	5.3	100.0	4.1	92.9	35.3	17.9	-	-	2.0	**8.3**	**6.9**	107	117	100.0	0.0
	b. Peripheral nervous	0	0	0	0	1	**0**	**1**	-	-	0.3	7.1	-	-	-	-	2.0	**-**	**0.5**	-	10	100.0	0.0
V	RETINOBLASTOMA	2	6	0	0	0	**8**	**8**	3.5	100.0	2.5	100.0	17.6	13.4	-	-	-	**5.5**	**4.3**	71	71	87.5	0.0
VI	RENAL TUMOURS	1	0	0	0	1	**1**	**2**	0.4	100.0	0.6	100.0	8.8	-	-	-	2.0	**0.7**	**1.0**	9	19	100.0	0.0
	a. Nephroblastoma	1	0	0	0	0	**1**	**1**	0.4	100.0	0.3	50.0	8.8	-	-	-	-	**0.7**	**0.5**	9	9	100.0	0.0
	b. Renal carcinoma	0	0	0	0	1	**0**	**1**	-	-	0.3	50.0	-	-	-	-	2.0	**-**	**0.5**	-	10	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	HEPATIC TUMOURS	3	2	0	0	0	**5**	**5**	2.2	100.0	1.6	100.0	26.4	4.5	-	-	-	**3.5**	**2.7**	45	45	100.0	0.0
	a. Hepatoblastoma	3	2	0	0	0	**5**	**5**	2.2	100.0	1.6	100.0	26.4	4.5	-	-	-	**3.5**	**2.7**	45	45	100.0	0.0
	b. Hepatic carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	BONE TUMOURS	0	0	9	6	7	**15**	**22**	6.6	100.0	6.9	100.0	-	-	16.9	11.3	14.0	**8.7**	**9.9**	141	211	100.0	0.0
	a. Osteosarcoma	0	0	5	6	3	**11**	**14**	4.9	73.3	4.4	63.6	-	-	9.4	11.3	6.0	**6.3**	**6.2**	103	133	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	1	**0**	**1**	-	-	0.3	4.5	-	-	-	-	2.0	**-**	**0.5**	-	10	100.0	0.0
	c. Ewing & related	0	0	2	0	3	**2**	**5**	0.9	13.3	1.6	22.7	-	-	3.7	-	6.0	**1.2**	**2.3**	19	49	100.0	0.0
	d. Other specified	0	0	2	0	0	**2**	**2**	0.9	13.3	0.6	9.1	-	-	3.7	-	-	**1.2**	**0.9**	19	19	100.0	0.0
	e. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
IX	SOFT TISSUE SARCOMA	0	2	3	8	10	**13**	**23**	5.8	100.0	7.3	100.0	-	4.5	5.6	15.1	20.0	**7.6**	**10.4**	121	222	100.0	0.0
	a. Rhabdomyosarcoma	0	2	1	2	2	**5**	**7**	2.2	38.5	2.2	30.4	-	4.5	1.9	3.8	4.0	**3.1**	**3.3**	46	66	100.0	0.0
	b. Fibrosarcoma	0	0	1	2	0	**3**	**3**	1.3	23.1	0.9	13.0	-	-	1.9	3.8	-	**1.7**	**1.3**	28	28	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	0	0	1	3	5	**4**	**9**	1.8	30.8	2.8	39.1	-	-	1.9	5.7	10.0	**2.2**	**4.0**	38	88	100.0	0.0
	e. Unspecified	0	0	0	1	3	**1**	**4**	0.4	7.7	1.3	17.4	-	-	-	1.9	6.0	**0.5**	**1.8**	9	39	100.0	0.0
X	GERM CELL TUMOURS	2	3	1	1	22	**7**	**29**	3.1	100.0	9.1	100.0	17.6	6.7	1.9	1.9	44.0	**4.6**	**13.5**	63	284	100.0	0.0
	a. CNS germ cell	0	0	1	1	5	**2**	**7**	0.9	28.6	2.2	24.1	-	-	1.9	1.9	10.0	**1.2**	**3.1**	19	69	100.0	0.0
	b. Other extragonadal	2	2	0	0	1	**4**	**5**	1.8	57.1	1.6	17.2	17.6	4.5	-	-	2.0	**2.8**	**2.6**	36	46	100.0	0.0
	c. Gonadal germ cell	0	1	0	0	15	**1**	**16**	0.4	14.3	5.0	55.2	-	2.2	-	-	30.0	**0.7**	**7.3**	9	159	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	1	**0**	**1**	-	-	0.3	3.4	-	-	-	-	2.0	**-**	**0.5**	-	10	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
XI	CARCINOMA & MELANOMA	1	1	1	6	17	**9**	**26**	4.0	100.0	8.2	100.0	8.8	2.2	1.9	11.3	34.0	**5.3**	**11.7**	84	254	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Thyroid	0	0	1	3	8	**4**	**12**	1.8	44.4	3.8	46.2	-	-	1.9	5.7	16.0	**2.2**	**5.3**	38	118	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	2	**1**	**3**	0.4	11.1	0.9	11.5	-	-	-	1.9	4.0	**0.5**	**1.3**	9	29	100.0	0.0
	d. Melanoma	1	0	0	1	2	**2**	**4**	0.9	22.2	1.3	15.4	8.8	-	-	1.9	4.0	**1.2**	**1.9**	18	38	100.0	0.0
	e. Skin carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	f. Other & unspecified	0	1	0	1	5	**2**	**7**	0.9	22.2	2.2	26.9	-	2.2	-	1.9	10.0	**1.2**	**3.2**	18	68	100.0	0.0
XII	OTHER & UNSPECIFIED	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	a. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Other unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	TOTAL	24	72	64	66	91	**226**	**317**	100.0	100.0	100.0	100.0	211.5	161.1	119.9	124.6	182.1	**141.2**	**150.4**	2079	2990	96.5	0.6

Please consult the quality indicators for this registry

Alabama Statewide Cancer Registry, 1998–2012

Xuejun Shen, Justin T. George, Diane Hadley, Mark K. Jackson, Tara Freeman, Teisha Robertson, Ashley Gruenwald, Crystal Morton, Teresa Trailer, Elaine Wooden

Alabama is located in the south-eastern USA. The capital city is Montgomery, and the largest city is Birmingham. In 2010, the total population was 4.8 million, and about 27% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 40% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 60% White NH, 32% Black, 5% Hispanic White, 2% API, and 1% Native American.

The Alabama Statewide Cancer Registry collects data on all cancer cases diagnosed or treated in the state of Alabama. The registry was established in 1995 by the Alabama Department of Public Health in response to a state law that made cancer a reportable condition. Data collection began on 1 January 1996 (Table A.10). The registry is located within the Bureau of Family Health Services and is responsible for maintaining a statewide cancer incidence reporting system to provide accurate and up-to-date information about cancer in Alabama. The registry is a participant in the NPCR. The Alabama Statewide Cancer Registry has achieved NAACCR Gold Certification since data year 2004.

The registry's central repository of information is a valuable tool for monitoring trends in cancer incidence, identifying populations at high risk of cancer, facilitating studies related to cancer prevention, and planning cancer control initiatives.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Alaska Cancer Registry, 1998–2012

Rosa Avila, David O'Brien, Evelyn Honeycutt, Jaylynn Backus, Adrienne Driskill

Alaska is located in the north-western extremity of the North American continent. It is the largest state in the USA by area and the most sparsely populated. Alaska comprises 16% of the total land area of the country but accounts for only 0.2% of the country's population. Most of the state is rural. About 41% of Alaska residents live in the municipality of Anchorage. In 2010, the population was 0.7 million, and about 29% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 40% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 58% White NH, 22% Native American, 8% API, 6% Black, and 5% Hispanic White.

General health care in the state is provided by 24 hospitals, numerous health clinics, and many private practitioners. Because the municipality of Anchorage has the largest population, it also has the highest number of health-care facilities, including four hospitals. Alaska Natives are provided with health care at no cost at a central hospital in Anchorage.

The Alaska Cancer Registry covers the population of the state of Alaska. It is located in Anchorage and is part of the state health department. It is funded mostly by the CDC/NPCR and partly by the state health department. The registry is staffed by three full-time registrars, a registry manager, and a full-time data analyst.

Cancer is a reportable disease by state and federal law. The registry's annual caseload is about 2900 consolidated malignancy cases. The Alaska Cancer Registry receives most of its cases from hospitals. The remaining cases are received from physicians, pathology laboratories, other state cancer registries in the USA, and review of death certificates. The registry has data exchange agreements with most of the other state cancer registries in the USA. Quality control is regularly performed on the data using the most current NAACCR Edits Metafile.

The registry prepares an annual report on cancer incidence and mortality. Registry data are regularly requested by the Alaska state legislature, physicians, researchers, and the general public.

PUBLICATIONS

O'Brien DK (2017). Finding "zombies" in your database by confirming vital status. North American Association of Central Cancer Registries. Available from: https://www.naaccr.org/finding-zombies-database-confirming-vital-status.

Alaska Cancer Registry (2017). Cancer in Alaska – 2013. Alaska Cancer Registry, Section of Chronic Disease Prevention and Health Promotion, Division of Public Health, Alaska Department of Health and Social Services. Available from: https://dhss.alaska.gov/dph/VitalStats/Documents/cancerregistry/data/CancerInAlaska2013.pdf.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The proportion of cases aged 19 years in the age group 15–19 years was high (25.4%) (Table A.9). The sex ratio in the age group 15–19 years was low (0.7) (Table A.9). See also USA and NPCR, above.

Alaska Native Tumor Registry, 1993–2012

Sarah H. Nash, Janet J. Kelly, Teresa Schade, Garrett L. Zimpelman, Iona Sallison, Linda O'Brien, Jennifer Brantley, Sadie Bean, Anne P. Lanier

The Alaska Native Tumor Registry is a population-based registry that collects information about all cancers diagnosed in American Indian and Alaska Native people residing in the state of Alaska at the time of diagnosis. In 2010, about 39% of the Alaska Native population was younger than 20 years (Table A.6). The registry started collecting data in 1974 and has data from 1969 (Table A.10); the registry has been a full member of the NCI's SEER Program since 1999. The registry is fully funded by the SEER Program.

During the reporting period, it is likely that many paediatric cancer cases were treated outside the registration area. Most paediatric cancer cases that are treated outside Alaska are referred to hospitals in the area of Seattle (Washington State) for treatment. This treatment information is captured through annual data sharing with the Washington State Cancer Registry.

PUBLICATIONS

Kelly JJ, Lanier AP, Schade T, Brantley J, Starkey BM (2014). Cancer disparities among Alaska Native people, 1970–2011. Prev Chronic Dis. 11:E221. https://doi.org/10.5888/pcd11.130369 PMID:25523352

Lanier AP, Holck P, Ehrsam Day G, Key C (2003). Childhood cancer among Alaska Natives. Pediatrics. 112(5):e396. https://doi.org/10.1542/peds.112.5.e396 PMID:14595083

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and SEER-18 tables in the IICC-3 book. An abbreviated registry-specific table is available online within the SEER-18 results, as specified in Table A.12. For Alaska Natives, the proportion of cases aged 19 years in the age group 15–19 years was quite high (25.0%) (Table A.9). In addition, the sex ratio in the age group 15–19 years was low (0.6) (Table A.9). The reported highlighted variations may be the result of the small number of cases. See also USA and SEER, above.

Arizona Cancer Registry, 1998–2012

Georgia Yee, Chris Newton

Arizona is located in the south-western USA and is bordered by Mexico to the south. The state is divided into 15 counties and has two major population centres: the capital city of Phoenix (Maricopa County) and the city of Tucson (Pima County). The total population is 6.4 million. About 75% of the population lives in the two major centres, and about 90% of the population lives in urban areas. The state has a large Native American population, and in 2010, 9% of the Native American population younger than 20 years in the USA lived in Arizona (Table A.6 online). The total population younger than 20 years increased from 1.3 million in 1995 to 1.8 million in 2010. The change in the proportion from 1995 to 2010 varied by ethnic and racial group; the proportion decreased from 56% to 44% for White NH, increased from 29% to 39% for Hispanic, and increased slightly from 15% to 17% for all other groups (see also Table A.6). The proportion of the student population and the internal migration of the Arizona population have remained steady.

Health care in the region is provided by private practitioners, clinics, and hospitals. About 81% of the population have health insurance; 74% of health-care expenses are covered by nongovernmental insurance.

The Arizona Cancer Registry is a population-based surveillance system that collects, manages, and analyses information on cancer incidence, survival, and mortality in the entire state. The registry is funded through state legislature appropriations to the Arizona Department of Health Services. Enhancement funds are provided through a cooperative agreement with the CDC/NPCR.

Arizona law mandates the reporting of cancer cases from hospitals, clinics, physicians, and pathology laboratories. The registry conducts data linkage with death certificates to capture unreported cases. The registry also has data exchange agreements with 21 other states in the USA. Data linkages are performed with the Arizona Department of Health Services, Navajo Nation, and Hopi Tribe breast and cervical screening programmes in Arizona.

Quality assurance procedures include electronic and visual editing, case ascertainment reviews, and re-abstracting studies. Hospitals are required to conduct follow-up of registered cases. The Arizona Cancer Registry follows the NAACCR standards for cancer reporting. Completeness of data coverage is between 90% and 95%. Most patients are treated in Arizona.

The registry analyses the incidence, mortality, and survival of Arizona residents annually. Registry data are used for epidemiological research, cancer control planning and evaluation, and addressing community cancer concerns. The registry also is involved in research studies that have been approved by the Arizona Department of Health Services Human Subjects Review Board.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Arkansas Central Cancer Registry, 1998–2012

Nathaniel Smith, Joseph Bates, Abby Holt, Christopher Fisher

Arkansas is located in the south-central USA. In 2010, the population was 2.9 million, and about 27% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 44% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 67% White NH, 20% Black, 9% Hispanic White, 2% API, and 1% Native American.

Cancer is a reportable disease in Arkansas, mandated by state law. The Arkansas Central Cancer Registry covers the entire state. It is located within the Arkansas Department of Health. The registry has eight full-time positions that are funded through the NPCR and two full-time positions that are funded by the state. The registry receives data from all hospital facilities that report abstracted cases from medical records electronically. The registry also receives cases from dermatology clinics, oncology clinics, urology clinics, other physician groups, pathology laboratories, and radiotherapy facilities.

The registry receives electronic pathology (ePath) reports in Health Level Seven (HL7) format from about 10 laboratories. Other reported data are received electronically from clinics and physicians within the state. All data are collected and compiled into the registry's database management system, CancerCORE, version 2.

The registry provides data to Arkansas hospitals, treatment centres, and community organizations that offer screening programmes. Every 5 years, the registry produces a comprehensive surveillance report, which highlights disparities in incidence and mortality, diagnosis by stage, and cancer survival by stage at diagnosis. The registry also provides data for cancer studies approved by the institutional review board (IRB).

The registry's database system includes many predefined reports and query tools for analysing cancer registry data. The Arkansas Central Cancer Registry has a contract with the Kentucky Cancer Registry for a web-based query system that provides public access to population-based cancer incidence data, which are updated annually.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

California Cancer Registry, 1998–2012

Mark Damesyn

California is the most populous state and the third largest state in the USA, covering a large area along the Pacific coast in the west of the country. The total area of 423 970 km^2 is divided into 58 counties. In 2010, the population was 37.3 million, and 28% of the population was younger than 20 years; this percentage ranged from 20% for White NH to 37% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 46% Hispanic White, 30% White NH, 13% API, 8% Black, and 3% Native American.

California has 380 inpatient facilities throughout the state that provide cancer care. Of these, 153 are approved by the American College of Surgeons, 218 are hospitals without a cancer registry, eight are Veterans Health Administration hospitals, and one is an Indian Health Service hospital. California also has 308 independent surgery centres and 42 independent radiotherapy centres.

The California Cancer Registry covers the entire state of California. The registry is a programme of the California Department of Public Health's Cancer Surveillance and Research Branch, located in Sacramento. Provisions of the California Health and Safety Code mandated the establishment of a statewide system of cancer reporting. The system is composed of regional registries (see below), health-care providers, registrars, and researchers. All hospitals and facilities report cancer cases to the California Cancer Registry electronically. The registry also receives reports from pathology laboratories, outpatient surgery centres, free-standing radiology facilities, and independent physicians.

The California Cancer Registry monitors cancer incidence and mortality over time and analyses differential cancer risks by geographical region, race or ethnicity, and other sociodemographic characteristics. The system is also designed to monitor patient survival. The registry produces annual reports on incidence and mortality, and it collaborates with the American Cancer Society to produce *California Cancer Facts and Figures*. The registry conducts and collaborates on special research projects about the etiology, treatment, and prevention of specific cancers. Registry data are provided to research institutions that seek to better understand cancer causes and control. The data are also used to address public concerns and questions. Data for the state of California are available online (https://www.ccrcal.org/learn-about-ccr/) for all races and ethnic groups combined and separately.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. Data for the state of California were also submitted to IICC-3 from the SEER Program for a different period and by region, as described in the narratives of other registries in California below. Day of birth was not provided (Table A.8). See also USA, NPCR, and SEER, above.

Cancer Registry of Greater California, 2000–2012

Rosemary D. Cress, Dee W. West, Marta Induni

The Cancer Registry of Greater California (CRGC) is one of three registries that comprise the California Cancer Registry. Since 1988, the CRGC has collected cancer incidence and mortality data for 48 counties on all reportable cancers diagnosed in children, adolescents, and adults residing in the region. Residence status is based on address at diagnosis, which is geocoded to census tract to enable determination of neighbourhood socioeconomic status. Information for patients who are diagnosed or treated outside the CRGC area is captured through collaborative relationships with registries within and outside of California.

The catchment area of the CRGC includes a large geographical area with a population that is diverse in terms of race, ethnicity, and socioeconomic status. In 2010, the total population of the CRGC catchment area was 20.6 million; more than 3 million lived below the poverty level, and 4% lived in rural areas. In 2010, 29% of the population covered by the CRGC was younger than 20 years; this percentage ranged from 21% for White NH to 39% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 45% Hispanic White, 34% White NH, 11% API, 7% Black, and 3% Native American.

The CRGC is funded mainly by the NCI's SEER Program and partly by the state of California, with a small proportion from the CDC/NPCR. The CRGC follows SEER guidelines and standards for case ascertainment and quality, and it has achieved NAACCR Gold Certification.

CRGC epidemiologists conduct studies on cancer incidence, mortality, treatment, and surveillance methodology, with an emphasis on disparities by race, ethnicity, and socioeconomic status. The collected data are also used by researchers at academic institutions across California and the USA.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA, SEER, and California Cancer Registry, above.

California, Los Angeles Cancer Surveillance Program, 1993–2012

Lihua Liu, Donna Morrell, Dennis Deapen

Los Angeles County is an urban area that covers more than 12 000 km^2 in the state of California. It has more than 10 million residents, and more than 25% of the population of California lives there. It is the most populous county in the USA and is characterized by population diversity in terms of race and ethnicity, immigration origin, culture, religion, and socioeconomic status, as well as geographical diversity (including mountains, valleys, deserts, and seashores).

Los Angeles County is one of the most racially and ethnically diverse counties in the USA. Among the residents, 48% are Hispanic or Latino, and only 28% are non-Latino White. Of the 4.8 million self-reported Latino residents, 76% identify as Mexican. More than 0.8 million residents of the county are Black or African American, more than 1.4 million are API, and less than 0.06 million are Native American. People with more than one race or ethnicity make up 3.9% of the total population. More than one third of the residents of the county are foreign-born, first-generation immigrants. In 2010, about 28% of the population was younger than 20 years; this percentage ranged from 18% for White NH to 35% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 57% Hispanic White, 19% White NH, 12% API, 10% Black, and 2% Native American.

Los Angeles County has more than 100 hospitals and clinics, many of which provide advanced treatment and screening programmes. Most children with cancer are treated in the renowned paediatric medical centre, Children's Hospital Los Angeles.

The Los Angeles Cancer Surveillance Program (CSP) provides cancer registration for the county. It was started at the University of Southern California, with complete population-based cancer incidence data beginning in 1972 (Table A.10). In 1987, the CSP began contributing to the California Cancer Registry. The CSP joined the NCI's SEER Program in 1992. The CSP receives funding from the California Department of Public Health, the CDC/NPCR, and the NCI's SEER Program.

As mandated by law, the CSP has consistently collected all types of reportable cancer cases, following data standards set by SEER and the NAACCR. The CSP routinely exchanges data with other registries in California and the 43 other state registries under the NAACCR data exchange agreement. The CSP has been annually certified for achieving NAACCR standards for complete, accurate, and timely data.

The CSP allows unrestricted use of the registry data for research, education, and public health purposes. The CSP is one of the most productive cancer registries in the world in terms of scientific contributions towards understanding the demographic patterns and the etiology of specific cancers. CSP data have been used in more than 6900 publications.

POPULATION AT RISK
See USA, above.

EDITORS' COMMENTS
Data are included in the pooled USA and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. In addition, the online tables for White NH, Black, and Hispanic White can be used for comparison with IICC-1 and IICC-2 (Table A.1). See also USA, SEER, and California Cancer Registry, above.

California, Greater Bay Area Cancer Registry (San Francisco and San José–Monterey), 1993–2012

Scarlett Lin Gomez, Kathleen Davidson-Allen

The Greater Bay Area includes nine counties (Alameda, Contra Costa, Marin, Monterey, San Benito, San Francisco, Santa Clara, San Mateo, and Santa Cruz) in northern California. In 2010, the population of this region was 6.8 million (~2% of the national population), and about 25% of the population was younger than 20 years; this percentage ranged from 19% for White NH to 33% for Hispanic White in San Francisco, and from 20% for White NH to 37% for Hispanic White in San José–Monterey (Table A.6). The racial and ethnic distribution in the age group 0–19 years for San Francisco was 34% White NH, 27% Hispanic White, 26% API, 12% Black, and less than 2% Native American, and for San José–Monterey was 40% Hispanic White, 28% White NH, 26% API, 4% Black, and less than 3% Native American.

The Greater Bay Area is noteworthy for its racial and ethnic diversity, with substantial Hispanic and Asian populations. Overall levels of education and income are higher than national averages. The San Francisco Bay Area hosts a major financial centre and Silicon Valley, which is known for technological innovation. Several universities attract students from other parts of the USA and abroad. This area has two major academic cancer centres, which have independent children's hospitals that provide state-of-the-art paediatric oncology and specialty care.

The Greater Bay Area Cancer Registry is funded through the NCI's SEER Program and the California Department of Public Health's Cancer Surveillance and Research Branch. The registry includes two regions: San Francisco–Oakland, which has been part of the SEER Program since 1973, and San José–Monterey, which has been part of the SEER Program since 1992. Both regions have contributed data to the statewide California Cancer Registry since 1988. The registry adheres to all SEER and NAACCR standards.

The registry is estimated to capture more than 98% of cancer diagnoses in residents. More than 90% of the registry's reports are received from hospitals, and the remainder are received from physicians and free-standing radiology facilities. Cases are also identified through routine review of electronic pathology reports and death certificates. Well-established data-sharing programmes with neighbouring cancer registries enable the identification of residents diagnosed or treated outside the coverage area.

The registry collects data on all in situ and invasive tumours, except basal and squamous cell skin carcinomas and in situ neoplasms of the cervix diagnosed after 1996. Data on benign and borderline CNS neoplasms have been collected since 2001. Data are collected on patient demographics, tumour characteristics, treatment, and survival.

All patients reported to the registry are followed up both actively and passively for vital status. Passive follow-up involves electronic linkages to vital statistics and other relevant databases. Through these methods, the registry maintains current follow-up information for more than 95% of patients with cancer.

The registry data are used primarily to investigate trends in cancer incidence, survival, tumour characteristics, and treatment. Registry data are routinely combined with data from the California Cancer Registry and the SEER Program. Every year, numerous investigators apply to access registry information for use in analytical epidemiological studies.

POPULATION AT RISK
See USA, above.

EDITORS' COMMENTS
In the tables, data from this registry are presented separately for San Francisco and San José–Monterey, to enable comparison with data in IICC-1 and IICC-2 (Table A.1). Data for San Francisco are also included in SEER-9, for White and Black (Table 6.1). In the IICC-3 book, data are included in the pooled USA and SEER-18 tables (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA, SEER, and California Cancer Registry, above.

Colorado Central Cancer Registry, 1998–2012

Randi K. Rycroft, Kieu Vu, Jack Finch

Colorado is located in the western USA; the state covers an area of 269 837 km^2. Colorado is divided into 64 counties, of which 17 are considered urban, 24 rural, and 23 intermediate. The climatic conditions are complex because the state's geography includes mountains, foothills, high plains, and desert. In 2010, the population was 5.0 million, and 27% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 39% for Hispanic White (Table A.6). The population is 86% urban. The racial and ethnic distribution in the age group 0–19 years was 61% White NH, 27% Hispanic White, 6% Black, 4% API, and 2% Native American. Colorado is

economically strong, with a per capita income of almost $52 000 in 2010. In 2013, 86% of the residents were covered by some type of health insurance. By 2015, the proportion of the covered population had increased to 93% after implementation of the Affordable Care Act; 97.5% of the population younger than 19 years is insured.

Paediatric oncology care is widely available throughout the state. In addition, the University of Colorado offers a Pediatric Hematology-Oncology Fellowship Program, which emphasizes excellence of clinical care for children with haematological or malignant disorders. Most paediatric patients are diagnosed and receive all care in Colorado.

The Colorado Central Cancer Registry is a programme of the Colorado Department of Public Health and Environment and covers the entire population of Colorado. The registry is funded mostly by federal funds through the CDC/NPCR. About 20% of the funding is from state general funds. About 25 000 incident cases per year are registered, and the registry has statewide population-based data from 1988 onwards (Table A.10). Most cases are reported by hospitals; additional data sources include free-standing treatment centres, pathology laboratories, interstate data exchange with other cancer registries, and selected physicians' offices. Each year, the registry links its database with state death files and hospital discharge files to obtain follow-up information and to identify potential missed case reports. It also links to the National Death Index every 2–3 years to obtain follow-up information. All registry data are collected in accordance with national cancer registration standards and practices. The registry maintains a rigorous quality control programme, and as a result, Colorado data consistently meet national standards for quality and completeness.

The registry produces an annual report on cancer incidence and mortality, which includes survival statistics, county-level data, and measures of early detection of disease. De-identified data are published online and can be interactively queried. The registry data are also used in many special studies, environmental risk analyses, cancer control programme evaluations, cancer care facility market analyses, and responses to enquiries from the public.

PUBLICATIONS

Finch JL, Vu K, Rycroft R (2015). Cancer in Colorado, 2003–2012. Denver (CO), USA: Colorado Department of Public Health and Environment, Colorado Central Cancer Registry.

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POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The proportion of cases aged 19 years in the age group 15–19 years was high (25.9%) (Table A.9). See also USA and NPCR, above.

Connecticut Tumor Registry, 1993–2012

Lloyd Mueller, Cathryn Phillips

The state of Connecticut covers an area of about 14 357 km^2. In 2010, the total population was about 3.6 million (~1% of the national population). The state is very densely populated. Although Connecticut is one of the highest-income states in the USA, it has an unusually wide income gap between urban and suburban areas. About 26% of the population is younger than 20 years; this percentage ranged from 22% for White NH to 36% for Hispanic White (Table A.6).

In 2010, Hispanic and Latino residents of any race comprised 13.4% of the population. The proportion of the population that is White NH decreased from 98% in 1940 to 71% in 2010. The racial and ethnic distribution in the age group 0–19 years was 63% White NH, 16% Hispanic White, 15% Black, 5% API, and 1% Native American.

The Connecticut Tumor Registry contains records on all reported tumours diagnosed in the residents of the entire state since 1935 (Table A.10). The registry has been a member of the NCI's SEER Program since 1973; before then, it was a participant in the NCI End Results Program. The registry follows SEER coding and staging rules. Reporting of cancer cases to the registry by all licensed medical providers is mandated by state statute. The registry receives about 90% of its case reports from Connecticut hospitals and private laboratories. Other reports are received from independent ambulatory surgery, radiotherapy, and infusion therapy centres. In addition, the registry has reciprocal reporting agreements with all contiguous states and with those southern states that are recognized as typical winter holiday destinations for Connecticut residents, such as Florida.

The registry data are used by researchers for a wide range of studies aimed at furthering the understanding of cancer etiology, reducing cancer incidence and mortality, and improving the quality of cancer care, and for treatment cost-containment studies. The data are also used for public health assessments that identify specific population groups in which better screening and treatment is needed, and in the development of policy initiatives to reduce the burden of cancer in Connecticut.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. In the online tables, these data are also included in SEER-9 White, for comparison with IICC-1 and IICC-2 (Table A.1). See also USA and SEER, above.

Delaware Cancer Registry, 1998–2012

Heather Brown, Zeinab Baba, Betsy Cromartie

Delaware is the second smallest state in the USA by area. It is located in the north-east megalopolis region of the country and is bordered by the states of Pennsylvania, Maryland, and New Jersey. Delaware residents have access to Children's Oncology Group treatment centres, which have met the quality assurance standards established by the NCI, within Delaware as well as in the neighbouring states. In 2010, the total population of Delaware was 0.9 million, and about 26% of the population was younger than 20 years (~0.3% of the national population in this age range); this percentage ranged from 22% for White NH to 39% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 55% White NH, 29% Black, 11% Hispanic White, 4% API, and 1% Native American. An online report released by the United States Census Bureau, *2012 Small Area Income and Poverty Estimates*, shows a range of poverty rate estimates of 12.0–15.8%, which is below the median for the national population.

The Delaware Cancer Registry was founded in 1972 and legally established in 1980 (Table A.10) under the Delaware Cancer Control Act. The registry's mission is to ensure accurate, timely, and complete data for use in cancer prevention and control initiatives, including surveillance of cancer trends and investigation of patterns of care. The registry is part of the Comprehensive Cancer Control Program within the Chronic Disease Prevention Bureau of the Delaware Division of Public Health's Health Promotion and Disease Prevention Section. The registry is funded by the CDC/NPCR.

The Delaware Cancer Control Act requires all health-care providers and facilities diagnosing or treating cancer cases (including hospitals, physicians, pathology laboratories, and ambulatory surgery centres) to submit information on each case to the registry within 180 days. The entities currently reporting to the registry include eight hospitals, 10 state central cancer registries, 11 diagnostic laboratories, 14 free-standing ambulatory surgery centres, and 23 physicians' offices. Most cancer cases reported to the registry are submitted electronically, and the remaining cases are abstracted from paper sources. Data coding and file format standards set by the NAACCR are observed. Linkage with state of Delaware death certificates, the National Death Index, and the Social Security Death Index is performed regularly to update vital status. The registry achieved NAACCR Gold Certification for high-quality, timely, and complete cancer incidence data for more than 10 consecutive years.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The incidence rate of 193.3 per million for the age group 0–14 years was high, and the proportion of cases aged 19 years in the age group 15–19 years was also high (27.3%) (Table A.9). See also USA and NPCR, above.

District of Columbia Cancer Registry, 1998–2012

Alfreda Woods, Nitin Shivappa

The District of Columbia covers an area of about 177 km^2. It is divided into four quadrants (north-west, north-east, south-west, and south-east), and there are a total of eight wards within the four quadrants.

The District has four cancer centres: Georgetown University Hospital, George Washington University Hospital, Howard University Hospital, and Washington Hospital Center. All of them are located in the north-west quadrant.

The population increased by 5.2% from 2000 to 2010. In 2010, the total population was 0.6 million, and about 21% of the population was younger than 20 years; this percentage ranged from 13% for White NH to 26% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 63% Black, 22% White NH, 8% Hispanic White, 3% API, and less than 1% Native American. The Hispanic population is growing the fastest. Male and female residents are almost evenly distributed across the District (47.2% male and 52.8% female) and within each ward. Almost three quarters (71.7%) of the residents are younger than 49 years, and only 11.4% are aged 65 years and older.

Income distribution is unequal among the eight wards. About 26% of residents have an annual income of less than $20 000. The high cost of living in the District places households with annual earnings of less than $20 000 in poverty and those with annual earnings of less than $10 000 in extreme poverty. African American residents have the lowest median household income.

Almost 300 000 residents do not have a high school diploma (22% of those older than 25 years). The percentage of people with a college degree is highest in ward 3 (79%) and lowest in ward 8 (8%).

The District of Columbia Cancer Registry maintains a record of the occurrence of all malignant neoplasms and certain reportable benign conditions within the District. National collection of cancer surveillance data has been congressionally mandated since 1951. Since 1 January 1996, all cancers diagnosed and treated are reportable to the registry (Table A.10). Of the 270 386 cancer cases currently in the District of Columbia Cancer Registry, less than 1% are younger than 20 years. About 8200 new cases are added per year; of these, one third are residents of the District. The remaining cases are primarily

residents of the states of Maryland and Virginia who seek diagnosis or treatment in the District. The registry produces cancer burden reports and fact sheets, which are used to educate the community about cancer in the District and to encourage cancer researchers to use the registry data to improve cancer outcomes.

The priorities of the District's cancer programmes include supporting policy, studying the impact of environmental systems change, evaluating human papillomavirus (HPV) vaccination, securing sun safety, detecting radon exposure, examining the role of nutrition in cancer risk, planning survivorship care, and encouraging smoking cessation among survivors of cancer.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The incidence rate of 181.2 per million for the age group 0–14 years was high. The percentage of infants (aged < 1 year) in the age group 0–14 years was high (15.4%), and the proportion of cases aged 19 years in the age group 15–19 years was also high (31.5%) (Table A.9). The percentage of cases with an unknown basis of diagnosis (5.9%) was higher than that in any other geographical area of the USA (Table A.9). See also USA and NPCR, above.

Florida Cancer Data System, 1998–2012

Gary M. Levin, Brad Wohler

The state of Florida is located on the south-eastern peninsula of the USA. It is bordered by seas from the east to the west and is bordered by land only to the north. Tallahassee is the capital city, Jacksonville is the most populous municipality, and Miami is the most populous metropolitan area. The state is divided into 67 counties. About 17 million people (91% of the state total) live in 38 urban counties. The remaining 29 counties are rural. In 2010, the total population was 18.8 million, and 24% of the population was younger than 20 years; this percentage ranged from 20% for White NH to 33% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 48% White NH, 25% Hispanic White, 23% Black, 3% API, and less than 1% Native American.

More than 230 primary care facilities report data to the Florida Cancer Data System. Data are also collected from more than 350 ambulatory care facilities, 800 pathology laboratories, the State of Florida Vital Statistics, the State of Florida discharge database, and interstate data exchange agreements.

The registry is a legislatively mandated, statewide incidence registry and a joint project of the Florida Department of Health and the University of Miami Miller School of Medicine (UMMSM). The UMMSM has operated the registry since its inception in 1981 (Table A.10) under contract with the Florida Department of Health. The registry collects and codes data in accordance with national standards set by the NAACCR. The data collection is more than 95% complete. The registry is part of the CDC/NPCR and has achieved NAACCR Gold Certification.

The registry prepares annual reports of cancer incidence, highlighting trends and changes, and maintains a website for dissemination of tabular data. The registry also provides data for researchers.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Georgia Comprehensive Cancer Registry: State of Georgia, 1998–2012, and Atlanta Metropolitan Area, 1993–2012

A. Rana Bayakly, Chrissy McNamara, Debbie Chambers, Carol Crosby, LeRue Perry, Sheree Holloway, Kevin Ward, Lyn Almon, Judy Andrews, Robin Billet

The state of Georgia is located in the south-eastern USA. Atlanta is the capital and the largest city. In 2010, the total population of Georgia was 9.7 million, and about 29% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 40% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 49% White NH, 36.5% Black, 10.5% Hispanic White, 4% API, and less than 1% Native American.

The Georgia Comprehensive Cancer Registry covers the entire state. The purpose of the registry is to collect, analyse, use, and disseminate cancer incidence information. The Notifiable Disease Law mandates the reporting of certain diseases, including cancer. Since 1 January 1995 (Table A.10), all cancers indicated in the ICD-O in use with a behaviour code of 2 or 3 must be reported by all health-care providers in the state of Georgia. This applies to all facilities that provide diagnostic or treatment services for patients with cancer, including hospitals, outpatient surgical facilities, laboratories, radiology and medical oncology departments, and physicians' offices. In addition, the registry receives information on all Georgia residents diagnosed or treated in any of the 49 states of the USA, the District of Columbia, and the territories that signed the national data exchange agreement.

The registry has participated in the NPCR since 1995 and receives funding and guidance from the CDC. The

Georgia Department of Public Health has designated the Georgia Center for Cancer Statistics within the Rollins School of Public Health of Emory University as its agent for the purpose of collecting and editing cancer data. The NCI funded the Metropolitan Atlanta Cancer Registry through the SEER Program for cases diagnosed starting in 1975 (Table A.10), additional counties around the Atlanta Metropolitan Area as Rural Georgia (since 1992), and the remaining counties as Greater Georgia (since 2000). In 2010, the funding from the NCI and the CDC was combined to support the collection of cancer data statewide.

Registry data are used to help state agencies, healthcare providers, and Georgia residents monitor cancer incidence trends, plan and implement cancer control activities, develop public and professional education programmes, and stimulate cancer research.

PUBLICATIONS

Wagner SE, Hurley DM, Hébert JR, McNamara C, Bayakly AR, Vena JE (2012). Cancer mortality-to-incidence ratios in Georgia: describing racial cancer disparities and potential geographic determinants. Cancer. 118(16):4032–45. https://doi.org/10.1002/cncr.26728 PMID:22294294

POPULATION AT RISK

See USA above.

EDITORS' COMMENTS

Data for the state of Georgia for 1998–2012 are reported in the pooled estimate for USA and NPCR. Data for the Atlanta Metropolitan Area for 1993–2012 are included in the pooled SEER-18 and SEER-9 tables, for comparison with IICC-1 and IICC-2 (Table A.1). Data from the expanded counties around the Atlanta Metropolitan Area (Rural Georgia) for 1993–2012 and the remaining counties in Georgia (Greater Georgia) for 2000–2012 are included only in the pooled estimate for SEER-18 (Table A.12). See also USA, NPCR, and SEER, above.

Hawaii Tumor Registry, 1993–2012

Brenda Y. Hernandez, Michael D. Green

Hawaii is the only state in the USA that is composed entirely of islands; it is geographically part of the Polynesian subregion of Oceania. It is the northernmost island group in Polynesia, occupying most of an archipelago in the central Pacific Ocean. The state encompasses almost the entire volcanic Hawaiian archipelago, which is spread over 2400 km. At the south-eastern end of the archipelago, the eight main islands are – in order from north-west to south-east – Niihau, Kauai, Oahu, Molokai, Lanai, Kahoolawe, Maui, and the Island of Hawaii. Hawaii's capital is Honolulu, which is located on the island of Oahu.

In 2010, the estimated population was 1.4 million, and 25% of the population was younger than 20 years; this percentage ranged from 14% for White NH to 39% for Hawaiian (Table A.6). Hawaii is the only state in the USA with an Asian majority. In 2010, the racial and ethnic distribution in the age group 0–19 years was estimated to be 34% Hawaiian or partly Hawaiian, 14% White, 9% Japanese, 18% Filipino, 6% Chinese, and 19% other.

The surveillance and registration activities of the Hawaii Tumor Registry are authorized by Hawaii state reporting statutes. The registry is funded mainly by the NCI's SEER Program, with additional support from the Hawaii State Department of Health and the University of Hawaii Cancer Center. The registry collects information on cancer in all residents of the state of Hawaii.

Most oncology-related paediatric care and case information is reported to the registry by the state's largest paediatric medical facility, which maintains a hospital-based cancer registry and is a programme approved by the American College of Surgeons Commission on Cancer. Paediatric case ascertainment is complete and of high quality; the registry follows established national data collection, coding, and reporting guidelines.

PUBLICATIONS

Hawai'i Tumor Registry, University of Hawai'i Cancer Center (2016). Hawai'i cancer at a glance 2009–2013. Available from: https://www.uhcancercenter.org/pdf/htr/HTR-cancer-booklet.pdf.

Hernandez BY, Bordallo RA, Green MD, Haddock RL (2017). Cancer in Guam and Hawaii: a comparison of two U.S. Island populations. Cancer Epidemiol. 50(Pt B):199–206. https://doi.org/10.1016/j.canep.2017.08.005 PMID:29120826

POPULATION AT RISK

The counts for Hawaiians were provided by the registry in the requested detail. See also USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and SEER-18 tables in the IICC-3 book (Table 6.1), and a full table is also included for Hawaiian. Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. In the online tables, these data are also included in SEER-9 White, for comparison with IICC-1 and IICC-2 (Table A.1). For Hawaiian, the proportion of cases aged 19 years in the age group 15–19 years was high (25.3%) (Table A.9). See also USA and SEER, above.

USA, Hawaii, Hawaiian (1993-2012)

	Age group (years)	Males	Females
Person-years	0	58 244	55 225
	1-4	230 534	216 383
	5-9	274 337	259 296
	10-14	272 002	257 828
	15-19	257 925	241 672
	0-14	835 117	788 732
	0-19	1 093 042	1 030 404
Average annual population	0-14	41 756	39 437
	0-19	54 652	51 520

Please consult the quality indicators for this registry

Cancer Data Registry of Idaho, 1998–2012

Christopher J. Johnson, Randi K. Rycroft, Denise Jozwik

Idaho is a large state that covers an area of 216 500 km^2, but it is sparsely populated (the population density is 7.8 per km^2). In 2010, the estimated population was 1.6 million, and 30% of the population was younger than 20 years; this percentage ranged from 28% for White NH to 49% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 79% White NH, 15% Hispanic White, 2% Native American, 2% API, and 2% Black.

Idaho has four hospitals or hospital systems that have cancer programmes accredited by the American College of Surgeons Commission on Cancer. Nine facilities offer radiotherapy. Paediatric and adolescent oncology specialists are available in Idaho and in neighbouring states in the USA. The Cancer Data Registry of Idaho collects incidence and survival data on all patients with cancer who reside in or are diagnosed with or treated for cancer within the state. It is one of the oldest cancer registries in the country and predates the NCI's SEER Program. The registry started in 1969 and has been population-based since 1971 (Table A.10). Since 1994, the registry has enhanced its operations and increased its use of cancer registry data with funding from the CDC/NPCR. It is staffed by five employees, including three registrars certified by the United States National Cancer Registrars Association, an epidemiologist, and a database administrator.

The registry data are used for many purposes, including surveillance of cancer incidence rates, programme planning and evaluation, quality assurance, central registry systems development, responding to requests for information from hospitals, the media, and the public, and public health practice. Registry data are used in IRB-approved epidemiological and translational studies. Published reports of cancer incidence and mortality are available on the registry website (https://www.idcancer.org).

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Illinois State Cancer Registry, 1998–2012

Lori Koch, Tiefu Shen

Illinois is located in the mid-west region of the USA. The state has natural resources and a diverse economic base, with high agricultural productivity in the northern and central areas. In 2010, the total population of the state was 12.8 million, and more than 65% of the population lived in the Chicago metropolitan area. About 27% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 39% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 55% White NH, 21% Hispanic White, 19% Black, 5% API, and almost 1% Native American.

The Illinois State Cancer Registry is based in the Division of Epidemiologic Studies within the Office of Policy, Planning, and Statistics at the Illinois Department of Public Health. Cancer incidence data are available for more than 1.7 million invasive cases diagnosed in Illinois residents in 1986–2014. For more than 20 consecutive years, the registry has achieved NAACCR Gold Certification; it was also recognized as a Registry of Excellence in 2011–2014 by the CDC/NPCR. The registry is funded through both the NPCR and state support.

Cancer data are reported to the registry from 188 hospitals, 100 ambulatory surgical centres, 30 radiotherapy facilities, five Veterans Affairs facilities, 14 laboratories, and physicians who diagnose or treat cancer in their offices.

It is a core mission of the Illinois State Cancer Registry to promote high-quality research and provide better information for cancer control to address public concerns and questions about cancer. The registry annually publishes a public-use dataset along with state and county reports, responds to hundreds of requests for cancer information, and provides data for various research studies and cancer control programmes.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Indiana State Cancer Registry, 1998–2012

Laura Ruppert

Indiana is located in the mid-west area of the USA, in the Great Lakes region. The capital and largest city is Indianapolis. In 2010, the estimated population of Indiana was 6.5 million. The population is predominately White, urban, and middle class. In 2015, 14.5% of the state's population lived at or below the poverty level. In 2010, about 28% of the population was younger than 20 years; this percentage ranged from 26% for White NH to 43% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 76% White

NH, 13% Black, 8% Hispanic White, 2% API, and less than 1% Native American.

Indiana has two highly ranked paediatric hospitals: Riley Hospital for Children at Indiana University Health, and Peyton Manning Children's Hospital at St. Vincent Indianapolis Hospital, both located centrally in the state.

The Indiana State Cancer Registry covers the entire population of the state. It was established in 1985 to record all cases of malignant disease and other tumours and precancerous diseases required to be reported by federal law or federal regulation or the NPCR. The registry compiles information on all patients who are diagnosed with or treated for cancer in Indiana, as determined by the Indiana Department of Health. The registry began collecting cases in 1987 (Table A.10). Facilities report cancer cases to the registry within 6 months of first contact. The registry does not conduct active follow-up on cancer cases in the state registry, but twice a year it links with the Vital Statistics for Death Clearance and the state Breast and Cervical Cancer Program databases to identify missing cases.

The registry has been federally funded by the CDC since 1992, and it has achieved NAACCR Gold or Silver Certification since 1998. As a result, the Indiana State Cancer Registry has grown into a strong and robust central cancer registry. The collected data are used in epidemiological studies and to generate information needed to implement appropriate preventive and control measures.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Iowa Cancer Registry, 1993–2012

Charles F. Lynch, Charles E. Platz, Kathleen M. McKeen

The state of Iowa is located near the geographical centre of the USA and is part of the nation's agricultural heartland. The climate is humid continental, with an average annual temperature of 9.5 °C and average annual precipitation of 80 cm. A total of 92% of the state's land area is allocated to agriculture, ranking the highest in the country. In 2010, the population of Iowa was 3.1 million, and 27% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 45% for Hispanic White and 45% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 83% White NH, 8% Hispanic White, 6% Black, 2% API, and less than 1% Native American.

Cancer diagnostic and treatment services are widely available to the entire Iowa population through both in-state and out-of-state facilities. These include surgery, radiotherapy, chemotherapy, and other treatment modalities, such as immunotherapy.

Cancer data collection began statewide in 1969–1971 with the NCI's Third National Cancer Survey and resumed in 1973 as part of the NCI's SEER Program (Table A.10). The registry is located at the University of Iowa and works in collaboration with the Iowa Department of Public Health. Cancer became a reportable disease in Iowa in 1982. Cancer data for residents are obtained from 158 hospitals, clinics, and pathology laboratories located both within the state and bordering the state. Employees of the registry abstract data on laptop computers in specified geographical areas not covered by hospital cancer registrars. Continuous quality control involves a significant portion of the central registry operation. Cancer data are exchanged with 13 other states in the USA. The registry uses active and passive follow-up activities to obtain survival data. Passive follow-up activities include electronic linkage of data with death certificate information, driver's license files from the Iowa Department of Transportation, and epidemiological vital status data from the Social Security Administration. Active patient follow-up is conducted periodically to trace patients lost to follow-up. The registry obtains vital status information on more than 98% of all registered patients. Although some residents who leave the state for care are not identified and may be missed, completeness of case ascertainment is thought to be about 99%.

Policy-makers look to the registry to provide information about the burden of cancer and time trends in cancer incidence, stage of disease at diagnosis, survival, and mortality.

PUBLICATIONS

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POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. In the online tables, these data are also included in SEER-9 White, for comparison with IICC-1 and IICC-2 (Table A.1). The proportion of cases aged 19 years in the age group 15–19 years was high (25.4%) (Table A.9). See also USA and SEER, above.

Kentucky Cancer Registry, 1998–2012

Eric B. Durbin, Frances E. Ross, Bin Huang, Isaac Hands, Thomas C. Tucker

The Commonwealth of Kentucky is located in the south-eastern central region of the USA. Annual temperatures range from 5 °C to 30 °C. A large eastern area of the state is located within the Appalachian region. This region has high poverty rates, low literacy rates, and an unusually high cancer burden. In 2010, the total population was 4.3 million, and about 26% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 41% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 83% White NH, 11% Black, 4% Hispanic White, 2% API, and less than 0.5% Native American.

In Kentucky there are two hospitals that are affiliated with the Children's Oncology Group; both provide neuro-oncology, haematology, and stem cell transplantation services.

The Kentucky Cancer Registry is the population-based central cancer registry for the state. All health-care facilities that diagnose or treat cancer cases are required by state statute to report each case to the registry using the Cancer Patient Data Management System (CPDMS) developed by the Kentucky Cancer Registry. These facilities include all acute care hospitals and their outpatient facilities as well as free-standing treatment centres, non-hospital (private) pathology laboratories, and physicians' offices.

The data elements collected in the CPDMS include all required data items specified by the NPCR, SEER, and the American College of Surgeons, as well as some additional state-specific items. The complete dataset includes patient demographic information, case-specific data, treatment information, and follow-up information.

The registry requires active follow-up by Kentucky hospitals of all patients reported by those hospitals. The registry also conducts record linkages annually with the United States Social Security Administration, the United States Centers for Medicare and Medicaid Services, the National Death Index, and the Kentucky Department of Vital Statistics to update vital status information.

Registry data are submitted annually to the NAACCR for an objective evaluation of completeness, accuracy, and timeliness. Since 1999, the Kentucky Cancer Registry has achieved NAACCR Gold Certification.

Registry data are used for cancer research and to improve cancer prevention and control programmes in Kentucky. The registry submits data to the NPCR and to the United States Cancer Statistics expanded dataset, the United States Cancer Statistics county dataset, environmental health tracking, and the United States Central Brain Tumor Registry. In addition, the registry submits data to studies coordinated by IARC and the NCI. The registry also maintains a website, which includes interactive tools (https://www.cancer-rates.info) to calculate and display cancer incidence and mortality rates.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA, NPCR, and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA, NPCR, and SEER, above.

Louisiana Tumor Registry, 1998–2012

Lauren Maniscalco, Mei-Chin Hsieh, Xiao-Cheng Wu

Louisiana is located in the south-eastern USA. The state has a humid subtropical climate, and it is often affected by tropical cyclones. In 2005, two major hurricanes – Katrina and Rita – struck the south of the state and resulted in more than 2 million displaced people and more than 1500 fatalities. Louisiana residents were relocated across the country for temporary housing, and many have not returned.

In 2010, the population was 4.5 million, and 28% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 33% for Black and 33% for Native American (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 53% White NH, 40% Black, 4% Hispanic White, 2% API, and 1% Native American. One unique subpopulation is the Cajuns, descendants of French Canadians who are famed for their music, cuisine, and dialect. About 25% of residents live in rural areas. Louisiana has a lower socioeconomic status than the national average, as reflected by the state's income, poverty, and graduation rates. About 27% of people aged 0–18 years live below the federal poverty level (14% for White and 47% for Black). Both the infant mortality rate and the overall death rate in children are significantly higher than the national averages.

More than 100 hospitals provide cancer diagnosis and treatment for all ages, including children. Most of the hospitals with accredited cancer programmes offer radiotherapy services. About half of children with cancer receive diagnostic or treatment services at Children's Hospital of New Orleans. Several affiliate clinics of the large St. Jude Children's Research Hospital (in Memphis, Tennessee) are located throughout Louisiana. In 2015, about 45% of children living below the poverty level had Medicaid health insurance.

The Louisiana Tumor Registry is based at the Louisiana State University Health Sciences Center in New Orleans. The registry comprises a central office and eight regional offices. It receives funding from both the state of Louisiana and federal grants. The registry has about 50 employees, including research, technical, and administrative staff.

Louisiana law mandates all licensed health-care facilities and providers who diagnose or treat cancer to report new cases to the registry within 6 months of diagnosis regardless of state of residence. It also specifies strict data confidentiality procedures and exempts providers from liability for reporting to the registry.

About 90% of reportable abstracts are submitted electronically by hospital cancer registries in a standard format, and the registry staff members abstract the remaining cases. Other sources of reportable cases include pathology laboratories, radiology and oncology clinics, dermatology clinics, urology clinics, and free-standing surgical centres. Quality control procedures are conducted routinely. The registry collects all data items required by federal funding agencies (the NCI's SEER Program and the CDC/NPCR) and follows SEER coding guidelines. Data-sharing agreements are in place with 45 states to increase completeness of registration.

Incidence, mortality, survival, and prevalence data are published annually in the *Cancer in Louisiana* series (https://sph.lsuhsc.edu/louisiana-tumor-registry). Cancer incidence data at the census tract level are published in a separate annual series, *Cancer Incidence in Louisiana by Census Tract*. In addition, registry data are incorporated into several databases for public use, such as State Cancer Profiles (https://statecancerprofiles.cancer.gov). The registry data are also used for research, planning of cancer control, and evaluation of health services.

POPULATION AT RISK

Special processing procedures were used to estimate population for the areas of southern Louisiana affected by hurricanes Katrina and Rita. Estimates of migration into and out of the covered registration area are not possible. See also USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA, NPCR, and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA, NPCR, and SEER, above.

Maine Cancer Registry, 1998–2012

Molly Schwenn, Kathy Boris, Denise Yob

The state of Maine is located on the Atlantic coast in northern New England. It covers a large geographical area but has a small population (1.3 million in 2010). Maine is bordered by the provinces of Quebec and New Brunswick in Canada and by the state of New Hampshire in the USA. Maine is known for its natural attractions, which bring vacationers, retirees, and, more recently, immigrants to the state.

Maine has the oldest population of the states in the USA and has minimal racial diversity; almost 95% of the population is White NH. The proportion of people younger than 18 years decreased from 21% in 2010 to 19% in 2016, and the proportion of people aged 65 years and older increased from 16% in 2010 to 19% in 2016 (see also Table A.6). The racial and ethnic distribution in the age group 0–19 years was 92% White NH, 3% Black, 2% Hispanic White, 2% API, and 1% Native American. Maine has a small but important Native American population of about 9000 people in five tribal units.

The Maine Cancer Registry has covered the entire state since 1983 (Table A.10); since 1995, it has been funded by the NPCR. The size of the registry staff has decreased considerably in the past 10 years; it has a director and 1.5 full-time equivalent positions (certified tumour registrars). An epidemiologist and additional certified tumour registrars work for the registry part-time. The registry is funded by the state of Maine and the NPCR, with almost no increase in funding for more than a decade.

The registry submits about 9000 new cases per year to the NPCR and the NAACCR. The registry annually links the registry information with the federal Indian Health Service database to improve racial identification for the Native American population.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The incidence rate of 188.6 per million for the age group 0–14 years was high, and the rate of 200.3 per million for the age group 0–19 years was high (Table A.9). See also USA and NPCR, above.

Massachusetts Cancer Registry, 1998–2012

Susan T. Gershman, Richard Knowlton

The Commonwealth of Massachusetts is located in the mid-east region of the USA and borders the Atlantic Ocean. The capital of Massachusetts is Boston; more than 80% of the state's population lives in the Greater Boston metropolitan area. In 2010, the total population was 6.5 million, and 25% of the population was younger than 20 years; this percentage ranged from 22% for White NH to 37% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 70% White NH, 12% Hispanic White, 11% Black, 6% API, and 1% Native American.

Massachusetts has 68 acute care hospitals, four endoscopy centres, 10 surgical centres, 20 commercial pathology laboratories, 10 medical practice associations, six radiation oncology centres, 10 urology centres, and 13 dermatology centres. Patients with cancer also receive care from more than 1400 individual physicians, including 30 surgeons, 254 radiation oncologists, 214 urologists, 514 dermatologists, and 400 gastroenterologists. Massachusetts has several well-known cancer treatment facilities, and most residents receive treatment in Massachusetts.

The Massachusetts Cancer Registry covers the population of the entire state. The registry is located within the Office of Data Management and Outcomes Assessment at the Massachusetts Department of Public Health. It is funded by the CDC/NPCR (75%) and the Commonwealth of Massachusetts (25%). The registry staff includes a director, five operations technicians who ensure data acquisition and quality, two epidemiologists, two specialists for geographical information systems dedicated to special projects, a part-time data technician, and two systems analysts. The registry follows CDC/NPCR requirements for data collection, reporting, and sharing. The registry initiated reporting from non-hospital sources in 2001. It has achieved NAACCR Gold Certification for complete, timely, and high-quality data for at least 18 years. The Massachusetts Cancer Registry has also been recognized as a Registry for Surveillance and a Registry of Distinction by the CDC/NPCR.

The registry produces three annual reports: *Cancer Incidence and Mortality in Massachusetts*, *Cancer Incidence in Massachusetts: City and Town Supplement* (which contains information on cancer incidence for 351 cities and towns), and a preliminary data brief with 90% data completeness. It also produces special topic reports, which are published on registry-specific webpages of the CDC (e.g. https://statecancerprofiles.cancer.gov) and the NAACCR (e.g. https://www.cancer-rates.info/naaccr). The registry data are used for programme planning and evaluation, and by external researchers for epidemiological studies.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. Day of birth and day of incidence were unknown in half of the cases (Table A.8). See also USA and NPCR, above.

Michigan Cancer Surveillance Program, 1998–2012

Glenn Copeland, Georgetta Alverson

Michigan is located in the Great Lakes region in the mid-west area of the USA. The state capital is Lansing, and the largest city is Detroit. In 2010, the state's population was 9.9 million, and 27% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 42% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 70% White NH, 19% Black, 6% Hispanic White, 3% API, and 1% Native American.

The Michigan Cancer Surveillance Program (MCSP) began operation in 1982 and became a statewide registry in 1985 (Table A.10). The registry was funded by the state health department until 1994 and then jointly by the state and the CDC/NPCR beginning in 1995. The MCSP also includes the geographical area covered by the Metropolitan Detroit Cancer Surveillance System, which is funded by the NCI (see below). The MCSP has continuously required reporting of precancerous cervical lesions since 1985.

The MCSP was established to provide cancer incidence statistics for the state, to organize surveillance of cancer incidence, and to assist in the conduct of research on cancer risks, causes, and cancer control efforts.

The registry data have been used extensively to assess the impact of the HPV vaccine, which was introduced in 2006 for young females and then in 2014 for young males, to prevent HPV infection and to reduce HPV-associated cancer risk.

The MCSP coverage area has a large American Indian population, and the registry has also provided precise data on cancer risk in the tribal populations. This work is accomplished by linking tribal rosters to the statewide cancer incidence files, with exclusive tribal ownership and control of the resulting tribe-specific data.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The proportion of cases aged 19 years in the age group 15–19 years was high (25.1%) (Table A.9). Information on the Metropolitan Detroit Cancer Surveillance System is separate (see below). See also USA and NPCR, above.

Michigan, Metropolitan Detroit Cancer Surveillance System, 1993–2012

Ann G. Schwartz, Kendra Schwartz, Jennifer Beebe-Dimmer, Fawn D. Vigneau, Nancy Lozon, Patrick Nicolin

The Detroit metropolitan area, which consists of the city of Detroit and its surrounding area, is on the eastern side of the state of Michigan, on the border with Canada. The area of 5094 km^2 includes Macomb, Oakland, and Wayne counties. In 2010, the population was 3.9 million, and 27% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 40% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 58% White NH, 31% Black, 5% API, 5% Hispanic White, and less than 1% Native American. Foreign-born residents are primarily of Arabic, Greek, Polish, Italian, German, English, Irish, or Scottish origin. The

area is predominantly urban and is heavily industrialized, as the centre of the national automobile manufacturing industry.

There are three children's hospitals and two NCI-designated Comprehensive Cancer Centers in the area. Many of the more than 60 hospitals and other facilities in the area also provide cancer care and have cancer research and treatment programmes.

The Metropolitan Detroit Cancer Surveillance System (MDCSS) is part of the Epidemiology Section within the Population Studies and Disparities Research Program of the Karmanos Cancer Institute and the Department of Oncology at the Wayne State University School of Medicine. The registry began in 1949 as a pathology registry for 25 collaborating hospitals. In 1973, the MDCSS became a founding participant in the NCI's SEER Program. This project was funded in whole or in part through federal funds from the NCI under SEER Contract No. HHSN261201300011I.

Cancer is a reportable disease under Michigan law. The MDCSS is the official designate of the Michigan Department of Health and Human Services (MDHHS) for cancer data collection in the Detroit metropolitan area. The MDCSS reports on incidence, first course of treatment, and survival. Data are collected by MDCSS abstracting staff from hospitals, private pathology laboratories, radiotherapy facilities, and selected clinics. Active follow-up is maintained annually for all living cases; requests for information are sent to physicians every 2 years. Hospital re-admissions are abstracted, and registry staff members also perform Internet searches for follow-up. Death certificate data for the state of Michigan are linked quarterly to update vital status and causes of death.

The MDCSS data are used extensively by Wayne State University faculty, who report directly to the MDCSS director. The MDCSS researchers frequently collaborate with other local, national, and international researchers and study cancer etiology, racial and ethnic disparities in cancer incidence and survival, and genetic and familial patterns of cancer occurrence. In addition, MDCSS data are frequently used by local area hospitals, health departments, and the MDHHS for planning, evaluation, and education purposes. The data are also used to address community concerns about cancer risk.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. In the online tables, these data are also included in SEER-9 White, for comparison with IICC-1 and IICC-2 (Table A.1). See also USA and SEER, above.

Minnesota Cancer Reporting System, 1998–2012

Judy Punyko, Amy Casey-Paal, Paula Lindgren, Mona Highsmith, Sally Bushhouse

Minnesota is located in the upper mid-west region of the USA, about halfway between the east and west coasts of North America. It borders Canada to the north. The state has two distinct continental climate types, and the north is 5–11 °C colder than the south. Major industries and sectors in Minnesota include biosciences, manufacturing, data centres, clean technology and renewable energy, banking and finance, health-care services, and agriculture and food production.

In 2010, the population was 5.3 million; 27% of the population was younger than 20 years (Table A.6), and 13% was aged 65 years and older. The percentage of the population younger than 20 years ranged from 24% for White NH to 43% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 76% White NH, 9% Black, 7% Hispanic White, 6% API, and 2% Native American. Between 1998 and 2012, net international immigration exceeded emigration to other states and resulted in positive population growth. The Somali and Hmong populations in Minnesota are now among the largest in the USA. Every year, 21 000 young adults move to Minnesota for higher education, and 29 000 students leave the state. Although Minnesota has a higher median household income than the national average, poverty rates are high for a large proportion of children of racial and ethnic minority populations, ranging from 20% for Asian to 50% for Black. Families with an income of less than 285% of the federal poverty level are eligible for medical coverage from public programmes.

The Minnesota Cancer Reporting System covers the entire state of Minnesota. It has been in operation since 1988 (Table A.10) at the Minnesota Department of Health. Until 2011, the registry collected diagnostic and related data on all MV malignancies and in situ tumours, in addition to CNS tumours of benign and uncertain behaviour. In 2012, the registration eligibility expanded to include cancers that were not MV. Certified tumour registrars abstract data from hospitals and pathology laboratories, and the central registry staff requests further information from clinics and physicians, to comply with NAACCR standards. Facilities located in bordering areas of neighbouring states report data to the registry on Minnesota residents who receive care in those facilities. Completeness is estimated to be close to 99%. Almost 70% of children with cancer aged 0–10 years receive care at one of two children's hospitals in Minneapolis and St. Paul. The sources of data for patients aged 10–19 years are more diverse. Quality assurance is conducted routinely. Passive follow-up of vital status is performed via record linkage with state and national death records.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the

threshold for numbers of cases, are available online, as specified in Table A.12. The MV% was high (99.3%), and, correspondingly, the percentage of cases with clinical diagnoses was low (0.5%) (Table A.9), because cases that were not MV were not reported until 2012. Therefore, the incidence rate may be slightly low. See also USA and NPCR, above.

Mississippi Cancer Registry, 2002–2012

Deirdre B. Rogers

The state of Mississippi is located in the south-eastern part of the USA. The state has the highest poverty rate, high disease rates, and the worst disease outcomes in the country. The state economy is growing but continues to lag behind the rest of the country. In 2010, the total state population was 3.0 million, and 29% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 36% for Native American and 36% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 50% White NH, 45% Black, 3% Hispanic White, 1% Native American, and 1% API. The proportion of people without health insurance decreased from 17% in 2013 to 12% in 2016. An estimated 4% of children younger than 18 years do not have health insurance, based on the 2008–2015 American Community Survey data.

The Mississippi Cancer Registry, which is located at the University of Mississippi Medical Center, covers the entire state. All facilities that provide cancer diagnostic and treatment services are required by law to report cancer cases to the registry. Data are received from hospitals, clinics, pathology laboratories, surgery centres, and radiology centres. Mississippi collects data on all cancers and benign or borderline conditions that are required by the CDC/NPCR. The registry also exchanges data with most other states in the USA to obtain data on Mississippi residents who seek care outside the state. The collected data consistently meet the NPCR standards for completeness and quality. The registry conducts follow-up through linkages with state vital records, the Social Security Death Index, and the National Death Index. The only children's hospital in the state, within the University of Mississippi Medical Center, provides a large portion of the oncology care for children in the state. In addition, many children travel to St. Jude Children's Research Hospital in the neighbouring state of Tennessee. The registry obtains data on those children through an exchange agreement with the Tennessee Cancer Registry.

The registry data are used to monitor trends in cancer incidence, plan comprehensive cancer control programmes, and conduct approved research studies. In addition, the registry provides data to the Mississippi State Department of Health to investigate disease clustering.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data for the period 2002–2012 are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Missouri Cancer Registry and Research Center, 1998–2012

Jeannette Jackson-Thompson

Missouri is located in the mid-west region of the USA. The capital city is Jefferson, and the largest urban areas are St. Louis, Kansas City, Springfield, and Columbia. In 2010, the state's population was almost 6.0 million, and 27% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 41% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 76% White NH, 16% Black, 5% Hispanic White, 2% API, and less than 1% Native American.

The Missouri Cancer Registry (MCR) is a state-mandated central cancer registry and is the base component of the Missouri Cancer Registry and Research Center (MCR-ARC), which is located on the campus of the University of Missouri and within the Department of Health Management and Informatics in the School of Medicine. The MCR is a collaborative partnership between the Missouri Department of Health and Senior Services and the University of Missouri. The MCR was established in 1972 when physicians at 12 hospitals around the state began voluntarily reporting new cases of cancer. Reporting of new cancer cases (inpatients only) was mandated by the state of Missouri in 1984, and the MCR became a population-based registry in 1985 (Table A.10). Since 1995, the MCR has received financial support from the CDC/NPCR, with a reference year of 1996. In 1999, Missouri cancer reporting statutes were expanded to include inpatient and outpatient hospital settings, physicians' offices, pathology laboratories, ambulatory surgical centres, residential care facilities and assisted living facilities, intermediate care facilities, skilled nursing facilities, and free-standing cancer clinics and treatment centres.

The MCR collects demographic, tumour, and treatment information on more than 30 000 new cases of invasive cancer per year. Currently, the MCR database contains about 600 000 invasive cases and more than 30 000 in situ cases diagnosed in 1996–2015, plus more than 300 000 invasive cases diagnosed before 1996. To ensure complete reporting of new cases, the MCR-ARC has data exchange agreements with all eight bordering states and more than 12 other states and conducts linkages with other databases (e.g. state vital records, the Missouri Department of Health and Senior Services' Patient Abstract System, the state hospital discharge database, the Social Security Death Index, the National Death Index) to capture missed cases and obtain additional information on previously reported cases.

The MCR has been recognized as a Registry of Excellence by the CDC/NPCR and has achieved NAACCR Gold Certification. The MCR-ARC maintains a website (https://medicine.missouri.edu/centers-institutes-labs/cancer-registry-research-center) to facilitate reporting to the central registry and to serve as an informational and educational data resource for the Missouri Department of Health and Senior Services and other health department staff, as well as researchers, physicians, educators, students, and members of the general public. The MCR-ARC also provides Missouri cancer incidence data to various agencies (e.g. the CDC, the NAACCR, IARC) for inclusion in national and international databases and publications.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Montana Cancer Control Programs, 1998–2012

Debbi Lemons

Montana is a rural state located in the north-west of the USA. In 2010, the population was 1.0 million and was predominantly White. About 25% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 49% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 83% White NH, 11% Native American, 4% Hispanic White, about 1% Black, and about 1% API.

The ageing population is not spread evenly across the state; this creates special challenges to meet public health-care objectives of service delivery despite vast distances and poor transportation.

The Montana Central Tumor Registry was mandated by law in 1979 and has been in operation since then (Table A.10). Federal funding for registry enhancement was initially granted in 1995 through the CDC/NPCR. The registry is funded with NPCR federal funds (80%) and state funds (20%).

Reportable cases are identified and collected from 52 hospitals, six cancer centres accredited by the American College of Surgeons Commission on Cancer, one Veterans Affairs Hospital, four independent pathology laboratories, 29 out-of-state cancer registries, physicians' offices, clinics, cancer treatment centres, and death certificates. About 6200 new cancer cases are diagnosed per year. Since 2000, reporting has been almost 100% complete. Most children with cancer are treated outside Montana.

The registry performs active lifetime follow-up of patients and conducts death linkage with the state's Office of Vital Statistics and the National Death Index.

As part of the programmes of the Chronic Disease Prevention and Health Promotion Bureau, the data generated by the cancer registry are used in conjunction with other surveillance data to better describe the burden of chronic diseases in Montana. These collaborations include cross-programme data analysis and programme evaluation projects.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Nebraska Cancer Registry, 1998–2012

Lifeng Li, Connie Ganz, Ming Qu

Nebraska is located in the Great Plains in the mid-west region of the USA. The state covers an area of 200 356 km^2, spanning about 690 km from east to west and 340 km from north to south. The capital city is Lincoln, and the most populous city is Omaha. In 2010, the population of Nebraska was 1.8 million, and about 28% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 45% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 75% White NH, 13% Hispanic White, 8% Black, slightly more than 2% API, and slightly more than 2% Native American.

The Nebraska Cancer Registry was founded in 1986 (Table A.10), when the Nebraska Unicameral Legislature authorized funding for a state cancer registry with a portion of funds generated by the state's cigarette tax. Since 1987, the registry has been operated by the Nebraska Department of Health and Human Services (NDHHS) in Lincoln, within the Division of Public Health. The establishment of the registry successfully combined the efforts of many Nebraska physicians, legislators, concerned citizens, and the Nebraska Medical Foundation, all of whom had worked for years towards this goal. Since 1994, the registry has received additional funding from the CDC. The registry data are collected and edited by registry staff in Omaha, under contract with the Nebraska Methodist Hospital. Analysis of registry data and preparation of the annual statistical report are the responsibility of the NDHHS.

The legislation that established the registry gave the state of Nebraska authority to establish and maintain a statewide cancer registry, to provide a central data bank of accurate, precise, complete, and current information to assist in the prevention, cure, control, and treatment of cancer. The statute requires all hospitals in the state to make medical records of patients with cancer available

to the department upon request. It also states that any medical doctor, osteopathic physician, or dentist in the state shall make this information available to the department upon request.

The purpose of the registry is to gather data that describe cancer incidence, type, stage at diagnosis, treatment, and survival for Nebraska residents. These data are put to a variety of uses both within and outside the NDHHS. Within the department, they are used to identify geographical patterns and long-term trends, to compare Nebraska data with those of the rest of the country, to investigate reports of possible cancer clusters, and to help plan and evaluate cancer control programmes. The registry has also provided data to many individuals, institutions, and organizations, including the NAACCR, the NCI, the American Cancer Society, the CDC, and the University of Nebraska Medical Center. The registry also contributes its data to several national cancer incidence databases. In recognition of the accuracy and completeness of the data that it has collected, the Nebraska Cancer Registry has achieved NAACCR Gold Certification for 21 consecutive years.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Nevada Central Cancer Registry, 1998–2012

Catherina Short, Carmen Ponce, Christine Pool

Nevada is located in the western USA. The large geographical area of the state is covered mainly by semi-arid desert. The state is divided into 17 counties; of these, only Clark, Washoe, and Carson City (also the state capital) are considered urban. The remaining 14 counties are rural or frontier; this creates pronounced geographical disparities. Almost 75% of Nevada's population lives in Clark County, where the Las Vegas–Paradise metropolitan area is located. The population increased by 13% between 2006 and 2015. In 2010, the population was 2.7 million, and about 27% of the population was younger than 20 years; this percentage ranged from 21% for White NH to 40% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 42% White NH, 35% Hispanic White, 12% Black, 8% API, and 2% Native American.

The geographical dispersion of the population creates many health-care delivery challenges in serving the residents of Nevada, especially those residing in rural and frontier areas. An estimated one third of the population resides in a federally designated primary medical care Health Professional Shortage Area. The average distance between acute care hospitals in rural Nevada and the next level of care (tertiary care hospitals) is 185 km. Cancer reporting in Nevada has traditionally relied primarily on data from acute care hospitals and, more recently, pathology laboratories. Of the 46 hospitals in Nevada, one third are considered rural or frontier hospitals, and of the remaining hospitals only five are certified by the American College of Surgeons Commission on Cancer. Cancers are often reported with a delay, and case reports are not standardized or complete when reporting cancer occurrence and treatment information. Only 5% of ambulatory health-care providers, physicians' offices, and treatment centres conduct active reporting.

The Nevada Central Cancer Registry is funded through the NPCR. Cancer is a reportable disease. Potential cancer cases are identified from hospitals, laboratories, physician specialty groups, and death records. Information from these and other sources is received electronically or as paper records. Cancer case information is registered in the registry database, linked, and consolidated by certified tumour registrars.

Tumours are coded according to the ICD-O in use (Table A.10), and multiple primary tumours are identified by a sequence number according to the SEER rules.

The registry regularly publishes incidence data. The registry data are a critical resource for surveillance, for the development of comprehensive cancer control programmes, and for health-care planning and interventions (https://dpbh.nv.gov/Programs/Office_of_Public_Healh_Informatics_and_Epidemiology_(OPHIE)).

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

New Hampshire State Cancer Registry, 1998–2012

Whitney Hammond, Judy Rees, Maria O. Celaya, Bruce Riddle

New Hampshire is located in the north-east of the USA. It is a rural state, with large open spaces in the north, but there are major population centres in the southern part of the state. Almost 60% of the population lives in urban areas. In 2010, the total population was 1.3 million, and about 25% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 42% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 90% White NH, 4% Hispanic White, 3% API, 2.5% Black, and less than 1% Native American.

New Hampshire has 26 reporting hospitals and two free-standing oncology centres. About 50% of cancer cases in people younger than 20 years are reported through data exchange agreements with other states;

many children with cancer who live in New Hampshire seek care in the neighbouring state of Massachusetts.

The New Hampshire State Cancer Registry (NHSCR) is a statewide, population-based cancer surveillance programme that collects incidence data on all cancer cases diagnosed or treated in the state. Since its inception in 1986 (Table A.10), the registry has operated through a contract between the Geisel School of Medicine at Dartmouth College and the New Hampshire Department of Health and Human Services (NHDHHS) in the Division of Public Health Services. As required by the state administrative rules, the registry collects reports from hospital registrars in all large hospitals. Hospitals with fewer than 105 cases per year generally do not have their own cancer registry, and NHSCR staff members conduct some of their reporting duties. The NHSCR also receives case reports from physicians' offices, free-standing radiology and oncology centres, out-of-state pathology laboratories, and other sources. In addition, the NHSCR receives case reports for New Hampshire residents who are diagnosed outside the state, based on data exchange agreements. The registry actively traces back the registered cases through death clearance trace-back and linkages to state death files and the National Death Index. A pathology audit is conducted at in-state pathology laboratories to verify case ascertainment. Audits of discharge diagnosis codes are also conducted. The registry is supported by the CDC/NPCR through a cooperative agreement awarded to the NHDHHS.

New Hampshire cancer statistics are summarized and reported annually. Reports are available nationally from United States Cancer Statistics and locally through the NHDHHS (https://www.dhhs.nh.gov/programs-services/disease-prevention/cancer/cancer-registry and https://wisdom.dhhs.nh.gov/wisdom/).

The registry data are used for public health planning and investigations, and data are made available for approved research through the NHDHHS (https://www.dhhs.nh.gov/).

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The incidence rate of 181.6 per million for the age group 0–14 years was high (Table A.9). See also USA and NPCR, above.

New Jersey State Cancer Registry, 1998–2012

Antoinette M. Stroup, Lisa E. Paddock, Stephanie M. Hill, Henry Lewis

New Jersey is located in the mid-Atlantic region of the north-eastern USA; it covers an area of 22 591 km^2. The state is ethnically and racially diverse. In 2010, the total population was 8.8 million, and 26% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 33% for Native American (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 53% White NH, 19% Hispanic White, 18% Black, 9% API, and 1% Native American. The population of New Jersey was increasing by 2% per year since 2010, notably in the Asian and Hispanic subgroups.

The New Jersey State Cancer Registry covers the entire state. The registry was established by state law and includes all cases of cancer diagnosed in New Jersey residents since 1 October 1978. Legal regulations require the reporting of all newly diagnosed cancer cases to the registry within 3 months of hospital discharge or within 6 months of diagnosis, whichever is sooner. Reports are made by hospitals, diagnosing physicians, dentists, and independent clinical laboratories.

The registry uses the data standards promulgated by the NAACCR and the SEER rules for multiple primaries. The registry has consistently received awards from the NAACCR, the NPCR, and SEER for having high-quality data. Registry data are publicly released about 18–24 months after diagnosis and are considered to be 99.5% complete.

The registry receives information from cancer registries that participate in the interstate data exchange programme, so that New Jersey residents who are diagnosed with or treated for cancer outside the state can be identified. Because of close proximity to large, specialized facilities in the states of Pennsylvania, Delaware, and New York, many New Jersey residents travel to these neighbouring states to receive care for paediatric and adolescent cancers.

The registry is funded by the NCI, the CDC, the state of New Jersey, and the Rutgers Cancer Institute of New Jersey.

Reports and data briefs are available through the New Jersey Department of Health (https://www.state.nj.us/health/ces/reports.shtml).

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA, NPCR, and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA, NPCR, and SEER, above.

New Mexico Tumor Registry, 1993–2012

Charles Wiggins, Virginia Williams, Angela Meisner, Marc Barry

New Mexico is located in the south-western USA. It is a large state that covers an area of 314 159 km^2. About one third of the population lives in the Albuquerque metropolitan area, and the remaining residents live in small cities, towns, villages, and rural areas. The capital and cultural centre is Santa Fe. Many Hispanic people residing in the state trace their ancestry to Spanish colonists who settled in the region several centuries ago. The median education and income levels in New Mexico are among the lowest in the country. In 2010, the total population was 2.1 million, and about 28% of the population was younger than 20 years; this percentage ranged from 19% for White NH to 37% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 53% Hispanic White, 28% White NH, 14% Native American, 4% Black, and 2% API.

Cancer care is provided by public and private hospitals in population centres throughout New Mexico and in neighbouring states. Community-based oncologists, surgeons, and other health professionals are also key providers of cancer care. Most preadolescent patients with cancer (95%) receive care from paediatric oncologists at the University of New Mexico Comprehensive Cancer Center.

The New Mexico Tumor Registry is a population-based cancer surveillance system that covers the entire state. The registry was established in 1966 and is a founding member of the NCI's SEER Program. Cancer surveillance in New Mexico is a collaborative effort of the New Mexico Tumor Registry, the New Mexico Department of Health, the federal Indian Health Service, and American Indian communities. Cancer surveillance is also supported by hospital-based cancer registrars, health-care providers, and administrators. The registry also routinely receives information from central registries and health-care providers in neighbouring states that serve New Mexico residents who travel outside the state for cancer care. Cancer surveillance in New Mexico is conducted in accordance with prevailing standards established by the SEER Program, the NAACCR, and others since 1975.

It is important to consider race and ethnicity when interpreting the registry's data, because cancer incidence, mortality, and survival vary (sometimes widely) among the diverse racial and ethnic groups. The registry maintains a robust research portfolio, and registry data are frequently used to support science-based research and evidence-based cancer control efforts. Statistics are routinely tabulated and disseminated through published reports and via the registry website. The registry also collaborates with the New Mexico Department of Health to address cancer-related concerns and public health issues.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. In the online tables, these data are also included in SEER-9 White, for comparison with IICC-1 and IICC-2 (Table A.1). See also USA and SEER, above.

New York State Cancer Registry, 1998–2012

Maria J. Schymura, Amy R. Kahn, Colleen G. Sherman

New York State is located in the north-eastern USA and covers a land area of 122 056 km^2. More than 40% of the total population of the state lives in New York City, and about 90% of the residents live in metropolitan areas, such as Buffalo, Rochester, Yonkers, and Syracuse. The state capital is Albany. In 2010, the total population was 19.4 million, and 25% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 33% for Native American (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 53% White NH, 22% Black, 17% Hispanic White, 8% API, and slightly more than 1% Native American.

Residents of New York State have access to 200 acute care hospitals, including 15 that are members of the Children's Oncology Group and three NCI-designated Comprehensive Cancer Centers.

The New York State Cancer Registry contains reports on all reportable tumours in the state's residents. The registry was established by public health law in 1940 and is the second oldest state tumour registry in the USA. The registry has been population-based since 1976 (Table A.10) and is NAACCR-certified for completeness.

The registry is located within the New York State Department of Health (NYSDOH) and is funded partly by the NYSDOH and partly by the CDC/NPCR. The registry has a director, field staff, coding staff, quality assurance staff, research scientists, computer programmer analysts, and geocoding and secretarial support staff; 25 staff members are certified tumour registrars.

State law mandates cancer reporting with full personal identifiers. The registry uses passive notification of reports from more than 300 sources, including hospitals, pathology and cytology laboratories, radiotherapy centres, ambulatory surgery centres, physicians' offices, and state vital records. Data are received electronically and are mostly pre-coded. Many quality checks are routinely applied to the data, and much effort is devoted to case consolidation.

New York State death certificates are electronically matched against registry files. Cancer deaths not previously reported to the registry are traced back to hospitals for complete diagnostic information. Cases not known to be deceased are also routinely matched against the National Death Index. Cause of death is recorded for all deceased registered patients. The registry routinely exchanges data with 38 other states, Puerto Rico, and the District of Columbia.

The registry prepares extensive annual reports of cancer incidence and mortality (https://www.health.ny.gov/statistics/diseases/cancer).

Within the NYSDOH, the registry data are used for cancer surveillance and programme planning. The NYSDOH Cancer Surveillance Program has direct access to the New York State Cancer Registry database for use in investigating possible cancer clusters and addressing community concerns. The registry data are routinely provided to other organizations within New York State for planning and evaluation of health services, grassroots advocacy, and generating etiological hypotheses. The registry data are used by researchers throughout the USA for epidemiological studies.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. In the online tables, these data are also displayed for SEER-9 White, for comparison with IICC-1 and IICC-2 (Table A.1). Day of birth was incomplete in 35% of the cases (Table A.8). See also USA and NPCR, above.

North Carolina Central Cancer Registry, 1998–2012

Chandrika Rao, Soundarya Radhakrishnan

North Carolina is located in the south-eastern region of the USA. The state is divided into 100 counties. The capital is Raleigh, which, along with Durham and Chapel Hill, is in the Research Triangle Park, the largest research park in the USA. The most populous municipality is Charlotte, which is the second largest banking centre in the USA after New York City.

In 2010, the estimated population was 9.5 million, and 27% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 41% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 57% White NH, 27% Black, 11% Hispanic White, 3% API, and 2% Native American.

The North Carolina Central Cancer Registry covers all residents of the state. It receives most of its cancer incidence data from hospitals and health-care facilities (hospitals, cancer treatment centres, and oncology surgical centres). Incidence data are also received from physicians' offices, pathology reports, interstate data exchange, hospice and nursing facilities, and death clearance cases.

The registry is funded through state appropriations and the CDC/NPCR. It became operational in 1987, and increased completeness of case ascertainment to more than 90% in 1990 (Table A.10). The North Carolina Central Cancer Registry is responsible for cancer surveillance, and its core mission is to collect timely data and to analyse and disseminate cancer data to public health agencies and advocates, legislators, policy-makers, researchers, state and national organizations, and residents of North Carolina. It plays an important role in developing data-driven objectives for the North Carolina Cancer Plan (2014–2020) and continues to serve as the key source of population-based data to assess the outcomes of cancer control efforts in the state.

The North Carolina Central Cancer Registry has been recognized as a Registry of Excellence by the CDC/NPCR for meeting the standards for data completeness and quality.

Caution is needed when comparing data, because incidence may be underreported in areas close to neighbouring states, especially for cancers that may not be diagnosed in hospitals.

The registry data are used in publications and are available on the State Center for Health Statistics website (https://schs.dph.ncdhhs.gov/data/cancer.cfm).

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

North Dakota Statewide Cancer Registry, 1998–2012

Susan Mormann, Mary Ann Sens, Yun Zheng, Xudong Zhou, Cristina Oancea

North Dakota is mainly a rural state; it is located in the mid-west region of the USA. The capital city is Bismarck, and the largest city is Fargo. In 2010, the population was 0.7 million, and about 26% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 46% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 84% White NH, 9% Native American, 3% Hispanic White, 3% Black, and 1% API.

The North Dakota Statewide Cancer Registry is located at the Department of Pathology within the School of Medicine and Health Sciences at the University of North Dakota. The registry is authorized by law to collect cancer data for the purpose of preventing or controlling the disease and to conduct public health surveillance as well as public health investigations and interventions. The registry was established in 1994, and collection of incidence and mortality data officially began in January 1997 through administrative ruling (Table A.10).

All health-care facilities, health-care providers, laboratories, and pathology departments that provide outpatient and inpatient diagnostic or treatment services for patients with cancer must report to the registry. About 93% of the incidence cases reported per year are obtained from the six major reporting facilities with cancer registry programmes. The rest of the data are obtained from out-of-state data-sharing agreements, death clearance processes, individual physicians' offices, clinics, and other sources.

All malignant neoplasms, in situ lesions, and benign tumours of the CNS are reportable, with the exception of basal and squamous cell skin carcinomas. Federal and state laws protect the confidentiality of the medical information received. To ensure accurate, complete, and reliable data, metafiles are reviewed and subjected to external audits, internal case finding, and re-abstracting audits. In published tables, the exact numbers are shown only in cells that contain 10 or more cases, to preserve confidentiality.

Incidence numbers and rates, analysed by stage and treatment, are used for cancer control strategies.

The North Dakota Comprehensive Cancer Program is a major user of registry data. Registry data are also used to fulfil data requests (both public and private), investigate possible cancer clusters, perform research analysis, and publish electronic annual reports.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Ohio Cancer Incidence Surveillance System, 1998–2012

Lynn Giljahn

Ohio is located in the mid-west area of the USA, in the Great Lakes region. The state takes its name from the Ohio River. The capital and largest city is Columbus. In 2010, the population was 11.5 million, and about 27% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 41% for Hispanic White. The racial and ethnic distribution in the age group 0–19 years was 76% White NH, 17% Black, 4% Hispanic White, 2% API, and less than 1% Native American.

The Ohio Cancer Incidence Surveillance System (OCISS) at the Ohio Department of Health collects and analyses cancer incidence data pertaining to all residents of the state of Ohio. The OCISS collects information on incident cases of cancer using reports from hospitals, physicians, laboratories, and outpatient ambulatory and radiotherapy centres. The data collected include patient demographics, cancer diagnosis, stage, and first course of treatment.

Together with a variety of partners within and outside the Ohio Department of Health, the OCISS works to reduce the burden of cancer (https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/ohio-cancer-incidence-surveillance-system/Cancer-Programs-ODH). OCISS publications are available at https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/ohio-cancer-incidence-surveillance-system/Data-Statistics.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Oklahoma Central Cancer Registry, 1998–2012

Raffaella Espinoza, Christy Dabbs, Marva Dement, Leslie Dill, Jessica Freeman, Judy Hanna, Kaela Howell, Susan Nagelhout, Christina Panicker

Oklahoma is located in the south-central region of the USA. Most of the state lies in an area referred to as Tornado Alley, which is characterized by frequent tornadoes. Oklahoma is mainly rural; 35% of the population lives in the two major metropolitan areas (Oklahoma City and Tulsa), and 16 of the 77 counties (~20%) are designated as rural by the United States Department of Agriculture. The state is rich in resources such as oil and natural gas and is known for the farming and livestock industry.

In 2010, the total population was about 3.8 million, and 28% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 42% for Hispanic White (Table A.6). Oklahoma has a large American Indian population; in the 2010 United States Census, 9% of residents identified as American Indian. The racial and ethnic distribution in the age group 0–19 years was 61% White NH, 14% Native American, 11% Hispanic White, 11% Black, and 2% API. An estimated 75% of the population of Oklahoma has reported having health insurance.

The Oklahoma Central Cancer Registry is located within the Oklahoma State Department of Health at the Center for Health Statistics. It is funded through a cooperative agreement with the CDC/NPCR. The registry maintains records of all cancers diagnosed or treated in Oklahoma since 1997 (Table A.10). To collect and maintain the data, the registry staff members work with a wide variety of facilities and physicians throughout the state. These activities are supported by state law requiring the reporting of cancer cases to the registry within 180 days of diagnosis. The registry database includes more than 366 000 reported cancer cases, and about 21 000 unique cancer cases are collected per year. The registry conforms to national data collection standards as recommended by the NAACCR. The Oklahoma Central Cancer Registry conducts an annual data linkage with the Oklahoma Vital Statistics death certificates, to update existing records. Cancer data are also linked with the federal Indian Health Service database to achieve more accurate racial identification. The registry staff members are dedicated to providing complete, timely, and high-quality data to clinicians, researchers, and public health officials for programme planning and resources allocation, as well as to support cancer research.

POPULATION AT RISK
See USA, above.

EDITORS' COMMENTS
Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Oregon State Cancer Registry, 1998–2012

Donald Shipley, Meena Patil

Oregon is located in the Pacific Northwest region of the USA, on the Pacific coast. The Columbia River delineates much of the northern boundary of Oregon with Washington State, and the Snake River delineates much of the eastern boundary with Idaho.

In 2010, the population was 3.8 million, and 25% of the population was younger than 20 years; this percentage ranged from 22% for White NH to 44% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 70% White NH, 18% Hispanic White, 5% API, 4% Black, and 3% Native American.

The Oregon State Cancer Registry began collecting cancer data in 1996 (Table A.10), after state legislation made cancer a reportable disease in August 1995. The mission of the registry is to provide information to design, target, monitor, facilitate, and evaluate efforts to determine the causes or sources of cancer in Oregon residents and to reduce the burden of cancer in Oregon. The registry and all its programme activities are funded and supported by the CDC/NPCR.

The registry receives information from a variety of sources, including hospital cancer registries, ambulatory surgical centres, physicians' offices, outpatient clinics, pathology laboratories, hospital medical records departments, cancer registries of neighbouring states in which Oregon residents have received diagnostic or treatment services, and state death certificate files. About 75% of cancer diagnoses are reported by established hospital cancer registries, and the remaining 25% are from other sources. The registry does not perform active follow-up of reported patients; information on patient survival is obtained primarily through regular record linkages with the state death certificate database, the Social Security Death Index, and the National Death Index.

The use of registry data for cancer prevention and control is a fundamental purpose of the Oregon State Cancer Registry. The registry conducts funded research and responds to requests for data from the media, legislators and policy-makers, individual physicians, concerned citizens, and collaborative partners.

POPULATION AT RISK
See USA, above.

EDITORS' COMMENTS
Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Pennsylvania Cancer Registry, 1998–2012

Wendy Aldinger

The Commonwealth of Pennsylvania is located in the mid-Atlantic region of the north-eastern USA. In 2010, the population was 12.7 million, and 25% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 39% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 73% White NH, 16% Black, 7% Hispanic White, 3% API, and less than 1% Native American.

According to the United States Census Bureau *Small Area Health Insurance Estimates*, the percentage of Pennsylvania residents younger than 19 years who have health insurance increased from 88% in 2008 to 91% in 2015.

The Pennsylvania Cancer Registry collects demographic, diagnostic, and first course of treatment information on all patients with cancer diagnosed and treated in health-care facilities in the state. Data collection as mandated by the Pennsylvania Cancer Control, Prevention, and Research Act was initiated in 1982, and statewide reporting became effective in 1985. Reporting of inpatients and outpatients who receive either definitive or supportive cancer treatment is mandatory. The registry receives funding through the CDC/NPCR. Through participation in the CDC/NPCR since its inception in 1994, the Pennsylvania Cancer Registry has significantly enhanced registry operations and has achieved NAACCR certification for meeting national standards of excellence for data completeness, quality, and accuracy.

The registry receives about 140 000 reports per year from 370 hospital and non-hospital reporting sources. After accounting for duplicates, there are almost 76 000 newly diagnosed cases per year. The registry exchanges data with all neighbouring states as well as those states that participate in the national data exchange agreement. Few cases are lost as a result of treatment outside Pennsylvania.

The registry data are used to produce statistics and incidence reports, for cancer research and surveillance activities, and for epidemiological and other special studies. State-specific incidence and mortality data are published annually in *Pennsylvania Cancer Incidence and Mortality* (https://www.health.pa.gov/topics/Reporting-Registries/Cancer-Registry/Pages/Cancer Registry.aspx). Enterprise Data Dissemination Informatics Exchange (EDDIE) is an interactive health statistics web-based tool for creating customized data tables, charts, maps, and county profiles (https://www.phaim1.health.pa.gov/EDD/Default.aspx). The cancer incidence data in this system are calculated from Pennsylvania Cancer Registry data.

POPULATION AT RISK
See USA, above.

EDITORS' COMMENTS
Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Rhode Island Cancer Registry, 1998–2012

David Rousseau, Lisa Garcia, Nancy Lebrun, Nicole Witherell

The state of Rhode Island is located in the New England region of the USA and includes part of the Atlantic coast. Providence is the state capital and the most populous city. In 2010, the state's population was 1.1 million. About 85% of the population resides in urban areas; about 15% of the state's population are of recent immigrant status. Rhode Island has a higher percentage of college students in the population than the national average. In 2010, about 25% of the population was younger than 20 years; this percentage ranged from 22% for White NH to 39% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 67% White NH, 15% Hispanic White, 12% Black, 4% API, and 1% Native American.

General health care in the region is provided by 11 privately funded acute care hospitals, one federally funded acute care veterans hospital, 25 community health centres for primary care, and several hundred private physicians' offices, which provide primary and specialty care. All 12 hospitals provide cancer care; all have cancer care committees, and their cancer programmes are approved by the American College of Surgeons. In addition, the state is served by two free-standing radiotherapy centres.

The Rhode Island Cancer Registry is an administrative unit of the Rhode Island Department of Health, and it covers the population of the entire state. The registry was established in 1986 (Table A.10). Under Rhode Island law, all newly diagnosed malignant neoplasms have been reported since October 1986, with the exception of basal and squamous cell skin carcinomas. Since 1998, benign CNS tumours are reportable. The registry is funded by the state and by the CDC/NPCR. It is run collaboratively by the Rhode Island Department of Health and the Hospital Association of Rhode Island. All cancer registries in the 12 acute care hospitals and the central registry conform to data collection standards adopted by the American College of Surgeons. Data are transmitted electronically between the reporting sources and the central registry The Rhode Island Cancer Registry conforms to NAACCR standards for central registry operations, including data reporting, editing, and transmission. Information on the residents who receive diagnostic or treatment services outside the state is reported from the states that participate in the National Interstate Data Exchange Agreement. Registry data have consistently met NAACCR quality control standards, and completeness is greater than 95%.

The registry produces official cancer statistics for Rhode Island, including annual reports and a series of data briefs used in planning of cancer control; it also supplies cancer data to researchers. Strict guidelines are used to protect patient confidentiality so that individuals cannot be identified. Special studies are performed regularly to support the planning and management of cancer control in the state and to assist with environmental health risk assessments.

POPULATION AT RISK
See USA, above.

EDITORS' COMMENTS
Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The incidence rate of 181.9 per million for the age group 0–14 years was high (Table A.9). See also USA and NPCR, above.

South Carolina Central Cancer Registry, 1998–2012

Susan Bolick, Deborah Hurley

South Carolina is located in the south-eastern USA. It is bordered to the south-east by the Atlantic Ocean. In 2010, the total population was 4.6 million; from 1998 to 2012, the population increased by 20%. During the same period, the population in the age group 0–19 years increased by 7%, and the percentage of Hispanic residents in this population increased from 2% to 8%. In 2010, about 27% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 38% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 57% White NH, 34% Black, 6% Hispanic White, 2% API, and less than 1% Native American.

The South Carolina Central Cancer Registry was established in 1994 with funding from the CDC/NPCR; it covers the entire state. Population-based data were produced from 1996 onwards (Table A.10). Data sources for childhood and adolescent cancer cases include acute care hospitals, especially those specializing in treatment of childhood and adolescent cancers, and private medical oncology and radiation oncology centres. Cases identified by pathology laboratories are captured throughout the state, and this supplements case finding from inpatient and outpatient hospitals and treatment centres. The registry is a member of the National Interstate Data Exchange Agreement; thus, residents who receive diagnostic or treatment services outside the state are also registered.

All malignant tumours are collected, with the exception of basal and squamous cell carcinomas in non-genital

skin sites. The SEER rules are used to determine multiple primaries.

Completeness of case ascertainment was greater than 95% of the expected number of cancers (for all ages) for South Carolina. All CDC and NAACCR data quality criteria were met. Passive follow-up is conducted annually through linkage to vital record death files for the state. Any missed cases identified through death certificate review are confirmed and added as either a missed case or a DCO case.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The proportion of cases aged 19 years in the age group 15–19 years was high (25.1%) (Table A.9). See also USA and NPCR, above.

South Dakota Cancer Registry, 2001–2012

Kay Dosch

The state of South Dakota, which is named after the Lakota and Dakota Sioux Native American tribes, is located in the mid-west region of the USA. Pierre is the state capital, and Sioux Falls is the largest city. In 2010, the state's population was 0.8 million, and 28% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 47% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 78% White NH, 15% Native American, 3% Hispanic White, 3% Black, and 1% API.

Seven hospitals in South Dakota have cancer registries. Five of these have cancer programmes approved by the American College of Surgeons Commission on Cancer.

The South Dakota Cancer Registry collects information on all resident patients with cancer, as well as on all individuals who receive cancer diagnostic or treatment services in the state. All health-care providers in South Dakota who diagnose or treat patients with cancer are required to report to the registry.

The registry is located within the South Dakota Department of Health. The reference year for the registry is 2001 (Table A.10). It is funded by the CDC/NPCR and has two full-time staff positions: a registry coordinator and a data manager. In addition, the chronic disease epidemiologist, team leader, and administrator of the South Dakota Department of Health each dedicate 10% of their time to the registry.

The South Dakota Cancer Registry data meet the timeliness, completeness, and quality standards of the NPCR and the NAACCR. In addition, the registry data meet the criteria for inclusion in the *United States Cancer Statistics* and *Cancer in North America* publications. The state has implemented an HPV prevention campaign that promotes the HPV vaccine.

The registry data are used for surveillance of cancer incidence and mortality rates, programme planning and evaluation, epidemiological studies, and investigation of possible cancer clusters. The cancer prevention and control activities support the goal of reducing the cancer burden in South Dakota.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The proportion of cases aged 19 years in the age group 15–19 years was high (28.6%) (Table A.9). The percentage of cases with an unknown basis of diagnosis was high (3.2%) (Table A.9). See also USA and NPCR, above.

Tennessee Cancer Registry, 1999–2012

Martin Whiteside, Anne Llewellyn

Tennessee is located in the south-eastern region of the USA. It borders eight other states: Kentucky, Virginia, North Carolina, Georgia, Alabama, Mississippi, Arkansas, and Missouri. The capital and the largest city is Nashville. In 2010, the state's population was 6.3 million, and about 26% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 40% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 70% White NH, 22% Black, 6% Hispanic White, 2% API, and less than 1% Native American.

The Tennessee Cancer Registry registers both residents and non-residents who receive cancer diagnostic or treatment services within the state. The registry was established by an act of the Tennessee General Assembly in 1983. The Tennessee Cancer Registry is based in the Department of Health within the Division of Public Health Assessment. The director is responsible for the general operations of the registry, and the programme manager is responsible for the day-to-day operations. The Tennessee Cancer Registry has registered more than 1 million patients with cancer since 1986 (Table A.10).

The registry employs 13 full-time staff, including 10 certified tumour registrars. The registry is funded through State of Tennessee General Assembly appropriations and a cooperative agreement with the CDC. Currently, the registry staff members process more than 45 000 abstracts per year. Most abstracts are completed by hospital or other health facility staff and are subsequently submitted to the registry. Case information reported from medical laboratories and through the death clearance process is abstracted by certified tumour registrars. The registry also exchanges data with all neighbouring states and other reciprocating states at least twice a year.

The registry data are used to support numerous research activities. Annually, cancer data are included in the *Cancer in Tennessee* report, which is mandated by law (https://www.tn.gov/content/dam/tn/health/program-areas/reports_and_publications/2019_Cancer_Report.pdf).

The registry conducts various research studies, including investigations of possible cancer clusters. One example of external research is monitoring the development of cancer as a side-effect in people who have taken or are currently taking certain medications. The registry currently administers more than 20 IRB-approved studies.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Texas Cancer Registry, 1998–2012

Melanie Williams

Texas is a large state located in the south-central region of the USA. The climate varies widely, from arid in the west to humid in the east. The state is divided into 254 counties and covers an area of 676 585 km^2. The population density is 37 per km^2. In 2015, almost 18% of people in Texas lived below the poverty level, 17% lacked health insurance, and 17% lived in rural areas. There was one primary care physician per 1708 people. Cancer treatment services are located primarily in large metropolitan areas and are internationally recognized for their high-quality care.

In 2010, the state's population was 25.1 million, and about 30% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 38% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 45% Hispanic White, 35% White NH, 14% Black, 4% API, and 1% Native American.

The Texas Cancer Registry is based in Austin. The registry is funded by the CDC and the Cancer Prevention Research Institute of Texas. The registry combines active and passive surveillance methods to collect, maintain, and disseminate high-quality cancer data. The registry receives reports from more than 500 hospitals, cancer treatment centres, ambulatory surgery centres, and pathology laboratories across Texas, including 15 licensed paediatric facilities. Confidential cancer reporting without informed consent is mandated by state law. During the reporting period, all hospitals used ICD-9 codes for identification of reportable cases and ICD-O-3 codes for case abstraction. The registry follows SEER guidelines.

The registry data have been population-based since 1995 (Table A.10); since 2006, the data have met the highest quality standards (90–95% completeness) as defined by the NAACCR and the CDC/NPCR. Vital status is ascertained annually from the State Department of Vital Statistics and the National Death Index. Follow-up of patients is also ascertained through linkage with the Social Security Death Index and LexisNexis. In 2016, the registry received more than 190 000 reports of cancer; of these, more than 12 000 were for non-residents, reflecting the high demand for cancer care available in Texas. These reports are forwarded to other state cancer registries and make a significant contribution to the overall completeness of the national cancer surveillance system. The collected data are used to monitor incidence, mortality, and survival trends in Texas. The Texas Cancer Registry conducts data analyses to address community concerns about possible cancer clusters. It also provides data to citizens, community leaders, legislative representatives, the National Breast and Cervical Cancer Early Detection Program, and researchers. Currently, the registry supports more than 60 IRB-approved research projects, which together receive more than $91 million in federal and state grants.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. Day of incidence was incomplete in 13% of the cases (Table A.8). See also USA and NPCR, above.

Utah Cancer Registry, 1993–2012

SuAnn McFadden, Judy Ou, Jennifer Anne Doherty

Utah is a landlocked state in the western USA. Although the state is mostly rural, 80% of the population lives in an urban area along the Wasatch Front, in northern Utah. In 2010, the population was 2.8 million, and about 35% of the population was younger than 20 years; this percentage ranged from 33% for White NH to 48% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 78% White NH, 15% Hispanic White, 3% API, 2% Black, and 2% Native American. Utah has 51 hospitals, two radiology clinics, and numerous nursing homes and hospice care clinics.

The Utah Cancer Registry has covered the state since 1966 (Table A.10). The registry operates under the Utah Cancer Reporting Rule, which requires reporting of each case of cancer or reportable benign tumour diagnosed or treated in Utah. Cancer cases are reported to the registry through electronic pathology reporting, submission of NAACCR abstracts, and through paper pathology records. The registry works with all hospitals and medical centres that treat cancer to ensure 100% reporting.

The registry promotes public health in Utah by maintaining cancer data, which enable the monitoring of

trends in incidence and mortality as well as the evaluation of prevention and control measures. One of the major functions of the Utah Cancer Registry is to serve as a resource for researchers, physicians, hospitals, and the Utah Department of Health. The registry also provides local data to national agencies, including the NCI, the American Cancer Society, and the NAACCR, for the purpose of generating national cancer statistics. The registry also serves as an educational and data resource for physicians and institutions, stimulates research into all aspects of cancer in Utah, and promotes state-of-the-art cancer diagnosis and treatment.

PUBLICATIONS

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POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. In the online tables, these data are also included in SEER-9 White, for comparison with IICC-1 and IICC-2 (Table A.1). The proportion of cases aged 19 years in the age group 15–19 years was high (25.1%) (Table A.9). See also USA and SEER, above.

Vermont Cancer Registry, 1998–2012

Alison Taft Johnson

Vermont is located in the New England region of the north-eastern USA. The state capital is Montpelier. About 39% of the population lives in urban areas. In 2010, the state's population was 0.6 million, and about 24% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 46% for Black (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 93% White NH, 3% Black, 2% Hispanic White, 2% API, and less than 1% Native American.

General health care in the region is provided predominantly by 15 hospitals, including a Veterans Affairs Medical Center. This is supplemented by private practitioners and one outpatient radiotherapy facility. About 93% of Vermont residents have health insurance.

The Vermont Cancer Registry is located within the Vermont Department of Health, and it covers the population of the state. It is funded by the CDC/NPCR and receives in-kind support from reporting hospitals. The registry is staffed by a full-time director, a health data administrator, an education and quality coordinator, and a public health analyst.

Cancer reporting by health-care facilities and health-care providers is mandatory. Interstate data exchange agreements exist with all bordering states and the state of Florida. Electronic editing, visual editing, and hospital auditing are all used as quality assurance strategies.

The registry data are linked with the state death file annually. Unmatched records are traced back with data providers to determine reportability. Records that are not traced back are recorded as DCO cases. The registry data are also linked with the National Death Index annually. Vital status and date of last contact are updated for all deceased patients. Registry data are estimated to be at least 95% complete at 24 months after the close of the diagnosis year.

The Vermont Cancer Registry, in collaboration with Vermont cancer programmes, publishes reports that include age-adjusted incidence rates, stage at diagnosis, and age-adjusted mortality rates using SEER site groups and, where applicable, stratified by sex and geographical area.

The registry data are used for planning and evaluation of cancer control objectives. Reports are published, with an emphasis on screening-amenable cancers (e.g. breast, cervical, colorectal) diagnosed at a late stage and cancers associated with modifiable risk factors (e.g. tobacco use, obesity, HPV infection).

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. The proportion of cases aged 0–14 years in the age group 0–19 years was slightly low (59.8%) (Table A.9). See also USA and NPCR, above.

Virginia Cancer Registry, 1998–2012

Jim Martin, Jayne Holubowsky, Leslie R. Hoglund

The Commonwealth of Virginia is located in the mid-Atlantic region of the USA, between the Atlantic coast and the Appalachian Mountains. The geography and climate of Virginia are shaped by the Blue Ridge Mountains and the Chesapeake Bay. The population was 8.0 million in 2010 and had increased by 5% by 2016.

Racial and social health disparities exist in Virginia. In 2014, about 12% of residents did not have health insurance. The unemployment rate was 4%, well below the national average. The largest minority group is Black (20%); this group has a higher rate of premature deaths than the White population. The Powhatan, a nationally recognized Native American tribe, comprises 0.4% of the population. In 2010, about 26% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 35% for Hispanic White (Table A.6). The racial and

ethnic distribution in the age group 0–19 years was 60% White NH, 24% Black, 9% Hispanic White, 7% API, and less than 1% Native American.

The Virginia Cancer Registry is part of the Department of Health within the Office of Family Health Services of the Division of Population Health Data. Data are collected from hospitals, laboratories, clinics, nursing homes, and physicians' offices. About 91% of the case records are electronic, and the rest are paper records. All cases are coded according to the NPCR standards, which include the seventh edition of the *AJCC Cancer Staging Manual* and the *SEER Summary Staging Manual 2000*. The Collaborative Stage Data Collection System was used for cases registered since 2004. Data submission to the NPCR at 24 months after the year of diagnosis is at least 95% complete; additional cases were added subsequently. No systematic follow-up is performed, with the exception of death clearance from the Virginia Vital Statistics Office.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Washington State Cancer Registry, 1998–2012

Mahesh Keitheri Cheteri

Washington State is located in the Pacific Northwest region of the USA. The state is bordered by Canada to the north. In 2010, the state's population was 6.7 million, and 26% of the population was younger than 20 years; this percentage ranged from 23% for White NH to 43% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 65% White NH, 16% Hispanic White, 10% API, 7% Black, and 3% Native American.

The Washington State Cancer Registry is based in the Washington State Department of Health and is responsible for the collection of all reportable conditions within the state. The registry is funded by the CDC/NPCR and state general funds.

Since 1992, state law requires hospitals and health-care professionals to submit case information to the registry within 6 months of diagnosis or first treatment visit. The registry also reviews pathology reports to ensure complete case capture. Death certificates are reviewed annually to update case records and vital status and to trace back potentially missed cases. The registry follows the coding guidelines set by the NAACCR.

The registry transmits electronic data to the CDC annually using a standardized NAACCR record layout and coding system. The Washington State Cancer Registry has consistently met or exceeded the NPCR data quality criteria for all cancer sites and ages. Registry data are used to support the work of public health professionals, health-care professionals, and researchers. The data are also used to support investigations of possible cancer clusters. Annual reports on cancer in the state are available from https://fortress.wa.gov/doh/wscr.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. Information from the Seattle–Puget Sound Registry is shown separately (see below). Day of incidence was incomplete in 11% of the cases (Table A.8). See also USA and NPCR, above.

Washington State, Seattle–Puget Sound Registry, 1993–2012

Stephen M. Schwartz, Christopher I. Li, Mary S. Potts, Jennifer L. Hafterson

Puget Sound extends along the north-western coast of Washington State in the USA; it is an inlet of the Pacific Ocean and is part of the Salish Sea. The reference geographical area includes 13 counties – Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Mason, Pierce, San Juan, Skagit, Snohomish, Thurston, and Whatcom – with a total population of 4.6 million in 2010. Of these, the most populous counties are King (where Seattle is located; 43% of the total population), Pierce (where Tacoma is located; 17%) and Snohomish (where Everett is located; 16%). These three counties are adjacent to each other and form the larger Seattle–Tacoma–Everett metropolitan area. The remaining 24% of the population is distributed across the other 10 counties, each of which contains less than 6% of the total reference population. In 2010, about 25% of the population was younger than 20 years; this percentage ranged from 22% for White NH to 40% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 65% White NH, 12% API, 12% Hispanic White, 9% Black, and 3% Native American. Patients with cancer have access to the most advanced diagnostic and treatment facilities throughout the catchment area.

The Seattle–Puget Sound Registry is operated by the Cancer Surveillance System (CSS). The CSS is located within the Fred Hutchinson Cancer Research Center (FHCRC) and is funded primarily by the SEER Program and partly by the FHCRC and the Washington State Department of Health. Under the SEER Program, the registry provides incidence and follow-up data on all newly diagnosed malignancies occurring in residents of the 13 counties. The registry's 30 highly trained technical staff

members are supported by information technology and administrative personnel. The registry has collected cancer cases since 1974 (Table A.10), with voluntary participation by all hospitals, pathology laboratories, and radiology facilities. In 1992, cancer became a reportable disease in Washington State.

Incidence, treatment, and survival data are collected and coded by CSS staff using standardized SEER Program definitions. Data quality is promoted by continuous training of all staff using SEER*Educate, a web-based platform tailored for registrars to improve their technical skills and use of various editing packages and auditing procedures.

The CSS performs active case finding from data sources provided by hospitals, clinics, pathology laboratories, radiotherapy facilities, dermatology offices, and death certificates. Case finding is performed by CSS staff, independent of the case finding performed by hospital registry staff. Most pathology reports are obtained electronically, and all information is stored in the database. Abstraction and coding of medical records is performed primarily by hospital registry staff. Visual editing, case consolidation, and quality control activities are performed by CSS staff. Passive follow-up methods are used. Death clearance and elimination of duplicate registrations are performed annually.

The CSS provides monthly reports to reporting hospitals. Identifiable information is reported only to the reporting physician or institution, to FHCRC investigators conducting IRB-approved research, and to the Washington State Department of Health. Statistical reports for publication contain no identifying data. Anonymous patient-level data and aggregate information are released to scientists working at the local, regional, national, and international levels through SEER and https://www.cancer-rates.info.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and SEER-18 tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. In the online tables, these data are also included in SEER-9 White, for comparison with IICC-1 and IICC-2 (Table A.1). See also USA and SEER, above.

West Virginia Cancer Registry, 1998–2012

Myra Fernatt, Alana G. Hudson

West Virginia is located in the eastern part of the USA and entirely within the Appalachian region. The climate ranges from hot summers to cold, snowy winters. Coal mining, logging, and tourism are the leading industries. Almost 82% of the population aged 25 years and older has a high school or higher education level. The per capita income is lower than the national average, and the median age is higher. West Virginia is a rural state; less than half of the population lives in urban areas. About 86% of the population is covered by health insurance. In 2010, the population was 1.9 million, and about 24% of the population was younger than 20 years; this percentage ranged from 22% for Native American to 38% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 92% White NH, 5% Black, 2% Hispanic White, 1% API, and 0.2% Native American.

In October 2011, 51 of the 55 counties in West Virginia were classified by the United States Department of Health and Human Services as medically underserved. West Virginia has 52 hospitals, 12 of which have cancer programmes approved by the American College of Surgeons Commission on Cancer. Compared with the national population, West Virginia has higher levels of cancer risk factors, including tobacco use and obesity.

The West Virginia Cancer Registry covers the entire state. It is funded by the state and the CDC/NPCR and has 10 full-time staff members. The registry receives electronic reports from hospitals with cancer registries and provides abstracting services to other hospitals and physicians' offices. No special emphasis was placed on the reporting of childhood cancers. Although the registry does not conduct patient follow-up, linkages are conducted with death certificate data and breast and cervical cancer screening programme data. The West Virginia Cancer Registry performs electronic edits on all data and visual editing on at least 10% of cases from each reporter. The registry achieved the highest NAACCR certification level for the incidence years of 1997–2012.

The West Virginia Cancer Registry publishes annual reports on cancer incidence and mortality, conducts investigations of possible cancer clusters, performs analyses for special projects, promotes the use of registry data in planning and evaluation of cancer control activities, and makes anonymized data available for approved research.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Wisconsin Cancer Reporting System, 1998–2012

Angela Whirry-Achten, Jeffrey Bond, Laura Stephenson, Mary Foote, Robin Malicki

The state of Wisconsin is located in the north-central part of the USA, in the mid-west area and the Great Lakes region. The state capital is Madison, and the largest city is Milwaukee. The state is divided into 72 counties. In 2010, the total population was 5.7 million, and 26% of the population was younger than 20 years; this percentage ranged from 24% for White NH to 43% for Hispanic White (Table A.6). The racial and ethnic distribution in the age group 0–19 years was 76% White NH, 10% Black, 9% Hispanic White, 4% API, and less than 2% Native American. According to the Wisconsin Department of Health Services, the number of people aged 0–17 years decreased by about 3% from 2010 to 2015; this has financial, educational, and health-care allocation implications.

The Wisconsin Cancer Reporting System is a part of the Wisconsin Office of Health Informatics at the Division of Public Health. It is funded through the NPCR and Wisconsin state general purpose revenue.

The Office of Health Informatics is the primary public health entity that captures, organizes, and houses the large, statewide, population-based public health surveillance data systems in Wisconsin, including the birth and death registries, cancer and violent death reporting registries, hospital inpatient records, hospital emergency department visit logs, and census files. The registry is guided by statutory mandate to collect, process, manage, and analyse cancer data on state residents, as provided by the reporting hospitals and physicians. It has data exchange agreements, encompassing both incoming and outgoing data, with 46 central cancer registries of other states and with 29 hospitals in the neighbouring Minnesota, because the Minnesota Cancer Reporting System is not statutorily permitted to exchange data with other states. Although the smaller health-care facilities in Minnesota voluntarily reported to the Wisconsin Cancer Reporting System, cases from at least one large Minnesota health-care facility are missing for 2010–2012. Therefore, some Wisconsin residents who receive diagnostic and treatment services in Minnesota may be missed by the Wisconsin Cancer Reporting System, and this should be considered when interpreting incidence rates.

The registry publishes cancer incidence, mortality rates, and trends for the state of Wisconsin. Detailed data on cancer incidence, stage, and mortality are available by state, regional, and county geographical region and by race, ethnicity, and age through interactive queries in Wisconsin Interactive Statistics on Health (WISH) Cancer Modules, which is the data query system of the Division of Public Health.

The registry publishes epidemiological data in reports such as *Wisconsin Cancer Facts and Figures* and conducts other data analyses at the state and local levels to promote strategic, evidence-based interventions in public health and the cancer surveillance and research communities.

The registry data are published in the NAACCR annual report *Cancer in North America* and the CDC publication *United States Cancer Statistics*. The registry data are also used in cancer control programmes, intervention evaluations, and epidemiological research.

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POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

Wyoming Cancer Surveillance Program, 1998–2012

Julia Espinoza, Joe Grandpre

The state of Wyoming is located in the mountainous region of the western USA. Cheyenne is the state capital and the most populous city. In 2010, the population of Wyoming was 0.6 million, and 27% of the population was younger than 20 years; this percentage ranged from 25% for White NH to 41% for Black (Table A.6). The fastest growing age group was the group aged 65 years and older. The racial and ethnic distribution in the age group 0–19 years was 81% White NH, 12% Hispanic White, 4% Native American, 2% Black, and 1% API. Wyoming has one university, and seven community colleges located throughout the state.

Health-care facilities involved in providing cancer diagnostic or treatment services include hospitals, radiation oncology centres, cancer centres, physicians' offices, and outpatient surgical centres. Many patients with cancer who are younger than 20 years must travel outside the state to receive treatment, due to the lack of paediatric oncologists in Wyoming.

The Wyoming Cancer Surveillance Program (WCSP) covers the entire population of the state. The WCSP has been in operation since 1966, with retrospective data collection since 1962 (Table A.10). The registry collects and monitors cancer incidence data via pathology reports and uniform reporting of information by health-care providers. In 1977, cancer became a reportable disease by law, which requires the reporting by all entities that detect, diagnose, or treat cancer cases. Data on patients diagnosed and treated outside the state are received by the WCSP via data exchanges with surrounding states in the USA, such as Colorado and Utah.

The WCSP produces annual reports on cancer, which include data on incidence, mortality, and survival of children and adolescents with cancer (https://health.wyo.gov). The registry data are also used by the Integrated Cancer Program for the Wyoming Cancer Plan, programme reports, grant applications, and data briefs for stakeholders. The Wyoming Cancer Plan also has a goal of improving specialized oncology care within the state for children and adolescents.

POPULATION AT RISK

See USA, above.

EDITORS' COMMENTS

Data are included in the pooled USA and NPCR tables in the IICC-3 book (Table 6.1). Registry-specific tables, including those for individual racial and ethnic groups that met the threshold for numbers of cases, are available online, as specified in Table A.12. See also USA and NPCR, above.

ASIA

Bahrain

Bahrain Cancer Registry, 1998–2012

Najat Mohammed Abulfateh

Bahrain is located centrally on the southern shores of the Arabian Gulf and comprises an archipelago that covers an area of 8269 km^2. The largest of the islands is Bahrain Island, which accounts for nearly 83% of the total area of the country. Manama, the capital of Bahrain, is located on this island.

In 2010, the population was 1.3 million (Table A.7) (46% Bahrainis and 54% non-Bahrainis), and 26% of the population was younger than 20 years (Table A.6). The population is mostly urban (89%) and is characterized by a very rapid turnover of non-Bahrainis.

High-quality comprehensive health care is available to all residents. Primary health care is delivered at 28 well-equipped health centres located across the country. Secondary care and tertiary care are provided at the main government hospital, Salmaniya Medical Complex (SMC), which has an oncology services centre equipped with the latest diagnostic and treatment technology, including chemotherapy, radiotherapy, immunotherapy, and bone marrow transplantation. Secondary care is also provided by two government hospitals – the Bahrain Defence Force Royal Medical Services Hospital, which serves primarily Ministry of Defence employees and their families, and the King Hamad University Hospital – and by six private hospitals. Together, the government and private hospitals have about 2046 beds, with 27.9 doctors and 51.3 nurses per 10 000 population.

The Bahrain Cancer Registry is a national population-based registry that covers all residents of the country. Cancer notification became mandatory in 1994, according to Ministerial Decree 5/1994, and all physicians in Bahrain are obliged to report all cancer cases to the Bahrain Cancer Registry at the Medical Review Office within the Ministry of Health. The registry collects information on all malignancies and on all non-malignant CNS tumours, regardless of whether they were MV or clinically diagnosed. The registry records personal information and tumour data, including anatomical site, histology, basis of diagnosis, and stage of tumour, as well as hospital of treatment and referral. Information is checked for duplication and consistency using the CanReg4 software provided by IARC. In 2010, an electronic notification form was designed and made accessible to clinical staff at all health-care facilities through a secure online portal.

The registrar visits different data sources and abstracts information on cancer registry forms. The SMC is the largest tertiary centre for diagnosis and treatment of cancer. The registrar visits the SMC four times per week and the other tertiary hospitals once per month. Patients diagnosed abroad are traced via the outpatient oncology register at the SMC.

The proportion of patients seeking treatment in private hospitals or abroad is probably small, and the availability of the free cancer treatment facilities increases the likelihood of capturing patients who may eventually visit the SMC for further treatment or follow-up. Registry staff capture cancer deaths by accessing the well-established national death register. The problems of duplication and unknown age in Bahrain are minimal because the Bahrain Cancer Registry uses the unique identification number that is assigned to each resident.

The Bahrain Cancer Registry produces regular statistical reports that show the distribution of different types of cancer according to age, sex, and nationality. These reports are used by health planners and policy-makers to assess the importance of the cancer burden, allocate resources, and evaluate cancer prevention and control activities.

POPULATION AT RISK

Population data were provided by the Central Informatics Organization and were based on the results of the 1991, 2001, and 2010 censuses (Table A.7). Data were provided by sex, 5-year age groups, and two ethnic groups (Bahraini and non-Bahraini) for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The Bahrain Cancer Registry provided information for the Bahraini and non-Bahraini population. The non-Bahraini population comprises mostly economically active men, and the included non-Bahraini childhood cancer cases made up 18% of the total; therefore, no distinction was made between the Bahraini and non-Bahraini population. The overall incidence rates in the Bahraini population were higher than those in the combined dataset, by about 2.4 per million in the age group 0–14 years and by 3.1 per million in the age group 0–19 years. The proportion of cases with unspecified morphology was high (13.1%) and included MV cases. The proportion of cases aged 0–14 years in the age group 0–19 years was higher than expected (Table A.9), which reflects underreporting of cancers in adolescents, based on the relatively low incidence in the age group 15–19 years compared with that in the age group 0–14 years. Dates were incomplete for some non-Bahraini cases, which may have affected the precision of age in up to 19% of cases in this group, but this had little effect on the overall data (Table A.8). Non-malignant CNS tumours are reportable; however, only tumours with uncertain behaviour (including pilocytic astrocytoma) were recorded. All skin carcinomas are reportable, but only one case was reported. Laterality was complete and included in the relevant tables.

BAHRAIN (1998-2012)

	Age group (years)	Males	Females
Person-years	0	110 555	105 935
	1-4	443 315	425 067
	5-9	538 904	516 428
	10-14	510 185	481 934
	15-19	473 121	445 215
	0-14	1 602 959	1 529 364
	0-19	2 076 080	1 974 579
Average annual population	0-14	106 864	101 958
	0-19	138 405	131 639

Please consult the quality indicators for this registry

BAHRAIN (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	9	58	35	30	25	132	157	36.1	100.0	32.6	100.0	41.6	66.8	33.2	30.2	27.2	43.4	39.7	626	762	96.2	0.0
	a. Lymphoid	2	35	22	16	11	75	86	20.5	56.8	17.9	54.8	9.2	40.3	20.8	16.1	12.0	24.6	21.8	355	415	100.0	0.0
	b. Acute myeloid	4	10	3	4	8	21	29	5.7	15.9	6.0	18.5	18.5	11.5	2.8	4.0	8.7	7.1	7.4	99	142	100.0	0.0
	c. CMD	0	0	1	0	1	1	2	0.3	0.8	0.4	1.3	-	-	0.9	-	1.1	0.3	0.5	5	10	100.0	0.0
	d. MDS & other	1	1	0	0	0	2	2	0.5	1.5	0.4	1.3	4.6	1.2	-	-	-	0.7	0.6	9	9	50.0	0.0
	e. Unspecified	2	12	9	10	5	33	38	9.0	25.0	7.9	24.2	9.2	13.8	8.5	10.1	5.4	10.7	9.5	158	185	86.8	0.0
II	LYMPHOMA & RELATED	1	11	21	20	39	53	92	14.5	100.0	19.1	100.0	4.6	12.7	19.9	20.2	42.5	16.6	22.4	256	468	100.0	0.0
	a. Hodgkin	0	2	13	11	23	26	49	7.1	49.1	10.2	53.3	-	2.3	12.3	11.1	25.0	7.9	11.8	126	251	100.0	0.0
	b. Non-Hodgkin except BL	0	2	3	6	10	11	21	3.0	20.8	4.4	22.8	-	2.3	2.8	6.0	10.9	3.4	5.1	54	108	100.0	0.0
	c. Burkitt (BL)	0	3	4	2	2	9	11	2.5	17.0	2.3	12.0	-	3.5	3.8	2.0	2.2	2.9	2.7	43	54	100.0	0.0
	d. Lymphoreticular	1	4	1	1	0	7	7	1.9	13.2	1.5	7.6	4.6	4.6	0.9	1.0	-	2.4	1.8	33	33	100.0	0.0
	e. Unspecified	0	0	0	0	4	0	4	-	-	0.8	4.3	-	-	-	-	4.4	-	1.0	-	22	100.0	0.0
III	CNS NEOPLASMS †	3	17	16	23	12	59	71	16.1	100.0	14.8	100.0	13.9	19.6	15.2	23.2	13.1	18.8	17.5	284	349	77.5	1.4
	a. Ependymoma	1	5	0	0	0	6	6	1.6	10.2	1.2	8.5	4.6	5.8	-	-	-	2.1	1.7	28	28	100.0	0.0
	b. Astrocytoma	1	1	6	9	5	17	22	4.6	28.8	4.6	31.0	4.6	1.2	5.7	9.1	5.4	5.2	5.2	83	110	95.5	0.0
	c. CNS embryonal	0	4	2	6	2	12	14	3.3	20.3	2.9	19.7	-	4.6	1.9	6.0	2.2	3.8	3.4	58	69	100.0	0.0
	d. Other gliomas	0	3	4	2	2	9	11	2.5	15.3	2.3	15.5	-	3.5	3.8	2.0	2.2	2.9	2.7	43	54	54.5	0.0
	e. Other specified	0	2	2	1	0	5	5	1.4	8.5	1.0	7.0	-	2.3	1.9	1.0	-	1.6	1.3	24	24	100.0	0.0
	f. Unspecified CNS	1	2	2	5	3	10	13	2.7	16.9	2.7	18.3	4.6	2.3	1.9	5.0	3.3	3.1	3.2	49	65	23.1	7.7
IV	NEUROBLASTOMA	11	10	6	1	0	28	28	7.7	100.0	5.8	100.0	50.8	11.5	5.7	1.0	-	9.6	7.5	130	130	89.3	0.0
	a. (Ganglio)neuroblastoma	11	10	6	1	0	28	28	7.7	100.0	5.8	100.0	50.8	11.5	5.7	1.0	-	9.6	7.5	130	130	89.3	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	2	2	2	0	1	6	7	1.6	100.0	1.5	100.0	9.2	2.3	1.9	-	1.1	2.0	1.8	28	33	28.6	0.0
VI	RENAL TUMOURS	3	17	3	1	0	24	24	6.6	100.0	5.0	100.0	13.9	19.6	2.8	1.0	-	8.3	6.5	111	111	95.8	0.0
	a. Nephroblastoma	2	17	3	0	0	22	22	6.0	91.7	4.6	91.7	9.2	19.6	2.8	-	-	7.7	6.0	102	102	95.5	0.0
	b. Renal carcinoma	1	0	0	1	0	2	2	0.5	8.3	0.4	8.3	4.6	-	-	1.0	-	0.6	0.5	10	10	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	0	1	0	1	0	2	2	0.5	100.0	0.4	100.0	-	1.2	-	1.0	-	0.6	0.5	10	10	100.0	0.0
	a. Hepatoblastoma	0	1	0	0	0	1	1	0.3	50.0	0.2	50.0	-	1.2	-	-	-	0.4	0.3	5	5	100.0	0.0
	b. Hepatic carcinoma	0	0	0	1	0	1	1	0.3	50.0	0.2	50.0	-	-	-	1.0	-	0.3	0.2	5	5	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	2	3	13	10	18	28	4.9	100.0	5.8	100.0	-	2.3	2.8	13.1	10.9	5.4	6.7	89	143	100.0	0.0
	a. Osteosarcoma	0	1	0	6	4	7	11	1.9	38.9	2.3	39.3	-	1.2	-	6.0	4.4	2.1	2.6	35	57	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Ewing & related	0	0	3	7	5	10	15	2.7	55.6	3.1	53.6	-	-	2.8	7.1	5.4	3.0	3.5	49	77	100.0	0.0
	d. Other specified	0	1	0	0	1	1	2	0.3	5.6	0.4	7.1	-	1.2	-	-	1.1	0.4	0.5	5	10	100.0	0.0
	e. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IX	SOFT TISSUE SARCOMA	1	8	4	9	9	22	31	6.0	100.0	6.4	100.0	4.6	9.2	3.8	9.1	9.8	7.1	7.7	106	155	96.8	0.0
	a. Rhabdomyosarcoma	0	5	3	2	0	10	10	2.7	45.5	2.1	32.3	-	5.8	2.8	2.0	-	3.3	2.5	47	47	100.0	0.0
	b. Fibrosarcoma	0	0	1	0	1	1	2	0.3	4.5	0.4	6.5	-	-	0.9	-	1.1	0.3	0.5	5	10	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	3	0	5	5	8	13	2.2	36.4	2.7	41.9	-	3.5	-	5.0	5.4	2.5	3.2	39	66	100.0	0.0
	e. Unspecified	1	0	0	2	3	3	6	0.8	13.6	1.2	19.4	4.6	-	-	2.0	3.3	0.9	1.5	15	31	83.3	0.0
X	GERM CELL TUMOURS	3	3	2	9	6	17	23	4.6	100.0	4.8	100.0	13.9	3.5	1.9	9.1	6.5	5.4	5.6	82	115	100.0	0.0
	a. CNS germ cell	0	0	1	5	0	6	6	1.6	35.3	1.2	26.1	-	-	0.9	5.0	-	1.8	1.4	30	30	100.0	0.0
	b. Other extragonadal	2	1	0	0	1	3	4	0.8	17.6	0.8	17.4	9.2	1.2	-	-	1.1	1.1	1.1	14	19	100.0	0.0
	c. Gonadal germ cell	1	2	1	3	3	7	10	1.9	41.2	2.1	43.5	4.6	2.3	0.9	3.0	3.3	2.3	2.5	34	50	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	1	0	1	-	-	0.2	4.3	-	-	-	-	1.1	-	0.2	-	5	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	1	1	2	0.3	5.9	0.4	8.7	-	-	-	1.0	1.1	0.3	0.5	5	10	100.0	0.0
XI	CARCINOMA & MELANOMA	0	0	1	1	13	2	15	0.5	100.0	3.1	100.0	-	-	0.9	1.0	14.2	0.6	3.6	10	81	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	0	0	9	0	9	-	-	1.9	60.0	-	-	-	-	9.8	-	2.2	-	49	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Melanoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Skin carcinoma	0	0	0	0	1	0	1	-	-	0.2	6.7	-	-	-	-	1.1	-	0.2	-	5	100.0	0.0
	f. Other & unspecified	0	0	1	1	3	2	5	0.5	100.0	1.0	33.3	-	-	0.9	1.0	3.3	0.6	1.2	10	26	100.0	0.0
XII	OTHER & UNSPECIFIED	0	1	1	1	0	3	3	0.8	100.0	0.6	100.0	-	1.2	0.9	1.0	-	1.0	0.7	14	14	33.3	66.7
	a. Other specified	0	1	0	0	0	1	1	0.3	33.3	0.2	33.3	-	1.2	-	-	-	0.4	0.3	5	5	100.0	0.0
	b. Other unspecified	0	0	1	1	0	2	2	0.5	66.7	0.4	66.7	-	-	0.9	1.0	-	0.6	0.5	10	10	0.0	100.0
	TOTAL	33	130	94	109	115	366	481	100.0	100.0	100.0	100.0	152.4	149.7	89.1	109.9	125.2	118.8	120.2	1746	2372	92.9	0.6

† includes 17 non-malignant

Please consult the quality indicators for this registry

China

China is the world's most populous country. In 2010, the population was 1.3 billion (Table A.7), and 25% of the population was younger than 20 years (Table A.6). China is located in East Asia, covers an area of 9.6 million km^2, and is bordered by many countries. The Communist Party of China is the single ruling party and exercises jurisdiction over 23 provinces, five autonomous regions, four direct-controlled municipalities (Beijing, Tianjin, Shanghai, and Chongqing), and two special administrative regions: Hong Kong Special Administrative Region (Hong Kong SAR) and Macao Special Administrative Region.

China has a fast-growing economy, one of the largest in the world. In 2014, the urban unemployment rate was about 4.1%, and about 10% of the population lived below the poverty threshold of US$1 per day. In 1978, when economic reforms were instituted, 64% of the population lived below the poverty threshold. The reforms included a strict family planning policy of one child per family, which was implemented in 1979 and ended in 2013; this resulted in a decrease in the population growth rate to 0.46% in 2013. In 2010, the total fertility rate was 1.4, and the sex ratio at birth was 118 boys per 100 girls. The high sex ratio may have been the result of the one-child policy, along with the traditional preference for boys.

China officially recognizes 56 distinct ethnic groups, with a 90% majority of Han Chinese, and 292 living languages; Mandarin is spoken by 70% of the population. Half of the population lived in urban areas in 2010, compared with 20% in 1980.

Health care is provided by the National Health and Family Planning Commission and its counterparts in the local commissions. Economic reform resulted in improved nutrition and rapid improvement in public health. Health care became mostly privatized, after which the quality increased significantly. In 2009, the government began a 3-year, large-scale health-care provision initiative, which resulted in basic health insurance coverage for 95% of the population. In 2012, the average life expectancy at birth was 75 years, and the infant mortality rate was 12 per 1000. Despite significant improvements in health and the construction of advanced medical facilities, China has several emerging public health problems caused by widespread air pollution, cigarette smoking, and obesity among urban youth. The high population density in large cities has accelerated recent outbreaks of serious infectious diseases.

China lacked a national policy for cancer registration until 2002, when the National Central Cancer Registry was established and implemented standard registration practices. In 2008, the Ministry of Health launched the National Program of Cancer Registries (NPCR) via a central financing mechanism, which gave rise to a large number of cancer registries (308 in 2014 compared with 54 in 2008). The unique population registration system, Hukou, which has been implemented nationwide, helps to establish the residence status of the registered patients.

PUBLICATIONS

Wang Q (2001). Cancer registration in China. Asian Pac J Cancer Prev. 2(IACR Suppl):3–8.

Zeng H, Chen W, Zheng R, Zhang S, Ji JS, Zou X, et al. (2018). Changing cancer survival in China during 2003–15: a pooled analysis of 17 population-based cancer registries. Lancet Glob Health. 6(5):e555–67. https://doi.org/10.1016/S2214-109X(18)30127-X PMID:29653628

POPULATION AT RISK

Decennial population censuses were conducted in 1990, 2000, and 2010 (Table A.7). However, the population at risk for the covered areas was based mainly on local sources, as described below for individual registries. The data for some missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The NPCR facilitated data submission to IICC-3 and collaboration with the individual registries, six of which are included. Data are presented in a combined dataset in the IICC-3 book; a full incidence table for each contributing registry is available online. In addition, a full table for the Hong Kong Cancer Registry is included in the IICC-3 book, to enable comparison with the data published in both previous IICC volumes and to acknowledge the differences in the health-care system. The Shanghai Cancer Registry participated in IICC-1; new contributors to the IICC series include the registries of Beijing, Dalian, Guangzhou, and

CHINA, 6 registries (1990-2013)

Registry	Period	Cases	%	Person-years	%
Beijing	2000-2013	3161	28.3	27 078 586	32.0
Dalian	2003-2012	453	4.0	3 129 044	3.7
Guangzhou	2010-2012	768	6.9	4 981 956	5.9
Hong Kong	1990-2013	5033	45.0	35 497 400	41.9
Shanghai	2002-2012	1278	11.4	9 282 415	11.0
Zhongshan	2003-2012	495	4.4	4 749 653	5.6
CHINA	**1990-2013**	**11188**	**100.0**	**84 719 054**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Zhongshan (Table A.1). The combined dataset represents less than 2% of the childhood population (Table A.6).

A common limitation of the Chinese datasets (with the exception of Hong Kong SAR) is the high proportion of cases with unspecified diagnoses (Table A.9). Date of incidence was incomplete in 45% of cases, most of which were contributed by Hong Kong SAR. The incidence rates in the age group 15–19 years are similar to those observed in children (aged 0–14 years) (Table A.9), which may suggest underdiagnosis or underregistration of cancers in adolescents. In Hong Kong SAR, only malignant CNS tumours were registered, and pilocytic astrocytoma was coded with malignant behaviour. In all other registries, non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Non-melanoma skin cancers are reportable in all contributing registries. Only Beijing and Shanghai provided laterality, and it was not sufficiently complete to be presented in the IICC-3 book.

CHINA, 6 registries (1990-2013)

	Age group (years)	Males	Females
Person-years	0	1 570 074	1 445 163
	1-4	7 033 105	6 473 983
	5-9	9 384 877	8 744 193
	10-14	11 228 196	10 543 686
	15-19	14 500 060	13 795 717
	0-14	29 216 252	27 207 025
	0-19	43 716 312	41 002 742

Please consult the quality indicators for this pool and its constituent registries

Beijing Cancer Registry, 2000–2013

Ning Wang, Lei Yang, Yannan Yuan, Huichao Li, Shuo Liu

Beijing, the capital of China, is located in the north of the country. It has a typical continental monsoon climate. Beijing has a leading position in medical care and technology, and more than 96% of the city's residents are covered by medical insurance.

The Beijing Cancer Registry was established in 1977 (Table A.10). It is affiliated with Peking University Cancer Hospital and Beijing Institute for Cancer Research. The Beijing Health Bureau and the NPCR provide most of the financial support. The Beijing Cancer Registry covers eight urban districts and covers an area of 1368.3 km^2. In 2010, the population was 7.8 million (96% Han Chinese), and 13% of the population was younger than 20 years (Table A.6).

Medical records of diagnosed cancer cases are collected from more than 140 hospitals (some of which have oncology departments), including two specialized cancer hospitals and two children's hospitals.

New cancer cases are collected passively through an online connection to the hospital Health Information System, after which they are actively re-abstracted. Every hospital has one or two part-time registrars who help to collect data. Only permanent Beijing residents are included in the Beijing Cancer Registry database. Duplicate registrations are examined, and incomplete records are re-abstracted directly from the originating hospitals.

Information from death certificates is obtained annually from the Vital Statistics Section of the Beijing Center for Disease Control and Prevention. If cancer is mentioned on a death certificate of a patient who has not been registered, a new cancer case is added to the database after trace-back is performed. The vital status of registered patients is ascertained by both active and passive follow-up. Active follow-up is conducted at 134 community health centres.

Annual reports of cancer incidence, mortality, survival, and time trends are submitted to Beijing health administrative departments, to generate scientific evidence for policy-making for cancer prevention and control. The accumulated data are also used in epidemiological studies.

PUBLICATIONS

Yang L, Yuan Y, Sun T, Li H, Wang N (2014). Characteristics and trends in incidence of childhood cancer in Beijing, China, 2000–2009. Chin J Cancer Res. 26(3):285–92. https://doi.org/10.3978/j.issn.1000-9604.2014.06.09 PMID:25035655

POPULATION AT RISK

The Beijing Municipal Public Security Bureau provides annual population data by sex and single year of age. The bureau's real-time population registry system collects information on births, deaths, marriages, and migration. Data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years) for 2000–2003 and by sex and single year of age for 2004–2013. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also China, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology is high (Table A.9). Laterality was collected; however, it was known for only about half the cases of interest. See also China, above.

Dalian Cancer Registry, 2003–2012

Zhang Limei, Lin Hong, Guo Yi

Dalian is the second largest city in the south of Liaoning Province in north-eastern China. This seaport is a financial, shipping, and logistics centre, which historically was often used by foreign powers for its ports. The cancer data reported in IICC-3 cover the five urban districts of Dalian. In 2010, the population was 2.3 million, and 12% of the population was younger than 20 years (Table A.6).

The Dalian Cancer Registry was established by the Liaoning Provincial Health Commission and the Dalian Health Bureau. The registry is located in the Dalian Municipal Center for Disease Control and Prevention and is supported by the Dalian Health Bureau. Cancer registration started in Dalian City in 1985 (Table A.10). In 1996, the Dalian Cancer Registry was expanded to cover some rural areas,

and in 1998, full-scale rural coverage included additional areas with more than 3.5 million residents, so that the total population at risk increased to more than 5.8 million. Because of economic conditions and other factors, the rate of hospitalization in rural areas is only about 50%, and information on the other 50% of patients is obtained from outpatient, pathological, cytological, or death records. In 2003, manual card reporting was discontinued and electronic record-keeping started.

Data sources include 91 hospitals (65 in the five covered city districts) and are based on records from clinicians, pathologists, and specialists and technicians in cytology, CT, radiography, and endoscopy, who are responsible for recording every new case. Registry data for Dalian City are based on hospitalization information in 90% of cases; data for the other 10% of cases are based on outpatient services, pathology, cytology, and death information. The cancer data are supplemented with death certificates, which are completed and transferred by the Dalian Public Security Department.

All primary malignant tumours and benign CNS tumours are registered. Each record contains identification number, name, sex, age at diagnosis, occupation, employer, ethnicity, home address (including street code), and disease information (tumour site and morphology, behaviour, basis of diagnosis, date of diagnosis, hospital of diagnosis and treatment, date of death, cause of death, and follow-up information). Cancer is coded according to ICD-O-3 (Table A.10), and registrations are stored and validated using CanReg software supplied by IARC.

The collected data are used in formulating and evaluating cancer control plans and in education and epidemiological research. In 2006, the Office of Prevention and Control first approved the submission of data to the CI5 series.

POPULATION AT RISK

Population data are based on the censuses and intercensal estimates and were provided by the Dalian Public Security Office. Data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years) for each year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the single age proportions estimated for China in 2000 by the United Nations and the methods described in Chapter 2. See also China, above.

EDITORS' COMMENTS

The data were provided by the NPCR. One quarter of the cases have unspecified morphology, the MV% is low given the childhood age range, and the DCO% is higher than 5% (Table A.9). These quality indicators somewhat reduce the reliability of the cancer-specific rates. See also China, above.

Guangzhou Cancer Registry, 2010–2012

Guozhen Lin, Ke Li, Huazhang Liu

Guangzhou is the capital of Guangdong Province; its 11 districts cover an area of 7434 km^2. The population is 8 million, and most of the population (85%) lives in urban areas. Most residents are Han Chinese (93%), and most are non-religious (96%). When it was established in 1998, the Guangzhou Cancer Registry was operated by the Sun Yat-sen University Cancer Center, and it covered only the urban areas beginning in 1999 (Table A.10). In 2004, the registry was moved to the Guangzhou Center for Disease Control and Prevention and was expanded to cover the 11 districts. In 2010, 21% of the population was younger than 20 years (Table A.6).

Guangzhou has high diagnostic and treatment standards; almost all registered patients are diagnosed and treated at the 196 local hospitals, including two specialist cancer hospitals. All hospitals and clinics are responsible for notifying all newly diagnosed cases of cancer and benign tumours of the CNS to the registry. The resident cases are also ascertained annually from independent cancer diagnostic laboratories and from hospitals in Beijing, Zhongshan, Jiangmen, Shenzhen, and Sihui. These external data sources furnish about 2% of new cases of all ages. Residence status is assessed using the population registration system, Hukou.

In 2008, the cancer registration process changed from a manual system to an electronic system with direct online reporting from all referral hospitals. Registry staff check for duplication. Follow-up for vital status is conducted by physicians at the 205 community health service centres.

Death certificates that mention cancer are obtained from the Statistics Section of the Guangzhou Center for Disease Control and Prevention and collated with the files of new cases located in the Guangzhou Cancer Registry. If a cancer case was not registered before death, a registry staff member interviews the patient's relatives to obtain information on the treating hospital, relevant dates, and basis of diagnosis for complementary tracking.

POPULATION AT RISK

Data were provided in the requested detail, based on the official censuses and intercensal estimates. See also China, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology is high, like for most of the other registries in China, and the registry recorded the highest incidence rates of all the Chinese registries (Table A.9). See also China, above.

Hong Kong Cancer Registry, 1990–2013

Roger K.C. Ngan, K.H. Wong, Oscar W.K. Mang, C.F. Yiu, Anthony H.P. Tam

The Hong Kong Cancer Registry covers Hong Kong SAR, which is located at the eastern edge of the Pearl River estuary in the South China Sea. The area is extremely densely populated, with more than 7 million residents living in a territory that covers 1104 km^2. After British rule from 1842 to 1997, Hong Kong SAR was returned to China under

the "one country, two systems" principle. This principle enables Hong Kong SAR to retain its political, economic, and judicial systems based on the Basic Law. Hong Kong SAR is one of the most significant financial centres and trade ports in the world. Most residents are Chinese (94%). In 2010, 18% of the population was younger than 20 years (Table A.6).

The Hospital Authority is a statutory body of the government of Hong Kong SAR that is responsible for the operations of all public hospitals. Clinical oncologists specialize in treating patients with cancer non-surgically using radiotherapy and systemic drug therapies. Currently, there are six clinical oncology centres in the Hospital Authority. Most of the local patients (90%) are treated in public hospitals, and the medical fees are heavily subsidized by the government. Several private cancer centres provide similar services; however, patients must pay the full charges at these centres unless they are partially reimbursed by a private insurance policy.

The Hong Kong Cancer Registry of the Hospital Authority is authorized to collect cancer data from both public and private institutions. Cancer notifications are submitted on a voluntary basis. Daily operations are carried out by a team of statisticians, health information management analysts, and abstract clerks. The director, a clinical oncologist, supervises the operations and participates in validation of the clinical data.

The registry obtains electronic data via the computer network linking all the public hospitals. Data from private institutions are provided via a partnership with most of the private cancer centres and pathology laboratories; however, manual data extraction is still required at some sites. The Hong Kong Paediatric Haematology & Oncology Study Group provides accurate data on childhood cancers. Almost complete coverage of all cancers diagnosed in Hong Kong SAR was achieved in recent years. Voluntary notifications from individual practitioners and death certificate notifications contribute a very small fraction.

The registry adopts the ICD-O coding system and its editions (Table A.10). For example, mucinous borderline tumours of ovary are currently coded as invasive neoplasms, whereas myeloproliferative disorders and myelodysplastic syndromes continue to be coded with uncertain behaviour.

The registry provides annual updates of cancer incidence and mortality statistics at https://www3.ha.org.hk/cancereg. The registry data are widely used by the government, Hospital Authority officials, and other professionals for services planning and epidemiological studies. The Cancer Statistics Query System provides access to annual incidence and mortality statistics collected since 1983 for all types of cancers, including those in children according to the ICCC-3 diagnostic groups.

POPULATION AT RISK

Population data are based on the Hong Kong SAR 2011 Population Census and were provided by the Demographic Statistics Section, Census and Statistics Department, Hong Kong SAR. Data were provided in the requested detail. See also China, above.

EDITORS' COMMENTS

Day of incidence was not provided, and month of incidence was available for only 50% of the records (Table A.8). Month of incidence has been accurately recorded in the registry only since 2001. Age may be inaccurate in a small proportion of cases. Laterality is not recorded systematically and was not provided. See also China, above.

CHINA, Hong Kong (1990-2013)

	Age group (years)	Males	Females
Person-years	0	675 000	622 700
	1-4	2 977 200	2 753 800
	5-9	4 326 100	4 041 400
	10-14	4 994 900	4 705 100
	15-19	5 346 400	5 054 800
	0-14	12 973 200	12 123 000
	0-19	18 319 600	17 177 800
Average annual population	0-14	540 550	505 125
	0-19	763 317	715 742

Please consult the quality indicators for this registry

Shanghai Cancer Registry, 2002–2012

Pingping Bao, Ying Zheng, Chunxiao Wu, Chunfang Wang, Zhezhou Huang, Kai Gu, Peng Peng, Yangming Gong, Weijian Zhong, Wei Lu

The municipality of Shanghai is located on the east coast of China and covers an area of 6340.5 km^2. The population is 13.5 million. Shanghai has evolved into a centre of international finance and trade.

Two major medical insurance schemes cover the expenses of cancer treatment in children younger than 18 years; combined, these schemes cover almost 100% of the cost for Shanghai residents. Cancer care is provided through a three-level general health-care network, which comprises more than 400 hospitals and community health service centres. The first-level facilities are the community health service centres that provide primary health care. The second-level facilities are the district hospitals, and the third-level facilities are the general and specialized hospitals. Most of the second-level and third-level institutions provide cancer diagnostic and treatment services.

The data included in IICC-3 pertain to nine urban districts (Huangpu, Luwan, Xuhui, Changning, Jing'an, Putuo, Hongkou, Zhabei, and Yangpu), which cover an area of 289 km^2. In 2010, the population was 6.2 million, and 11% of the population was younger than 20 years (Table A.6). In 2013, Luwan was merged into Huangpu and Zhabei was merged into Jing'an. The Shanghai Cancer Registry is affiliated with the Shanghai Municipal Center for Disease Control and Prevention and is funded by the government of Shanghai. The registry is staffed by two senior epidemiologists and three junior epidemiologists, two statisticians, and one assistant statistician. About 20 epidemiologists and 20 assistants in local Centers for Disease Prevention and Control are also involved with the registry. A standardized notification card is used to report cancer cases. About 180 medical facilities that provide cancer diagnosis and treatment are obligated to

notify all newly diagnosed cases of cancer and benign tumours of the CNS. Since 2002, the medical charts of all childhood cancer cases have been abstracted to certify the morphological diagnosis. Most childhood cancer cases are diagnosed and treated at third-level facilities, including specialized children's hospitals. Cancer data are linked with the Registry of Permanent Residents, and if necessary the family is visited at home to confirm the residence status. All cases are followed up until death. Data on cancer notification cards are computerized using software designed to read Chinese characters. Death certificates that mention cancer are obtained monthly from the Shanghai Vital Statistics database and are collated with the files of incident cases.

The registry collects, analyses, and disseminates information on cancer incidence, mortality, and survival in Shanghai permanent residents. Annual reports and data are provided to evaluate the progress of continuing cancer control programmes.

PUBLICATIONS

Bao PP, Zheng Y, Gu K, Wang CF, Wu CX, Jin F, et al. (2010). Trends in childhood cancer incidence and mortality in urban Shanghai, 1973–2005. Paediatr Blood Cancer. 54(7):1009–13. https://doi.org/10.1002/pbc.22383 PMID:20052777

Bao PP, Zheng Y, Wu CX, Peng P, Gong YM, Huang ZZ, et al. (2012). Population-based survival for childhood cancer patients diagnosed during 2002–2005 in Shanghai, China. Pediatr Blood Cancer. 59(4):657–61. https://doi.org/10.1002/pbc.24043 PMID:22302759

POPULATION AT RISK

In 2005, the Shanghai Municipal Bureau of Public Security implemented a real-time population registry system for Shanghai permanent residents to provide population data. The registry interpolated the population data for 2002, 2003, and 2004 using the 2000 census and the real-time data from 2005. Data were provided in the requested detail. See also China, above.

EDITORS' COMMENTS

The proportion of NOS cases overall was high, and the proportion of cases with unspecified morphology among MV cases was high (Table A.9). The age distribution of the cases is biased towards older ages; this might be explained by the very low proportion of young children among the residents (Table A.6). Laterality was collected, but it was missing for 30% of the cases of interest. See also China, above.

Zhongshan Cancer Registry, 2003–2012

Yong Yang, Kuang-Rong Wei, Zhi-Heng Liang

The city of Zhongshan is located 86 km north of Guangzhou (the capital city of Guangdong Province) at the Pearl River delta and covers an area of 1800 km^2. The Zhongshan Cancer Registry covers the area of Zhongshan City. In 2010, the population was 1.5 million, and 33% of the population was younger than 20 years (Table A.6). The population is predominantly of Han ethnicity, and 88% of the population lives in urban areas. The economy is robust, and health insurance is nearly universal.

Health care is ensured by the Zhongshan Health Bureau through a network of hospitals, clinics, the Zhongshan Center for Disease Control and Prevention, and private practitioners. There are no private hospitals with oncology or paediatric specialization. Each public general hospital has an oncology department and a paediatrics department that provide cancer surgery and chemotherapy, and two public general hospitals provide radiotherapy. The oncology section of Zhongshan People's Hospital was established in 2016. Some patients with cancer are diagnosed or treated at hospitals in nearby regions, such as Guangzhou.

The registry is affiliated with Zhongshan People's Hospital and is funded by the national, Guangdong provincial, and Zhongshan municipal financial bureaus. The registry is staffed by a full-time medical officer and two full-time registrars. Each hospital in Zhongshan has a part-time registrar who actively collects data on cancer diagnosis and follow-up. The collected cancer data are emailed to the registry, where they are checked for consistency and accuracy. Inconsistent or erroneous records are returned to the registrars for correction. The registry uses automated cancer registration software to facilitate case matching and data coding (Table A.10). The data of patients diagnosed or treated in hospitals in nearby regions are regularly provided by the central cancer registry of Guangdong Province.

The registry has released annual cancer reports since 2003. These data have been used in many scientific papers and one monograph. The registry conducts research on nasopharyngeal and oesophageal cancer control.

POPULATION AT RISK

Population data are generated by the Zhongshan Statistical Bureau. Data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years) for 2003–2009, and they were rounded to the nearest integer at IARC. Data for 2010–2012 were extrapolated by sex and age group at IARC as described in Chapter 2. See also China, above.

EDITORS' COMMENTS

The data were provided by the NPCR. The proportion of cases with unspecified morphology was high (Table A.9). The lower incidence rates compared with those of the other Chinese registries (Table A.9) may suggest underdiagnosis or migration of patients to other areas with specialized treatment facilities. Two cases of pilocytic astrocytoma were recorded, one coded with uncertain behaviour and the other coded with malignant behaviour. See also China, above.

CHINA, 6 registries (1990-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	161	1001	696	713	853	**2571**	**3424**	36.4	100.0	30.6	100.0	53.4	74.1	38.4	32.7	30.1	**49.1**	**44.8**	707	858	98.7	0.1
	a. Lymphoid	77	784	494	354	324	**1709**	**2033**	24.2	66.5	18.2	59.4	25.5	58.0	27.2	16.3	11.5	**33.7**	**28.7**	478	535	99.0	0.0
	b. Acute myeloid	20	52	72	132	223	**276**	**499**	3.9	10.7	4.5	14.6	6.6	3.8	4.0	6.1	7.9	**4.7**	**5.4**	72	111	99.6	0.2
	c. CMD	0	3	12	22	38	**37**	**75**	0.5	1.4	0.7	2.2	-	0.2	0.7	1.0	1.3	**0.6**	**0.7**	9	16	98.7	0.0
	d. MDS & other	5	15	12	9	14	**41**	**55**	0.6	1.6	0.5	1.6	1.7	1.1	0.7	0.4	0.5	**0.8**	**0.7**	11	14	100.0	0.0
	e. Unspecified	59	147	106	196	254	**508**	**762**	7.2	19.8	6.8	22.3	19.6	10.9	5.8	9.0	9.0	**9.3**	**9.2**	137	181	97.4	0.3
II	LYMPHOMA & RELATED	15	115	158	271	575	**559**	**1134**	7.9	100.0	10.1	100.0	5.0	8.5	8.7	12.4	20.3	**9.5**	**11.9**	145	247	94.7	0.1
	a. Hodgkin	0	7	25	50	164	**82**	**246**	1.2	14.7	2.2	21.7	-	0.5	1.4	2.3	5.8	**1.3**	**2.3**	20	49	98.8	0.0
	b. Non-Hodgkin except BL	2	29	57	104	193	**192**	**385**	2.7	34.3	3.4	34.0	0.7	2.1	3.1	4.8	6.8	**3.1**	**4.0**	49	83	98.4	0.3
	c. Burkitt (BL)	0	10	10	10	3	**30**	**33**	0.4	5.4	0.3	2.9	-	0.7	0.6	0.5	0.1	**0.5**	**0.4**	8	9	100.0	0.0
	d. Lymphoreticular	1	2	0	4	1	**7**	**8**	0.1	1.3	0.1	0.7	0.3	0.1	-	0.2	0.0	**0.1**	**0.1**	2	2	100.0	0.0
	e. Unspecified	12	67	66	103	214	**248**	**462**	3.5	44.4	4.1	40.7	4.0	5.0	3.6	4.7	7.6	**4.4**	**5.1**	66	104	89.0	0.0
III	CNS NEOPLASMS †	65	309	407	421	505	**1202**	**1707**	17.0	100.0	15.3	100.0	21.6	22.9	22.5	19.3	17.8	**21.6**	**20.8**	322	411	78.6	1.9
	a. Ependymoma	14	45	32	19	33	**110**	**143**	1.6	9.2	1.3	8.4	4.6	3.3	1.8	0.9	1.2	**2.2**	**2.0**	31	37	100.0	0.0
	b. Astrocytoma	8	91	124	158	170	**381**	**551**	5.4	31.7	4.9	32.3	2.7	6.7	6.8	7.3	6.0	**6.6**	**6.5**	100	130	100.0	0.0
	c. CNS embryonal	14	64	105	70	59	**253**	**312**	3.6	21.0	2.8	18.3	4.6	4.7	5.8	3.2	2.1	**4.6**	**4.1**	69	79	99.7	0.0
	d. Other gliomas	3	25	43	43	69	**114**	**183**	1.6	9.5	1.6	10.7	1.0	1.9	2.4	2.0	2.4	**2.0**	**2.1**	30	42	98.4	0.0
	e. Other specified	2	8	19	31	50	**60**	**110**	0.8	5.0	1.0	6.4	0.7	0.6	1.0	1.4	1.8	**1.0**	**1.2**	15	24	96.4	0.0
	f. Unspecified CNS	24	76	84	100	124	**284**	**408**	4.0	23.6	3.6	23.9	8.0	5.6	4.6	4.6	4.4	**5.2**	**5.0**	76	98	12.5	8.1
IV	NEUROBLASTOMA	112	204	59	26	11	**401**	**412**	5.7	100.0	3.7	100.0	37.1	15.1	3.3	1.2	0.4	**8.8**	**6.9**	118	120	99.8	0.0
	a. (Ganglio)neuroblastoma	111	203	59	16	7	**389**	**396**	5.5	97.0	3.5	96.1	36.8	15.0	3.3	0.7	0.2	**8.6**	**6.7**	115	116	99.7	0.0
	b. Peripheral nervous	1	1	0	10	4	**12**	**16**	0.2	3.0	0.1	3.9	0.3	0.1	-	0.5	0.1	**0.2**	**0.2**	3	4	100.0	0.0
V	RETINOBLASTOMA	73	165	9	1	0	**248**	**248**	3.5	100.0	2.2	100.0	24.2	12.2	0.5	0.0	-	**5.7**	**4.5**	75	75	98.0	0.0
VI	RENAL TUMOURS	39	125	33	18	23	**215**	**238**	3.0	100.0	2.1	100.0	12.9	9.3	1.8	0.8	0.8	**4.7**	**3.8**	63	67	95.0	0.0
	a. Nephroblastoma	37	119	26	8	6	**190**	**196**	2.7	88.4	1.8	82.4	12.3	8.8	1.4	0.4	0.2	**4.2**	**3.3**	56	57	99.5	0.0
	b. Renal carcinoma	0	1	4	8	14	**13**	**27**	0.2	6.0	0.2	11.3	-	0.1	0.2	0.4	0.5	**0.2**	**0.3**	3	6	100.0	0.0
	c. Unspecified	2	5	3	2	3	**12**	**15**	0.2	5.6	0.1	6.3	0.7	0.4	0.2	0.1	0.1	**0.2**	**0.2**	3	4	26.7	0.0
VII	HEPATIC TUMOURS	77	75	24	59	86	**235**	**321**	3.3	100.0	2.9	100.0	25.5	5.6	1.3	2.7	3.0	**4.8**	**4.4**	66	81	81.6	1.9
	a. Hepatoblastoma	39	33	5	1	1	**78**	**79**	1.1	33.2	0.7	24.6	12.9	2.4	0.3	0.0	0.0	**1.8**	**1.4**	23	24	100.0	0.0
	b. Hepatic carcinoma	0	0	2	13	29	**15**	**44**	0.2	6.4	0.4	13.7	-	-	0.1	0.6	1.0	**0.2**	**0.4**	4	9	90.9	0.0
	c. Unspecified	38	42	17	45	56	**142**	**198**	2.0	60.4	1.8	61.7	12.6	3.1	0.9	2.1	2.0	**2.8**	**2.6**	39	49	72.2	3.0
VIII	BONE TUMOURS	3	20	85	234	288	**342**	**630**	4.8	100.0	5.6	100.0	1.0	1.5	4.7	10.7	10.2	**5.2**	**6.3**	84	135	93.2	0.6
	a. Osteosarcoma	1	8	62	180	205	**251**	**456**	3.6	73.4	4.1	72.4	0.3	0.6	3.4	8.3	7.2	**3.7**	**4.5**	61	97	99.8	0.0
	b. Chondrosarcoma	0	0	0	8	16	**8**	**24**	0.1	2.3	0.2	3.8	-	-	-	0.4	0.6	**0.1**	**0.2**	2	5	100.0	0.0
	c. Ewing & related	1	4	10	22	25	**37**	**62**	0.5	10.8	0.6	9.8	0.3	0.3	0.6	1.0	0.9	**0.6**	**0.7**	9	14	98.4	0.0
	d. Other specified	0	2	7	7	13	**16**	**29**	0.2	4.7	0.3	4.6	-	0.1	0.4	0.3	0.5	**0.3**	**0.3**	4	6	100.0	0.0
	e. Unspecified	1	6	6	17	29	**30**	**59**	0.4	8.8	0.5	9.4	0.3	0.4	0.3	0.8	1.0	**0.5**	**0.6**	8	13	30.5	6.8
IX	SOFT TISSUE SARCOMA	38	114	73	134	293	**359**	**652**	5.1	100.0	5.8	100.0	12.6	8.4	4.0	6.2	10.4	**6.6**	**7.5**	97	149	100.0	0.0
	a. Rhabdomyosarcoma	12	64	37	35	49	**148**	**197**	2.1	41.2	1.8	30.2	4.0	4.7	2.0	1.6	1.7	**2.9**	**2.6**	41	50	100.0	0.0
	b. Fibrosarcoma	10	10	6	23	58	**49**	**107**	0.7	13.6	1.0	16.4	3.3	0.7	0.3	1.1	2.0	**0.9**	**1.1**	13	23	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	**0**	**1**	-	-	0.0	0.2	-	-	-	-	0.0	**-**	**0.0**	-	0	100.0	0.0
	d. Other specified	9	29	24	61	146	**123**	**269**	1.7	34.3	2.4	41.3	3.0	2.1	1.3	2.8	5.2	**2.1**	**2.8**	32	58	100.0	0.0
	e. Unspecified	7	11	6	15	39	**39**	**78**	0.6	10.9	0.7	12.0	2.3	0.8	0.3	0.7	1.4	**0.7**	**0.9**	11	17	100.0	0.0
X	GERM CELL TUMOURS	77	100	67	223	462	**467**	**929**	6.6	100.0	8.3	100.0	25.5	7.4	3.7	10.2	16.3	**8.3**	**10.1**	123	205	98.5	0.0
	a. CNS germ cell ‡	5	9	30	96	73	**140**	**213**	2.0	30.0	1.9	22.9	1.7	0.7	1.7	4.4	2.6	**2.1**	**2.2**	35	47	100.0	0.0
	b. Other extragonadal	35	16	6	36	73	**93**	**166**	1.3	19.9	1.5	17.9	11.6	1.2	0.3	1.7	2.6	**1.8**	**2.0**	25	38	100.0	0.0
	c. Gonadal germ cell	37	75	29	82	223	**223**	**446**	3.2	47.8	4.0	48.0	12.3	5.6	1.6	3.8	7.9	**4.2**	**5.1**	61	100	99.8	0.0
	d. Gonadal carcinoma	0	0	0	4	70	**4**	**74**	0.1	0.9	0.7	8.0	-	-	-	0.2	2.5	**0.1**	**0.6**	1	13	98.6	0.0
	e. Unspecified gonadal	0	0	2	5	23	**7**	**30**	0.1	1.5	0.3	3.2	-	-	0.1	0.2	0.8	**0.1**	**0.3**	2	6	60.0	0.0
XI	CARCINOMA & MELANOMA	2	18	51	223	821	**294**	**1115**	4.2	100.0	10.0	100.0	0.7	1.3	2.8	10.2	29.0	**4.3**	**9.9**	71	216	99.4	0.0
	a. Adrenocortical	0	6	6	3	3	**15**	**18**	0.2	5.1	0.2	1.6	-	0.4	0.3	0.1	0.1	**0.3**	**0.2**	4	5	94.4	0.0
	b. Thyroid	0	3	26	117	409	**146**	**555**	2.1	49.7	5.0	49.8	-	0.2	1.4	5.4	14.5	**2.1**	**4.9**	35	107	99.8	0.0
	c. Nasopharyngeal	0	1	2	33	110	**36**	**146**	0.5	12.2	1.3	13.1	-	0.1	0.1	1.5	3.9	**0.5**	**1.3**	8	28	100.0	0.0
	d. Melanoma	0	3	0	4	17	**7**	**24**	0.1	2.4	0.2	2.2	-	0.2	-	0.2	0.6	**0.1**	**0.2**	2	5	95.8	0.0
	e. Skin carcinoma	0	0	4	10	13	**14**	**27**	0.2	4.8	0.2	2.4	-	-	0.2	0.5	0.5	**0.2**	**0.3**	3	6	100.0	0.0
	f. Other & unspecified	2	5	13	56	269	**76**	**345**	1.1	25.9	3.1	30.9	0.7	0.4	0.7	2.6	9.5	**1.1**	**3.0**	19	66	98.8	0.0
XII	OTHER & UNSPECIFIED	15	62	35	59	207	**171**	**378**	2.4	100.0	3.4	100.0	5.0	4.6	1.9	2.7	7.3	**3.2**	**4.1**	47	83	35.2	9.3
	a. Other specified	2	10	3	9	13	**24**	**37**	0.3	14.0	0.3	9.8	0.7	0.7	0.2	0.4	0.5	**0.5**	**0.5**	7	9	100.0	0.0
	b. Other unspecified	13	52	32	50	194	**147**	**341**	2.1	86.0	3.0	90.2	4.3	3.8	1.8	2.3	6.9	**2.8**	**3.7**	40	74	28.2	10.3
	TOTAL	677	2308	1697	2382	4124	**7064**	**11188**	100.0	100.0	100.0	100.0	224.5	170.9	93.6	109.4	145.7	**131.9**	**135.0**	1918	2647	92.4	0.7

† includes 301 non-malignant ‡ includes 11 non-malignant

Please consult the quality indicators for this pool and its constituent registries

CHINA, Hong Kong (1990-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	76	478	303	310	259	**1167**	**1426**	34.4	100.0	27.9	100.0	58.6	83.4	36.2	32.0	24.9	**51.5**	**45.5**	735	859	98.9	0.0
	a. Lymphoid	41	366	230	167	98	**804**	**902**	23.7	68.9	17.7	63.3	31.6	63.9	27.5	17.2	9.4	**36.3**	**30.2**	513	560	100.0	0.0
	b. Acute myeloid	23	82	49	90	97	**244**	**341**	7.2	20.9	6.7	23.9	17.7	14.3	5.9	9.3	9.3	**10.4**	**10.1**	150	197	100.0	0.0
	c. CMD	4	9	10	35	36	**58**	**94**	1.7	5.0	1.8	6.6	3.1	1.6	1.2	3.6	3.5	**2.1**	**2.4**	33	51	100.0	0.0
	d. MDS & other	2	5	1	0	1	**8**	**9**	0.2	0.7	0.2	0.6	1.5	0.9	0.1	-	0.1	**0.4**	**0.4**	6	6	100.0	0.0
	e. Unspecified	6	16	13	18	27	**53**	**80**	1.6	4.5	1.6	5.6	4.6	2.8	1.6	1.9	2.6	**2.3**	**2.3**	33	46	81.3	0.0
II	LYMPHOMA & RELATED	9	69	85	119	267	**282**	**549**	8.3	100.0	10.8	100.0	6.9	12.0	10.2	12.3	25.7	**11.1**	**14.4**	168	296	93.4	0.0
	a. Hodgkin	0	5	11	27	90	**43**	**133**	1.3	15.2	2.6	24.2	-	0.9	1.3	2.8	8.7	**1.5**	**3.1**	24	67	100.0	0.0
	b. Non-Hodgkin except BL	2	23	29	42	103	**96**	**199**	2.8	34.0	3.9	36.2	1.5	4.0	3.5	4.3	9.9	**3.8**	**5.1**	57	106	100.0	0.0
	c. Burkitt (BL)	0	11	15	19	17	**45**	**62**	1.3	16.0	1.2	11.3	-	1.9	1.8	2.0	1.6	**1.8**	**1.7**	27	35	100.0	0.0
	d. Lymphoreticular	5	12	8	12	3	**37**	**40**	1.1	13.1	0.8	7.3	3.9	2.1	1.0	1.2	0.3	**1.6**	**1.3**	23	25	100.0	0.0
	e. Unspecified	2	18	22	19	54	**61**	**115**	1.8	21.6	2.3	20.9	1.5	3.1	2.6	2.0	5.2	**2.5**	**3.1**	37	63	68.7	0.0
III	CNS NEOPLASMS	34	144	204	163	159	**545**	**704**	16.0	100.0	13.8	100.0	26.2	25.1	24.4	16.8	15.3	**22.5**	**20.9**	333	409	89.6	1.6
	a. Ependymoma	7	23	13	10	13	**53**	**66**	1.6	9.7	1.3	9.4	5.4	4.0	1.6	1.0	1.2	**2.5**	**2.2**	34	41	100.0	0.0
	b. Astrocytoma	6	50	84	79	82	**219**	**301**	6.4	40.2	5.9	42.8	4.6	8.7	10.0	8.1	7.9	**8.7**	**8.5**	131	170	100.0	0.0
	c. CNS embryonal	15	39	57	35	25	**146**	**171**	4.3	26.8	3.3	24.3	11.6	6.8	6.8	3.6	2.4	**6.2**	**5.4**	91	103	100.0	0.0
	d. Other gliomas	3	15	26	19	24	**63**	**87**	1.9	11.6	1.7	12.4	2.3	2.6	3.1	2.0	2.3	**2.6**	**2.5**	38	50	100.0	0.0
	e. Other specified	0	3	0	2	1	**5**	**6**	0.1	0.9	0.1	0.9	-	0.5	-	0.2	0.1	**0.2**	**0.2**	3	4	100.0	0.0
	f. Unspecified CNS	3	14	24	18	14	**59**	**73**	1.7	10.8	1.4	10.4	2.3	2.4	2.9	1.9	1.3	**2.4**	**2.2**	36	42	0.0	15.1
IV	NEUROBLASTOMA	59	106	27	15	5	**207**	**212**	6.1	100.0	4.2	100.0	45.5	18.5	3.2	1.5	0.5	**10.6**	**8.3**	141	144	100.0	0.0
	a. (Ganglio)neuroblastoma	58	106	27	9	3	**200**	**203**	5.9	96.6	4.0	95.8	44.7	18.5	3.2	0.9	0.3	**10.3**	**8.1**	137	139	100.0	0.0
	b. Peripheral nervous	1	0	0	6	2	**7**	**9**	0.2	3.4	0.2	4.2	0.8	-	-	0.6	0.2	**0.2**	**0.2**	4	5	100.0	0.0
V	RETINOBLASTOMA	44	75	2	1	0	**122**	**122**	3.6	100.0	2.4	100.0	33.9	13.1	0.2	0.1	-	**6.7**	**5.2**	86	86	100.0	0.0
VI	RENAL TUMOURS	12	53	13	10	9	**88**	**97**	2.6	100.0	1.9	100.0	9.2	9.2	1.6	1.0	0.9	**4.4**	**3.6**	59	63	91.8	0.0
	a. Nephroblastoma	11	50	9	6	1	**76**	**77**	2.2	86.4	1.5	79.4	8.5	8.7	1.1	0.6	0.1	**3.9**	**3.0**	52	52	100.0	0.0
	b. Renal carcinoma	0	1	1	3	6	**5**	**11**	0.1	5.7	0.2	11.3	-	0.2	0.1	0.3	0.6	**0.2**	**0.3**	3	6	100.0	0.0
	c. Unspecified	1	2	3	1	2	**7**	**9**	0.2	8.0	0.2	9.3	0.8	0.3	0.4	0.1	0.2	**0.3**	**0.3**	4	5	11.1	0.0
VII	HEPATIC TUMOURS	31	36	15	33	44	**115**	**159**	3.4	100.0	3.1	100.0	23.9	6.3	1.8	3.4	4.2	**5.3**	**5.0**	74	95	86.2	0.6
	a. Hepatoblastoma	28	31	5	8	0	**72**	**72**	2.1	62.6	1.4	45.3	21.6	5.4	0.6	0.8	-	**3.7**	**2.9**	49	49	100.0	0.0
	b. Hepatic carcinoma	0	2	9	22	32	**33**	**65**	1.0	28.7	1.3	40.9	-	0.3	1.1	2.3	3.1	**1.1**	**1.6**	18	34	100.0	0.0
	c. Unspecified	3	3	1	3	12	**10**	**22**	0.3	8.7	0.4	13.8	2.3	0.5	0.1	0.3	1.2	**0.5**	**0.6**	6	12	0.0	4.5
VIII	BONE TUMOURS	2	13	39	118	105	**172**	**277**	5.1	100.0	5.4	100.0	1.5	2.3	4.7	12.2	10.1	**5.9**	**6.8**	95	145	95.3	0.4
	a. Osteosarcoma	1	6	27	96	86	**130**	**216**	3.8	75.6	4.2	78.0	0.8	1.0	3.2	9.9	8.3	**4.3**	**5.2**	71	112	100.0	0.0
	b. Chondrosarcoma	0	0	0	2	4	**2**	**6**	0.1	1.2	0.1	2.2	-	-	-	0.2	0.4	**0.1**	**0.1**	1	3	100.0	0.0
	c. Ewing & related	1	3	8	10	8	**22**	**30**	0.6	12.8	0.6	10.8	0.8	0.5	1.0	1.0	0.8	**0.8**	**0.8**	13	17	100.0	0.0
	d. Other specified	0	2	3	4	2	**9**	**11**	0.3	5.2	0.2	4.0	-	0.3	0.4	0.4	0.2	**0.3**	**0.3**	5	6	100.0	0.0
	e. Unspecified	0	2	1	6	5	**9**	**14**	0.3	5.2	0.3	5.1	-	0.3	0.1	0.6	0.5	**0.3**	**0.4**	5	8	7.1	7.1
IX	SOFT TISSUE SARCOMA	25	63	45	69	140	**202**	**342**	5.9	100.0	6.7	100.0	19.3	11.0	5.4	7.1	13.5	**8.6**	**9.7**	125	192	100.0	0.0
	a. Rhabdomyosarcoma	8	35	27	19	32	**89**	**121**	2.6	44.1	2.4	35.4	6.2	6.1	3.2	2.0	3.1	**4.0**	**3.8**	57	72	100.0	0.0
	b. Fibrosarcoma	7	5	2	8	16	**22**	**38**	0.6	10.9	0.7	11.1	5.4	0.9	0.2	0.8	1.5	**1.0**	**1.1**	14	22	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	**0**	**1**	-	-	0.0	0.3	-	-	-	-	0.1	**-**	**0.0**	-	0	100.0	0.0
	d. Other specified	7	16	14	36	72	**73**	**145**	2.1	36.1	2.8	42.4	5.4	2.8	1.7	3.7	6.9	**2.9**	**3.8**	43	78	100.0	0.0
	e. Unspecified	3	7	2	6	19	**18**	**37**	0.5	8.9	0.7	10.8	2.3	1.2	0.2	0.6	1.8	**0.8**	**1.0**	11	21	100.0	0.0
X	GERM CELL TUMOURS	48	62	38	135	290	**283**	**573**	8.3	100.0	11.2	100.0	37.0	10.8	4.5	13.9	27.9	**11.6**	**15.2**	171	310	99.1	0.0
	a. CNS germ cell	3	2	21	65	51	**91**	**142**	2.7	32.2	2.8	24.8	2.3	0.3	2.5	6.7	4.9	**3.0**	**3.5**	50	74	100.0	0.0
	b. Other extragonadal	22	9	2	14	34	**47**	**81**	1.4	16.6	1.6	14.1	17.0	1.6	0.2	1.4	3.3	**2.2**	**2.4**	30	47	100.0	0.0
	c. Gonadal germ cell	23	51	15	46	135	**135**	**270**	4.0	47.7	5.3	47.1	17.7	8.9	1.8	4.7	13.0	**6.0**	**7.6**	85	150	100.0	0.0
	d. Gonadal carcinoma	0	0	0	9	64	**9**	**73**	0.3	3.2	1.4	12.7	-	-	-	0.9	6.2	**0.3**	**1.6**	5	35	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	6	**1**	**7**	0.0	0.4	0.1	1.2	-	-	-	0.1	0.6	**0.0**	**0.2**	1	3	28.6	0.0
XI	CARCINOMA & MELANOMA	0	10	21	115	350	**146**	**496**	4.3	100.0	9.7	100.0	-	1.7	2.5	11.9	33.6	**4.8**	**11.3**	79	247	100.0	0.0
	a. Adrenocortical	0	2	6	2	1	**10**	**11**	0.3	6.8	0.2	2.2	-	0.3	0.7	0.2	0.1	**0.4**	**0.3**	6	7	100.0	0.0
	b. Thyroid	0	3	12	57	173	**72**	**245**	2.1	49.3	4.8	49.4	-	0.5	1.4	5.9	16.6	**2.3**	**5.6**	39	122	100.0	0.0
	c. Nasopharyngeal	0	0	0	16	53	**16**	**69**	0.5	11.0	1.4	13.9	-	-	-	1.6	5.1	**0.5**	**1.5**	8	34	100.0	0.0
	d. Melanoma	0	1	0	2	7	**3**	**10**	0.1	2.1	0.2	2.0	-	0.2	-	0.2	0.7	**0.1**	**0.2**	2	5	100.0	0.0
	e. Skin carcinoma	0	0	1	6	7	**7**	**14**	0.2	4.8	0.3	2.8	-	-	0.1	0.6	0.7	**0.2**	**0.3**	4	7	100.0	0.0
	f. Other & unspecified	0	4	2	32	109	**38**	**147**	1.1	26.0	2.9	29.6	-	0.7	0.2	3.3	10.5	**1.3**	**3.3**	21	73	100.0	0.0
XII	OTHER & UNSPECIFIED	4	16	27	21	80	**68**	**148**	2.0	100.0	2.9	100.0	3.1	2.8	3.2	2.2	7.7	**2.8**	**3.9**	41	80	14.9	2.7
	a. Other specified	1	4	2	4	5	**11**	**16**	0.3	16.2	0.3	10.8	0.8	0.7	0.2	0.4	0.5	**0.5**	**0.5**	7	9	100.0	0.0
	b. Other unspecified	3	12	25	17	75	**57**	**132**	1.7	83.8	2.6	89.2	2.3	2.1	3.0	1.8	7.2	**2.3**	**3.4**	34	70	4.5	3.0
	TOTAL	344	1125	819	1109	1708	**3397**	**5105**	100.0	100.0	100.0	100.0	265.1	196.3	97.9	114.3	164.2	**145.7**	**149.8**	2106	2927	94.2	0.3

Please consult the quality indicators for this registry

India

India is located in south Asia. It is the world's seventh largest country by area and the second most populous. In 2010, the population was more than 1.2 billion, and 41% of the population was younger than 20 years (Table A.6). India is bordered to the south by the Indian Ocean, to the south-west by the Arabian Sea, and to the south-east by the Bay of Bengal. It shares land borders with Pakistan to the west, China, Nepal, and Bhutan to the north-east, and Bangladesh and Myanmar to the east.

India's pluralistic, multilingual, and multi-ethnic society is governed by a parliamentary system. The country is divided into 29 states and 7 union territories. After market-based economic reforms in 1991, India became one of the fastest-growing major economies and is considered a newly industrialized country. However, poverty, corruption, malnutrition, and inadequate public health care persist. In 2011, the health-care sector accounted for 3.9% of the GDP, and 82% of that comprised personal expenditure. In 2014, more than 80% of Indians were not covered under any health insurance plan. Communicable diseases are the cause of 53% of all deaths in India. The mortality rate in children younger than 5 years is 69 per 1000.

The health-care system is organized into primary, secondary, and tertiary levels. Tertiary care is provided by medical colleges and district general hospitals. Medical colleges are referral hospitals that are owned and controlled by the respective state governments. The All India Institutes of Medical Sciences (AIIMS) are referral hospitals with specialized facilities in New Delhi, Bhopal, Bhubaneswar, Jodhpur, Jaipur, and Rishikesh. The Regional Cancer Centres are controlled jointly by the central and state governments.

Since 2006, the Public Health Foundation of India has worked to increase health-care research, including through collaboration with international organizations and transparent dissemination of results. The goal of the foundation is to address low-quality care, corruption, unhappiness with the health-care system, lack of accountability, unethical care, overcrowding at clinics, poor cooperation between the public and private spheres, barriers to access to services and medicines, lack of public health knowledge, and low affordability.

Cancer registration in India is organized by the Indian Council of Medical Research (ICMR), which started the National Cancer Registry Programme (NCRP) in 1981. The goal is to produce reliable data on the cancer burden, for research and cancer control, and to develop training programmes in cancer registration and epidemiology. The NCRP, which initially included three population-based cancer registries (in Bangalore, Chennai, and Mumbai), now includes 23 such registries.

The cancer data are coded according to ICD-O and ICD-10 (Table A.10). The cancer registries send the data to the ICMR, where the data are used to prepare consolidated annual reports. The statistical information is used in shaping policies, evaluating treatment modalities, and conducting cancer awareness programmes by the national and state governments.

PUBLICATIONS

Takiar R, Shobana B (2009). Cancer incidence rates and the problem of denominators – a new approach in Indian cancer registries. Asian Pac J Cancer Prev. 10(1):123–6. PMID:19469639

POPULATION AT RISK

The most recent decennial population census (http://www.censusindia.net) was conducted in 2011 (Table A.7). Each contributing registry provided data by sex and 5-year age groups for each calendar year of the reporting period, including the census years. Some registries (specified below) estimated the annual counts using the difference distribution method. The population counts for the missing year–sex categories for single years of age were estimated at IARC using the data provided and the methods described in Chapter 2.

EDITORS' COMMENTS

Seven registries contributed to IICC-3, including the first population-based cancer registry of India, located in Mumbai, which also lends support to the newer Nagpur Cancer Registry. The registry of Kollam is linked to the older one of Trivandrum. The registries of Bangalore, Chennai (Madras), Mumbai (Bombay), and New Delhi

INDIA, 7 registries (1990-2013)

Registry	Period	Cases	%	Person-years	%
Bangalore	1993-2011	2954	13.0	41 088 996	17.5
Chennai	1993-2013	3464	15.3	30 045 427	12.8
Kollam	2006-2012	586	2.6	5 535 295	2.4
Mumbai	1993-2012	7300	32.2	86 846 026	36.9
Nagpur	1990-2012	2071	9.1	18 342 275	7.8
New Delhi	2003-2010	5981	26.4	50 461 753	21.5
Trivandrum	2005-2012	314	1.4	2 833 155	1.2
INDIA	**1990-2013**	**22670**	**100.0**	**235 152 927**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

(Delhi) have also contributed to one or both previous IICC volumes (Table A.1). The pooled dataset of all seven above-mentioned registries, which represent slightly more than 3% of the national population (Table A.6), is presented in the IICC-3 book. Separate tables are available online for all the individual registries (Table A.12).

Several common features of the datasets provided by the Indian registries include the low incidence rates, the relatively high percentage of unspecified tumours, and the low proportion of infants (aged < 1 year) (Table A.9). Unspecified morphology may result from a lack of a definitive pathological diagnosis, but it also may be the result of inefficient case abstraction, because in most registries the proportion of NOS tumours is also high among MV cases. The low rates in infants may result from a lower diagnostic frequency at this young age, or they may be the result of inexact or missing date of birth. No Indian registries provided date of birth (Table A.8); age is based only on the patient's statement. The high sex ratio in some registries, with many more boys than girls registered, suggests that parents may consult physicians more often for sick boys than for sick girls. Comparing sex-specific incidence rates for various cancer types would clarify whether the high sex ratio may be due to the spectrum of cancers arising in this population linked predominantly to the male sex. The low incidence rates, both overall and in tumour groups, may be caused by underdiagnosis (especially in poor communities), underreporting (e.g. low rates in girls, in infants, in adolescents), exclusion of non-malignant tumours, and possibly also by the accuracy of the estimates of the population at risk. Non-malignant CNS tumours were not recorded in any of the contributing registries (Table A.9); the four cases of pilocytic astrocytoma, which were coded with malignant behaviour, were all registered in Chennai. The registries consider the registration of skin carcinomas and of multiple primary tumours to be complete. Laterality was not sufficiently complete to be presented in the IICC-3 book.

Bangalore Cancer Registry, 1993–2011

C. Ramachandra, Ramesh C., Vijay C.R., B.R. Gopalakrishnappa, C.S. Dayananda, P. Manjunath

When the Bangalore Cancer Registry was established in 1982 (Table A.10), it covered an area of 191 km^2. It now covers an area of 741 km^2. In 2010, the population was 7.9 million, and 31% of the population was younger than 20 years (Table A.6). The registry is part of the Kidwai Memorial Institute of Oncology, which also has a hospital-based cancer registry. The population-based cancer registry is funded partly by the ICMR. The registry is headed by a principal investigator (the director of the institute) and a co-principal investigator (a professor and head of the Department of Epidemiology and Biostatistics), who manages both the population-based cancer registry and the hospital-based cancer registry.

The registry has 475 data sources, including cancer hospitals, general and private hospitals, teaching hospitals, pathology laboratories, and death certification registries. Registry staff members visit the sources, review medical records and pathology reports, and abstract information on cases in residents of the registry area (minimum duration of residence, 1 year). Registry staff members also visit the homes of the cases registered as deaths, to assess residential status and to ascertain the actual cause of death (e.g. cancer site). If eligible, these cases are matched against morbidity records. To ensure completeness of coverage, the leading pathology laboratories in the registry area are identified and the details of cancer cases diagnosed at those laboratories are extracted. Telephone tracing is done for cases with unknown residential status.

The statistical information is used to shape policies, evaluate treatment modalities, and conduct cancer awareness programmes by the local government.

POPULATION AT RISK

The census data for 1991, 2001, and 2011 were used to estimate intercensal population counts using the difference distribution method for each calendar year of the reporting period by sex and 5-year age groups. See also India, above.

EDITORS' COMMENTS

Date of birth was not provided (Table A.8). Bangalore recorded the lowest incidence in India, a very low proportion of infants, and a high proportion of cases with unspecified morphology, including among MV cases (Table A.9). Laterality was collected, but it was unknown for 60% of the cases of interest. See also India, above.

Chennai, Madras Metropolitan Tumour Registry, 1993–2013

R. Swaminathan, V. Shanta, R. Rama

The Madras Metropolitan Tumour Registry was established at the Adyar Cancer Institute operated by the Women's Indian Association (WIA) in Chennai in 1981, as part of the NCRP. Data collection started in 1982. The registry covers an area of 170 km^2 and a population (entirely urban) of 4.6 million, constituting 0.4% of the total population of India and 6.5% of the population of the Indian state of Tamil Nadu. In 2010, 30% of the population was younger than 20 years (Table A.6). In 2012, the registry extended its coverage to the Chennai metropolitan area.

Cancer diagnostic and treatment services are provided mostly by government health services, including the Cancer Institute (WIA), which is a Regional Cancer Centre in the Ministry of Health and Family Welfare of the Government of India, and are supplemented by private practitioners and hospitals. Radiotherapy is available at four government hospitals and eight private hospitals. Surgery and chemotherapy are offered at all major hospitals.

Cases are ascertained actively from more than 230 data sources in and around Chennai, including government and private hospitals, nursing homes, consultants, pathology

laboratories, imaging centres, and hospice facilities. The registrars visit these sources regularly to collect cancer data from medical records or, if possible, by interviewing the patients. Mortality data are obtained from the Vital Statistics Division of the Corporation of Chennai. Data reliability and quality are continually monitored, with an emphasis on case finding. Validity checks are done using IARC and NCRP software and other software developed by the registry.

The registry publishes periodic reports and descriptive epidemiological studies on cancer incidence patterns and trends. It also provides expertise to the Dindigul Ambilikkai Cancer Registry in Tamil Nadu, located 400 km south-west of Chennai, which has a predominantly rural population.

POPULATION AT RISK

The census data for 1991, 2001, and 2011 were used to estimate the population for each intercensal calendar year by sex and 5-year age groups, using an exponential growth rate with the difference distribution method. See also India, above.

EDITORS' COMMENTS

Date of birth was not provided (Table A.8). The proportion of infants was low, and the proportion of cases with unspecified morphology was high (Table A.9). Laterality was not provided. See also India, above.

Kollam Cancer Registry, 2006–2012

Paul Sebastian, Jayalekhsmi Padmavathi Amma

The population-based cancer registry of Kollam is located in the state of Kerala and covers an area of 2491 km^2. In 2010, the estimated population was 2.6 million, and 30% of the population was younger than 20 years (Table A.6). The population density is 1061 per km^2, and there are 1113 females for every 1000 males. This district is an old seaport, which is famous for its rare-earth deposits. Malayalam is the spoken language. The literacy rate is 94%. The major religious groups are Hindus (64%), Christians (16%), and Muslims (19%), and common occupations are fishing, cashew processing, and coir making.

General health care is provided by the government. The Kollam area lacks a dedicated cancer diagnostic or treatment facility; the Regional Cancer Centre of Thiruvananthapuram (Trivandrum) is the nearest diagnostic, treatment, and research institution. People seek care in private and government health-care facilities. Health and family welfare workers and Accredited Social Health Activists of the National Rural Health Mission of the Government of India are involved in health-care provision. The health insurance scheme of the Government of Kerala covers cancer treatment for children in the age group 0–14 years.

The Kollam Cancer Registry was established in 2006 (Table A.10) as an extension of the Karunagappally Rural Cancer Registry, which was established in 1990. The registry is affiliated with the Regional Cancer Centre of Thiruvananthapuram. The registry was initiated with financial support provided by the Indian Department of Atomic Energy and, until 2005, by the Japanese Health Research Foundation. Since 2006, the registry has received funding from the ICMR.

Cancer registration is voluntary, and case finding is performed actively. The more than 200 data sources include mainly medical colleges with oncology centres, private and government hospitals, pathology laboratories, and imaging centres. If possible, field investigators interview patients and collect data from them. Data quality is controlled by re-abstracting information. Information from the core forms is entered into an electronic database. Follow-up information is collected with home visits, by telephone, and through postal enquires. Mortality information on all causes of death is collected from the vital statistics divisions of corporations, municipalities, and local *panchayats* (councils) of the Government of Kerala.

The registry data are used to organize and implement cancer control and patient support services. The cancer data pertaining to the seacoast of Kerala are used to study the effect of natural radiation, because of its high levels in this area.

PUBLICATIONS

Nair RR, Rajan B, Akiba S, Jayalekshmi P, Nair MK, Gangadharan P, et al. (2009). Background radiation and cancer incidence in Kerala, India – Karanagappally cohort study. Health Phys. 96(1):55–66. https://doi.org/10.1097/01.HP.0000327646.54923.11 PMID:19066487

POPULATION AT RISK

The census data for 1991 and 2001 were used to estimate population counts for 2006 and 2007 using the difference distribution method. For 2008–2012, population intercensal and postcensal estimates are based on the census data for 2001 and 2011. See also India, above.

EDITORS' COMMENTS

Date of birth was not provided for almost all cases (Table A.8). The proportion of cases in infants in the age group 0–14 years was less than 2%, and the proportion of cases aged 19 years in the age group 15–19 years was more than 25%, which suggests that some younger cases may have been missed. The proportion of cases with unspecified morphology was high (Table A.9). Laterality was complete for retinoblastoma and nephroblastoma and was unknown for 16% of the gonadal tumours. See also India, above.

Mumbai Cancer Registry, 1993–2012

Vinay Deshmane, Shravani Koyande

The Mumbai population-based cancer registry covers the metropolis of Greater Mumbai, which is an island on the west coast of India that is connected to the mainland by bridges. Greater Mumbai covers an area of 603 km^2 and is the smallest administrative district in the state of Maharashtra. In 2010, the estimated population of Greater Mumbai was 14.3 million (53.7% male), with a population density of nearly 20 000 per km^2. The literacy rate was 90%. In 2010, 34% of the population was younger than 20 years (Table A.6).

The Mumbai population-based cancer registry was established in 1964 (Table A.10), before the inception of the NCRP. This first population-based cancer registry in India was established by the Indian Cancer Society to collect reliable cancer incidence and mortality data in Greater Mumbai.

The registry collects data from about 80–100 hospitals and nursing homes in the metropolitan area. Most hospitals in Mumbai are run by the Municipal Corporation of Greater Mumbai and the state government, which are responsible for medical and public health services in the city. A major source of cancer data is the Tata Memorial Hospital and Cancer Research Institute. Provision of cancer diagnosis and treatment in Mumbai have undergone major changes. The growth of the private sector has resulted in more private hospitals that provide cancer care. Many of these private hospitals have the most up-to-date treatment facilities, including intensity-modulated radiotherapy (IMRT) and image-guided radiotherapy (IGRT). Cancer surgery is performed at all major hospitals and at several well-equipped private nursing homes in Mumbai.

Data are collected actively from pathology, haematology, radiology, and other departments at cooperating hospitals and from patient registers in specialized surgical and medical wards. Patient data are cross-checked for completeness of information. A complete record on every patient with cancer registered at each hospital is thus obtained, regardless of whether the patient is subsequently treated at the particular hospital. Care is taken to avoid duplicate cases.

The registry publishes annual reports on cancer incidence and mortality, which are used by public health authorities for etiological and cancer control programmes. The registry has published several research articles in national and international journals.

PUBLICATIONS

Koyande S, Subramanian S, Edwards P, Hoover S, Deshmane V, Tankga F, et al. (2016). Economic evaluation of Mumbai and its satellite cancer registries: implications for expansion of data collection. Cancer Epidemiol. 45(Suppl 1):S43–9. https://doi.org/10.1016/j.canep.2016.10.002 PMID:27726981

Agarwal N, Yeole BB, Ram U (2009). Lifetime risk and trends in lung cancer incidence in greater Mumbai. Asian Pac J Cancer Prev. 10(1):75–82. PMID:19469629

POPULATION AT RISK

Estimates for intercensal years were provided by the registry. See also India, above.

EDITORS' COMMENTS

Date of birth was not provided (Table A.8). The incidence rate for adolescents was low, only 3% of cases were younger than 1 year, and 10% of MV cases had unspecified morphology (Table A.9). Laterality was collected for the cases of interest, but it was not sufficiently complete to be presented in the tables in the IICC-3 book. See also India, above.

Nagpur Cancer Registry, 1990–2012

Vinay Deshmane, Shravani Koyande, Krishna Kamble

Nagpur is the winter capital of the state of Maharashtra. The Nagpur Cancer Registry covers the Nagpur urban agglomeration, an area of 237 km^2. In 2010, the estimated population was 2.5 million, and 36% of the population was younger than 20 years (Table A.6).

The covered area has many major hospitals. The registry is associated with the Government Medical College and Hospital, Nagpur, which is a major source of cancer data, along with the Rashtra Sant Tukdoji Regional Cancer Hospital and Research Centre. More than 20 private hospitals and nursing homes also treat patients with cancer at up-to-date facilities. Cancer surgery is performed at major government hospitals and well-equipped private nursing homes in Nagpur.

The Nagpur Cancer Registry was established in 1980 (Table A.10) as the fourth satellite registry of the Mumbai Cancer Registry of the Indian Cancer Society to help identify geographical differences among populations exposed to different climatic conditions, dietary habits, and social customs. The registry uses the methods of data collection and use that were established at the Mumbai Cancer Registry.

POPULATION AT RISK

Population data were provided by sex and 5-year age groups for 1990–2012 and by sex and single year of age for 2011. See also India, above.

EDITORS' COMMENTS

Date of birth was not provided (Table A.8). Almost 25% of the cases had unspecified morphology; this was the highest rate of all the Indian registries. The proportion of infants was only 3%, and the sex ratio in the age group 0–14 years was 1.6 (Table A.9). All retinoblastoma cases with known laterality (91%) were unilateral; laterality was unavailable for almost all the other tumours of interest. See also India, above.

New Delhi, Delhi Cancer Registry, 2003–2010

N.K. Shukla, N. Manoharan, G.K. Rath

The population-based cancer registry at Dr B.R. Ambedkar Institute Rotary Cancer Hospital (at AIIMS in New Delhi) covers an urban area of 891 km^2. Delhi is located between the Himalayas and the Aravalli Range. In 2010, the covered population of urban areas in Delhi Union Territory was 16.1 million, and 37% of the population was younger than 20 years (Table A.6); 54.6% of the population is male, and the population density is 9294 per km^2.

The registry collects morbidity and mortality data on patients with cancer from 165 major government hospitals and institutions, more than 250 private hospitals and nursing homes, and the vital statistics departments of municipal corporations. Registry staff members include one statistician, one medical doctor, nine medical social workers, one data entry operator, and one clerk. The medical social workers visit various collaborating hospitals and nursing homes and collect data from the relevant departments (e.g. radiotherapy, pathology, haematology, and radiology departments) and from medical records. Smaller nursing homes and clinics are contacted by mail, and data about patients they treat are collected on a notification form. Hospitals outside the registration area notify the registry of resident cases diagnosed or treated at their facilities. The death registration system in the area is inadequate and incomplete, and cause of death is often recorded as cardiorespiratory arrest. All hospital deaths are matched against the registry records, and unmatched cancer deaths are registered as DCO cases. Consistency and validity checks are carried out to detect errors.

The registry prepares annual or biennial reports on cancer incidence and mortality, which highlight trends and changes and are frequently used by researchers, governmental organizations, and others.

POPULATION AT RISK

The population for the reporting years was estimated using census data for 1991, 2001, and 2011, which were published by the Registrar General and Census Commissioner of India. See India, above.

EDITORS' COMMENTS

Date of birth was not provided (Table A.8). The sex ratio was the highest of all the Indian registries, the proportion of cases with unspecified morphology was high, and the proportion of infants in the age group 0–14 years was low (Table A.9). Laterality was not provided. See also India, above.

Trivandrum Cancer Registry, 2005–2012

Aleyamma Mathew, Preethi Sara George, Kalavathy M.C., Padmakumari G., Paul Sebastian

The Thiruvananthapuram (Trivandrum) Cancer Registry covers a *taluk* (administrative unit) with an area of 300 km^2 in the Thiruvananthapuram district in the state of Kerala. In 2010, the covered population was 1.2 million (67% urban), which was 3.6% of the total population in the state of Kerala, and almost 30% of the population was younger than 20 years (Table A.6). Since 2008, the Government of Kerala has offered free cancer treatment to patients younger than 18 years. About 100 generic anticancer drugs are provided at no cost at government treatment centres.

The Thiruvananthapuram *taluk* registry was established in 2006 within the NCRP at the ICMR, to assess cancer incidence and mortality rates and estimate relative cancer survival. Data collection began in 2005 (Table A.10). Less than 3% of patients with cancer were younger than 20 years.

Data are collected actively from 21 government hospitals, 64 private hospitals, and seven pathology laboratories and are recorded on standard forms. The main sources of information are the Regional Cancer Centre and the Government Medical College, Thiruvananthapuram. Data have been collected from private hospitals since 2010, following an administrative order by the Government of Kerala.

Incidence and mortality data are abstracted using a standard registration form, a procedure manual, and a user guide provided by the NCRP. All malignant tumours are recorded. In situ lesions and neoplasms of uncertain behaviour are recorded, but they are not included in incidence data. Because cause-of-death information is not accurate, all deaths except accidents or natural disasters are collected from vital statistics offices and are matched against the registry database. Unmatched cancer deaths are included in the incidence database as DCO cases. Follow-up information recorded at the Regional Cancer Centre is collected with hospital visits, by telephone, and through the mail and is used in survival analyses. After eliminating duplicates, the data are computerized. To ensure the validity of records, a series of range and internal consistency checks are applied using software developed by the registry. The quality and completeness of coverage in the registry are assessed using the MV%, the DCO%, and the case fatality ratio.

The registry data have been used extensively and have been helpful in the planning and evaluation of cancer control programmes in Kerala.

PUBLICATIONS

Nair RR, Rajan B, Akiba S, Jayalekshmi P, Nair MK, Gangadharan P, et al. (2009). Background radiation and cancer incidence in Kerala, India – Karanagappally cohort study. Health Phys. 96(1):55–66. https://doi.org/10.1097/01.HP.0000327646.54923.11 PMID:19066487

POPULATION AT RISK

The census data for 1991, 2001, and 2011 were used to estimate population counts for the other calendar years using the difference distribution method at the NCRP. See India, above.

EDITORS' COMMENTS

Date of birth was not provided (Table A.8). No infants with cancer were registered in Trivandrum during the reporting period. The proportion of cases with unspecified morphology was high, but it was the lowest of all the Indian registries (Table A.9). Laterality was available for 80% of the tumours of interest. See also India, above.

INDIA, 7 registries (1990-2013)

	Age group (years)	Males	Females
Person-years	0	5 011 789	4 561 418
	1-4	22 114 097	20 452 097
	5-9	29 899 187	27 436 488
	10-14	32 677 336	29 432 572
	15-19	34 782 391	28 785 552
	0-14	89 702 409	81 882 575
	0-19	124 484 800	110 668 127

Please consult the quality indicators for this pool and its constituent registries

INDIA, 7 registries (1990-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	133	2143	2013	1730	1611	**6019**	**7630**	37.1	100.0	33.7	100.0	13.9	50.3	35.1	27.9	25.3	**36.3**	**33.8**	533	660	99.5	0.4
	a. Lymphoid	78	1556	1452	1084	787	**4170**	**4957**	25.7	69.3	21.9	65.0	8.1	36.6	25.3	17.5	12.4	**25.4**	**22.4**	371	432	100.0	0.0
	b. Acute myeloid	26	249	264	346	418	**885**	**1303**	5.4	14.7	5.7	17.1	2.7	5.8	4.6	5.6	6.6	**5.1**	**5.5**	77	110	99.3	0.5
	c. CMD	3	39	39	76	136	**157**	**293**	1.0	2.6	1.3	3.8	0.3	0.9	0.7	1.2	2.1	**0.9**	**1.2**	14	24	99.7	0.0
	d. MDS & other	2	5	0	1	0	**8**	**8**	0.0	0.1	0.0	0.1	0.2	0.1	-	0.0	-	**0.1**	**0.0**	1	1	100.0	0.0
	e. Unspecified	24	294	258	223	270	**799**	**1069**	4.9	13.3	4.7	14.0	2.5	6.9	4.5	3.6	4.2	**4.9**	**4.7**	71	92	97.8	2.0
II	LYMPHOMA & RELATED	23	434	1026	949	994	**2432**	**3426**	15.0	100.0	15.1	100.0	2.4	10.2	17.9	15.3	15.6	**13.6**	**14.1**	210	288	99.9	0.1
	a. Hodgkin	4	105	508	435	432	**1052**	**1484**	6.5	43.3	6.5	43.3	0.4	2.5	8.9	7.0	6.8	**5.7**	**5.9**	90	124	100.0	0.0
	b. Non-Hodgkin except BL	13	214	346	353	420	**926**	**1346**	5.7	38.1	5.9	39.3	1.4	5.0	6.0	5.7	6.6	**5.3**	**5.6**	80	113	99.8	0.2
	c. Burkitt (BL)	0	33	46	25	5	**104**	**109**	0.6	4.3	0.5	3.2	-	0.8	0.8	0.4	0.1	**0.6**	**0.5**	9	10	100.0	0.0
	d. Lymphoreticular	0	14	29	12	6	**55**	**61**	0.3	2.3	0.3	1.8	-	0.3	0.5	0.2	0.1	**0.3**	**0.3**	5	5	100.0	0.0
	e. Unspecified	6	68	97	124	131	**295**	**426**	1.8	12.1	1.9	12.4	0.6	1.6	1.7	2.0	2.1	**1.7**	**1.8**	26	36	99.8	0.0
III	CNS NEOPLASMS	31	559	855	772	621	**2217**	**2838**	13.7	100.0	12.5	100.0	3.2	13.1	14.9	12.4	9.8	**12.8**	**12.1**	193	242	89.0	1.2
	a. Ependymoma	1	64	52	54	38	**171**	**209**	1.1	7.7	0.9	7.4	0.1	1.5	0.9	0.9	0.6	**1.0**	**0.9**	15	18	100.0	0.0
	b. Astrocytoma	5	168	244	299	264	**716**	**980**	4.4	32.3	4.3	34.5	0.5	3.9	4.3	4.8	4.2	**4.1**	**4.1**	62	83	99.4	0.1
	c. CNS embryonal	8	177	277	173	90	**635**	**725**	3.9	28.6	3.2	25.5	0.8	4.2	4.8	2.8	1.4	**3.7**	**3.2**	56	63	99.7	0.0
	d. Other gliomas	7	92	188	161	133	**448**	**581**	2.8	20.2	2.6	20.5	0.7	2.2	3.3	2.6	2.1	**2.5**	**2.4**	39	49	96.2	0.2
	e. Other specified	0	6	6	19	17	**31**	**48**	0.2	1.4	0.2	1.7	-	0.1	0.1	0.3	0.3	**0.2**	**0.2**	3	4	100.0	0.0
	f. Unspecified CNS	10	52	88	66	79	**216**	**295**	1.3	9.7	1.3	10.4	1.0	1.2	1.5	1.1	1.2	**1.3**	**1.3**	19	25	4.7	11.2
IV	NEUROBLASTOMA	54	320	119	56	26	**549**	**575**	3.4	100.0	2.5	100.0	5.6	7.5	2.1	0.9	0.4	**3.7**	**3.0**	51	53	99.5	0.0
	a. (Ganglio)neuroblastoma	54	315	114	43	18	**526**	**544**	3.2	95.8	2.4	94.6	5.6	7.4	2.0	0.7	0.3	**3.6**	**2.8**	49	50	99.4	0.0
	b. Peripheral nervous	0	5	5	13	8	**23**	**31**	0.1	4.2	0.1	5.4	-	0.1	0.1	0.2	0.1	**0.1**	**0.1**	2	3	100.0	0.0
V	RETINOBLASTOMA	41	468	82	8	1	**599**	**600**	3.7	100.0	2.6	100.0	4.3	11.0	1.4	0.1	0.0	**4.3**	**3.3**	57	57	98.8	0.0
VI	RENAL TUMOURS	50	465	173	43	50	**731**	**781**	4.5	100.0	3.4	100.0	5.2	10.9	3.0	0.7	0.8	**5.0**	**4.1**	68	72	94.2	1.2
	a. Nephroblastoma	47	424	147	16	6	**634**	**640**	3.9	86.7	2.8	81.9	4.9	10.0	2.6	0.3	0.1	**4.4**	**3.4**	59	60	99.7	0.0
	b. Renal carcinoma	1	18	17	23	38	**59**	**97**	0.4	8.1	0.4	12.4	0.1	0.4	0.3	0.4	0.6	**0.3**	**0.4**	5	8	99.0	1.0
	c. Unspecified	2	23	9	4	6	**38**	**44**	0.2	5.2	0.2	5.6	0.2	0.5	0.2	0.1	0.1	**0.3**	**0.2**	4	4	4.5	18.2
VII	HEPATIC TUMOURS	31	147	42	23	36	**243**	**279**	1.5	100.0	1.2	100.0	3.2	3.5	0.7	0.4	0.6	**1.7**	**1.4**	23	25	88.2	0.7
	a. Hepatoblastoma	17	108	19	3	2	**147**	**149**	0.9	60.5	0.7	53.4	1.8	2.5	0.3	0.0	0.0	**1.0**	**0.8**	14	14	98.7	0.0
	b. Hepatic carcinoma	12	26	16	17	26	**71**	**97**	0.4	29.2	0.4	34.8	1.3	0.6	0.3	0.3	0.4	**0.5**	**0.4**	6	8	99.0	0.0
	c. Unspecified	2	13	7	3	8	**25**	**33**	0.2	10.3	0.1	11.8	0.2	0.3	0.1	0.0	0.1	**0.2**	**0.2**	2	3	9.1	6.1
VIII	BONE TUMOURS	8	114	234	635	897	**991**	**1888**	6.1	100.0	8.3	100.0	0.8	2.7	4.1	10.2	14.1	**5.2**	**7.2**	83	154	93.9	1.1
	a. Osteosarcoma	3	29	72	303	513	**407**	**920**	2.5	41.1	4.1	48.7	0.3	0.7	1.3	4.9	8.1	**2.1**	**3.4**	34	74	99.7	0.2
	b. Chondrosarcoma	0	0	5	22	37	**27**	**64**	0.2	2.7	0.3	3.4	-	-	0.1	0.4	0.6	**0.1**	**0.2**	2	5	98.4	1.6
	c. Ewing & related	2	51	119	228	211	**400**	**611**	2.5	40.4	2.7	32.4	0.2	1.2	2.1	3.7	3.3	**2.1**	**2.4**	34	50	99.7	0.3
	d. Other specified	1	4	9	24	55	**38**	**93**	0.2	3.8	0.4	4.9	0.1	0.1	0.2	0.4	0.9	**0.2**	**0.3**	3	8	100.0	0.0
	e. Unspecified	2	30	29	58	81	**119**	**200**	0.7	12.0	0.9	10.6	0.2	0.7	0.5	0.9	1.3	**0.7**	**0.8**	10	17	45.5	8.0
IX	SOFT TISSUE SARCOMA	36	275	225	254	422	**790**	**1212**	4.9	100.0	5.3	100.0	3.8	6.5	3.9	4.1	6.6	**4.8**	**5.2**	70	103	99.8	0.1
	a. Rhabdomyosarcoma	21	165	108	74	77	**368**	**445**	2.3	46.6	2.0	36.7	2.2	3.9	1.9	1.2	1.2	**2.3**	**2.1**	33	39	99.8	0.2
	b. Fibrosarcoma	6	13	8	17	34	**44**	**78**	0.3	5.6	0.3	6.4	0.6	0.3	0.1	0.3	0.5	**0.3**	**0.3**	4	7	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	**0**	**1**	-	-	0.0	0.1	-	-	-	-	0.0	**-**	**0.0**	-	0	100.0	0.0
	d. Other specified	5	45	53	81	163	**184**	**347**	1.1	23.3	1.5	28.6	0.5	1.1	0.9	1.3	2.6	**1.0**	**1.4**	16	29	100.0	0.0
	e. Unspecified	4	52	56	82	147	**194**	**341**	1.2	24.6	1.5	28.1	0.4	1.2	1.0	1.3	2.3	**1.1**	**1.4**	17	28	99.7	0.0
X	GERM CELL TUMOURS	25	161	65	222	492	**473**	**965**	2.9	100.0	4.3	100.0	2.6	3.8	1.1	3.6	7.7	**2.8**	**3.9**	41	80	89.1	0.6
	a. CNS germ cell	0	1	3	6	4	**10**	**14**	0.1	2.1	0.1	1.5	-	0.0	0.1	0.1	0.1	**0.1**	**0.1**	1	1	100.0	0.0
	b. Other extragonadal	7	26	6	13	22	**52**	**74**	0.3	11.0	0.3	7.7	0.7	0.6	0.1	0.2	0.3	**0.3**	**0.3**	5	6	100.0	0.0
	c. Gonadal germ cell	16	118	45	133	280	**312**	**592**	1.9	66.0	2.6	61.3	1.7	2.8	0.8	2.1	4.4	**1.9**	**2.4**	27	50	99.8	0.2
	d. Gonadal carcinoma	0	4	4	38	112	**46**	**158**	0.3	9.7	0.7	16.4	-	0.1	0.1	0.6	1.8	**0.2**	**0.6**	4	13	100.0	0.0
	e. Unspecified gonadal	2	12	7	32	74	**53**	**127**	0.3	11.2	0.6	13.2	0.2	0.3	0.1	0.5	1.2	**0.3**	**0.5**	5	10	18.1	3.9
XI	CARCINOMA & MELANOMA	7	119	174	344	921	**644**	**1565**	4.0	100.0	6.9	100.0	0.7	2.8	3.0	5.5	14.5	**3.5**	**6.0**	55	127	99.7	0.0
	a. Adrenocortical	0	6	4	6	1	**16**	**17**	0.1	2.5	0.1	1.1	-	0.1	0.1	0.1	0.0	**0.1**	**0.1**	1	1	100.0	0.0
	b. Thyroid	0	13	23	65	268	**101**	**369**	0.6	15.7	1.6	23.6	-	0.3	0.4	1.0	4.2	**0.5**	**1.4**	8	30	100.0	0.0
	c. Nasopharyngeal	0	5	8	53	111	**66**	**177**	0.4	10.2	0.8	11.3	-	0.1	0.1	0.9	1.7	**0.3**	**0.6**	5	14	100.0	0.0
	d. Melanoma	1	4	5	7	13	**17**	**30**	0.1	2.6	0.1	1.9	0.1	0.1	0.1	0.1	0.2	**0.1**	**0.1**	1	3	100.0	0.0
	e. Skin carcinoma	0	12	8	30	25	**50**	**75**	0.3	7.8	0.3	4.8	-	0.3	0.1	0.5	0.4	**0.3**	**0.3**	4	6	100.0	0.0
	f. Other & unspecified	6	79	126	183	503	**394**	**897**	2.4	61.2	4.0	57.3	0.6	1.9	2.2	2.9	7.9	**2.2**	**3.5**	34	73	99.4	0.0
XII	OTHER & UNSPECIFIED	30	179	159	184	359	**552**	**911**	3.4	100.0	4.0	100.0	3.1	4.2	2.8	3.0	5.6	**3.3**	**3.8**	49	77	19.3	17.1
	a. Other specified	0	3	2	4	3	**9**	**12**	0.1	1.6	0.1	1.3	-	0.1	0.0	0.1	0.0	**0.1**	**0.1**	1	1	100.0	0.0
	b. Other unspecified	30	176	157	180	356	**543**	**899**	3.3	98.4	4.0	98.7	3.1	4.1	2.7	2.9	5.6	**3.3**	**3.8**	48	76	18.2	17.4
	TOTAL	469	5384	5167	5220	6430	**16240**	**22670**	100.0	100.0	100.0	100.0	49.0	126.5	90.1	84.0	101.2	**96.9**	**97.9**	1432	1938	93.8	1.2

Please consult the quality indicators for this pool and its constituent registries

Islamic Republic of Iran

Golestan Cancer Registry, 2004–2011

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The Islamic Republic of Iran is located in western Asia. It has large reserves of fossil fuels, an upper-middle-income economy, and a high Human Development Index (HDI). The unemployment rate has been above 10% since 1997, and the unemployment rate for women is almost double that for men. The Islamic Republic of Iran is a multicultural country comprising numerous ethnic and linguistic groups, including Persians (61%), Azeris (16%), Kurds (10%), and Lurs (6%). During the second half of the 20th century, the population increased 4-fold and urbanized rapidly. A decrease in the birth rate resulted in a decrease in the population growth rate to 1.29% in 2012. The total population of 74.3 million (Table A.7) includes more than 1 million refugees, mostly from Afghanistan and Iraq. The country is divided into 31 provinces in five regions.

The social security system, which is funded by tax revenues and income derived from public contributions, covers retirement, unemployment, disability, accidents, and calamities, as well as health and medical treatment and care services. About 90% of Iranians have some form of health insurance. Excellent health care is provided by the public-governmental system, the private sector, and nongovernmental organizations. The marked improvement in health status is demonstrated by a decrease in the childhood mortality rate and an increase in the life expectancy to 71.4 years in 2010. In 2017, total health spending was equivalent to 6% of the GDP; however, the growing population is placing increased demands on medical services. Many people travel to the Islamic Republic of Iran to receive medical treatment, most of them from Azerbaijan, Turkmenistan, Iraq, Turkey, Kuwait, Oman, India, and Pakistan.

In 1969, a high incidence of oesophageal cancer was first observed in the Caspian Littoral (now Golestan Province), prompting researchers to establish the first population-based cancer registry in the region. The registry was a collaboration between the University of Tehran and IARC. Other registries have since been established. In 1984, the Iranian Parliament passed a bill mandating that all diagnosed or suspected cancer tissue be reported to the Ministry of Health. Data from the Golestan Cancer Registry are included in IICC-3.

Golestan Province is located in the north-eastern Islamic Republic of Iran and covers an area of 20 380 km^2. It is bordered by Turkmenistan to the north and the Caspian Sea to the west. Gorgan is the capital city of Golestan Province. The population of 1.7 million comprises Turkmens (34%), Mazandaranis (30%), Sistanis (15%), Baluchis (11%), Qizilbash (7%), and other ethnic groups (Azeris, Kazakhs, Kurmanji, Armenians, and Georgians); 36% of the total population of Golestan Province is younger than 20 years (Table A.6). Most of the population consists of Sunni Muslims. About half of the population lives in urban areas.

Golestan Province has 27 hospitals. Almost all cancer-related diagnostic and therapeutic services are provided in the province, including cancer surgery (open and laparoscopic), radiotherapy, chemotherapy, CT, MRI, upper endoscopy, colonoscopy, sonography, mammography, and pathological examination. Four referral hospitals are located in the western part of the province, and three are located in the eastern part. The two major cities, Gorgan and Gonbad, each have a paediatric referral hospital. The provincial health network includes 144 health-care centres, which provide various public health services, including preventive programmes. Almost all residents are covered by health insurance.

The Golestan Population-Based Cancer Registry was established by and is operated by the Golestan Research Centre of Gastroenterology and Hepatology, which is affiliated with the Golestan University of Medical Sciences and is under the supervision of the Digestive Disease Research Institute, which is affiliated with the Tehran University of Medical Sciences. The registry covers the entire province and collects information on all newly diagnosed cancer cases from 74 public and private diagnostic and therapeutic centres, including hospitals, pathology and laboratory centres, imaging centres, and some physicians' offices. It also obtains information from medical centres and cancer registries in the neighbouring provinces, especially Razavi Khorasan, Mazandaran, and Tehran, to capture Golestan residents who were diagnosed or treated in other provinces. Data are collected actively by well-trained registry staff members, who regularly visit all centres and collect information on cancer cases. The registry also regularly receives information on cancer-related deaths from the death registry at the health department at Golestan University of Medical Sciences and matches these data against the files of registered patients with cancer to identify additional unreported cases. Confidentiality measures are used to ensure the preservation of anonymity of the cancer cases, the highest quality of registry data, and the best possible use of the data.

The registry data are analysed annually, and periodic reports on cancer incidence and mortality have been published in six volumes so far. The registry data have been used in student theses and research projects, mostly as collaborative projects with other universities. The registry has published several research papers in international journals.

PUBLICATIONS

Etemadi A, Sadjadi A, Semnani S, Nouraie SM, Khademi H, Bahadori M (2008). Cancer registry in Iran: a brief overview. Arch Iran Med. 11(5):577–80. PMID:18759534

Roshandel G, Sadjadi A, Aarabi M, Keshtkar A, Sedaghat SM, Nouraie SM, et al. (2012). Cancer incidence in Golestan Province: report of an ongoing population-based cancer registry in Iran between 2004 and 2008. Arch Iran Med. 15(4):196–200. PMID:22424034

POPULATION AT RISK

Population data were provided by the Unit of Statistics and Information at Golestan University of Medical Sciences. Data are based on the provincial population census, which is conducted annually by the Deputy of Health at Golestan University of Medical Sciences. Data were provided in the requested detail.

EDITORS' COMMENTS

Day or month of birth was unavailable in 40% of cases (Table A.8); the age reported by the patient was recorded and used to calculate age-specific incidence rates. One quarter of the cases had unspecified morphology (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. The low rates in infants (aged < 1 year) may, according to the registry, be the result of decreased access to diagnostic and therapeutic services for this age group in parts of the registration area during the reporting period. However, the low proportion of infants and the low proportion of ages 0–14 years in the age group 0–19 years (Table A.9) may also suggest lack of access to the data sources relevant for children with cancer. The high proportion of B-cell chronic lymphoid leukaemia (2.4%) is much higher than that in any other contributing registry (Table A.11); this raises additional questions about the validity of the recorded age for some patients. Non-malignant CNS tumours were not collected, and no cases of pilocytic astrocytoma were included. All skin carcinomas were reportable and were included. Laterality was complete for retinoblastoma and nephroblastoma, but the numbers of these cases were low.

ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)

	Age group (years)	Males	Females
Person-years	0	122 784	118 443
	1-4	452 631	434 982
	5-9	545 259	525 494
	10-14	686 810	662 201
	15-19	862 226	828 976
	0-14	1 807 484	1 741 120
	0-19	2 669 710	2 570 096
Average annual population	0-14	225 936	217 640
	0-19	333 714	321 262

Please consult the quality indicators for this registry

ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	6	49	59	50	51	164	215	45.6	100.0	34.8	100.0	24.9	55.2	55.1	37.1	30.2	47.4	43.5	704	855	100.0	0.0
	a. Lymphoid	3	29	40	34	24	106	130	29.4	64.6	21.0	60.5	12.4	32.7	37.4	25.2	14.2	30.3	26.7	455	525	100.0	0.0
	b. Acute myeloid	0	5	6	10	12	21	33	5.8	12.8	5.3	15.3	-	5.6	5.6	7.4	7.1	5.7	6.0	87	123	100.0	0.0
	c. CMD	0	1	0	0	1	1	2	0.3	0.6	0.3	0.9	-	1.1	-	-	0.6	0.3	0.4	4	7	100.0	0.0
	d. MDS & other	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	3	14	13	6	14	36	50	10.0	22.0	8.1	23.3	12.4	15.8	12.1	4.4	8.3	11.0	10.4	158	200	100.0	0.0
II	LYMPHOMA & RELATED	1	2	9	32	52	44	96	12.2	100.0	15.5	100.0	4.1	2.3	8.4	23.7	30.7	10.6	15.2	174	328	100.0	0.0
	a. Hodgkin	0	0	1	17	24	18	42	5.0	40.9	6.8	43.8	-	-	0.9	12.6	14.2	4.0	6.3	68	139	100.0	0.0
	b. Non-Hodgkin except BL	0	1	4	4	11	9	20	2.5	20.5	3.2	20.8	-	1.1	3.7	3.0	6.5	2.4	3.3	38	70	100.0	0.0
	c. Burkitt (BL)	0	0	1	3	0	4	4	1.1	9.1	0.6	4.2	-	-	0.9	2.2	-	0.9	0.7	16	16	100.0	0.0
	d. Lymphoreticular	1	0	0	1	0	2	2	0.6	4.5	0.3	2.1	4.1	-	-	0.7	-	0.6	0.4	8	8	100.0	0.0
	e. Unspecified	0	1	3	7	17	11	28	3.1	25.0	4.5	29.2	-	1.1	2.8	5.2	10.1	2.8	4.4	44	95	100.0	0.0
III	CNS NEOPLASMS	0	7	16	22	40	45	85	12.5	100.0	13.8	100.0	-	7.9	14.9	16.3	23.7	12.0	14.6	187	306	65.9	8.2
	a. Ependymoma	0	2	1	1	4	4	8	1.1	8.9	1.3	9.4	-	2.3	0.9	0.7	2.4	1.2	1.5	17	29	100.0	0.0
	b. Astrocytoma	0	1	4	11	10	16	26	4.4	35.6	4.2	30.6	-	1.1	3.7	8.2	5.9	3.9	4.4	64	93	100.0	0.0
	c. CNS embryonal	0	2	4	3	3	9	12	2.5	20.0	1.9	14.1	-	2.3	3.7	2.2	1.8	2.5	2.4	39	48	100.0	0.0
	d. Other gliomas	0	0	3	0	2	3	5	0.8	6.7	0.8	5.9	-	-	2.8	-	1.2	0.9	1.0	14	20	100.0	0.0
	e. Other specified	0	0	0	2	3	2	5	0.6	4.4	0.8	5.9	-	-	-	1.5	1.8	0.4	0.7	7	16	100.0	0.0
	f. Unspecified CNS	0	2	4	5	18	11	29	3.1	24.4	4.7	34.1	-	2.3	3.7	3.7	10.6	3.0	4.7	46	99	0.0	24.1
IV	NEUROBLASTOMA	0	5	3	0	0	8	8	2.2	100.0	1.3	100.0	-	5.6	2.8	-	-	2.6	2.0	36	36	100.0	0.0
	a. (Ganglio)neuroblastoma	0	5	3	0	0	8	8	2.2	100.0	1.3	100.0	-	5.6	2.8	-	-	2.6	2.0	36	36	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	0	2	0	0	0	2	2	0.6	100.0	0.3	100.0	-	2.3	-	-	-	0.7	0.5	9	9	100.0	0.0
VI	RENAL TUMOURS	0	9	1	4	2	14	16	3.9	100.0	2.6	100.0	-	10.1	0.9	3.0	1.2	4.2	3.6	59	65	81.3	12.5
	a. Nephroblastoma	0	8	1	2	0	11	11	3.1	78.6	1.8	68.8	-	9.0	0.9	1.5	-	3.5	2.7	48	48	100.0	0.0
	b. Renal carcinoma	0	0	0	0	2	0	2	-	-	0.3	12.5	-	-	-	-	1.2	-	0.3	-	6	100.0	0.0
	c. Unspecified	0	1	0	2	0	3	3	0.8	21.4	0.5	18.8	-	1.1	-	1.5	-	0.8	0.6	12	12	0.0	66.7
VII	HEPATIC TUMOURS	0	2	1	3	0	6	6	1.7	100.0	1.0	100.0	-	2.3	0.9	2.2	-	1.6	1.3	25	25	83.3	0.0
	a. Hepatoblastoma	0	2	0	1	0	3	3	0.8	50.0	0.5	50.0	-	2.3	-	0.7	-	0.9	0.7	13	13	100.0	0.0
	b. Hepatic carcinoma	0	0	1	1	0	2	2	0.6	33.3	0.3	33.3	-	-	0.9	0.7	-	0.5	0.4	8	8	100.0	0.0
	c. Unspecified	0	0	0	1	0	1	1	0.3	16.7	0.2	16.7	-	-	-	0.7	-	0.2	0.2	4	4	0.0	0.0
VIII	BONE TUMOURS	0	1	2	16	25	19	44	5.3	100.0	7.1	100.0	-	1.1	1.9	11.9	14.8	4.4	6.7	73	147	88.6	0.0
	a. Osteosarcoma	0	0	0	12	11	12	23	3.3	63.2	3.7	52.3	-	-	-	8.9	6.5	2.6	3.5	44	77	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	5	1	6	0.3	5.3	1.0	13.6	-	-	-	0.7	3.0	0.2	0.8	4	18	100.0	0.0
	c. Ewing & related	0	0	2	2	2	4	6	1.1	21.1	1.0	13.6	-	-	1.9	1.5	1.2	1.0	1.1	17	23	100.0	0.0
	d. Other specified	0	1	0	0	2	1	3	0.3	5.3	0.5	6.8	-	1.1	-	-	1.2	0.3	0.5	4	10	100.0	0.0
	e. Unspecified	0	0	0	1	5	1	6	0.3	5.3	1.0	13.6	-	-	-	0.7	3.0	0.2	0.8	4	18	16.7	0.0
IX	SOFT TISSUE SARCOMA	0	10	2	2	15	14	29	3.9	100.0	4.7	100.0	-	11.3	1.9	1.5	8.9	4.5	5.5	61	105	100.0	0.0
	a. Rhabdomyosarcoma	0	5	1	1	2	7	9	1.9	50.0	1.5	31.0	-	5.6	0.9	0.7	1.2	2.2	2.0	31	36	100.0	0.0
	b. Fibrosarcoma	0	0	0	1	2	1	3	0.3	7.1	0.5	10.3	-	-	-	0.7	1.2	0.2	0.4	4	10	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	2	1	0	8	3	11	0.8	21.4	1.8	37.9	-	2.3	0.9	-	4.7	1.0	1.8	14	37	100.0	0.0
	e. Unspecified	0	3	0	0	3	3	6	0.8	21.4	1.0	20.7	-	3.4	-	-	1.8	1.0	1.2	13	22	100.0	0.0
X	GERM CELL TUMOURS	1	5	3	7	25	16	41	4.4	100.0	6.6	100.0	4.1	5.6	2.8	5.2	14.8	4.5	6.8	67	140	97.6	0.0
	a. CNS germ cell	0	0	0	2	0	2	2	0.6	12.5	0.3	4.9	-	-	-	1.5	-	0.4	0.3	7	7	100.0	0.0
	b. Other extragonadal	1	2	1	1	5	5	10	1.4	31.3	1.6	24.4	4.1	2.3	0.9	0.7	3.0	1.5	1.9	22	36	100.0	0.0
	c. Gonadal germ cell	0	3	2	4	14	9	23	2.5	56.3	3.7	56.1	-	3.4	1.9	3.0	8.3	2.5	3.8	37	79	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	4	0	4	-	-	0.6	9.8	-	-	-	-	2.4	-	0.5	-	12	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	2	0	2	-	-	0.3	4.9	-	-	-	-	1.2	-	0.3	-	6	50.0	0.0
XI	CARCINOMA & MELANOMA	0	2	4	5	25	11	36	3.1	100.0	5.8	100.0	-	2.3	3.7	3.7	14.8	3.0	5.6	46	120	100.0	0.0
	a. Adrenocortical	0	1	0	0	0	1	1	0.3	9.1	0.2	2.8	-	1.1	-	-	-	0.3	0.3	4	4	100.0	0.0
	b. Thyroid	0	0	1	1	8	2	10	0.6	18.2	1.6	27.8	-	-	0.9	0.7	4.7	0.5	1.5	8	32	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	6	1	7	0.3	9.1	1.1	19.4	-	-	-	0.7	3.5	0.2	1.0	4	21	100.0	0.0
	d. Melanoma	0	0	0	0	1	0	1	-	-	0.2	2.8	-	-	-	-	0.6	-	0.1	-	3	100.0	0.0
	e. Skin carcinoma	0	0	2	2	1	4	5	1.1	36.4	0.8	13.9	-	-	1.9	1.5	0.6	1.0	0.9	17	20	100.0	0.0
	f. Other & unspecified	0	1	1	1	9	3	12	0.8	27.3	1.9	33.3	-	1.1	0.9	0.7	5.3	0.9	1.9	13	39	100.0	0.0
XII	OTHER & UNSPECIFIED	2	1	4	10	23	17	40	4.7	100.0	6.5	100.0	8.3	1.1	3.7	7.4	13.6	4.4	6.5	69	137	2.5	32.5
	a. Other specified	0	0	0	1	0	1	1	0.3	5.9	0.2	2.5	-	-	-	0.7	-	0.2	0.2	4	4	100.0	0.0
	b. Other unspecified	2	1	4	9	23	16	39	4.4	94.1	6.3	97.5	8.3	1.1	3.7	6.7	13.6	4.2	6.3	65	133	0.0	33.3
	TOTAL	10	95	104	151	258	360	618	100.0	100.0	100.0	100.0	41.5	107.0	97.1	111.9	152.6	99.8	111.7	1510	2273	87.4	3.6

Please consult the quality indicators for this registry

Israel

Israel National Cancer Registry, 1990–2012

Barbara G. Silverman, Lital Keinan-Boker

Israel is located on the south-eastern shore of the Mediterranean Sea and the northern shore of the Red Sea. It is bordered by Lebanon to the north, the Syrian Arab Republic to the north-east, Jordan to the east, the Palestinian territories of the West Bank and Gaza Strip to the east and west, respectively, and Egypt to the south-west. Geographical features include the Negev Desert in the south, the inland fertile Jezreel Valley, Mount Carmel and the mountainous regions of Galilee, the Golan Heights in the north, and the south-western shore of the Dead Sea. Most of the population lives in the coastal plain on the shores of the Mediterranean Sea.

Israel has an advanced, high-income economy, a very high HDI, and an educated population. Despite limited natural resources, the country is largely self-sufficient in terms of food production, because of intensive development of the agricultural and industrial sectors over the past decades. Imports include raw materials, military equipment, investment goods, rough diamonds, fuels, grain, and consumer goods. Leading exports include machinery and equipment, software, cut diamonds, agricultural products, chemicals, textiles, and apparel. Tel Aviv is the economic and technological centre of Israel.

In 2010, the population was 7.4 million (Table A.7), and 35% of the population was younger than 20 years (Table A.6). Three quarters of the population are Jews, 20% are Arabs, and 5% are non-Arab Christians and non-religious people. Recently, large numbers of migrant workers from Romania, Thailand, China, Africa, and South America have settled in Israel. About 92% of Israelis live in urban areas.

Universal health care is provided, and participation in a medical insurance plan is compulsory. All Israeli residents are entitled to basic health care as a fundamental right by joining one of four official health insurance organizations. They can increase their medical coverage and improve their options by purchasing private health insurance.

The Israel National Cancer Registry, which was established in 1960 (Table A.10), covers the entire Israeli population; non-residents and residents of the Palestinian territories are not included. Cancer reporting has been mandatory since 1982. The entities eligible for registration include all malignant neoplasms (excluding basal cell and squamous cell carcinoma of the skin), carcinomas in situ, high-grade (grade III) intraepithelial neoplasias, and benign tumours of the brain and nervous system.

The registry includes data on about 700 000 people, and 30 000 new cases are entered per year. Information sources include scanned pathology reports and hospital discharge summaries sent by mail, on disk, or via a secure server; death certificates from local health authorities; annual patients' reports; and cause-of-death information from the Central Bureau of Statistics. All reports are coded manually by trained coders. Data are entered in a computer system that was developed for the registry in 1997. Scanned documents can be attached to the record in the system.

A new case is registered only after verification of the presence of the person in the National Population Registry using the national identity number. The software enables automatic electronic retrieval of certain demographic data from the National Population Registry. If the person is already registered, information on the existing diagnosis is updated as relevant.

Site and morphology are recorded, as are tumour size, lymph node involvement, stage, surgical procedures, chemotherapy, and radiotherapy. Stage is determined according to the SEER summary staging guidelines. The registry generally requires 2 calendar years to ensure complete ascertainment of cases diagnosed in a given year.

POPULATION AT RISK

The population data are provided by the Central Bureau of Statistics (https://www.cbs.gov.il/). The data were based on the censuses of 1983, 1995, and 2008 (Table A.7); the data were provided by sex and single year of age for 1995–2010 and by sex and 5-year age groups for 1990–1994 and 2011–2012. All data were available separately for Jews and non-Jews. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The Israel National Cancer Registry also participated in IICC-1 and IICC-2 (Table A.1). Because of the differences in sex and age of the Jewish and non-Jewish populations, the two identified population groups are presented separately in the IICC-3 book, in addition to the combined dataset (Table A.12). Day of incidence was coded to 1 in one third of cases (Table A.8); this may have affected the age-specific rates, because age was calculated based on the registered dates. The basis of diagnosis was unknown in 3% of cases (Table A.9). Non-malignant CNS tumours were recorded, and pilocytic astrocytoma was coded with malignant behaviour; thus, the proportion of non-malignant tumours was relatively low. Laterality was not provided.

ISRAEL (1990-2012)

	Age group (years)	Males	Females
Person-years	0	1 565 249	1 485 901
	1-4	6 015 115	5 713 243
	5-9	7 071 463	6 715 366
	10-14	6 607 613	6 271 801
	15-19	6 259 871	5 954 071
	0-14	21 259 440	20 186 311
	0-19	27 519 311	26 140 382
Average annual population	0-14	924 323	877 666
	0-19	1 196 492	1 136 538

Please consult the quality indicators for this registry

ISRAEL, Jews (1990-2012)

	Age group (years)	Males	Females
Person-years	0	1 131 060	1 072 163
	1-4	4 321 518	4 105 938
	5-9	5 122 026	4 861 695
	10-14	4 890 106	4 637 137
	15-19	4 752 304	4 516 184
	0-14	15 464 710	14 676 933
	0-19	20 217 014	19 193 117
Average annual population	0-14	672 379	638 128
	0-19	879 001	834 483

Please consult the quality indicators for this registry

ISRAEL, Non-Jews (1990-2012)

	Age group (years)	Males	Females
Person-years	0	434 189	413 738
	1-4	1 693 597	1 607 305
	5-9	1 949 437	1 853 671
	10-14	1 717 507	1 634 664
	15-19	1 507 567	1 437 887
	0-14	5 794 730	5 509 378
	0-19	7 302 297	6 947 265
Average annual population	0-14	251 945	239 538
	0-19	317 491	302 055

Please consult the quality indicators for this registry

ISRAEL (1990-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	100	649	456	347	336	1552	1888	24.9	100.0	20.9	100.0	32.8	55.3	33.1	26.9	27.5	38.1	35.7	553	691	97.8	0.6
	a. Lymphoid	42	482	341	199	166	1064	1230	17.1	68.6	13.6	65.1	13.8	41.1	24.7	15.5	13.6	26.2	23.4	378	446	99.4	0.2
	b. Acute myeloid	28	90	67	90	96	275	371	4.4	17.7	4.1	19.7	9.2	7.7	4.9	7.0	7.9	6.7	7.0	99	138	97.8	1.3
	c. CMD	12	15	12	15	44	54	98	0.9	3.5	1.1	5.2	3.9	1.3	0.9	1.2	3.6	1.3	1.8	19	37	96.9	0.0
	d. MDS & other	10	12	4	10	4	36	40	0.6	2.3	0.4	2.1	3.3	1.0	0.3	0.8	0.3	0.9	0.8	13	14	97.5	0.0
	e. Unspecified	8	50	32	33	26	123	149	2.0	7.9	1.7	7.9	2.6	4.3	2.3	2.6	2.1	3.0	2.8	44	55	84.6	2.0
II	LYMPHOMA & RELATED	25	253	391	429	858	1098	1956	17.6	100.0	21.7	100.0	8.2	21.6	28.4	33.3	70.2	26.1	36.0	402	754	96.6	0.1
	a. Hodgkin	0	36	128	220	577	384	961	6.2	35.0	10.7	49.1	-	3.1	9.3	17.1	47.2	8.9	17.5	144	380	99.3	0.0
	b. Non-Hodgkin except BL	5	78	133	120	219	336	555	5.4	30.6	6.2	28.4	1.6	6.7	9.6	9.3	17.9	8.0	10.2	123	213	99.3	0.0
	c. Burkitt (BL)	2	82	94	52	34	230	264	3.7	20.9	2.9	13.5	0.7	7.0	6.8	4.0	2.8	5.6	4.9	83	97	97.3	0.4
	d. Lymphoreticular	16	31	18	13	4	78	82	1.3	7.1	0.9	4.2	5.2	2.6	1.3	1.0	0.3	1.9	1.6	27	29	79.3	0.0
	e. Unspecified	2	26	18	24	24	70	94	1.1	6.4	1.0	4.8	0.7	2.2	1.3	1.9	2.0	1.7	1.8	25	35	67.0	1.1
III	CNS NEOPLASMS †	83	406	431	361	312	1281	1593	20.6	100.0	17.7	100.0	27.2	34.6	31.3	28.0	25.5	31.0	29.8	462	590	84.1	1.5
	a. Ependymoma	13	71	29	29	23	142	165	2.3	11.1	1.8	10.4	4.3	6.1	2.1	2.3	1.9	3.5	3.2	50	60	94.5	0.0
	b. Astrocytoma	34	114	155	176	123	479	602	7.7	37.4	6.7	37.8	11.1	9.7	11.2	13.7	10.1	11.5	11.2	175	225	94.9	0.0
	c. CNS embryonal	11	98	110	49	30	268	298	4.3	20.9	3.3	18.7	3.6	8.4	8.0	3.8	2.5	6.5	5.6	96	108	95.3	0.0
	d. Other gliomas	7	53	75	42	34	177	211	2.8	13.8	2.3	13.2	2.3	4.5	5.4	3.3	2.8	4.3	3.9	64	78	75.4	2.4
	e. Other specified	8	25	27	31	57	91	148	1.5	7.1	1.6	9.3	2.6	2.1	2.0	2.4	4.7	2.2	2.8	33	56	88.5	0.7
	f. Unspecified CNS	10	45	35	34	45	124	169	2.0	9.7	1.9	10.6	3.3	3.8	2.5	2.6	3.7	3.0	3.2	44	63	23.1	10.7
IV	NEUROBLASTOMA	220	270	71	12	18	573	591	9.2	100.0	6.6	100.0	72.1	23.0	5.1	0.9	1.5	14.8	11.8	196	204	92.6	0.0
	a. (Ganglio)neuroblastoma	219	269	69	11	11	568	579	9.1	99.1	6.4	98.0	71.8	22.9	5.0	0.9	0.9	14.6	11.6	194	199	92.6	0.0
	b. Peripheral nervous	1	1	2	1	7	5	12	0.1	0.9	0.1	2.0	0.3	0.1	0.1	0.1	0.6	0.1	0.2	2	5	91.7	0.0
V	RETINOBLASTOMA	70	71	9	1	0	151	151	2.4	100.0	1.7	100.0	22.9	6.1	0.7	0.1	-	3.9	3.0	51	51	78.1	0.0
VI	RENAL TUMOURS	50	169	56	9	16	284	300	4.6	100.0	3.3	100.0	16.4	14.4	4.1	0.7	1.3	7.2	5.9	98	104	91.0	0.7
	a. Nephroblastoma	48	167	51	4	5	270	275	4.3	95.1	3.0	91.7	15.7	14.2	3.7	0.3	0.4	6.9	5.5	93	95	93.5	0.4
	b. Renal carcinoma	0	1	2	4	9	7	16	0.1	2.5	0.2	5.3	-	0.1	0.1	0.3	0.7	0.2	0.3	3	6	93.8	0.0
	c. Unspecified	2	1	3	1	2	7	9	0.1	2.5	0.1	3.0	0.7	0.1	0.2	0.1	0.2	0.2	0.2	2	3	11.1	11.1
VII	HEPATIC TUMOURS	26	27	9	11	12	73	85	1.2	100.0	0.9	100.0	8.5	2.3	0.7	0.9	1.0	1.8	1.7	25	30	88.2	1.2
	a. Hepatoblastoma	22	24	3	1	2	50	52	0.8	68.5	0.6	61.2	7.2	2.0	0.2	0.1	0.2	1.3	1.0	17	18	96.2	0.0
	b. Hepatic carcinoma	0	1	6	10	10	17	27	0.3	23.3	0.3	31.8	-	0.1	0.4	0.8	0.8	0.4	0.5	6	10	92.6	0.0
	c. Unspecified	4	2	0	0	0	6	6	0.1	8.2	0.1	7.1	1.3	0.2	-	-	-	0.2	0.1	2	2	0.0	16.7
VIII	BONE TUMOURS	3	24	91	185	228	303	531	4.9	100.0	5.9	100.0	1.0	2.0	6.6	14.4	18.7	7.0	9.6	114	207	93.8	0.0
	a. Osteosarcoma	0	3	32	73	107	108	215	1.7	35.6	2.4	40.5	-	0.3	2.3	5.7	8.8	2.5	3.9	41	85	97.2	0.0
	b. Chondrosarcoma	0	0	3	6	20	9	29	0.1	3.0	0.3	5.5	-	-	0.2	0.5	1.6	0.2	0.5	3	12	93.1	0.0
	c. Ewing & related	0	18	51	94	86	163	249	2.6	53.8	2.8	46.9	-	1.5	3.7	7.3	7.0	3.8	4.5	61	96	98.0	0.0
	d. Other specified	1	1	4	5	6	11	17	0.2	3.6	0.2	3.2	0.3	0.1	0.3	0.4	0.5	0.3	0.3	4	7	94.1	0.0
	e. Unspecified	2	2	1	7	9	12	21	0.2	4.0	0.2	4.0	0.7	0.2	0.1	0.5	0.7	0.3	0.4	4	8	9.5	0.0
IX	SOFT TISSUE SARCOMA	46	138	83	115	191	382	573	6.1	100.0	6.4	100.0	15.1	11.8	6.0	8.9	15.6	9.4	10.8	137	215	96.0	0.0
	a. Rhabdomyosarcoma	19	109	45	37	44	210	254	3.4	55.0	2.8	44.3	6.2	9.3	3.3	2.9	3.6	5.2	4.9	74	92	97.2	0.0
	b. Fibrosarcoma	15	10	4	14	26	43	69	0.7	11.3	0.8	12.0	4.9	0.9	0.3	1.1	2.1	1.1	1.3	15	26	97.1	0.0
	c. Kaposi sarcoma	0	0	0	0	7	0	7	-	-	0.1	1.2	-	-	-	-	0.6	-	0.1	-	3	85.7	0.0
	d. Other specified	7	16	28	57	94	108	202	1.7	28.3	2.2	35.3	2.3	1.4	2.0	4.4	7.7	2.5	3.7	40	79	97.0	0.0
	e. Unspecified	5	3	6	7	20	21	41	0.3	5.5	0.5	7.2	1.6	0.3	0.4	0.5	1.6	0.5	0.8	8	16	82.9	0.0
X	GERM CELL TUMOURS	33	31	28	66	194	158	352	2.5	100.0	3.9	100.0	10.8	2.6	2.0	5.1	15.9	3.8	6.5	57	137	94.3	0.0
	a. CNS germ cell ‡	3	0	10	9	13	22	35	0.4	13.9	0.4	9.9	1.0	-	0.7	0.7	1.1	0.5	0.6	8	13	80.0	0.0
	b. Other extragonadal	17	13	4	11	17	45	62	0.7	28.5	0.7	17.6	5.6	1.1	0.3	0.9	1.4	1.1	1.2	16	23	98.4	0.0
	c. Gonadal germ cell	11	17	11	42	137	81	218	1.3	51.3	2.4	61.9	3.6	1.4	0.8	3.3	11.2	1.9	4.0	30	86	98.6	0.0
	d. Gonadal carcinoma	0	0	2	3	16	5	21	0.1	3.2	0.2	6.0	-	-	0.1	0.2	1.3	0.1	0.4	2	8	95.2	0.0
	e. Unspecified gonadal	2	1	1	1	11	5	16	0.1	3.2	0.2	4.5	0.7	0.1	0.1	0.1	0.9	0.1	0.3	2	6	50.0	0.0
XI	CARCINOMA & MELANOMA	6	23	43	176	566	248	814	4.0	100.0	9.0	100.0	2.0	2.0	3.1	13.7	46.3	5.7	14.9	94	325	98.3	0.0
	a. Adrenocortical	2	4	4	0	1	10	11	0.2	4.0	0.1	1.4	0.7	0.3	0.3	-	0.1	0.3	0.2	3	4	100.0	0.0
	b. Thyroid	0	1	10	69	243	80	323	1.3	32.3	3.6	39.7	-	0.1	0.7	5.4	19.9	1.8	5.9	31	130	99.7	0.0
	c. Nasopharyngeal	0	0	2	22	39	24	63	0.4	9.7	0.7	7.7	-	-	0.1	1.7	3.2	0.5	1.1	9	25	100.0	0.0
	d. Melanoma	2	9	10	32	118	53	171	0.9	21.4	1.9	21.0	0.7	0.8	0.7	2.5	9.7	1.2	3.1	20	68	93.6	0.0
	e. Skin carcinoma	0	1	0	1	5	2	7	0.0	0.8	0.1	0.9	-	0.1	-	0.1	0.4	0.0	0.1	1	3	100.0	0.0
	f. Other & unspecified	2	8	17	52	160	79	239	1.3	31.9	2.6	29.4	0.7	0.7	1.2	4.0	13.1	1.8	4.4	30	95	99.2	0.0
XII	OTHER & UNSPECIFIED	22	36	33	35	62	126	188	2.0	100.0	2.1	100.0	7.2	3.1	2.4	2.7	5.1	3.1	3.5	45	71	21.3	2.7
	a. Other specified	3	4	3	0	3	10	13	0.2	7.9	0.1	6.9	1.0	0.3	0.2	-	0.2	0.3	0.3	3	5	100.0	0.0
	b. Other unspecified	19	32	30	35	59	116	175	1.9	92.1	1.9	93.1	6.2	2.7	2.2	2.7	4.8	2.8	3.3	42	66	15.4	2.9
	TOTAL	684	2097	1701	1747	2793	6229	9022	100.0	100.0	100.0	100.0	224.2	178.8	123.4	135.6	228.7	152.0	169.3	2236	3379	92.1	0.5

† includes 261 non-malignant ‡ includes 2 non-malignant

Please consult the quality indicators for this registry

ISRAEL, Jews (1990-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	66	472	342	252	253	**1132**	**1385**	24.4	100.0	20.1	100.0	30.0	56.0	34.3	26.5	27.3	**38.3**	**35.8**	557	693	98.1	0.5
	a. Lymphoid	24	359	260	147	122	**790**	**912**	17.0	69.8	13.2	65.8	10.9	42.6	26.0	15.4	13.2	**26.8**	**23.8**	387	453	99.5	0.1
	b. Acute myeloid	21	62	50	66	82	**199**	**281**	4.3	17.6	4.1	20.3	9.5	7.4	5.0	6.9	8.8	**6.6**	**7.1**	99	143	97.5	1.4
	c. CMD	8	11	10	9	29	**38**	**67**	0.8	3.4	1.0	4.8	3.6	1.3	1.0	0.9	3.1	**1.3**	**1.7**	19	34	97.0	0.0
	d. MDS & other	7	8	3	8	4	**26**	**30**	0.6	2.3	0.4	2.2	3.2	0.9	0.3	0.8	0.4	**0.9**	**0.8**	13	15	96.7	0.0
	e. Unspecified	6	32	19	22	16	**79**	**95**	1.7	7.0	1.4	6.9	2.7	3.8	1.9	2.3	1.7	**2.7**	**2.5**	39	48	87.4	2.1
II	**LYMPHOMA & RELATED**	18	182	272	310	684	**782**	**1466**	16.9	100.0	21.3	100.0	8.2	21.6	27.2	32.5	73.8	**25.5**	**36.4**	393	762	96.4	0.1
	a. Hodgkin	0	22	78	171	464	**271**	**735**	5.8	34.7	10.7	50.1	-	2.6	7.8	17.9	50.1	**8.5**	**17.9**	139	389	99.2	0.0
	b. Non-Hodgkin except BL	4	53	96	85	169	**238**	**407**	5.1	30.4	5.9	27.8	1.8	6.3	9.6	8.9	18.2	**7.8**	**10.1**	119	211	99.3	0.0
	c. Burkitt (BL)	1	65	73	30	26	**169**	**195**	3.6	21.6	2.8	13.3	0.5	7.7	7.3	3.1	2.8	**5.7**	**5.0**	83	97	96.9	0.5
	d. Lymphoreticular	11	24	12	8	4	**55**	**59**	1.2	7.0	0.9	4.0	5.0	2.8	1.2	0.8	0.4	**1.9**	**1.6**	27	29	76.3	0.0
	e. Unspecified	2	18	13	16	21	**49**	**70**	1.1	6.3	1.0	4.8	0.9	2.1	1.3	1.7	2.3	**1.6**	**1.8**	24	36	65.7	0.0
III	**CNS NEOPLASMS** †	57	302	342	290	227	**991**	**1218**	21.4	100.0	17.7	100.0	25.9	35.8	34.3	30.4	24.5	**33.0**	**31.1**	492	615	84.1	1.2
	a. Ependymoma	8	53	22	25	17	**108**	**125**	2.3	10.9	1.8	10.3	3.6	6.3	2.2	2.6	1.8	**3.7**	**3.3**	53	62	96.8	0.0
	b. Astrocytoma	27	83	129	140	92	**379**	**471**	8.2	38.2	6.8	38.7	12.3	9.8	12.9	14.7	9.9	**12.4**	**11.9**	190	239	94.5	0.0
	c. CNS embryonal	7	75	83	42	24	**207**	**231**	4.5	20.9	3.4	19.0	3.2	8.9	8.3	4.4	2.6	**6.9**	**6.0**	102	115	94.4	0.0
	d. Other gliomas	7	37	62	33	24	**139**	**163**	3.0	14.0	2.4	13.4	3.2	4.4	6.2	3.5	2.6	**4.6**	**4.2**	69	82	74.8	1.8
	e. Other specified	4	17	24	23	40	**68**	**108**	1.5	6.9	1.6	8.9	1.8	2.0	2.4	2.4	4.3	**2.2**	**2.7**	34	56	87.0	0.9
	f. Unspecified CNS	4	37	22	27	30	**90**	**120**	1.9	9.1	1.7	9.9	1.8	4.4	2.2	2.8	3.2	**3.0**	**3.1**	44	61	20.0	9.2
IV	**NEUROBLASTOMA**	161	188	54	9	14	**412**	**426**	8.9	100.0	6.2	100.0	73.1	22.3	5.4	0.9	1.5	**14.7**	**11.8**	196	203	93.4	0.0
	a. (Ganglio)neuroblastoma	160	187	53	9	9	**409**	**418**	8.8	99.3	6.1	98.1	72.6	22.2	5.3	0.9	1.0	**14.6**	**11.6**	194	199	93.5	0.0
	b. Peripheral nervous	1	1	1	0	5	**3**	**8**	0.1	0.7	0.1	1.9	0.5	0.1	0.1	-	0.5	**0.1**	**0.2**	1	4	87.5	0.0
V	**RETINOBLASTOMA**	54	47	7	1	0	**109**	**109**	2.4	100.0	1.6	100.0	24.5	5.6	0.7	0.1	-	**3.9**	**3.0**	52	52	75.2	0.0
VI	**RENAL TUMOURS**	39	122	45	7	15	**213**	**228**	4.6	100.0	3.3	100.0	17.7	14.5	4.5	0.7	1.6	**7.5**	**6.2**	102	110	89.9	0.0
	a. Nephroblastoma	37	122	41	4	5	**204**	**209**	4.4	95.8	3.0	91.7	16.8	14.5	4.1	0.4	0.5	**7.2**	**5.7**	97	100	91.9	0.0
	b. Renal carcinoma	0	0	2	3	8	**5**	**13**	0.1	2.3	0.2	5.7	-	-	0.2	0.3	0.9	**0.2**	**0.3**	3	7	92.3	0.0
	c. Unspecified	2	0	2	0	2	**4**	**6**	0.1	1.9	0.1	2.6	0.9	-	0.2	-	0.2	**0.1**	**0.2**	2	3	16.7	0.0
VII	**HEPATIC TUMOURS**	18	21	6	8	10	**53**	**63**	1.1	100.0	0.9	100.0	8.2	2.5	0.6	0.8	1.1	**1.9**	**1.7**	26	31	90.5	1.6
	a. Hepatoblastoma	15	18	2	1	2	**36**	**38**	0.8	67.9	0.6	60.3	6.8	2.1	0.2	0.1	0.2	**1.3**	**1.1**	17	18	100.0	0.0
	b. Hepatic carcinoma	0	1	4	7	8	**12**	**20**	0.3	22.6	0.3	31.7	-	0.1	0.4	0.7	0.9	**0.4**	**0.5**	6	10	95.0	0.0
	c. Unspecified	3	2	0	0	0	**5**	**5**	0.1	9.4	0.1	7.9	1.4	0.2	-	-	-	**0.2**	**0.1**	2	2	0.0	20.0
VIII	**BONE TUMOURS**	1	14	66	149	189	**230**	**419**	5.0	100.0	6.1	100.0	0.5	1.7	6.6	15.6	20.4	**7.2**	**10.2**	118	220	93.8	0.0
	a. Osteosarcoma	0	2	20	52	82	**74**	**156**	1.6	32.2	2.3	37.2	-	0.2	2.0	5.5	8.8	**2.3**	**3.8**	38	82	96.8	0.0
	b. Chondrosarcoma	0	0	2	6	19	**8**	**27**	0.2	3.5	0.4	6.4	-	-	0.2	0.6	2.0	**0.2**	**0.7**	4	14	92.6	0.0
	c. Ewing & related	0	11	41	81	74	**133**	**207**	2.9	57.8	3.0	49.4	-	1.3	4.1	8.5	8.0	**4.2**	**5.0**	68	108	97.6	0.0
	d. Other specified	1	0	3	5	5	**9**	**14**	0.2	3.9	0.2	3.3	0.5	-	0.3	0.5	0.5	**0.3**	**0.3**	5	7	92.9	0.0
	e. Unspecified	0	1	0	5	9	**6**	**15**	0.1	2.6	0.2	3.6	-	0.1	-	0.5	1.0	**0.2**	**0.4**	3	8	13.3	0.0
IX	**SOFT TISSUE SARCOMA**	33	106	68	88	157	**295**	**452**	6.4	100.0	6.6	100.0	15.0	12.6	6.8	9.2	16.9	**9.9**	**11.5**	146	230	96.2	0.0
	a. Rhabdomyosarcoma	14	85	37	31	33	**167**	**200**	3.6	56.6	2.9	44.2	6.4	10.1	3.7	3.3	3.6	**5.7**	**5.3**	81	99	97.0	0.0
	b. Fibrosarcoma	10	8	3	10	22	**31**	**53**	0.7	10.5	0.8	11.7	4.5	0.9	0.3	1.0	2.4	**1.1**	**1.4**	15	27	96.2	0.0
	c. Kaposi sarcoma	0	0	0	0	6	**0**	**6**	-	-	0.1	1.3	-	-	-	-	0.6	**-**	**0.1**	-	3	83.3	0.0
	d. Other specified	5	11	23	42	80	**81**	**161**	1.7	27.5	2.3	35.6	2.3	1.3	2.3	4.4	8.6	**2.6**	**4.0**	41	84	97.5	0.0
	e. Unspecified	4	2	5	5	16	**16**	**32**	0.3	5.4	0.5	7.1	1.8	0.2	0.5	0.5	1.7	**0.5**	**0.8**	8	17	87.5	0.0
X	**GERM CELL TUMOURS**	25	22	20	55	169	**122**	**291**	2.6	100.0	4.2	100.0	11.3	2.6	2.0	5.8	18.2	**4.0**	**7.2**	61	152	94.8	0.0
	a. CNS germ cell ‡	3	0	7	8	11	**18**	**29**	0.4	14.8	0.4	10.0	1.4	-	0.7	0.8	1.2	**0.6**	**0.7**	9	15	82.8	0.0
	b. Other extragonadal	14	10	4	9	15	**37**	**52**	0.8	30.3	0.8	17.9	6.4	1.2	0.4	0.9	1.6	**1.3**	**1.4**	18	26	98.1	0.0
	c. Gonadal germ cell	7	12	7	34	119	**60**	**179**	1.3	49.2	2.6	61.5	3.2	1.4	0.7	3.6	12.8	**2.0**	**4.4**	30	94	98.3	0.0
	d. Gonadal carcinoma	0	0	1	3	14	**4**	**18**	0.1	3.3	0.3	6.2	-	-	0.1	0.3	1.5	**0.1**	**0.4**	2	10	94.4	0.0
	e. Unspecified gonadal	1	0	1	1	10	**3**	**13**	0.1	2.5	0.2	4.5	0.5	-	0.1	0.1	1.1	**0.1**	**0.3**	1	7	61.5	0.0
XI	**CARCINOMA & MELANOMA**	3	18	33	149	482	**203**	**685**	4.4	100.0	9.9	100.0	1.4	2.1	3.3	15.6	52.0	**6.4**	**16.6**	105	365	98.1	0.0
	a. Adrenocortical	2	4	1	0	1	**7**	**8**	0.2	3.4	0.1	1.2	0.9	0.5	0.1	-	0.1	**0.3**	**0.2**	3	4	100.0	0.0
	b. Thyroid	0	0	10	56	200	**66**	**266**	1.4	32.5	3.9	38.8	-	-	1.0	5.9	21.6	**2.0**	**6.4**	34	142	99.6	0.0
	c. Nasopharyngeal	0	0	2	16	28	**18**	**46**	0.4	8.9	0.7	6.7	-	-	0.2	1.7	3.0	**0.6**	**1.1**	9	25	100.0	0.0
	d. Melanoma	0	8	9	31	113	**48**	**161**	1.0	23.6	2.3	23.5	-	0.9	0.9	3.3	12.2	**1.5**	**3.9**	25	85	93.8	0.0
	e. Skin carcinoma	0	0	0	1	4	**1**	**5**	0.0	0.5	0.1	0.7	-	-	-	0.1	0.4	**0.0**	**0.1**	1	3	100.0	0.0
	f. Other & unspecified	1	6	11	45	136	**63**	**199**	1.4	31.0	2.9	29.1	0.5	0.7	1.1	4.7	14.7	**2.0**	**4.8**	32	106	99.0	0.0
XII	**OTHER & UNSPECIFIED**	14	24	27	29	50	**94**	**144**	2.0	100.0	2.1	100.0	6.4	2.8	2.7	3.0	5.4	**3.1**	**3.6**	47	74	20.1	1.4
	a. Other specified	3	2	2	0	3	**7**	**10**	0.2	7.4	0.1	6.9	1.4	0.2	0.2	-	0.3	**0.2**	**0.3**	3	5	100.0	0.0
	b. Other unspecified	11	22	25	29	47	**87**	**134**	1.9	92.6	1.9	93.1	5.0	2.6	2.5	3.0	5.1	**2.9**	**3.4**	43	69	14.2	1.5
	TOTAL	489	1518	1282	1347	2250	**4636**	**6886**	100.0	100.0	100.0	100.0	221.9	180.1	128.4	141.4	242.8	**155.6**	**175.2**	2293	3507	92.1	0.4

† includes 187 non-malignant ‡ includes 2 non-malignant

Please consult the quality indicators for this registry

ISRAEL, Non-Jews (1990-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	34	177	114	95	83	420	503	26.4	100.0	23.5	100.0	40.1	53.6	30.0	28.3	28.2	37.6	35.5	546	687	97.0	0.8
	a. Lymphoid	18	123	81	52	44	274	318	17.2	65.2	14.9	63.2	21.2	37.3	21.3	15.5	14.9	24.5	22.4	354	429	99.4	0.6
	b. Acute myeloid	7	28	17	24	14	76	90	4.8	18.1	4.2	17.9	8.3	8.5	4.5	7.2	4.8	6.8	6.3	100	124	98.9	1.1
	c. CMD	4	4	2	6	15	16	31	1.0	3.8	1.5	6.2	4.7	1.2	0.5	1.8	5.1	1.4	2.3	21	47	96.8	0.0
	d. MDS & other	3	4	1	2	0	10	10	0.6	2.4	0.5	2.0	3.5	1.2	0.3	0.6	-	0.9	0.7	13	13	100.0	0.0
	e. Unspecified	2	18	13	11	10	44	54	2.8	10.5	2.5	10.7	2.4	5.5	3.4	3.3	3.4	3.9	3.8	58	75	79.6	1.9
II	LYMPHOMA & RELATED	7	71	119	119	174	316	490	19.8	100.0	22.9	100.0	8.3	21.5	31.3	35.5	59.1	27.7	34.7	428	723	97.3	0.2
	a. Hodgkin	0	14	50	49	113	113	226	7.1	35.8	10.6	46.1	-	4.2	13.1	14.6	38.4	9.8	16.2	156	348	99.6	0.0
	b. Non-Hodgkin except BL	1	25	37	35	50	98	148	6.2	31.0	6.9	30.2	1.2	7.6	9.7	10.4	17.0	8.6	10.5	132	217	99.3	0.0
	c. Burkitt (BL)	1	17	21	22	8	61	69	3.8	19.3	3.2	14.1	1.2	5.2	5.5	6.6	2.7	5.4	4.8	82	96	98.6	0.0
	d. Lymphoreticular	5	7	6	5	0	23	23	1.4	7.3	1.1	4.7	5.9	2.1	1.6	1.5	-	2.1	1.6	30	30	87.0	0.0
	e. Unspecified	0	8	5	8	3	21	24	1.3	6.6	1.1	4.9	-	2.4	1.3	2.4	1.0	1.9	1.7	28	33	70.8	4.2
III	CNS NEOPLASMS †	26	104	89	71	85	290	375	18.2	100.0	17.6	100.0	30.7	31.5	23.4	21.2	28.9	25.8	26.5	380	524	84.3	2.4
	a. Ependymoma	5	18	7	4	6	34	40	2.1	11.7	1.9	10.7	5.9	5.5	1.8	1.2	2.0	3.1	2.9	43	53	87.5	0.0
	b. Astrocytoma	7	31	26	36	31	100	131	6.3	34.5	6.1	34.9	8.3	9.4	6.8	10.7	10.5	8.9	9.2	134	186	96.2	0.0
	c. CNS embryonal	4	23	27	7	6	61	67	3.8	21.0	3.1	17.9	4.7	7.0	7.1	2.1	2.0	5.4	4.7	78	89	98.5	0.0
	d. Other gliomas	0	16	13	9	10	38	48	2.4	13.1	2.2	12.8	-	4.8	3.4	2.7	3.4	3.4	3.4	50	67	77.1	4.2
	e. Other specified	4	8	3	8	17	23	40	1.4	7.9	1.9	10.7	4.7	2.4	0.8	2.4	5.8	2.1	2.9	30	59	92.5	0.0
	f. Unspecified CNS	6	8	13	7	15	34	49	2.1	11.7	2.3	13.1	7.1	2.4	3.4	2.1	5.1	3.0	3.5	44	70	30.6	14.3
IV	NEUROBLASTOMA	59	82	17	3	4	161	165	10.1	100.0	7.7	100.0	69.6	24.8	4.5	0.9	1.4	14.9	11.8	197	204	90.3	0.0
	a. (Ganglio)neuroblastoma	59	82	16	2	2	159	161	10.0	98.8	7.5	97.6	69.6	24.8	4.2	0.6	0.7	14.7	11.5	194	197	90.1	0.0
	b. Peripheral nervous	0	0	1	1	2	2	4	0.1	1.2	0.2	2.4	-	-	0.3	0.3	0.7	0.2	0.3	3	6	100.0	0.0
V	RETINOBLASTOMA	16	24	2	0	0	42	42	2.6	100.0	2.0	100.0	18.9	7.3	0.5	-	-	3.9	3.0	51	51	85.7	0.0
VI	RENAL TUMOURS	11	47	11	2	1	71	72	4.5	100.0	3.4	100.0	13.0	14.2	2.9	0.6	0.3	6.5	5.1	87	89	94.4	2.8
	a. Nephroblastoma	11	45	10	0	0	66	66	4.1	93.0	3.1	91.7	13.0	13.6	2.6	-	-	6.1	4.7	81	81	98.5	1.5
	b. Renal carcinoma	0	1	0	1	1	2	3	0.1	2.8	0.1	4.2	-	0.3	-	0.3	0.3	0.2	0.2	3	4	100.0	0.0
	c. Unspecified	0	1	1	1	0	3	3	0.2	4.2	0.1	4.2	-	0.3	0.3	0.3	-	0.3	0.2	4	4	0.0	33.3
VII	HEPATIC TUMOURS	8	6	3	3	2	20	22	1.3	100.0	1.0	100.0	9.4	1.8	0.8	0.9	0.7	1.8	1.6	25	29	81.8	0.0
	a. Hepatoblastoma	7	6	1	0	0	14	14	0.9	70.0	0.7	63.6	8.3	1.8	0.3	-	-	1.3	1.0	17	17	85.7	0.0
	b. Hepatic carcinoma	0	0	2	3	2	5	7	0.3	25.0	0.3	31.8	-	-	0.5	0.9	0.7	0.4	0.5	7	10	85.7	0.0
	c. Unspecified	1	0	0	0	0	1	1	0.1	5.0	0.0	4.5	1.2	-	-	-	-	0.1	0.1	1	1	0.0	0.0
VIII	BONE TUMOURS	2	10	25	36	39	73	112	4.6	100.0	5.2	100.0	2.4	3.0	6.6	10.7	13.2	6.4	7.9	101	167	93.8	0.0
	a. Osteosarcoma	0	1	12	21	25	34	59	2.1	46.6	2.8	52.7	-	0.3	3.2	6.3	8.5	2.9	4.2	48	91	98.3	0.0
	b. Chondrosarcoma	0	0	1	0	1	1	2	0.1	1.4	0.1	1.8	-	-	0.3	-	0.3	0.1	0.1	1	3	100.0	0.0
	c. Ewing & related	0	7	10	13	12	30	42	1.9	41.1	2.0	37.5	-	2.1	2.6	3.9	4.1	2.6	3.0	41	61	100.0	0.0
	d. Other specified	0	1	1	0	1	2	3	0.1	2.7	0.1	2.7	-	0.3	0.3	-	0.3	0.2	0.2	3	4	100.0	0.0
	e. Unspecified	2	1	1	2	0	6	6	0.4	8.2	0.3	5.4	2.4	0.3	0.3	0.6	-	0.5	0.4	8	8	0.0	0.0
IX	SOFT TISSUE SARCOMA	13	32	15	27	34	87	121	5.5	100.0	5.7	100.0	15.3	9.7	3.9	8.1	11.5	7.8	8.6	114	172	95.0	0.0
	a. Rhabdomyosarcoma	5	24	8	6	11	43	54	2.7	49.4	2.5	44.6	5.9	7.3	2.1	1.8	3.7	3.9	3.9	54	73	98.1	0.0
	b. Fibrosarcoma	5	2	1	4	4	12	16	0.8	13.8	0.7	13.2	5.9	0.6	0.3	1.2	1.4	1.1	1.1	16	23	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	0	1	-	-	0.0	0.8	-	-	-	-	0.3	-	0.1	-	2	100.0	0.0
	d. Other specified	2	5	5	15	14	27	41	1.7	31.0	1.9	33.9	2.4	1.5	1.3	4.5	4.8	2.4	2.9	37	61	95.1	0.0
	e. Unspecified	1	1	1	2	4	5	9	0.3	5.7	0.4	7.4	1.2	0.3	0.3	0.6	1.4	0.4	0.7	7	13	66.7	0.0
X	GERM CELL TUMOURS	8	9	8	11	25	36	61	2.3	100.0	2.9	100.0	9.4	2.7	2.1	3.3	8.5	3.2	4.4	47	90	91.8	0.0
	a. CNS germ cell	0	0	3	1	2	4	6	0.3	11.1	0.3	9.8	-	-	0.8	0.3	0.7	0.3	0.4	5	9	66.7	0.0
	b. Other extragonadal	3	3	0	2	2	8	10	0.5	22.2	0.5	16.4	3.5	0.9	-	0.6	0.7	0.7	0.7	10	14	100.0	0.0
	c. Gonadal germ cell	4	5	4	8	18	21	39	1.3	58.3	1.8	63.9	4.7	1.5	1.1	2.4	6.1	1.9	2.8	28	59	100.0	0.0
	d. Gonadal carcinoma	0	0	1	0	2	1	3	0.1	2.8	0.1	4.9	-	-	0.3	-	0.7	0.1	0.2	1	5	100.0	0.0
	e. Unspecified gonadal	1	1	0	0	1	2	3	0.1	5.6	0.1	4.9	1.2	0.3	-	-	0.3	0.2	0.2	2	4	0.0	0.0
XI	CARCINOMA & MELANOMA	3	5	10	27	84	45	129	2.8	100.0	6.0	100.0	3.5	1.5	2.6	8.1	28.5	3.9	9.5	63	206	99.2	0.0
	a. Adrenocortical	0	0	3	0	0	3	3	0.2	6.7	0.1	2.3	-	-	0.8	-	-	0.3	0.2	4	4	100.0	0.0
	b. Thyroid	0	1	0	13	43	14	57	0.9	31.1	2.7	44.2	-	0.3	-	3.9	14.6	1.2	4.2	21	94	100.0	0.0
	c. Nasopharyngeal	0	0	0	6	11	6	17	0.4	13.3	0.8	13.2	-	-	-	1.8	3.7	0.5	1.2	9	28	100.0	0.0
	d. Melanoma	2	1	1	1	5	5	10	0.3	11.1	0.5	7.8	2.4	0.3	0.3	0.3	1.7	0.5	0.7	6	15	90.0	0.0
	e. Skin carcinoma	0	1	0	0	1	1	2	0.1	2.2	0.1	1.6	-	0.3	-	-	0.3	0.1	0.1	1	3	100.0	0.0
	f. Other & unspecified	1	2	6	7	24	16	40	1.0	35.6	1.9	31.0	1.2	0.6	1.6	2.1	8.1	1.4	2.9	22	63	100.0	0.0
XII	OTHER & UNSPECIFIED	8	12	6	6	12	32	44	2.0	100.0	2.1	100.0	9.4	3.6	1.6	1.8	4.1	2.9	3.2	41	61	25.0	6.8
	a. Other specified	0	2	1	0	0	3	3	0.2	9.4	0.1	6.8	-	0.6	0.3	-	-	0.3	0.2	4	4	100.0	0.0
	b. Other unspecified	8	10	5	6	12	29	41	1.8	90.6	1.9	93.2	9.4	3.0	1.3	1.8	4.1	2.6	2.9	37	58	19.5	7.3
	TOTAL	195	579	419	400	543	1593	2136	100.0	100.0	100.0	100.0	230.0	175.4	110.2	119.3	184.4	142.4	151.8	2080	3002	92.1	0.9

† includes 74 non-malignant

Please consult the quality indicators for this registry

Japan

Japan comprises a string of 6000 islands located in the Pacific Ocean in eastern Asia. Japan is located off the eastern coast of the Asian mainland and stretches from the Sea of Okhotsk in the north to the East China Sea and China in the south-west. The four largest islands (Honshu, Hokkaido, Kyushu, and Shikoku) comprise about 97% of the land area. The country is divided into 47 prefectures in eight regions. Its history is marked by the atomic bombings of Hiroshima and Nagasaki at the end of the Second World War in 1945. After an ensuing period of rapid economic growth, Japan developed one of the world's leading economies. The HDI and standard of living are both very high, and the workforce is highly skilled and educated. The life expectancy is the highest in the world, and the infant mortality rate is among the lowest in the world.

In 2010, the population was 127.3 million, and 18% of the population was younger than 20 years (Table A.6). Because of the current rapid ageing of the population, it is projected to decrease to 95 million by 2050. Japanese society is relatively homogeneous linguistically, ethnically, and culturally; 98.6% of the population is ethnic Japanese, with small populations of foreign workers.

Health care is provided by national and local governments. Medical services are covered by a universal health insurance system that provides relative equality of access. People who are not covered by insurance through employment can participate in a national health insurance programme, which is administered by local governments. Patients can choose their physicians and health-care facilities.

However, Japanese society faces several public health issues. The changes in the demographic structure may lead to a smaller workforce and an increased cost of social security benefits. The suicide rate among young people in Japan is high; suicide is the leading cause of death in the age group 15–39 years. Despite the overall high standard of living, in 2007 about 17% of the population lived below the poverty threshold, including 1 in 7 children.

Cancer has been the leading cause of death in Japan since 1981. A comprehensive strategy for cancer control was implemented in 1984 and is reviewed every 10 years to promote cancer research and disseminate high-quality cancer medical services. The Cancer Control Act was implemented in 2007.

Since 1974, the Japanese government has subsidized medical expenses for children and adolescents younger than 18 years who have cancer. The second cancer control plan of 2012 had the goal of improving care for children and young patients with cancer, early detection, cancer registration, and social aspects of cancer diagnosis, such as job acquisition and student education. In 2012, 15 hospitals were designated as childhood cancer care hospitals, to increase centralization and cooperation nationwide. From 1985 to 2003, the Japanese government conducted a mass screening programme for neuroblastoma for all infants at age 6 months, which resulted in an increased incidence of neuroblastoma during that period but little improvement in neuroblastoma mortality.

The Center for Cancer Registries, which was established in 2016 at the National Cancer Center Japan (https://www.ncc.go.jp/en), coordinates the operation of population-based and hospital-based cancer registries and the development of a national population-based cancer registry. According to the Cancer Registry Act of 2016, all hospitals in Japan are required to submit basic data on new cancer cases to the national cancer registry. The Japanese Association of Cancer Registries (https://npo-jacr.jp) was founded in 1992 with the goal of providing information on cancer incidence, mortality, and survival through cancer registration, holding public and scientific seminars, conducting surveys and research, and training cancer registry personnel. The members of the association are 47 prefectural cancer registries, one municipal cancer registry, and 32 patronage members.

JAPAN, 8 registries (1990-2013)

Registry	Period	Cases	%	Person-years	%
Aichi	2008-2012	844	8.0	7 162 718	8.4
Hiroshima	1990-2012	824	7.8	5 714 929	6.7
Miyagi	1990-2010	1334	12.6	10 885 464	12.8
Nagasaki	1993-2012	823	7.8	6 480 546	7.6
Niigata	2003-2012	563	5.3	4 337 981	5.1
Osaka	1990-2012	5193	49.2	41 431 230	48.8
Tochigi	2005-2012	378	3.6	2 975 081	3.5
Yamagata	1990-2013	606	5.7	5 998 668	7.1
JAPAN	**1990-2013**	**10565**	**100.0**	**84 986 617**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

PUBLICATIONS

Monden M (2013). The basic plan to promote cancer control in Japan. [in Japanese] Gan To Kagaku Ryoho. 40(5):559–64. PMID:23863577

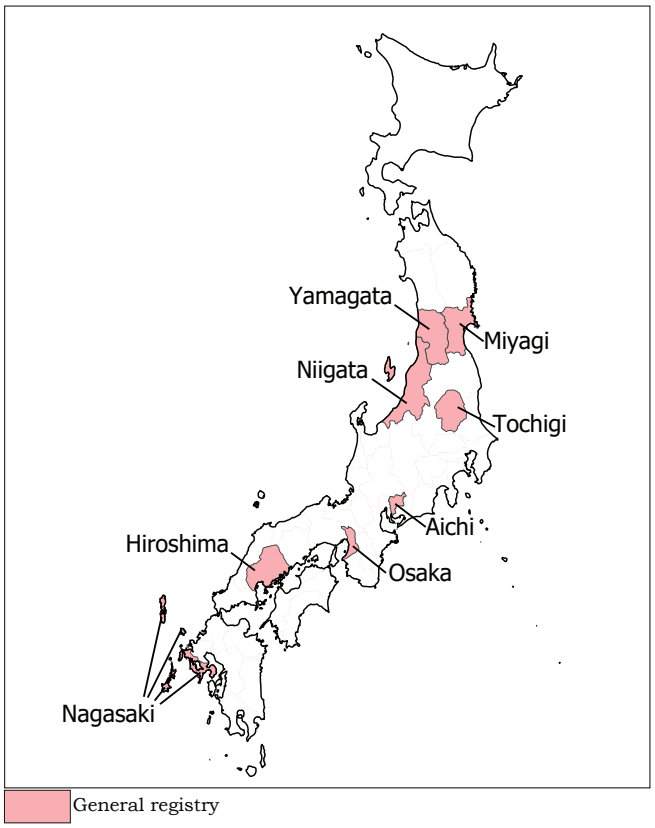
POPULATION AT RISK

The national population was counted in censuses conducted in 1990, 1995, 2000, 2005, and 2010 (Table A.7) by the Statistics Bureau of Japan of the Ministry of Internal Affairs and Communications (https://www.stat.go.jp/english). The results of the 2015 census, which were released in subsequent years, are not reflected in the population data provided for IICC-3. Unless otherwise specified for individual registries, the data for the intercensal years are the official estimates produced by the national statistical office by interpolation of the adjacent census data; data for 2011–2013 were extrapolated using the censuses of 2005 and 2010.

EDITORS' COMMENTS

Eight registries contributed to IICC-3; two of them participated in IICC-1 and IICC-2 (Miyagi and Osaka), two participated in IICC-2 (Hiroshima and Nagasaki), and four registries are new to IICC-3 (Aichi, Niigata, Tochigi, and Yamagata) (Table A.1). The full incidence table shows data for the combined dataset of the eight registries representing Japan. The incidence tables for the individual registries are available online.

In some registries, the proportion of cases in infants was high, possibly as a residual effect of the previously organized screening for neuroblastoma. Some registries also had a high proportion of cases aged 19 years in the age group 15–19 years (Table A.9). The date of birth and date of incidence provided were limited to month and year in some registries (Table A.8). Unless otherwise mentioned for individual cancer registries, non-malignant CNS tumours were registered and pilocytic astrocytoma was coded with uncertain behaviour. Non-melanoma skin cancers were reportable. Although the records of residents treated outside the registration area should be sent to the appropriate registry, the registration of such cases may have been incomplete, because there was no generally accepted mechanism for data exchange during the reporting period. Skin carcinomas were reportable, and their registration is believed to be complete, although the incidence was low.



Aichi Cancer Registry, 2008–2012

Hidemi Ito, Michiyo Yamaguchi, Kayoko Koide, Tomoya Nagase, Keitaro Matsuo, Kazuo Tajima, Yoshinobu Kondo, Hideo Tanaka

The Aichi Cancer Registry covers Aichi Prefecture, which is located in central Japan and is bordered to the south by the Pacific Ocean. The prefecture covers an area of 5146 km^2 and has a population of 7.4 million (6% of the national population). Of the economically active population, about 2% is engaged in primary industry, 43% in secondary industry, and 54% in tertiary industry. The prefecture is divided into 10 health-care districts, each of which has at least one designated cancer care hospital. Seventeen designated cancer care hospitals have been certified by the Japanese Ministry of Health, Labour, and Welfare, and nine hospitals have been certified by the Department of Health and Public Welfare of Aichi Prefecture. These certified hospitals cover about 70% of the patients with cancer in the registration area.

The Aichi Cancer Registry was established in 1962 (Table A.10); until 2007, the registry collected data in an area with a population of 1.4 million. During the reporting period, information on patients with cancer living in the prefecture was either mailed by medical institutions on registry forms (paper or computer file format) or actively collected. Mortality information was obtained via public health centres. All deaths within the prefecture were systematically reviewed, and trace-back surveys were conducted in the medical institutions for cases identified via death certificates. Vital status of the registered cases was confirmed by referencing the residential registration data, in cooperation with local municipalities. Incidence, mortality, and prognostic data were assembled in the cancer registry central office. Then, information was organized, validated, consolidated, and included in the database. It takes about 3 years to complete these procedures.

Data are used in technical and public reports, in cohort and case–control studies, in the evaluation of screening programmes, in planning and evaluating cancer control, in estimating cancer incidence in Japan, and in international collaborations.

POPULATION AT RISK

Population data were provided in the requested detail. Interpolation and extrapolation of population data for years without a census were performed by the registry. See also Japan, above.

EDITORS' COMMENTS

Data for 2003–2007 were provided but were excluded from publication in consultation with the registry, because the geographical coverage was smaller than that for other years and the registration was considered incomplete. Age was calculated at IARC (Table A.8). The lower incidence rates compared with the other Japanese registries (Table A.9) could be the result of underascertainment because of voluntary notification and suboptimal cooperation with the data providers, or they could be the result of migration for treatment. Laterality was not recorded. Twelve cases in diagnostic subgroup XIIb may have belonged to more specific cancer groups. See also Japan, above.

Hiroshima Cancer Registry, 1990–2012

Kotaro Ozasa, Hiromi Sugiyama, Hiroaki Katayama, Hiroshi Tokinobu, Makoto Matsumura, Takafumi Tsuya, Hiroyasu Yamada, Hiroki Kajihara, Yukio Takeshima, Keiichi Hiramatsu

Hiroshima City, the largest city in the Chugoku and Shikoku regions, was rebuilt after being destroyed by the atomic bombing in 1945. It covers an area of 907 km^2. The residential areas are located on the Ota River delta, facing the Seto Inland Sea, as well as in the hills and mountains. The annual average temperature is 16.3 °C, and the annual rainfall is about 1538 mm. The population was 1.2 million, and 19% of the population was younger than 20 years (Table A.6). The town of Yuki merged with Hiroshima City in 2005, and its population and cases are included in the presented data throughout the reporting period.

Access to medical care is good. Four hospitals in Hiroshima City were designated as cancer care hospitals in 2006, and another was designated as such in 2010. These hospitals provide advanced cancer treatment, palliative care, patient education, and training for cancer care professionals.

The Hiroshima City Medical Association's Tumor Statistics Registry covering Hiroshima City was established in 1957 (Table A.10). Data are collected mostly by abstraction of medical records from major hospitals. The Hiroshima Prefecture Tissue Registry was established in 1973 to collect pathology records and sample slides of surgically removed tumours. The Hiroshima Cancer Registry, which covers the entire Hiroshima Prefecture, was established in 2002 and collects data through voluntary notification from all hospitals and clinics. Death certificates issued within the prefecture are ascertained and traced back since 2005 for the cancer cases identified through death certification. Data from the three registries are collated in the Hiroshima Cancer Registry database. All registration activities have been supported by the Atomic Bomb Casualty Commission and its successor, the Radiation Effects Research Foundation.

PUBLICATIONS

Sugiyama H, Nishi N, Kuwabara M, Ninomiya M, Arita K, Yasui W, et al. (2009). Incidence and survival of childhood cancer cases diagnosed between 1998 and 2000 in Hiroshima City, Japan. Asian Pac J Cancer Prev. 10(4):675–80. PMID:19827893

POPULATION AT RISK

Data were provided in the requested detail. See also Japan, above.

EDITORS' COMMENTS

Day of incidence was not available for about one quarter of the cases; thus, age calculated at IARC based on the available information was used in analyses (Table A.8). The proportion of infants was high (Table A.9). Information on laterality was complete. See also Japan, above.

Miyagi Cancer Registry, 1990–2010

Ichiro Tsuji, Yoshikazu Nishino, Seiki Kanemura, Kenji Kakazu

The area covered by the registry in Miyagi Prefecture is located in northern Japan and borders the Pacific Ocean. In 2010, the total population was 2.3 million, and 18% of the population was younger than 20 years (Table A.6). About 72% of workers were employed in sales and services, 23% in manufacturing and construction, and 5% in agriculture, forestry, and fisheries.

Tohoku University Hospital, which is located in the prefectural capital of Sendai, is one of 15 designated certified childhood cancer hospitals; it is the main hospital providing care for children with cancer in Miyagi. Miyagi Children's Hospital, located in the suburbs of Sendai, was founded in 2003 to provide childhood cancer care in this area, especially for haematological malignancies. The plan is to combine these two hospitals to provide childhood cancer care in Miyagi.

Cancer registration was established in 1959; since 1976, the registry offices have been located at the Miyagi Cancer Society. The Miyagi Cancer Registry is supported financially both by grants for cancer registration provided by the prefectural government and by the Miyagi Cancer Society. Reporting by medical institutions is voluntary. In addition to this voluntary reporting, registry staff members collect data actively, visiting 10–20 hospitals annually and abstracting the relevant records. Until 2006, Tohoku University Hospital provided mainly pathology and radiology records. Since 2007, the data have been extracted from the hospital-based cancer registry. Miyagi Children's Hospital has provided relevant data since its establishment. The registry also receives all death certificates issued within the prefecture; this information is used to complement case finding and to follow up the registered cases for

vital status. Registry data have been published in all 11 volumes of CI5.

POPULATION AT RISK

Data were provided in the requested detail. The population in the intercensal years was provided by the Japanese Center for Cancer Control and Information Services, the National Cancer Center, and the National Institute of Population and Social Security Research. See also Japan, above.

EDITORS' COMMENTS

Date of incidence was incomplete for 19% of cases (Table A.8); most of these cases were in the period before 1992, when day of incidence was not collected. The proportion of cases aged 19 years in the age group 15–19 years was higher than expected. Intracranial non-malignant CNS tumours were registered during the entire reporting period. Laterality was available for 88% of the cases of interest and was complete for nephroblastoma. See also Japan, above.

Nagasaki Prefecture Cancer Registry, 1993–2012

Midori Soda, Ichiro Sekine, Kotaro Ozasa

Nagasaki Prefecture is located on the western end of the Japanese archipelago. It is surrounded by the ocean and includes more than 600 remote islands; 55 of these islands are inhabited, and their residents comprise 9% of the population of the prefecture. More than 90% of residents live on Kyushu Island, on which the city of Nagasaki is located. The climate is relatively warm and moist. The average annual temperature is 17.2 °C, and the average annual rainfall is 1860 mm. In 2010, the population was 1.4 million, and 19% of the population was younger than 20 years (Table A.6). One third of the population of Nagasaki Prefecture resides in Nagasaki City, where shipbuilding is one of the primary industries. More than 60% of residents of the prefecture work in the service and retail or restaurant industries, and 12% work in manufacturing (including shipbuilding).

Health-care programmes for neonates and children are provided in 10 public health offices. Mass screening for neuroblastoma was established in 1984 and ended in 2004. Children with cancer are treated mostly by haematologists or paediatric oncologists at Nagasaki University Hospital.

The Nagasaki Prefecture Cancer Registry was started as a population-based cancer registry in 1985 (Table A.10); it succeeded the Nagasaki City Cancer Registry, which was established in 1958. The Department of Epidemiology of the Radiation Effects Research Foundation houses the central registry office, which consists of one physician and nine full-time employees, who are employees of the prefectural government. Cancer incidence data are collected mainly by abstraction from medical and pathology records. Data on cancer cases detected in screening programmes are also obtained. Six designated cancer care hospitals with radiotherapy facilities, including Nagasaki University Hospital, and two hospitals, in which more than 100 cancer cases are treated annually, implemented hospital-based cancer registries. These registries facilitate the work of the Nagasaki Prefecture Cancer Registry, because the two hospitals, located in the cities of Nagasaki and Sasebo, provide care to 70% of patients with cancer in the prefecture.

All death certificates issued within the prefecture are obtained and linked with registry records. Active follow-up of patients with cancer was initiated in 2010. Verification of vital status is conducted 5 years after diagnosis using resident identification cards issued by the prefectural government.

Cancer incidence, mortality, and survival data for Nagasaki Prefecture are reported annually. The registry participates in nationwide cancer incidence estimates. The collected data are also used for research, in particular to elucidate the association between radiation exposure and cancer incidence. The government uses the registry data to design medical projects and assess policies, such as cancer screening.

POPULATION AT RISK

Data were provided in the requested detail. See also Japan, above.

EDITORS' COMMENTS

Day of incidence was not registered (Table A.8), which results in a reduced precision of the calculated age. Laterality was available for 92% of the cases of interest and was complete for retinoblastoma and nephroblastoma. See also Japan, above.

Niigata Cancer Registry, 2003–2012

Kazuei Ogoshi, Rintaro Narisawa

Niigata Prefecture is located on the coast of the Sea of Japan. The distinguishing traits of the prefecture include cultivation of rice, heavy snowfalls, and abundant nature. The prefectural capital is Niigata City, which is located 300 km north of Tokyo. In 2010, the population was 2.4 million, and 17% of the population was younger than 20 years (Table A.6). Nine hospitals in the prefecture have been certified for treatment of cancer.

The Niigata Cancer Registry was established in 1991 (Table A.10) by the prefectural government, in cooperation with the Niigata Medical Association. Data provision is voluntary, and the data are used to support cancer control programmes in Niigata.

The registry follows the standard Japanese guidelines for cancer registration. Cancer registration forms, which are completed in all hospitals and clinics, are transferred by the Niigata Medical Association to the cancer registry, which is located at Niigata Cancer Center Hospital. Data from mass screening programmes are also received from the Niigata Association for Cancer Prevention.

The registry has published annual reports since 1991; these are available online. The collected data have been

used widely, for example to study the high incidence of gastric cancer observed in the prefecture. Data are also provided to medical research institutes. Registry data have been used and cited in 145 research studies, most frequently in relation to quality control of mass screening programmes.

POPULATION AT RISK

Data were provided in the requested detail. See also Japan, above.

EDITORS' COMMENTS

Day of birth and day of incidence were not collected (Table A.8); this affects the precision of the age calculated by the registry. Laterality was available for more than 90% of the cases of interest and was complete for retinoblastoma. See also Japan, above.

Osaka Cancer Registry, 1990–2012

Kayo Nakata, Toshitaka Morishima, Isao Miyashiro, Nariaki Matsuura

Osaka Prefecture is located in central Japan. It is the second smallest prefecture by area (1905 km^2), and it has a high population density. In 2010, the total population was 8.9 million, and 18% of the population was younger than 20 years (Table A.6). About 24.7% of workers are employed in industry, 74.7% in commerce, and 0.5% in agriculture. The area surrounding Osaka City, the capital of the prefecture, comprises 33 cities, nine towns, and one village. In 2015, there were 17 designated cancer care hospitals, including one cancer centre, five university hospitals, and two designated childhood cancer care hospitals. An additional 45 hospitals have been certified as cancer care hospitals by the local government of Osaka. In addition, about 470 hospitals provide medical care for adults and children.

The Osaka Cancer Registry was established in 1962 (Table A.10), in cooperation with the Osaka Prefectural Health and Medical Department (OPHMD), the Osaka Medical Association, and the Osaka International Cancer Institute (formerly known as the Osaka Medical Center for Cancer and Cardiovascular Diseases). The registry is located in the Cancer Control Center, Osaka International Cancer Institute. The Osaka Cancer Association for Children, Adolescents and Young Adults promotes childhood cancer registration. Before 2016, the Osaka Medical Association advised all medical institutions in the prefecture to submit reports when cancer cases were diagnosed; these reports were transferred monthly from the Osaka Medical Association to the Osaka Cancer Registry. Data from the death certificates of all residents that mention cancer were also obtained, through the OPHMD. Since the implementation of the Cancer Registry Act of 2016, the cancer registry has been part of the OPHMD and the Osaka International Cancer Institute. To evaluate cancer survival in the prefecture, the registry has progressively undertaken active follow-up to ascertain the vital status of registered patients. High-quality survival data are available for patients diagnosed within the prefecture excluding Osaka City since 1975, and for all patients diagnosed within the prefecture since 1993. The proportion of cases that are lost to follow-up has been 1–2% at 5 years after diagnosis.

PUBLICATIONS

Nakata K, Ito Y, Magadi W, Bonaventure A, Stiller CA, Katanoda K, et al. (2018). Childhood cancer incidence and survival in Japan and England: a population-based study (1993–2010). Cancer Sci. 109(2):422–34. https://doi.org/10.1111/cas.13457 PMID:29178401

Nakata-Yamada K, Inoue M, Ioka A, Ito Y, Tabuchi T, Miyashiro I, et al.; Osaka Cancer Association for Children, Adolescents and Young Adults (2016). Comparison of survival of adolescents and young adults with hematologic malignancies in Osaka, Japan. Leuk Lymphoma. 57(6):1342–8. PMID:26695739

POPULATION AT RISK

Data were provided in the requested detail. See also Japan, above.

EDITORS' COMMENTS

Day of birth and day of incidence were collected, but they were not provided (Table A.8); thus, the age calculation could not be verified at IARC. The high proportion of infants in the age group 0–14 years and the high proportion of cases aged 0–14 years in the age group 0–19 years (Table A.9) may both reflect the high incidence of neuroblastoma, mainly because of organized screening. The proportion of cases with unspecified morphology was high. Laterality was complete for only 40% of the cases of interest. See also Japan, above.

Tochigi Cancer Registry, 2005–2012

Izumi Oki, Hideaki Shimizu, Shoichi Hishinuma

Tochigi Prefecture is located in the northern part of the Kanto region and covers an area of 6408 km^2. In 2010, the population was 2.0 million, and 18% of the population was younger than 20 years (Table A.6). The capital city of Tochigi Prefecture is Utsunomiya, which is located in the centre of the prefecture, about 100 km north of Tokyo. The major industries are manufacturing, agriculture, and tourism.

In 2015, Tochigi Prefecture had 109 hospitals and 1462 clinics, including Tochigi Cancer Center. The prefecture is divided into six health-care districts, each of which has at least one designated cancer care hospital.

The Tochigi Cancer Registry, which is located in Tochigi Cancer Center, covers the whole prefecture. The registry was established in 1993 (Table A.10) and is operated by the prefectural government, under the

guidance of the Tochigi Cancer Registry Committee. The registry staff consists of one doctor, one public health nurse, and four registrars. Before 2006, cancer notification was voluntary, with no legal obligation to submit data; thus, the completeness and quality of the data were unsatisfactory. After the enactment of the Cancer Control Act in 2006, mandatory hospital-based cancer registries were implemented at the hospitals designated to provide cancer care. Subsequently, the Tochigi Cancer Registry adopted a standard registration process and database. As a result, data quality and completeness have improved, although the registry continues to collect data by passive notification. Since 2005, all registered cases have been followed up for vital status.

POPULATION AT RISK

Data were provided in the requested detail. See also Japan, above.

EDITORS' COMMENTS

In 1993–2004, data collection did not comply with the international standard; thus, the provided data cover 2005–2012. The relatively low rates (Table A.9) could be explained by migration of patients to Tokyo for diagnosis and treatment, because there is no designated children's cancer hospital in Tochigi Prefecture. Although the registry exchanged information with neighbouring prefectures, there was no mechanism in place to collect data from Tokyo. Age was calculated at IARC (Table A.8). The high proportion of cases aged 19 years in the age group 15–19 years (Table A.9) may result from random variability, because only few cases were registered in each year of age. Intracranial non-malignant CNS tumours were registered during the entire reporting period. Laterality was available for more than 90% of the cases of interest and was complete for retinoblastoma. See also Japan, above.

Yamagata Prefectural Cancer Registry, 1990–2013

Akiko Shibata

Yamagata Prefecture is located in north-eastern Japan, and more than two thirds of the area consists of forests and mountains. At the 2010 census, 60% of workers were employed in the sales and service industry and 29% in the construction and manufacturing industry. In 2010, the population of Yamagata was 1.2 million, and 18% of the population was younger than 20 years (Table A.6).

The opening of a major general hospital in 2000 facilitated access to diagnostic and treatment services in Yamagata. Six designated cancer care hospitals were certified between 2002 and 2007. These hospitals diagnose and treat 70% of patients with cancer. Because there are no facilities that specialize in paediatric and adolescent oncology, some children with cancer may travel outside the prefecture for treatment; their number cannot be estimated.

The Yamagata Prefectural Cancer Registry was established in 1974 (Table A.10) and it is financed by the prefectural government. Registry staff members include a part-time medical doctor as the medical supervisor and researcher, one full-time registrar (since 2004), and one part-time registrar. Cancer registration is based on notifications from hospitals in Yamagata Prefecture. The death certificates of the residents in Yamagata are used to identify unregistered cancer cases and to obtain dates of death for the registered cases. The cancer registry links the records of cases diagnosed at least 5 years ago with the registry of residents to follow up the patients for vital status.

In 2005, the registry performed in-depth data validation, which included conversion of the ICD-10 codes used to code topography and the ICD-O-2 codes for morphology to ICD-O-3 codes for both topography and morphology (Table A.10).

PUBLICATIONS

Tamaki T, Dong Y, Ohno Y, Sobue T, Nishimoto H, Shibata A (2014). The burden of rare cancer in Japan: application of the RARECARE definition. Cancer Epidemiol. 38(5):490–5. https://doi.org/10.1016/j.canep.2014.07.014 PMID:25155209

POPULATION AT RISK

Data were provided in the requested detail. See also Japan, above.

EDITORS' COMMENTS

The Yamagata Prefectural Cancer Registry relied on voluntary reporting from hospitals (until reporting was mandated by law in 2016) and linking with death certificates. The incidence rates were the lowest and the DCO% was the highest among the Japanese registries (Table A.9); these findings suggest underreporting, given the described context of data sources. Age was calculated at IARC from nearly complete dates (Table A.8). The high proportion of NOS cases – the highest in Japan (Table A.9) – could be explained by a lack of feedback from the registry to the reporting institutions. Collection of non-malignant CNS tumours began in 2001 and may be incomplete. Laterality was not collected for the tumours of interest. See also Japan, above.

JAPAN, 8 registries (1990-2013)

	Age group (years)	Males	Females
Person-years	0	1 925 751	1 837 918
	1-4	7 836 600	7 468 243
	5-9	10 307 446	9 813 476
	10-14	11 051 901	10 516 560
	15-19	12 396 151	11 832 571
	0-14	31 121 698	29 636 197
	0-19	43 517 849	41 468 768

Please consult the quality indicators for this pool and its constituent registries

JAPAN, 8 registries (1990-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	211	998	739	607	644	**2555**	**3199**	32.9	100.0	30.3	100.0	56.1	65.2	36.7	28.1	26.6	**44.6**	**40.5**	641	774	98.9	0.3
	a. Lymphoid	62	713	506	343	272	**1624**	**1896**	20.9	63.6	17.9	59.3	16.5	46.6	25.1	15.9	11.2	**28.5**	**24.6**	408	465	99.6	0.0
	b. Acute myeloid	92	203	156	178	234	**629**	**863**	8.1	24.6	8.2	27.0	24.4	13.3	7.8	8.3	9.7	**10.9**	**10.6**	157	206	99.5	0.1
	c. CMD	11	12	26	31	62	**80**	**142**	1.0	3.1	1.3	4.4	2.9	0.8	1.3	1.4	2.6	**1.3**	**1.6**	20	32	98.6	0.0
	d. MDS & other	23	33	28	27	44	**111**	**155**	1.4	4.3	1.5	4.8	6.1	2.2	1.4	1.3	1.8	**1.9**	**1.9**	28	37	100.0	0.0
	e. Unspecified	23	37	23	28	32	**111**	**143**	1.4	4.3	1.4	4.5	6.1	2.4	1.1	1.3	1.3	**2.0**	**1.8**	28	35	85.3	4.9
II	LYMPHOMA & RELATED	43	165	231	272	360	**711**	**1071**	9.2	100.0	10.1	100.0	11.4	10.8	11.5	12.6	14.9	**11.6**	**12.3**	175	249	94.1	1.0
	a. Hodgkin	1	3	23	28	123	**55**	**178**	0.7	7.7	1.7	16.6	0.3	0.2	1.1	1.3	5.1	**0.8**	**1.8**	13	39	100.0	0.0
	b. Non-Hodgkin except BL	14	61	106	153	167	**334**	**501**	4.3	47.0	4.7	46.8	3.7	4.0	5.3	7.1	6.9	**5.3**	**5.6**	81	116	99.6	0.0
	c. Burkitt (BL)	0	27	43	30	10	**100**	**110**	1.3	14.1	1.0	10.3	-	1.8	2.1	1.4	0.4	**1.6**	**1.4**	25	27	98.2	0.0
	d. Lymphoreticular	27	59	15	14	7	**115**	**122**	1.5	16.2	1.2	11.4	7.2	3.9	0.7	0.6	0.3	**2.2**	**1.8**	30	31	95.9	0.0
	e. Unspecified	1	15	44	47	53	**107**	**160**	1.4	15.0	1.5	14.9	0.3	1.0	2.2	2.2	2.2	**1.7**	**1.8**	26	37	66.3	6.9
III	CNS NEOPLASMS †	118	443	521	492	438	**1574**	**2012**	20.3	100.0	19.0	100.0	31.4	28.9	25.9	22.8	18.1	**26.4**	**24.5**	391	481	72.2	1.7
	a. Ependymoma	23	76	30	29	9	**158**	**167**	2.0	10.0	1.6	8.3	6.1	5.0	1.5	1.3	0.4	**2.9**	**2.3**	40	42	98.8	0.0
	b. Astrocytoma	29	86	144	158	125	**417**	**542**	5.4	26.5	5.1	26.9	7.7	5.6	7.2	7.3	5.2	**6.8**	**6.4**	103	128	96.3	0.0
	c. CNS embryonal	23	96	91	61	38	**271**	**309**	3.5	17.2	2.9	15.4	6.1	6.3	4.5	2.8	1.6	**4.7**	**4.0**	68	76	99.4	0.3
	d. Other gliomas	13	46	95	56	33	**210**	**243**	2.7	13.3	2.3	12.1	3.5	3.0	4.7	2.6	1.4	**3.5**	**3.0**	52	59	50.6	2.1
	e. Other specified	6	53	65	94	153	**218**	**371**	2.8	13.9	3.5	18.4	1.6	3.5	3.2	4.4	6.3	**3.5**	**4.1**	53	85	84.1	0.0
	f. Unspecified CNS	24	86	96	94	80	**300**	**380**	3.9	19.1	3.6	18.9	6.4	5.6	4.8	4.4	3.3	**5.0**	**4.6**	74	91	6.3	7.4
IV	NEUROBLASTOMA	419	291	70	18	17	**798**	**815**	10.3	100.0	7.7	100.0	111.3	19.0	3.5	0.8	0.7	**15.8**	**12.4**	208	211	85.6	1.0
	a. (Ganglio)neuroblastoma	418	291	70	16	10	**795**	**805**	10.3	99.6	7.6	98.8	111.1	19.0	3.5	0.7	0.4	**15.7**	**12.3**	207	209	85.5	1.0
	b. Peripheral nervous	1	0	0	2	7	**3**	**10**	0.0	0.4	0.1	1.2	0.3	-	-	0.1	0.3	**0.0**	**0.1**	1	2	100.0	0.0
V	RETINOBLASTOMA	86	154	12	0	0	**252**	**252**	3.2	100.0	2.4	100.0	22.9	10.1	0.6	-	-	**5.1**	**3.9**	66	66	66.7	0.0
VI	RENAL TUMOURS	34	118	25	17	15	**194**	**209**	2.5	100.0	2.0	100.0	9.0	7.7	1.2	0.8	0.6	**3.7**	**3.0**	50	53	86.1	0.0
	a. Nephroblastoma	33	115	21	9	2	**178**	**180**	2.3	91.8	1.7	86.1	8.8	7.5	1.0	0.4	0.1	**3.5**	**2.7**	46	47	85.0	0.0
	b. Renal carcinoma	0	3	3	8	12	**14**	**26**	0.2	7.2	0.2	12.4	-	0.2	0.1	0.4	0.5	**0.2**	**0.3**	3	6	100.0	0.0
	c. Unspecified	1	0	1	0	1	**2**	**3**	0.0	1.0	0.0	1.4	0.3	-	0.0	-	0.0	**0.0**	**0.0**	1	1	33.3	0.0
VII	HEPATIC TUMOURS	71	89	19	17	13	**196**	**209**	2.5	100.0	2.0	100.0	18.9	5.8	0.9	0.8	0.5	**3.8**	**3.1**	51	53	92.8	1.0
	a. Hepatoblastoma	67	86	16	9	2	**178**	**180**	2.3	90.8	1.7	86.1	17.8	5.6	0.8	0.4	0.1	**3.5**	**2.7**	46	47	98.3	0.6
	b. Hepatic carcinoma	3	0	3	7	10	**13**	**23**	0.2	6.6	0.2	11.0	0.8	-	0.1	0.3	0.4	**0.2**	**0.3**	3	5	73.9	0.0
	c. Unspecified	1	3	0	1	1	**5**	**6**	0.1	2.6	0.1	2.9	0.3	0.2	-	0.0	0.0	**0.1**	**0.1**	1	1	0.0	16.7
VIII	BONE TUMOURS	2	14	76	217	247	**309**	**556**	4.0	100.0	5.3	100.0	0.5	0.9	3.8	10.1	10.2	**4.5**	**5.8**	73	124	96.4	1.1
	a. Osteosarcoma	1	3	44	153	167	**201**	**368**	2.6	65.0	3.5	66.2	0.3	0.2	2.2	7.1	6.9	**2.8**	**3.8**	47	82	99.2	0.3
	b. Chondrosarcoma	0	1	3	12	18	**16**	**34**	0.2	5.2	0.3	6.1	-	0.1	0.1	0.6	0.7	**0.2**	**0.3**	4	8	100.0	0.0
	c. Ewing & related	1	9	21	40	42	**71**	**113**	0.9	23.0	1.1	20.3	0.3	0.6	1.0	1.9	1.7	**1.1**	**1.2**	17	26	100.0	0.0
	d. Other specified	0	1	2	6	10	**9**	**19**	0.1	2.9	0.2	3.4	-	0.1	0.1	0.3	0.4	**0.1**	**0.2**	2	4	100.0	0.0
	e. Unspecified	0	0	6	6	10	**12**	**22**	0.2	3.9	0.2	4.0	-	-	0.3	0.3	0.4	**0.2**	**0.2**	3	5	22.7	22.7
IX	SOFT TISSUE SARCOMA	48	93	101	133	195	**375**	**570**	4.8	100.0	5.4	100.0	12.8	6.1	5.0	6.2	8.0	**6.3**	**6.7**	93	133	98.4	0.0
	a. Rhabdomyosarcoma	16	63	58	53	47	**190**	**237**	2.5	50.7	2.2	41.6	4.3	4.1	2.9	2.5	1.9	**3.2**	**3.0**	47	57	100.0	0.0
	b. Fibrosarcoma	12	4	6	7	33	**29**	**62**	0.4	7.7	0.6	10.9	3.2	0.3	0.3	0.3	1.4	**0.5**	**0.7**	7	14	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	16	22	29	65	99	**132**	**231**	1.7	35.2	2.2	40.5	4.3	1.4	1.4	3.0	4.1	**2.1**	**2.6**	32	53	99.6	0.0
	e. Unspecified	4	4	8	8	16	**24**	**40**	0.3	6.4	0.4	7.0	1.1	0.3	0.4	0.4	0.7	**0.4**	**0.5**	6	9	80.0	0.0
X	GERM CELL TUMOURS	92	85	117	233	409	**527**	**936**	6.8	100.0	8.9	100.0	24.4	5.6	5.8	10.8	16.9	**8.6**	**10.5**	129	214	95.6	0.0
	a. CNS germ cell ‡	18	12	73	132	118	**235**	**353**	3.0	44.6	3.3	37.7	4.8	0.8	3.6	6.1	4.9	**3.6**	**3.9**	57	81	97.2	0.0
	b. Other extragonadal	42	24	5	11	46	**82**	**128**	1.1	15.6	1.2	13.7	11.2	1.6	0.2	0.5	1.9	**1.6**	**1.6**	21	31	99.2	0.0
	c. Gonadal germ cell	30	43	37	72	188	**182**	**370**	2.3	34.5	3.5	39.5	8.0	2.8	1.8	3.3	7.8	**3.0**	**4.1**	45	84	99.2	0.0
	d. Gonadal carcinoma	0	1	0	7	43	**8**	**51**	0.1	1.5	0.5	5.4	-	0.1	-	0.3	1.8	**0.1**	**0.5**	2	11	94.1	0.0
	e. Unspecified gonadal	2	5	2	11	14	**20**	**34**	0.3	3.8	0.3	3.6	0.5	0.3	0.1	0.5	0.6	**0.3**	**0.4**	5	8	29.4	0.0
XI	CARCINOMA & MELANOMA	4	11	32	127	421	**174**	**595**	2.2	100.0	5.6	100.0	1.1	0.7	1.6	5.9	17.4	**2.5**	**5.9**	41	128	97.0	0.3
	a. Adrenocortical	4	5	1	2	1	**12**	**13**	0.2	6.9	0.1	2.2	1.1	0.3	0.0	0.1	0.0	**0.2**	**0.2**	3	3	100.0	0.0
	b. Thyroid	0	1	11	53	181	**65**	**246**	0.8	37.4	2.3	41.3	-	0.1	0.5	2.5	7.5	**0.9**	**2.4**	15	53	95.1	0.0
	c. Nasopharyngeal	0	0	0	11	27	**11**	**38**	0.1	6.3	0.4	6.4	-	-	-	0.5	1.1	**0.1**	**0.4**	3	8	100.0	0.0
	d. Melanoma	0	4	4	9	17	**17**	**34**	0.2	9.8	0.3	5.7	-	0.3	0.2	0.4	0.7	**0.3**	**0.4**	4	8	88.2	2.9
	e. Skin carcinoma	0	0	2	5	6	**7**	**13**	0.1	4.0	0.1	2.2	-	-	0.1	0.2	0.2	**0.1**	**0.1**	2	3	100.0	0.0
	f. Other & unspecified	0	1	14	47	189	**62**	**251**	0.8	35.6	2.4	42.2	-	0.1	0.7	2.2	7.8	**0.9**	**2.4**	15	54	99.2	0.4
XII	OTHER & UNSPECIFIED	10	32	22	26	51	**90**	**141**	1.2	100.0	1.3	100.0	2.7	2.1	1.1	1.2	2.1	**1.6**	**1.7**	23	33	39.7	10.6
	a. Other specified	1	10	6	2	7	**19**	**26**	0.2	21.1	0.2	18.4	0.3	0.7	0.3	0.1	0.3	**0.3**	**0.3**	5	6	96.2	0.0
	b. Other unspecified	9	22	16	24	44	**71**	**115**	0.9	78.9	1.1	81.6	2.4	1.4	0.8	1.1	1.8	**1.2**	**1.3**	18	27	27.0	13.0
	TOTAL	1138	2493	1965	2159	2810	**7755**	**10565**	100.0	100.0	100.0	100.0	302.4	162.9	97.7	100.1	116.0	**134.3**	**130.2**	1941	2521	89.8	0.8

† includes 647 non-malignant ‡ includes 24 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Jordan

Jordan Cancer Registry, Jordanians, 2000–2012

Omar Nimri

Jordan is located in western Asia. It is bordered to the north by the Syrian Arab Republic, to the east by Iraq, to the east and south by Saudi Arabia, and to the west by Israel and the Palestinian territories of the West Bank and Gaza Strip. Jordan covers an area of 89 342 km^2, three quarters of which is arid desert plateau, which is located in the east of the country and is irrigated by oases and seasonal water streams. The north-western part of Jordan has fertile soils and relatively abundant rainfall; major cities are located in this area. Mountains and highland areas are located to the west of arable land. The lowest point is the Dead Sea, which is about 420 m below sea level. The only seaport is at the south-western tip of Jordan, at the Gulf of Aqaba on the Red Sea. The climate is subtropical arid, and the average temperature ranges from 4 °C in winter to more than 38 °C in summer.

As a result of changes and improvements in the life expectancy, education, and per capita income, Jordan is an upper-middle-income country with a high HDI. After 2011, Jordan's economic growth slowed. This slowdown is ascribed mainly to political instability in the surrounding countries, which results in reduced tourism, reduced foreign investments, the need to mend damage resulting from military operations, increased defence expenditures, and increased expense to host refugees. This situation imposes a huge financial burden on the economy. Almost 15% of the population lives below the poverty threshold.

In 2010, the estimated total population was 6.5 million (Table A.7), of which 6.1 million were Jordanian nationals, and 47% of the population was younger than 20 years (Table A.6). The population is overwhelmingly Jordanians and Palestinian Arabs. In the 2015 census, the total population had increased to 9.5 million, and 30% of that total was refugees and illegal immigrants from the Syrian Arab Republic, Iraq, the Palestinian territories of the West Bank and Gaza Strip, Lebanon, Yemen, and elsewhere.

The entire Jordanian population has access to health-care services. According to the 2015 census, more than 65% of the population is covered by at least one type of health insurance (public, military, private, or other). All Jordanians who have a national identification number are eligible to receive cancer treatment at government expense, even if they do not have health insurance. In addition, health exemptions are granted by the royal court to Jordanians and some non-Jordanians with cancer. Most cancer diagnostic and treatment facilities are located in the capital city of Amman and the major cities (e.g. Irbid) in the northern part of the country; they offer the whole spectrum of treatment and other services of early diagnosis and prevention, and palliative care is now provided at some facilities.

Children with cancer were initially treated mainly at Basher Hospital and in other Jordanian Royal Medical Services facilities, and some received care in the private sector. The King Hussein Cancer Centre, previously known as Al-Amal Centre, was founded in 1997. It later became part of the King Hussein Cancer Foundation, an independent, nongovernmental, non-profit institution founded in 2001 by royal decree to combat cancer in Jordan. The King Hussein Cancer Centre provides state-of-the-art comprehensive cancer care for all types of cancer in children and adults.

The Jordan Cancer Registry covers the whole country. It operates under the umbrella of the Ministry of Health and is supported in part by the Middle East Cancer Consortium (MECC) and the United States National Cancer Institute.

The registry collects data actively and passively from all health sectors (public, military, and private) and sources (universities, hospitals, laboratories, and clinics), and the level of completeness is considered to be high. The residence status of each patient is verified with the Civil Status Bureau database and assigned if the person has lived in the given area for the previous 2 years. The records of non-residents are flagged. Children who are treated abroad are usually also seen at a local medical facility, and thus they are likely to be included in the registry. Follow-up of all patients is not yet fully implemented by the registry. Partial follow-up is done through the link to the Civil Status Bureau database for patients with a national identification number.

The registry data are used to produce the annual cancer report and to conduct local descriptive studies and cancer control activities. Some pharmaceutical firms have used the data to study the local market.

PUBLICATIONS

Al-Sheyyab M, Bateiha A, Kayed SE, Hajjawi B (2003). The incidence of childhood cancer in Jordan: a population-based study. Ann Saudi Med. 23(5):260–3. https://doi.org/10.5144/0256-4947.2003.260 PMID:16868389

Anton-Culver H, Chang J, Bray F, Znaor A, Stevens L, Eser S, et al. (2016). Cancer burden in four countries of the Middle East Cancer Consortium (Cyprus; Jordan; Israel; Izmir (Turkey)) with comparison to the United States Surveillance, Epidemiology and End Results program. Cancer Epidemiol. 44:195–202. https://doi.org/10.1016/j.canep.2016.06.004 PMID:27502627

POPULATION AT RISK

The population data for Jordanians are provided by the Department of Statistics of Jordan (http://dosweb.dos.gov.jo) and are based on the censuses of 1994 and 2004 (Table A.7). Data were provided in the requested detail.

EDITORS' COMMENTS

Although the registry covers the entire country, the data presented in IICC-3 pertain only to Jordanians. The date of birth was incomplete for more than 70% of cases because this information was unavailable in the data sources; the date of incidence was incomplete in 10% of cases (Table A.8). This resulted in inconsistency between the reported age and dates for 3% of cases (Table A.8). The proportion of infants (aged < 1 year) is low (Table A.9) because an age in months is frequently recorded as age 1 year. Verification of patient identity in the Civil Service Bureau database in recent years should result in more

accurate records. Non-malignant CNS tumours were registered, although the possible data sources were not all ascertained, and there were only three in situ tumours in the dataset. There were no cases of pilocytic astrocytoma. All skin carcinomas were recorded. Laterality was known in 90% of the cases of interest and was almost complete for retinoblastoma.

JORDAN, Jordanians (2000-2012)

	Age group (years)	Males	Females
Person-years	0	895 440	856 854
	1-4	3 867 490	3 663 433
	5-9	4 703 849	4 471 282
	10-14	4 473 879	4 233 546
	15-19	4 111 308	3 878 985
	0-14	13 940 658	13 225 115
	0-19	18 051 966	17 104 100
Average annual population	0-14	1 072 358	1 017 317
	0-19	1 388 613	1 315 700

Please consult the quality indicators for this registry

JORDAN, Jordanians (2000-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	6	382	263	217	217	868	1085	32.2	100.0	28.9	100.0	3.4	50.7	28.7	24.9	27.2	32.7	31.4	477	613	100.0	0.0
	a. Lymphoid	3	281	194	139	114	617	731	22.9	71.1	19.5	67.4	1.7	37.3	21.1	16.0	14.3	23.3	21.3	339	410	100.0	0.0
	b. Acute myeloid	2	53	46	58	66	159	225	5.9	18.3	6.0	20.7	1.1	7.0	5.0	6.7	8.3	5.8	6.4	88	129	100.0	0.0
	c. CMD	0	6	6	5	19	17	36	0.6	2.0	1.0	3.3	-	0.8	0.7	0.6	2.4	0.6	1.0	9	21	100.0	0.0
	d. MDS & other	0	13	1	0	2	14	16	0.5	1.6	0.4	1.5	-	1.7	0.1	-	0.3	0.6	0.5	8	9	100.0	0.0
	e. Unspecified	1	29	16	15	16	61	77	2.3	7.0	2.0	7.1	0.6	3.9	1.7	1.7	2.0	2.3	2.2	33	44	100.0	0.0
II	LYMPHOMA & RELATED	2	87	155	168	323	412	735	15.3	100.0	19.6	100.0	1.1	11.6	16.9	19.3	40.4	14.8	20.5	229	431	100.0	0.0
	a. Hodgkin	0	31	81	102	226	214	440	7.9	51.9	11.7	59.9	-	4.1	8.8	11.7	28.3	7.5	12.2	119	261	100.0	0.0
	b. Non-Hodgkin except BL	0	24	42	46	81	112	193	4.2	27.2	5.1	26.3	-	3.2	4.6	5.3	10.1	4.0	5.4	62	113	100.0	0.0
	c. Burkitt (BL)	0	22	29	15	6	66	72	2.4	16.0	1.9	9.8	-	2.9	3.2	1.7	0.8	2.4	2.1	36	40	100.0	0.0
	d. Lymphoreticular	2	9	1	1	0	13	13	0.5	3.2	0.3	1.8	1.1	1.2	0.1	0.1	-	0.5	0.4	7	7	100.0	0.0
	e. Unspecified	0	1	2	4	10	7	17	0.3	1.7	0.5	2.3	-	0.1	0.2	0.5	1.3	0.2	0.5	4	10	100.0	0.0
III	CNS NEOPLASMS †	4	158	197	118	81	477	558	17.7	100.0	14.9	100.0	2.3	21.0	21.5	13.6	10.1	17.6	15.9	262	313	92.1	0.5
	a. Ependymoma	1	20	18	9	9	48	57	1.8	10.1	1.5	10.2	0.6	2.7	2.0	1.0	1.1	1.8	1.7	26	32	100.0	0.0
	b. Astrocytoma	1	49	60	58	44	168	212	6.2	35.2	5.6	38.0	0.6	6.5	6.5	6.7	5.5	6.1	6.0	93	120	96.7	0.0
	c. CNS embryonal	2	56	77	36	10	171	181	6.3	35.8	4.8	32.4	1.1	7.4	8.4	4.1	1.3	6.3	5.2	94	100	100.0	0.0
	d. Other gliomas	0	17	29	12	9	58	67	2.1	12.2	1.8	12.0	-	2.3	3.2	1.4	1.1	2.1	1.9	32	37	59.7	0.0
	e. Other specified	0	8	4	2	5	14	19	0.5	2.9	0.5	3.4	-	1.1	0.4	0.2	0.6	0.5	0.6	8	11	100.0	0.0
	f. Unspecified CNS	0	8	9	1	4	18	22	0.7	3.8	0.6	3.9	-	1.1	1.0	0.1	0.5	0.7	0.6	10	12	54.5	13.6
IV	NEUROBLASTOMA	7	126	15	8	1	156	157	5.8	100.0	4.2	100.0	4.0	16.7	1.6	0.9	0.1	6.3	4.9	84	85	98.1	0.0
	a. (Ganglio)neuroblastoma	7	125	15	5	1	152	153	5.6	97.4	4.1	97.5	4.0	16.6	1.6	0.6	0.1	6.2	4.8	82	83	98.0	0.0
	b. Peripheral nervous	0	1	0	3	0	4	4	0.1	2.6	0.1	2.5	-	0.1	-	0.3	-	0.1	0.1	2	2	100.0	0.0
V	RETINOBLASTOMA	14	81	9	0	0	104	104	3.9	100.0	2.8	100.0	8.0	10.8	1.0	-	-	4.3	3.3	56	56	53.8	0.0
VI	RENAL TUMOURS	2	88	40	7	5	137	142	5.1	100.0	3.8	100.0	1.1	11.7	4.4	0.8	0.6	5.4	4.3	74	77	100.0	0.0
	a. Nephroblastoma	2	82	36	5	0	125	125	4.6	91.2	3.3	88.0	1.1	10.9	3.9	0.6	-	4.9	3.8	68	68	100.0	0.0
	b. Renal carcinoma	0	5	4	2	5	11	16	0.4	8.0	0.4	11.3	-	0.7	0.4	0.2	0.6	0.4	0.5	6	9	100.0	0.0
	c. Unspecified	0	1	0	0	0	1	1	0.0	0.7	0.0	0.7	-	0.1	-	-	-	0.0	0.0	1	1	100.0	0.0
VII	HEPATIC TUMOURS	0	26	5	4	10	35	45	1.3	100.0	1.2	100.0	-	3.5	0.5	0.5	1.3	1.4	1.4	19	25	84.4	0.0
	a. Hepatoblastoma	0	23	2	0	1	25	26	0.9	71.4	0.7	57.8	-	3.1	0.2	-	0.1	1.0	0.8	13	14	100.0	0.0
	b. Hepatic carcinoma	0	2	3	3	6	8	14	0.3	22.9	0.4	31.1	-	0.3	0.3	0.3	0.8	0.3	0.4	4	8	64.3	0.0
	c. Unspecified	0	1	0	1	3	2	5	0.1	5.7	0.1	11.1	-	0.1	-	0.1	0.4	0.1	0.1	1	3	60.0	0.0
VIII	BONE TUMOURS	0	15	44	82	126	141	267	5.2	100.0	7.1	100.0	-	2.0	4.8	9.4	15.8	4.9	7.4	79	158	98.5	0.0
	a. Osteosarcoma	0	1	10	35	62	46	108	1.7	32.6	2.9	40.4	-	0.1	1.1	4.0	7.8	1.6	3.0	26	65	100.0	0.0
	b. Chondrosarcoma	0	0	1	3	3	4	7	0.1	2.8	0.2	2.6	-	-	0.1	0.3	0.4	0.1	0.2	2	4	100.0	0.0
	c. Ewing & related	0	11	29	37	48	77	125	2.9	54.6	3.3	46.8	-	1.5	3.2	4.2	6.0	2.7	3.5	43	73	100.0	0.0
	d. Other specified	0	1	1	1	9	3	12	0.1	2.1	0.3	4.5	-	0.1	0.1	0.1	1.1	0.1	0.3	2	7	100.0	0.0
	e. Unspecified	0	2	3	6	4	11	15	0.4	7.8	0.4	5.6	-	0.3	0.3	0.7	0.5	0.4	0.4	6	9	73.3	0.0
IX	SOFT TISSUE SARCOMA	4	76	41	46	58	167	225	6.2	100.0	6.0	100.0	2.3	10.1	4.5	5.3	7.3	6.3	6.5	92	128	99.6	0.0
	a. Rhabdomyosarcoma	2	60	27	19	13	108	121	4.0	64.7	3.2	53.8	1.1	8.0	2.9	2.2	1.6	4.2	3.6	59	67	100.0	0.0
	b. Fibrosarcoma	0	5	3	2	7	10	17	0.4	6.0	0.5	7.6	-	0.7	0.3	0.2	0.9	0.4	0.5	5	10	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	1	8	8	24	32	41	73	1.5	24.6	1.9	32.4	0.6	1.1	0.9	2.8	4.0	1.5	2.0	23	43	100.0	0.0
	e. Unspecified	1	3	3	1	6	8	14	0.3	4.8	0.4	6.2	0.6	0.4	0.3	0.1	0.8	0.3	0.4	4	8	92.9	0.0
X	GERM CELL TUMOURS	4	38	9	32	76	83	159	3.1	100.0	4.2	100.0	2.3	5.0	1.0	3.7	9.5	3.1	4.6	46	93	98.1	0.0
	a. CNS germ cell	0	2	1	8	4	11	15	0.4	13.3	0.4	9.4	-	0.3	0.1	0.9	0.5	0.4	0.4	6	9	93.3	0.0
	b. Other extragonadal	4	19	1	3	11	27	38	1.0	32.5	1.0	23.9	2.3	2.5	0.1	0.3	1.4	1.1	1.2	15	22	97.4	0.0
	c. Gonadal germ cell	0	17	7	20	50	44	94	1.6	53.0	2.5	59.1	-	2.3	0.8	2.3	6.3	1.6	2.7	24	56	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	5	0	5	-	-	0.1	3.1	-	-	-	-	0.6	-	0.1	-	3	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	6	1	7	0.0	1.2	0.2	4.4	-	-	-	0.1	0.8	0.0	0.2	1	4	85.7	0.0
XI	CARCINOMA & MELANOMA	0	19	19	71	156	109	265	4.0	100.0	7.1	100.0	-	2.5	2.1	8.2	19.5	3.8	7.4	61	159	100.0	0.0
	a. Adrenocortical	0	5	0	0	0	5	5	0.2	4.6	0.1	1.9	-	0.7	-	-	-	0.2	0.2	3	3	100.0	0.0
	b. Thyroid	0	3	2	23	59	28	87	1.0	25.7	2.3	32.8	-	0.4	0.2	2.6	7.4	1.0	2.4	16	53	100.0	0.0
	c. Nasopharyngeal	0	2	3	18	45	23	68	0.9	21.1	1.8	25.7	-	0.3	0.3	2.1	5.6	0.8	1.9	13	41	100.0	0.0
	d. Melanoma	0	1	1	2	4	4	8	0.1	3.7	0.2	3.0	-	0.1	0.1	0.2	0.5	0.1	0.2	2	5	100.0	0.0
	e. Skin carcinoma	0	3	5	7	10	15	25	0.6	13.8	0.7	9.4	-	0.4	0.5	0.8	1.3	0.5	0.7	8	15	100.0	0.0
	f. Other & unspecified	0	5	8	21	38	34	72	1.3	31.2	1.9	27.2	-	0.7	0.9	2.4	4.8	1.2	2.0	19	43	100.0	0.0
XII	OTHER & UNSPECIFIED	0	6	1	2	6	9	15	0.3	100.0	0.4	100.0	-	0.8	0.1	0.2	0.8	0.4	0.4	5	9	86.7	0.0
	a. Other specified	0	3	0	1	2	4	6	0.1	44.4	0.2	40.0	-	0.4	-	0.1	0.3	0.2	0.2	2	3	100.0	0.0
	b. Other unspecified	0	3	1	1	4	5	9	0.2	55.6	0.2	60.0	-	0.4	0.1	0.1	0.5	0.2	0.3	3	5	77.8	0.0
	TOTAL	43	1102	798	755	1059	2698	3757	100.0	100.0	100.0	100.0	24.5	146.3	87.0	86.7	132.5	101.0	108.1	1485	2148	97.0	0.1

† includes 3 non-malignant

Please consult the quality indicators for this registry

Republic of Korea

The Republic of Korea occupies the southern portion of the Korean Peninsula in eastern Asia and covers an area of 100 032 km². Most of the terrain is mountainous and not arable. Lowlands, which are located primarily in the west and south-east, comprise 30% of the total land area. A humid continental and a humid subtropical climate are characterized by four distinct seasons (spring, summer, autumn, and winter), with rainfall concentrated in the summer months (annual average of 1399 mm). The average annual temperature (14.7 °C) and seasonal temperatures are somewhat lower than those at corresponding latitudes in North America and western Europe. The economy has grown by 10% annually since the 1980s. The Republic of Korea is a technologically advanced, developed country with a highly educated and skilled workforce. As a result of the rapid urbanization of the country, 90% of the population is classified as urban. Since 1988, the country's constitution has guaranteed a liberal democracy with a high degree of government transparency and many fundamental rights, such as universal health care.

The National Health Insurance Program was established in 1977 and, since 1989, covers the whole population as a compulsory social insurance system (https://www.nhis.or.kr/static/html/wbd/g/a/wbdga0101.html).

The population was 49.1 million (Table A.7); 23% of the population was younger than 20 years (Table A.6), and 10.7% was 65 years and older. The population is ageing rapidly, the life expectancy is increasing, and birth rates are decreasing. The Republic of Korea is ethnically homogeneous, although the proportion of foreign residents is increasing (2.2% in 2014). The population density is 499 per km².

The first national cancer control programme was implemented in 1996, and the second was implemented in 2005. In 2002, the Financial Aid Program for Cancer Patients began subsidizing the medical costs of children undergoing cancer treatment; in 2005, this programme was expanded to include adult patients with cancer. In 2005, 1000 of 1500 teaching or general hospitals provided specialized cancer diagnostic and therapeutic services, and 2500 of 26 000 private clinics provided general cancer care services.

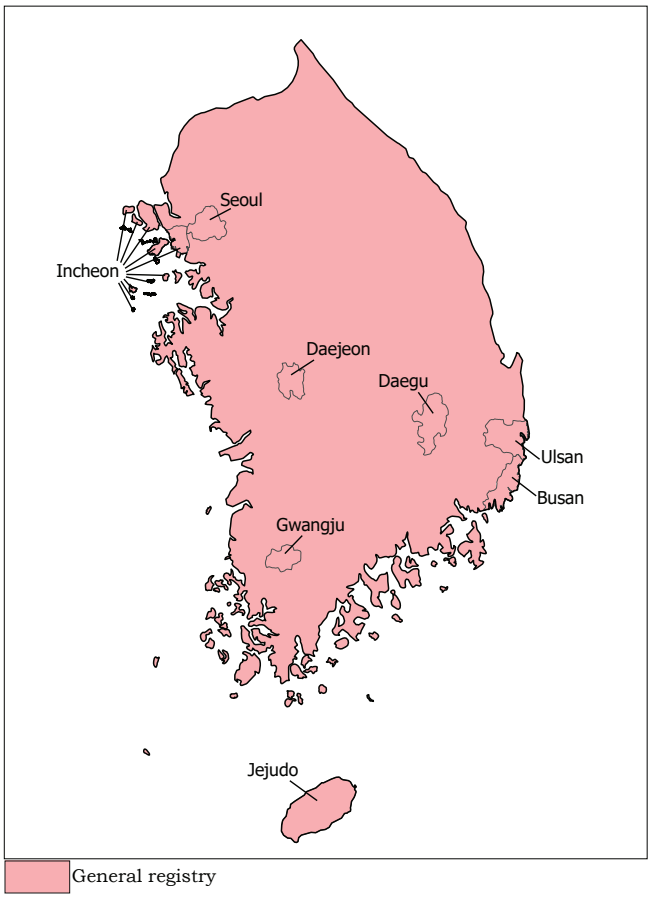
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Oh CM, Won YJ, Jung KW, Kong HJ, Cho H, Lee JK, et al.; Community of Population-Based Regional Cancer Registries (2016). Cancer statistics in Korea: incidence, mortality, survival, and prevalence in 2013. Cancer Res Treat. 48(2):436–50. https://doi.org/10.4143/crt.2016.089 PMID:26987395

POPULATION AT RISK

The Republic of Korea conducts a census every 5 years. The census years used to estimate population data for IICC-3 were 1995, 2000, 2005, and 2010 (Table A.7). The 2015 census was not considered in the population estimates for IICC-3. The registries obtained the population data from Statistics Korea (http://kostat.go.kr/portal/eng/index.action), which provides monthly updates by region.



The monthly data come from direct counts of residents registered administratively in each region. The provided population data are mid-year estimates for all years and may therefore differ from the census data in the census years. The registries provided the calculated mid-year population as an arithmetic mean of the population on 31 December of two consecutive years. All registries provided population data in the requested detail, by sex and single year of age for each calendar year of the reporting period.

EDITORS' COMMENTS

The Republic of Korea is represented in IICC-3 by a national cancer registry (Korea Central Cancer Registry) and eight regional cancer registries (Busan, Daegu, Daejeon, Gwangju, Incheon, Jejudo, Seoul, and Ulsan). Of the regional registries, only the Seoul Cancer Registry contributed to a previous IICC volume (IICC-2) (Table A.1). The full incidence table for the national registry is included in the IICC-3 book, and the full tables for the eight regional registries are available online (Table A.12). The narrative for the national cancer registry includes information relevant to the regional cancer registries.

According to the national guidelines, non-malignant CNS tumours have been reportable since 2005; however, they were provided by only two regional registries (Gwangju and Incheon). Pilocytic astrocytoma was coded with malignant behaviour in the registries that submitted only malignant tumours and was coded with uncertain behaviour in the Gwangju and Incheon registries. All skin carcinomas were recorded by all registries. Laterality was not recorded before 2013. A marked increase in incidence rates over the reporting periods was noted in the national

dataset for several diagnostic groups and in almost all the regional cancer registries. The increase may indicate improvement in completeness of registration as the result of the continuous education of tumour registrars and the gradual implementation of linkages with data sources and between registries; this improvement is documented by decreasing rates of unspecified tumours. Also, certain asymptomatic tumours (e.g. thyroid carcinoma) may be diagnosed more frequently because of increased use of non-invasive diagnostic technology.

Korea Central Cancer Registry, 1999–2012

Young-Joo Won, Kyu-Won Jung, Hyun-Joo Kong, Chang-Mo Oh, Kang Hyun Lee

The Korea Central Cancer Registry (KCCR) was established in 1980 by the Ministry of Health and Welfare (http://www.mohw.go.kr/eng/index.jsp) as a nationwide hospital-based registry. The KCCR achieved coverage of the entire population in 1999 under the population-based cancer registry programme. The Cancer Act provides the legal basis for cancer registration. The government provides financial support for cancer registration. Organized national cancer screening in the Republic of Korea began in 1999.

Cancer cases are voluntarily reported to the KCCR by about 200 teaching hospitals, and active reviews of medical records are performed on potential cancer cases identified from the National Health Insurance Service database. Vital status is obtained by linking the cancer incidence data with death certificate data stored by Statistics Korea. The completeness of cancer registration is estimated to be 97.8%. The list of KCCR-registered cases and a list of cancer cases from claims made through the National Health Insurance Corporation (NHIC) are sent to the regional cancer registries, which search for the missing cases in the regional hospitals that do not notify cases to the KCCR.

Patients with cancer are identified using their unique resident registration number, which includes the date of birth. In the National Cancer Incidence Database, multiple primary cancers are counted according to the IARC rules. The resident registration number is also used to confirm the residence status of patients with cancer by linkage with the records held by the Ministry of the Interior and Safety.

The KCCR publishes the *Annual Report of Cancer Statistics in Korea* and scientific journal articles on cancer statistics and short-term prediction every year. The 5-year relative survival rates, which were derived from the registry data, have been used to evaluate the Korean National Health Plan. Statistical tables and aggregated data are provided to policy-makers and researchers on request.

PUBLICATIONS

National Cancer Center, Ministry of Health and Welfare (2015). Cancer facts & figures 2015. Goyang-si, Republic of Korea: National Cancer Center. Available from: https://ncc.re.kr/Publications.ncc?fileName=2015.pdf.

Jung KW, Won YJ, Kong HJ, Oh CM, Cho H, Lee DH, et al. (2015). Cancer statistics in Korea: incidence, mortality, survival, and prevalence in 2012. Cancer Res Treat. 47(2):127–41. https://doi.org/10.4143/crt.2015.060 PMID:25761484

POPULATION AT RISK

Mid-year resident population data were used as reported by Statistics Korea. See also Republic of Korea, above.

EDITORS' COMMENTS

See Republic of Korea, above.

REPUBLIC OF KOREA (1999-2012)

	Age group (years)	Males	Females
Person-years	0	3 495 242	3 238 176
	1-4	15 793 098	14 538 435
	5-9	22 827 049	20 599 441
	10-14	24 574 758	22 024 289
	15-19	25 274 365	22 933 283
	0-14	66 690 147	60 400 341
	0-19	91 964 512	83 333 624
Average annual population	0-14	4 763 582	4 314 310
	0-19	6 568 894	5 952 402

Please consult the quality indicators for this registry

Busan Cancer Registry, 1999–2012

Chang Hoon Kim

Busan is a metropolitan city located on the south-eastern tip of the Korean Peninsula. It covers an area of 770 km^2, which is 0.8% of the land area of the Korean Peninsula. Busan has a cool, humid, subtropical climate; extremely high or low temperatures are rare. The city is divided into 16 boroughs. In 2010, the population was 3.5 million, and almost 21% of the population was younger than 20 years (Table A.6).

Medical services are provided by one national hospital, four university hospitals, and about 150 specialized hospitals and clinics that employ 4811 specialists, including paediatric and adolescent oncologists, pathologists, and neuro-oncologists. Overall, patients are cared for by 43 652 medical professionals; 62 207 beds are available.

New cancer cases are identified in 27 hospitals, which notify all inpatient cases and some outpatient cases directly to the KCCR. The KCCR sends annual records of the patients resident in Busan at the time of the initial diagnosis to the Busan Cancer Registry. Additional cancer cases are identified from outpatient clinics and from records of the departments of anatomical pathology, diagnostic radiology, and radiation oncology.

In addition, two part-time medical officers visit 120 small and medium-sized hospitals to collect information on newly diagnosed cases from the medical records. These cases are then reviewed by other registry personnel under the supervision of the registry director. The registry holds an annual conference to report on and discuss cancer

REPUBLIC OF KOREA (1999-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	436	2015	1582	1522	1575	**5555**	**7130**	34.1	100.0	29.6	100.0	64.8	66.4	36.4	32.7	32.7	**46.8**	**43.6**	676	839	96.5	1.9
	a. Lymphoid	155	1423	986	787	553	**3351**	**3904**	20.5	60.3	16.2	54.8	23.0	46.9	22.7	16.9	11.5	**28.7**	**24.8**	411	468	99.6	0.3
	b. Acute myeloid	123	347	372	484	580	**1326**	**1906**	8.1	23.9	7.9	26.7	18.3	11.4	8.6	10.4	12.0	**10.7**	**11.0**	158	218	99.5	0.5
	c. CMD	32	33	65	100	240	**230**	**470**	1.4	4.1	2.0	6.6	4.8	1.1	1.5	2.1	5.0	**1.8**	**2.5**	27	52	98.9	1.1
	d. MDS & other	60	90	65	57	101	**272**	**373**	1.7	4.9	1.5	5.2	8.9	3.0	1.5	1.2	2.1	**2.4**	**2.3**	34	44	91.7	8.3
	e. Unspecified	66	122	94	94	101	**376**	**477**	2.3	6.8	2.0	6.7	9.8	4.0	2.2	2.0	2.1	**3.2**	**3.0**	46	57	60.6	16.4
II	LYMPHOMA & RELATED	106	447	549	739	993	**1841**	**2834**	11.3	100.0	11.8	100.0	15.7	14.7	12.6	15.9	20.6	**14.5**	**15.8**	217	320	96.7	1.0
	a. Hodgkin	0	13	41	113	232	**167**	**399**	1.0	9.1	1.7	14.1	-	0.4	0.9	2.4	4.8	**1.1**	**2.0**	19	43	100.0	0.0
	b. Non-Hodgkin except BL	16	122	270	389	592	**797**	**1389**	4.9	43.3	5.8	49.0	2.4	4.0	6.2	8.3	12.3	**5.9**	**7.3**	91	153	99.6	0.1
	c. Burkitt (BL)	1	84	112	103	51	**300**	**351**	1.8	16.3	1.5	12.4	0.1	2.8	2.6	2.2	1.1	**2.4**	**2.1**	35	41	99.4	0.3
	d. Lymphoreticular	79	193	80	76	37	**428**	**465**	2.6	23.2	1.9	16.4	11.7	6.4	1.8	1.6	0.8	**3.9**	**3.2**	54	58	97.6	2.4
	e. Unspecified	10	35	46	58	81	**149**	**230**	0.9	8.1	1.0	8.1	1.5	1.2	1.1	1.2	1.7	**1.2**	**1.3**	18	26	67.4	5.7
III	CNS NEOPLASMS	185	596	784	695	648	**2260**	**2908**	13.9	100.0	12.1	100.0	27.5	19.6	18.1	14.9	13.4	**18.3**	**17.2**	270	337	71.9	1.9
	a. Ependymoma	25	112	66	38	48	**241**	**289**	1.5	10.7	1.2	9.9	3.7	3.7	1.5	0.8	1.0	**2.2**	**1.9**	30	35	97.9	0.0
	b. Astrocytoma	31	84	144	194	200	**453**	**653**	2.8	20.0	2.7	22.5	4.6	2.8	3.3	4.2	4.1	**3.5**	**3.6**	53	74	92.5	0.0
	c. CNS embryonal	64	245	290	201	125	**800**	**925**	4.9	35.4	3.8	31.8	9.5	8.1	6.7	4.3	2.6	**6.6**	**5.7**	97	110	99.1	0.0
	d. Other gliomas	13	56	122	106	111	**297**	**408**	1.8	13.1	1.7	14.0	1.9	1.8	2.8	2.3	2.3	**2.3**	**2.3**	35	46	50.2	0.0
	e. Other specified	7	12	12	14	14	**45**	**59**	0.3	2.0	0.2	2.0	1.0	0.4	0.3	0.3	0.3	**0.4**	**0.4**	5	7	93.2	0.0
	f. Unspecified CNS	45	87	150	142	150	**424**	**574**	2.6	18.8	2.4	19.7	6.7	2.9	3.5	3.0	3.1	**3.4**	**3.3**	50	66	4.9	9.6
IV	NEUROBLASTOMA	376	605	127	36	43	**1144**	**1187**	7.0	100.0	4.9	100.0	55.8	19.9	2.9	0.8	0.9	**11.4**	**9.0**	151	155	94.2	0.0
	a. (Ganglio)neuroblastoma	376	602	122	30	19	**1130**	**1149**	6.9	98.8	4.8	96.8	55.8	19.8	2.8	0.6	0.4	**11.3**	**8.9**	149	151	94.0	0.0
	b. Peripheral nervous	0	3	5	6	24	**14**	**38**	0.1	1.2	0.2	3.2	-	0.1	0.1	0.1	0.5	**0.1**	**0.2**	2	4	100.0	0.0
V	RETINOBLASTOMA	156	275	17	0	0	**448**	**448**	2.7	100.0	1.9	100.0	23.2	9.1	0.4	-	-	**4.6**	**3.6**	60	60	79.2	0.0
VI	RENAL TUMOURS	132	299	94	30	56	**555**	**611**	3.4	100.0	2.5	100.0	19.6	9.9	2.2	0.6	1.2	**5.4**	**4.4**	72	78	93.6	0.5
	a. Nephroblastoma	127	278	83	13	8	**501**	**509**	3.1	90.3	2.1	83.3	18.9	9.2	1.9	0.3	0.2	**4.9**	**3.9**	66	66	97.6	0.0
	b. Renal carcinoma	0	6	9	16	44	**31**	**75**	0.2	5.6	0.3	12.3	-	0.2	0.2	0.3	0.9	**0.2**	**0.4**	4	8	100.0	0.0
	c. Unspecified	5	15	2	1	4	**23**	**27**	0.1	4.1	0.1	4.4	0.7	0.5	0.0	0.0	0.1	**0.2**	**0.2**	3	3	0.0	11.1
VII	HEPATIC TUMOURS	107	152	52	51	88	**362**	**450**	2.2	100.0	1.9	100.0	15.9	5.0	1.2	1.1	1.8	**3.4**	**3.1**	46	56	80.9	2.4
	a. Hepatoblastoma	98	125	27	13	8	**263**	**271**	1.6	72.7	1.1	60.2	14.6	4.1	0.6	0.3	0.2	**2.6**	**2.1**	35	35	99.6	0.4
	b. Hepatic carcinoma	3	11	21	38	78	**73**	**151**	0.4	20.2	0.6	33.6	0.4	0.4	0.5	0.8	1.6	**0.5**	**0.8**	8	16	61.6	6.0
	c. Unspecified	6	16	4	0	2	**26**	**28**	0.2	7.2	0.1	6.2	0.9	0.5	0.1	-	0.0	**0.3**	**0.2**	3	4	3.6	3.6
VIII	BONE TUMOURS	11	73	238	641	664	**963**	**1627**	5.9	100.0	6.8	100.0	1.6	2.4	5.5	13.8	13.8	**6.6**	**8.2**	108	176	95.0	0.2
	a. Osteosarcoma	0	21	149	477	448	**647**	**1095**	4.0	67.2	4.5	67.3	-	0.7	3.4	10.2	9.3	**4.3**	**5.4**	71	118	100.0	0.0
	b. Chondrosarcoma	0	1	1	29	51	**31**	**82**	0.2	3.2	0.3	5.0	-	0.0	0.0	0.6	1.1	**0.2**	**0.4**	3	9	100.0	0.0
	c. Ewing & related	9	30	56	85	84	**180**	**264**	1.1	18.7	1.1	16.2	1.3	1.0	1.3	1.8	1.7	**1.4**	**1.4**	21	30	100.0	0.0
	d. Other specified	1	6	13	19	37	**39**	**76**	0.2	4.0	0.3	4.7	0.1	0.2	0.3	0.4	0.8	**0.3**	**0.4**	4	8	100.0	0.0
	e. Unspecified	1	15	19	31	44	**66**	**110**	0.4	6.9	0.5	6.8	0.1	0.5	0.4	0.7	0.9	**0.5**	**0.6**	8	12	25.5	2.7
IX	SOFT TISSUE SARCOMA	106	237	199	345	521	**887**	**1408**	5.4	100.0	5.8	100.0	15.7	7.8	4.6	7.4	10.8	**7.2**	**8.0**	106	160	99.8	0.1
	a. Rhabdomyosarcoma	43	159	106	92	119	**400**	**519**	2.5	45.1	2.2	36.9	6.4	5.2	2.4	2.0	2.5	**3.5**	**3.2**	49	62	100.0	0.0
	b. Fibrosarcoma	26	13	15	40	75	**94**	**169**	0.6	10.6	0.7	12.0	3.9	0.4	0.3	0.9	1.6	**0.8**	**0.9**	11	19	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	2	**0**	**2**	-	-	0.0	0.1	-	-	-	-	0.0	**-**	**0.0**	-	0	100.0	0.0
	d. Other specified	29	47	60	176	271	**312**	**583**	1.9	35.2	2.4	41.4	4.3	1.5	1.4	3.8	5.6	**2.3**	**3.1**	36	64	99.8	0.2
	e. Unspecified	8	18	18	37	54	**81**	**135**	0.5	9.1	0.6	9.6	1.2	0.6	0.4	0.8	1.1	**0.6**	**0.7**	10	15	98.5	0.0
X	GERM CELL TUMOURS	196	214	240	610	983	**1260**	**2243**	7.7	100.0	9.3	100.0	29.1	7.1	5.5	13.1	20.4	**9.9**	**12.2**	148	250	97.3	0.0
	a. CNS germ cell	13	10	124	306	272	**453**	**725**	2.8	36.0	3.0	32.3	1.9	0.3	2.9	6.6	5.6	**3.1**	**3.6**	50	78	95.3	0.0
	b. Other extragonadal	112	48	7	18	95	**185**	**280**	1.1	14.7	1.2	12.5	16.6	1.6	0.2	0.4	2.0	**1.8**	**1.9**	24	34	99.6	0.0
	c. Gonadal germ cell	68	152	105	245	437	**570**	**1007**	3.5	45.2	4.2	44.9	10.1	5.0	2.4	5.3	9.1	**4.6**	**5.6**	68	113	100.0	0.0
	d. Gonadal carcinoma	0	0	0	24	149	**24**	**173**	0.1	1.9	0.7	7.7	-	-	-	0.5	3.1	**0.1**	**0.8**	3	18	100.0	0.0
	e. Unspecified gonadal	3	4	4	17	30	**28**	**58**	0.2	2.2	0.2	2.6	0.4	0.1	0.1	0.4	0.6	**0.2**	**0.3**	3	6	56.9	0.0
XI	CARCINOMA & MELANOMA	7	26	131	538	2028	**702**	**2730**	4.3	100.0	11.3	100.0	1.0	0.9	3.0	11.5	42.1	**4.7**	**13.1**	77	288	99.7	0.0
	a. Adrenocortical	3	8	6	2	3	**19**	**22**	0.1	2.7	0.1	0.8	0.4	0.3	0.1	0.0	0.1	**0.2**	**0.1**	2	3	100.0	0.0
	b. Thyroid	0	1	53	283	1382	**337**	**1719**	2.1	48.0	7.1	63.0	-	0.0	1.2	6.1	28.7	**2.2**	**8.1**	37	180	100.0	0.0
	c. Nasopharyngeal	0	0	5	36	68	**41**	**109**	0.3	5.8	0.5	4.0	-	-	0.1	0.8	1.4	**0.3**	**0.5**	4	11	100.0	0.0
	d. Melanoma	2	9	13	23	30	**47**	**77**	0.3	6.7	0.3	2.8	0.3	0.3	0.3	0.5	0.6	**0.4**	**0.4**	5	9	90.9	0.0
	e. Skin carcinoma	1	4	13	18	23	**36**	**59**	0.2	5.1	0.2	2.2	0.1	0.1	0.3	0.4	0.5	**0.3**	**0.3**	4	6	100.0	0.0
	f. Other & unspecified	1	4	41	176	522	**222**	**744**	1.4	31.6	3.1	27.3	0.1	0.1	0.9	3.8	10.8	**1.5**	**3.6**	24	78	100.0	0.0
XII	OTHER & UNSPECIFIED	88	128	55	64	168	**335**	**503**	2.1	100.0	2.1	100.0	13.1	4.2	1.3	1.4	3.5	**3.1**	**3.2**	42	60	26.2	13.9
	a. Other specified	2	23	8	14	22	**47**	**69**	0.3	14.0	0.3	13.7	0.3	0.8	0.2	0.3	0.5	**0.4**	**0.4**	6	8	100.0	0.0
	b. Other unspecified	86	105	47	50	146	**288**	**434**	1.8	86.0	1.8	86.3	12.8	3.5	1.1	1.1	3.0	**2.7**	**2.7**	37	52	14.5	16.1
	TOTAL	1906	5067	4068	5271	7767	**16312**	**24079**	100.0	100.0	100.0	100.0	283.1	167.1	93.7	113.1	161.1	**135.9**	**141.6**	1975	2780	91.8	1.3

Please consult the quality indicators for this registry

registration activities in Busan. The data are published in a biennial report, which provides basic statistics on cancer incidence that may be helpful in the evaluation of local cancer management programmes.

POPULATION AT RISK
See Republic of Korea, above.

EDITORS' COMMENTS
The high proportion of cases aged 19 years in the age group 15–19 years (Table A.9) may reflect a gradual decrease in births in the registration area and the excess of cases of thyroid carcinoma and non-lymphoid leukaemia, which is often observed in older adolescents. The single case of pilocytic astrocytoma was coded with malignant behaviour. See also Republic of Korea, above.

Daegu Cancer Registry, 1999–2012

Hong Nam-Soo and Park JiMi

Daegu is an extended metropolitan city located in the south-east of the Republic of Korea. The city has a well-defined geographical border, formed by mountains. It covers an area of 886 km^2. The climate is characterized by a large temperature difference between summer and winter. In the 1960s, Daegu underwent rapid industrial development and surpassed other cities, in particular in the textile industry. In 2010, the population was 2.5 million, and almost 24% of the population was younger than 20 years (Table A.6).

The Daegu Cancer Registry (DCR) has collected new cancer cases occurring in Daegu since 1997. It is located in the Kyungpook National University Hospital. The staff consists of one doctor and one medical records technician. The DCR works closely with the KCCR. Each year, the DCR receives a list of resident patients from the KCCR, and the medical records technician of the DCR visits every non-notifying hospital to ascertain and confirm new cancer cases from the medical records. The database of patients with cancer in Daegu is consolidated by the KCCR after duplicates are excluded. The DCR then uses these data to produce annual cancer incidence rates for Daegu.

The DCR does not actively follow up the registered cases. It collects vital status when the information is available, for example from medical records, death certificates, or official cancer mortality data. Disease stage is not collected.

POPULATION AT RISK
See Republic of Korea, above.

EDITORS' COMMENTS
There were no cases of pilocytic astrocytoma. See also Republic of Korea, above.

Daejeon Cancer Registry, 1999–2012

Hae-Sung Nam, Jeong-A Kim, Yeon-Ju Lee, Mi-Ran Kang

Daejeon is located in the centre of the Republic of Korea, 170 km from Seoul, 240 km from Busan, and 170 km from Gwangju. Of the seven metropolitan cities in the country, Daejeon is the fifth largest, with a population of 1.4 million. Daejeon covers an area of 540 km^2.

The average annual temperature is 13 °C. Daejeon is a transportation hub, with major expressways and railways converging to connect the country from north to south. The research and development district Daedeok Science Town in Daejeon was developed in the 1970s. Since then, Daejeon has gained a reputation as a city of science.

The population of Daejeon is ageing rapidly; 9% of the population is 65 years and older, and 25% is younger than 20 years (Table A.6).

The Daejeon Cancer Registry has collected data since 1999. The registry is located in the Cancer Center at Chungnam National University Hospital. The registry is staffed by one medical doctor and three full-time registrars.

The registry collects, manages, analyses, and interprets data. The registry is updated annually using data on residents provided by the KCCR. Other data sources include additional medical record reviews and cancer mortality data.

POPULATION AT RISK
See Republic of Korea, above.

EDITORS' COMMENTS
The high proportion of cases aged 19 years in the age group 15–19 years (Table A.9) may reflect decreasing births in the registration area and the excess of some carcinomas, which start occurring more frequently in older adolescents. There were no cases of pilocytic astrocytoma. See also Republic of Korea, above.

Gwangju Cancer Registry, 1997–2012

Sun-Seog Kweon, Min-Gyeong Kim, Mi-Ran Kang

The city of Gwangju is located on the south-western tip of the Korean Peninsula. The city is the economic, educational, and cultural centre of the largely agricultural Jeolla region. Manufacturing industries include an automobile assembly plant, but most of the city's workforce is employed in service industries. In 2010, the population was 1.4 million, and 27% of the population was younger than 20 years (Table A.6).

Gwangju has two university hospitals and a regional cancer centre; an estimated 65% of the resident patients with cancer are treated there. More than one third of incident cases undergo cancer treatment at one of the medical facilities in Seoul after initial diagnosis.

The Gwangju Cancer Registry was established in 1997 (Table A.10). The registry is located in Chonnam National University Medical School and operated by a director and three full-time registrars. The registry has a steering committee composed of directors and oncologists of major hospitals and the chief of the health department of the city of Gwangju. The committee determines the major direction of registry activities, supports data collection, and advocates for the registry. A practicum committee composed of hospital medical record-keepers discusses the practical details of registration.

Data are compiled from the cancer records provided by the KCCR, the NHIC, death certificates, pathology records, and radiation oncology records of hospitals in the catchment area. The registrars visit the referral hospitals, review the medical records, and register confirmed cases. The Gwangju Cancer Registry regularly evaluates the completeness and accuracy of information through record linkages with other registries, through routine checks using IARCcrgTools, and by re-abstracting the medical records. The registry is funded by the national Ministry of Health and Welfare and the health department of the city of Gwangju.

PUBLICATIONS

Kweon SS, Kim MG, Kang MR, Shin MH, Choi JS (2017). Difference of stage at cancer diagnosis by socioeconomic status for four target cancers of the National Cancer Screening Program in Korea: results from the Gwangju and Jeonnam cancer registries. J Epidemiol. 27(7):299–304. https://doi.org/10.1016/j.je.2016.07.004 PMID:28279589

POPULATION AT RISK

See Republic of Korea, above.

EDITORS' COMMENTS

See Republic of Korea, above.

Incheon Cancer Registry, 1998–2012

Woo-Chul Kim, Moon-hee Lee, Jong-Han Leem, In-suh Park, Seung-sik Hwang

Incheon is the third largest city in the Republic of Korea. It is located on the western coast of the Korean Peninsula, with the sea to the west and metropolitan Seoul to the east. Incheon has a continental climate, with an average annual temperature of 12 °C. It is an industrialized city with a well-established medical delivery infrastructure. In 2010, the population was 2.7 million, and 24% of the population was younger than 20 years (Table A.6). Diagnostic and treatment services for patients with cancer are available at more than 100 medical institutions, including three university hospitals. Most patients in the primary and secondary care facilities who are suspected to have cancer are referred to one of the three university hospitals. Two hospitals have full cancer treatment facilities, 10 provide chemotherapy, three provide radiotherapy, and 49 provide cancer surgery. Paediatric oncology services are available only at the three university hospitals.

The Incheon Cancer Registry was established in 1997 (Table A.10) by Inha University Hospital in collaboration with the KCCR. Financial support is provided primarily by the KCCR, with some support from Inha University Hospital. The four main data sources are the KCCR, the hospitals that do not notify to the KCCR, health insurance claims, and death records from Statistics Korea. To collect the death certificates of the cases identified in the death records, the registry strives to identify the hospital in which the deceased patients with cancer were treated. This research is supported administratively by Incheon city officials.

The registry classifies and codes cancers in accordance with the KCCR guidelines, which are based on IARC recommendations. The registry uses its own registration form, which includes mandatory and optional items in addition to those required by the KCCR. Duplicate registrations and errors are removed according to IARC guidelines. Follow-up information is obtained predominantly by passive methods. Childhood cancers make up 1.5% of all cancer cases in the registry. The registry is a member of IACR.

POPULATION AT RISK

The data provided for the intercensal years were estimated by the registry. See also Republic of Korea, above.

EDITORS' COMMENTS

The proportion of cases aged 19 years in the age group 15–19 years was high (Table A.9). Non-malignant CNS tumours were collected; these were probably underreported in the 1990s and early 2000s. See also Republic of Korea, above.

Jejudo Cancer Registry, 2000–2012

Jo-Heon Kim, Weon Young Chang, Yeong Ja Yang

The Jejudo Cancer Registry covers the population of Jejudo Island, which is located off the southern tip of the Korean Peninsula. It is the largest island in the Republic of Korea and covers a total area of 1848 km^2. The annual average temperature is 16 °C, and annual rainfall is about 1158 mm. Jejudo is known as the clean island, because it has no industries that give rise to environmental pollution. In 2010, the population was 0.6 million, and 26% of the population was younger than 20 years (Table A.6).

The Jejudo Cancer Registry began collecting information on new cancer cases occurring on the island in 2000. The registry is located in the Jeju Regional Cancer Center. It receives financial support from the National Cancer Control Program and administrative support from the Department of Public Health and Sanitation of Jejudo Provincial Government. In 2000, a pilot study was conducted to expand the pre-existing hospital-based registry into a population-based registry. The study

found that 78% of the total incidental cancer cases were registered using KCCR data, and the other 22% were registered by active registration.

The registrar visits six hospitals to review and abstract medical records of potential cancer cases in the list of cancer claims provided to the NHIC. This list also serves as a good source for tracking the identity of DCO cases. Death certificates for all patients with cancer are obtained annually from Statistics Korea and compared with the registry files using the unique resident registration number. The cases that are not already registered in the databases become death-certificate-notification (DCN) cases. For the DCN cases, the registrar searches and reviews medical records from the six hospitals using the resident registration number.

The registry evaluates the validity of its data using the IARC-CHECK program and re-abstracts the medical records to correct any errors. The registry produces regular reports.

PUBLICATIONS

Bae J-M, Yang YJ (2012). Jejudo Regional Cancer Registry report. Ministry of Health and Welfare.

POPULATION AT RISK

See Republic of Korea, above.

EDITORS' COMMENTS

In contrast to other cancer registries in the Republic of Korea, the incidence rates did not increase during the reporting period; the relatively small size of the dataset may have prevented the trends from reaching statistical significance. The sex ratio in adolescents was low (Table A.9). There were no cases of pilocytic astrocytoma. See also Republic of Korea, above.

Seoul Cancer Registry, 1995–2012

Kyu-Won Jung, Young-Joo Won, Chang-mo Oh, Hyun-Joo Kong

The Seoul Cancer Registry covers the metropolitan city of Seoul, the capital of the Republic of Korea. The population was 10.2 million, and 21% of the population was younger than 20 years (Table A.6).

The Seoul Cancer Registry was established in 1991 at Seoul National University and was later transferred to the National Cancer Center Korea (https://ncc.re.kr/); the registry provided data beginning in 1992 (Table A.10). The registry collects information on demographics, diagnosis, and the first course treatment for all patients with cancer. The registry uses several information sources, although about 90% of data are registered through the KCCR. The registry also actively ascertains potential cases in the medical records of the NHIC. All malignant and in situ neoplasms are collected. The completeness of cancer registration is estimated to be more than 96%. The registered patients are followed up passively for vital status and emigration, using data from Statistics Korea and the Ministry of the Interior. The registry data are used for health services planning and epidemiological research. Incidence tables are published annually, as part of the *Annual Report of Cancer Statistics in Korea*, published by the Ministry of Health and Welfare.

PUBLICATIONS

Ahn YO, Shin MH (2011). Cancer survival in Seoul, Republic of Korea, 1993–1997. IARC Sci Publ. (162):171–8. PMID:21675421

POPULATION AT RISK

Data for 1995 were available only by age groups; the missing data were estimated at the registry using proportions of single years of age in 1996. See also Republic of Korea, above.

EDITORS' COMMENTS

Age was calculated at IARC from the provided dates (Table A.8). See also Republic of Korea, above.

Ulsan Cancer Registry, 2001–2012

Cheol-In Yoo, Yangho Kim, Joo Hyun Sung, Kyoung Sook Jeong

The Ulsan Cancer Registry covers the metropolitan city of Ulsan, which is located in the south-east of the Republic of Korea. Ulsan covers an area of 1060 km^2. The automobile and shipbuilding industries in this port city are at the leading edge of global markets. The city is densely populated, and 94% of residents live in urban areas. In 2010, the population was 1.1 million, and 26% of the population was younger than 20 years (Table A.6). The population is ageing.

The Ulsan Cancer Registry was established in 2001 and covers the entire population of the metropolitan city of Ulsan.

Several data sources are combined: national death certificate data from Statistics Korea, medical claims data from the NHIC, and additional medical record reviews. The registry complements the lists of cases received from the KCCR and the NHIC by searching for missing cases in the non-notifying hospitals and other regional data sources. Data collection methods are both passive and active.

POPULATION AT RISK

See Republic of Korea, above.

EDITORS' COMMENTS

In contrast to other cancer registries in the Republic of Korea, the incidence rates did not have a statistically significant increase during the reporting period, possibly because of a relatively small dataset. The single case of pilocytic astrocytoma was coded with malignant behaviour. See also Republic of Korea, above.

Kuwait

Kuwait Cancer Registry, 1994–2012

Amani A. El-Basmi, Ahmed A. Al-Awadi, Howida A. Habib, Boaz Glory Rajakumari, Sosa Biby

Kuwait is located in the north-west of the Arabian Gulf and covers an area of 17 818 km^2. The mainland is a generally flat, sandy desert with a scattering of oases. There are a few rocky hills, ranging in elevation from 180 m to 300 m above sea level. The annual temperature varies widely, between an average of 8 °C in January and an average of 45 °C in July. There is also a wide variation in rainfall (monthly average, 22–350 mm), which occurs almost entirely between November and April.

Kuwait has a petroleum-based economy. The income generated as a result of the discovery of commercial quantities of oil reserves in 1938 has subsidized a large-scale modernization of the country. The financial industry is also thriving, and investments in foreign assets, including in Europe, the USA, and the Asia Pacific region, are now substantially higher than the domestic assets. Kuwait is a high-income country with a very high HDI.

In 2010, the estimated population was 3.1 million (Table A.7), and 30% of the population was younger than 20 years (Table A.6). In 2012, the mid-year population of 3.8 million included 31.4% Kuwaiti nationals and 68.6% non-Kuwaitis (expatriates), although the influx of foreign workers is increasingly regulated. The expatriates living in Kuwait are a heterogeneous and transitory group; most are on employment contracts. Indians and Egyptians are the largest expatriate groups. The population of Kuwait is relatively young; almost 50% of Kuwaitis and 16% of non-Kuwaitis are younger than 20 years (Table A.6).

A state-funded health-care system provides treatment at no charge to Kuwaiti nationals; this includes care received abroad if relevant care is not available in Kuwait. A public insurance scheme exists to provide reduced-cost health care to expatriates. Kuwait is divided into six health districts; each district has several primary or family health-care centres and a general hospital. There are also several centralized specialist hospitals in the country, including the Kuwait Cancer Control Center (KCCC), which is the only cancer centre in Kuwait. There are 29 public hospitals, and new hospitals are under construction. Private health-care providers also run medical facilities in the country; these facilities are available to members of the providers' insurance schemes.

The Kuwait Cancer Registry collects and analyses data from the entire country. It was initially established at Al-Sabah Hospital in 1971 to study cancer incidence and morphology. The registry later became a unit of the KCCC, which was established in 1982. Population-based data are available from 1974 onwards (Table A.10). Cancer notification is compulsory by ministerial Decree 228/2014. Cancer registration is comprehensive, because almost all cases that are not initially diagnosed or treated at the KCCC (including those treated at other hospitals or abroad) are ultimately referred to the KCCC for further treatment or follow-up. The registry's information sources include medical records and reports from the histopathology laboratories of the KCCC and other hospitals (private and government). Mortality data are obtained from the National Center of Health Information of the Ministry of Health of Kuwait. Data on children with cancer are collected from the paediatric oncology department of the National Bank of Kuwait Children's Hospital, Al-Sabah Hospital. All coding and data entry activities are carried out by registry employees. The registry is staffed by a consultant cancer epidemiologist, an administrator, and three cancer registrars. The registry exchanges data with other registries that contribute to the Gulf Centre for Cancer Control and Prevention, which is the common pool for nationals of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. The registry limits registration and follow-up of non-Kuwaitis to the period of their stay in Kuwait.

The registry publishes annual reports on cancer incidence, highlighting trends and changes. Registry data are used for research and for strategic planning, monitoring and evaluation of cancer care services.

POPULATION AT RISK

The source of the data is the National Center of Health Information of the Ministry of Health. The annual population estimates used in IICC-3 were based on the censuses of 1985, 1995, 2005, and 2011 (Table A.7). Population data were provided by sex, 5-year age groups, and two ethnic groups (Kuwaitis, non-Kuwaitis) for each calendar year. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The Kuwait Cancer Registry also participated in the two previous IICC volumes (Table A.1). Because of the differences in the sex, age, and ethnic composition of the Kuwaiti and non-Kuwaiti populations, they are presented separately in the IICC-3 book, in addition to the combined dataset (Table A.12). The residence status is defined by civil identification. Dates of birth or incidence were incomplete in one quarter of cases (Table A.8). The proportion of cases aged 0–14 years in the age group 0–19 years is higher than expected (Table A.9); this pattern mimics the age distribution of the population at risk. The DCO% is higher than 5% (Table A.9). The combination of topography and histology was considered to be unlikely for more than half of all tumours, and the combination of tumour and age was considered to be unlikely for 9% of cases (Table A.11) after review of the dataset by registry staff; there was not much difference between these indicators by citizenship status. ICD-O site codes C42, C71, and C77 combined with unlikely histology accounted for half of the unlikely combinations of site and histology, with a significant contribution by C38, C40, C44, C49, C64, and C74. A large number of cases of Hodgkin lymphoma and late-occurring embryonal tumours were among the cases with an unlikely combination of tumour and age. Almost all non-malignant CNS tumours were coded with uncertain behaviour, because the registry does not collect benign cases systematically. Pilocytic astrocytoma was coded with uncertain behaviour, except for one case that was coded to benign. All skin carcinomas were registered, but no laterality was recorded for the relevant tumours.

KUWAIT (1994-2012)

	Age group (years)	Males	Females
Person-years	0	453 310	434 711
	1-4	1 828 455	1 755 108
	5-9	2 066 743	1 973 086
	10-14	1 869 887	1 768 813
	15-19	1 687 498	1 555 897
	0-14	6 218 395	5 931 718
	0-19	7 905 893	7 487 615
Average annual population	0-14	327 284	312 196
	0-19	416 100	394 085

Please consult the quality indicators for this registry

KUWAIT, Kuwaitis (1994-2012)

	Age group (years)	Males	Females
Person-years	0	265 761	255 712
	1-4	1 071 969	1 032 415
	5-9	1 213 092	1 167 081
	10-14	1 094 912	1 058 355
	15-19	951 814	929 831
	0-14	3 645 734	3 513 563
	0-19	4 597 548	4 443 394
Average annual population	0-14	191 881	184 924
	0-19	241 976	233 863

Please consult the quality indicators for this registry

KUWAIT, Non-Kuwaitis (1994-2012)

	Age group (years)	Males	Females
Person-years	0	187 549	178 999
	1-4	756 486	722 693
	5-9	853 651	806 005
	10-14	774 975	710 458
	15-19	735 684	626 066
	0-14	2 572 661	2 418 155
	0-19	3 308 345	3 044 221
Average annual population	0-14	135 403	127 271
	0-19	174 123	160 222

Please consult the quality indicators for this registry

KUWAIT (1994-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	43	213	122	145	157	**523**	**680**	38.5	100.0	37.8	100.0	48.4	59.4	30.2	39.8	48.4	**43.5**	**44.6**	636	879	93.1	6.6
	a. Lymphoid	36	146	88	110	114	**380**	**494**	27.9	72.7	27.5	72.6	40.5	40.7	21.8	30.2	35.1	**31.6**	**32.4**	464	639	99.8	0.0
	b. Acute myeloid	5	38	20	19	24	**82**	**106**	6.0	15.7	5.9	15.6	5.6	10.6	5.0	5.2	7.4	**6.8**	**7.0**	99	136	100.0	0.0
	c. CMD	0	7	2	1	6	**10**	**16**	0.7	1.9	0.9	2.4	-	2.0	0.5	0.3	1.8	**0.8**	**1.1**	12	21	93.8	0.0
	d. MDS & other	1	5	2	2	1	**10**	**11**	0.7	1.9	0.6	1.6	1.1	1.4	0.5	0.5	0.3	**0.8**	**0.7**	12	13	100.0	0.0
	e. Unspecified	1	17	10	13	12	**41**	**53**	3.0	7.8	2.9	7.8	1.1	4.7	2.5	3.6	3.7	**3.4**	**3.5**	50	69	15.1	84.9
II	**LYMPHOMA & RELATED**	32	117	89	75	111	**313**	**424**	23.0	100.0	23.6	100.0	36.0	32.6	22.0	20.6	34.2	**26.0**	**27.8**	380	551	99.8	0.0
	a. Hodgkin	16	70	47	36	49	**169**	**218**	12.4	54.0	12.1	51.4	18.0	19.5	11.6	9.9	15.1	**14.1**	**14.3**	204	279	100.0	0.0
	b. Non-Hodgkin except BL	15	37	31	25	50	**108**	**158**	7.9	34.5	8.8	37.3	16.9	10.3	7.7	6.9	15.4	**9.0**	**10.4**	131	208	100.0	0.0
	c. Burkitt (BL)	1	7	10	12	10	**30**	**40**	2.2	9.6	2.2	9.4	1.1	2.0	2.5	3.3	3.1	**2.4**	**2.6**	38	53	100.0	0.0
	d. Lymphoreticular	0	2	0	0	1	**2**	**3**	0.1	0.6	0.2	0.7	-	0.6	-	-	0.3	**0.2**	**0.2**	2	4	100.0	0.0
	e. Unspecified	0	1	1	2	1	**4**	**5**	0.3	1.3	0.3	1.2	-	0.3	0.2	0.5	0.3	**0.3**	**0.3**	5	7	80.0	0.0
III	**CNS NEOPLASMS** †	12	42	39	40	52	**133**	**185**	9.8	100.0	10.3	100.0	13.5	11.7	9.7	11.0	16.0	**11.0**	**12.1**	164	244	93.0	3.2
	a. Ependymoma	0	2	4	4	7	**10**	**17**	0.7	7.5	0.9	9.2	-	0.6	1.0	1.1	2.2	**0.8**	**1.1**	13	23	100.0	0.0
	b. Astrocytoma	7	18	13	14	22	**52**	**74**	3.8	39.1	4.1	40.0	7.9	5.0	3.2	3.8	6.8	**4.3**	**4.9**	63	97	95.9	4.1
	c. CNS embryonal	4	16	15	14	16	**49**	**65**	3.6	36.8	3.6	35.1	4.5	4.5	3.7	3.8	4.9	**4.0**	**4.2**	60	85	93.8	0.0
	d. Other gliomas	1	0	3	2	1	**6**	**7**	0.4	4.5	0.4	3.8	1.1	-	0.7	0.5	0.3	**0.5**	**0.4**	8	9	71.4	0.0
	e. Other specified	0	6	2	6	4	**14**	**18**	1.0	10.5	1.0	9.7	-	1.7	0.5	1.6	1.2	**1.2**	**1.2**	17	24	94.4	0.0
	f. Unspecified CNS	0	0	2	0	2	**2**	**4**	0.1	1.5	0.2	2.2	-	-	0.5	-	0.6	**0.2**	**0.3**	2	6	25.0	75.0
IV	**NEUROBLASTOMA**	4	28	11	18	26	**61**	**87**	4.5	100.0	4.8	100.0	4.5	7.8	2.7	4.9	8.0	**5.1**	**5.7**	74	114	87.4	0.0
	a. (Ganglio)neuroblastoma	4	28	11	18	26	**61**	**87**	4.5	100.0	4.8	100.0	4.5	7.8	2.7	4.9	8.0	**5.1**	**5.7**	74	114	87.4	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	**RETINOBLASTOMA**	0	7	2	5	0	**14**	**14**	1.0	100.0	0.8	100.0	-	2.0	0.5	1.4	-	**1.2**	**0.9**	17	17	78.6	0.0
VI	**RENAL TUMOURS**	7	36	16	17	13	**76**	**89**	5.6	100.0	4.9	100.0	7.9	10.0	4.0	4.7	4.0	**6.4**	**5.8**	91	111	80.9	4.5
	a. Nephroblastoma	7	23	15	17	12	**62**	**74**	4.6	81.6	4.1	83.1	7.9	6.4	3.7	4.7	3.7	**5.2**	**4.8**	75	94	86.5	0.0
	b. Renal carcinoma	0	7	0	0	1	**7**	**8**	0.5	9.2	0.4	9.0	-	2.0	-	-	0.3	**0.6**	**0.5**	8	9	100.0	0.0
	c. Unspecified	0	6	1	0	0	**7**	**7**	0.5	9.2	0.4	7.9	-	1.7	0.2	-	-	**0.6**	**0.5**	8	8	0.0	57.1
VII	**HEPATIC TUMOURS**	1	7	4	4	11	**16**	**27**	1.2	100.0	1.5	100.0	1.1	2.0	1.0	1.1	3.4	**1.3**	**1.8**	19	36	88.9	0.0
	a. Hepatoblastoma	0	6	3	3	10	**12**	**22**	0.9	75.0	1.2	81.5	-	1.7	0.7	0.8	3.1	**1.0**	**1.5**	15	30	90.9	0.0
	b. Hepatic carcinoma	1	1	1	1	1	**4**	**5**	0.3	25.0	0.3	18.5	1.1	0.3	0.2	0.3	0.3	**0.3**	**0.3**	5	6	80.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	2	4	4	2	4	**12**	**16**	0.9	100.0	0.9	100.0	2.3	1.1	1.0	0.5	1.2	**1.0**	**1.1**	14	21	87.5	12.5
	a. Osteosarcoma	2	2	2	0	0	**6**	**6**	0.4	50.0	0.3	37.5	2.3	0.6	0.5	-	-	**0.5**	**0.4**	7	7	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Ewing & related	0	2	0	0	2	**2**	**4**	0.1	16.7	0.2	25.0	-	0.6	-	-	0.6	**0.2**	**0.3**	2	5	100.0	0.0
	d. Other specified	0	0	1	1	1	**2**	**3**	0.1	16.7	0.2	18.8	-	-	0.2	0.3	0.3	**0.2**	**0.2**	3	4	100.0	0.0
	e. Unspecified	0	0	1	1	1	**2**	**3**	0.1	16.7	0.2	18.8	-	-	0.2	0.3	0.3	**0.2**	**0.2**	3	4	33.3	66.7
IX	**SOFT TISSUE SARCOMA**	14	28	28	25	33	**95**	**128**	7.0	100.0	7.1	100.0	15.8	7.8	6.9	6.9	10.2	**7.9**	**8.4**	116	167	100.0	0.0
	a. Rhabdomyosarcoma	4	12	14	5	11	**35**	**46**	2.6	36.8	2.6	35.9	4.5	3.3	3.5	1.4	3.4	**2.9**	**3.0**	42	59	100.0	0.0
	b. Fibrosarcoma	0	2	0	1	2	**3**	**5**	0.2	3.2	0.3	3.9	-	0.6	-	0.3	0.6	**0.3**	**0.3**	4	7	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	8	14	13	19	20	**54**	**74**	4.0	56.8	4.1	57.8	9.0	3.9	3.2	5.2	6.2	**4.5**	**4.8**	67	98	100.0	0.0
	e. Unspecified	2	0	1	0	0	**3**	**3**	0.2	3.2	0.2	2.3	2.3	-	0.2	-	-	**0.3**	**0.2**	3	3	100.0	0.0
X	**GERM CELL TUMOURS**	4	14	6	16	11	**40**	**51**	2.9	100.0	2.8	100.0	4.5	3.9	1.5	4.4	3.4	**3.3**	**3.3**	50	66	94.1	5.9
	a. CNS germ cell	1	2	0	2	0	**5**	**5**	0.4	12.5	0.3	9.8	1.1	0.6	-	0.5	-	**0.4**	**0.3**	6	6	100.0	0.0
	b. Other extragonadal	3	10	5	14	5	**32**	**37**	2.4	80.0	2.1	72.5	3.4	2.8	1.2	3.8	1.5	**2.6**	**2.4**	40	48	100.0	0.0
	c. Gonadal germ cell	0	1	0	0	0	**1**	**1**	0.1	2.5	0.1	2.0	-	0.3	-	-	-	**0.1**	**0.1**	1	1	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	3	**0**	**3**	-	-	0.2	5.9	-	-	-	-	0.9	**-**	**0.2**	-	5	100.0	0.0
	e. Unspecified gonadal	0	1	1	0	3	**2**	**5**	0.1	5.0	0.3	9.8	-	0.3	0.2	-	0.9	**0.2**	**0.3**	2	7	40.0	60.0
XI	**CARCINOMA & MELANOMA**	4	6	16	11	7	**37**	**44**	2.7	100.0	2.4	100.0	4.5	1.7	4.0	3.0	2.2	**3.0**	**2.8**	46	57	95.5	0.0
	a. Adrenocortical	0	1	4	2	1	**7**	**8**	0.5	18.9	0.4	18.2	-	0.3	1.0	0.5	0.3	**0.6**	**0.5**	9	10	75.0	0.0
	b. Thyroid	1	3	4	4	3	**12**	**15**	0.9	32.4	0.8	34.1	1.1	0.8	1.0	1.1	0.9	**1.0**	**1.0**	15	20	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Melanoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Skin carcinoma	0	0	0	1	0	**1**	**1**	0.1	2.7	0.1	2.3	-	-	-	0.3	-	**0.1**	**0.1**	1	1	100.0	0.0
	f. Other & unspecified	3	2	8	4	3	**17**	**20**	1.3	45.9	1.1	45.5	3.4	0.6	2.0	1.1	0.9	**1.4**	**1.3**	21	26	100.0	0.0
XII	**OTHER & UNSPECIFIED**	2	8	15	15	13	**40**	**53**	2.9	100.0	2.9	100.0	2.3	2.2	3.7	4.1	4.0	**3.3**	**3.4**	50	70	13.2	77.4
	a. Other specified	0	0	0	1	3	**1**	**4**	0.1	2.5	0.2	7.5	-	-	-	0.3	0.9	**0.1**	**0.3**	1	6	100.0	0.0
	b. Other unspecified	2	8	15	14	10	**39**	**49**	2.9	97.5	2.7	92.5	2.3	2.2	3.7	3.8	3.1	**3.2**	**3.2**	49	64	6.1	83.7
	TOTAL	125	510	352	373	438	**1360**	**1798**	100.0	100.0	100.0	100.0	140.8	142.3	87.1	102.5	135.0	**112.8**	**117.8**	1658	2333	91.8	5.6

† includes 46 non-malignant

Please consult the quality indicators for this registry

KUWAIT, Kuwaitis (1994-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	23	128	67	92	94	**310**	**404**	38.9	100.0	37.8	100.0	44.1	60.8	28.1	42.7	50.0	**43.7**	**45.1**	642	892	92.8	6.7
	a. Lymphoid	20	91	48	67	65	**226**	**291**	28.4	72.9	27.2	72.0	38.4	43.2	20.2	31.1	34.5	**31.9**	**32.5**	468	640	99.7	0.0
	b. Acute myeloid	2	22	12	14	16	**50**	**66**	6.3	16.1	6.2	16.3	3.8	10.5	5.0	6.5	8.5	**7.1**	**7.4**	103	146	100.0	0.0
	c. CMD	0	4	0	1	4	**5**	**9**	0.6	1.6	0.8	2.2	-	1.9	-	0.5	2.1	**0.7**	**1.0**	10	21	88.9	0.0
	d. MDS & other	1	2	1	1	0	**5**	**5**	0.6	1.6	0.5	1.2	1.9	1.0	0.4	0.5	-	**0.7**	**0.6**	10	10	100.0	0.0
	e. Unspecified	0	9	6	9	9	**24**	**33**	3.0	7.7	3.1	8.2	-	4.3	2.5	4.2	4.8	**3.4**	**3.7**	51	75	18.2	81.8
II	**LYMPHOMA & RELATED**	17	65	51	46	65	**179**	**244**	22.5	100.0	22.8	100.0	32.6	30.9	21.4	21.4	34.5	**25.2**	**27.3**	370	543	99.6	0.0
	a. Hodgkin	9	40	24	19	28	**92**	**120**	11.5	51.4	11.2	49.2	17.3	19.0	10.1	8.8	14.9	**13.0**	**13.5**	188	262	100.0	0.0
	b. Non-Hodgkin except BL	7	19	20	19	30	**65**	**95**	8.2	36.3	8.9	38.9	13.4	9.0	8.4	8.8	15.9	**9.1**	**10.6**	136	215	100.0	0.0
	c. Burkitt (BL)	1	5	7	6	5	**19**	**24**	2.4	10.6	2.2	9.8	1.9	2.4	2.9	2.8	2.7	**2.6**	**2.6**	40	53	100.0	0.0
	d. Lymphoreticular	0	0	0	0	1	**0**	**1**	-	-	0.1	0.4	-	-	-	-	0.5	**-**	**0.1**	-	3	100.0	0.0
	e. Unspecified	0	1	0	2	1	**3**	**4**	0.4	1.7	0.4	1.6	-	0.5	-	0.9	0.5	**0.4**	**0.4**	7	9	75.0	0.0
III	**CNS NEOPLASMS** †	10	28	22	27	35	**87**	**122**	10.9	100.0	11.4	100.0	19.2	13.3	9.2	12.5	18.6	**12.2**	**13.7**	181	274	93.4	4.1
	a. Ependymoma	0	2	1	3	4	**6**	**10**	0.8	6.9	0.9	8.2	-	1.0	0.4	1.4	2.1	**0.8**	**1.1**	13	24	100.0	0.0
	b. Astrocytoma	6	13	7	9	15	**35**	**50**	4.4	40.2	4.7	41.0	11.5	6.2	2.9	4.2	8.0	**5.0**	**5.6**	72	112	94.0	6.0
	c. CNS embryonal	3	10	10	10	13	**33**	**46**	4.1	37.9	4.3	37.7	5.8	4.8	4.2	4.6	6.9	**4.6**	**5.1**	69	104	95.7	0.0
	d. Other gliomas	1	0	2	2	1	**5**	**6**	0.6	5.7	0.6	4.9	1.9	-	0.8	0.9	0.5	**0.7**	**0.7**	11	13	83.3	0.0
	e. Other specified	0	3	1	3	1	**7**	**8**	0.9	8.0	0.7	6.6	-	1.4	0.4	1.4	0.5	**1.0**	**0.9**	15	17	100.0	0.0
	f. Unspecified CNS	0	0	1	0	1	**1**	**2**	0.1	1.1	0.2	1.6	-	-	0.4	-	0.5	**0.1**	**0.2**	2	5	0.0	100.0
IV	**NEUROBLASTOMA**	2	17	9	10	16	**38**	**54**	4.8	100.0	5.0	100.0	3.8	8.1	3.8	4.6	8.5	**5.4**	**6.1**	78	121	90.7	0.0
	a. (Ganglio)neuroblastoma	2	17	9	10	16	**38**	**54**	4.8	100.0	5.0	100.0	3.8	8.1	3.8	4.6	8.5	**5.4**	**6.1**	78	121	90.7	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	**RETINOBLASTOMA**	0	5	1	4	0	**10**	**10**	1.3	100.0	0.9	100.0	-	2.4	0.4	1.9	-	**1.4**	**1.1**	21	21	80.0	0.0
VI	**RENAL TUMOURS**	3	20	7	7	9	**37**	**46**	4.6	100.0	4.3	100.0	5.8	9.5	2.9	3.3	4.8	**5.3**	**5.2**	75	99	82.6	2.2
	a. Nephroblastoma	3	12	6	7	8	**28**	**36**	3.5	75.7	3.4	78.3	5.8	5.7	2.5	3.3	4.3	**4.0**	**4.0**	57	79	86.1	0.0
	b. Renal carcinoma	0	6	0	0	1	**6**	**7**	0.8	16.2	0.7	15.2	-	2.9	-	-	0.5	**0.9**	**0.8**	11	14	100.0	0.0
	c. Unspecified	0	2	1	0	0	**3**	**3**	0.4	8.1	0.3	6.5	-	1.0	0.4	-	-	**0.4**	**0.3**	6	6	0.0	33.3
VII	**HEPATIC TUMOURS**	1	5	3	3	6	**12**	**18**	1.5	100.0	1.7	100.0	1.9	2.4	1.3	1.4	3.2	**1.7**	**2.0**	25	41	88.9	0.0
	a. Hepatoblastoma	0	5	3	2	5	**10**	**15**	1.3	83.3	1.4	83.3	-	2.4	1.3	0.9	2.7	**1.4**	**1.7**	20	34	86.7	0.0
	b. Hepatic carcinoma	1	0	0	1	1	**2**	**3**	0.3	16.7	0.3	16.7	1.9	-	-	0.5	0.5	**0.3**	**0.3**	4	7	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	2	0	2	1	4	**5**	**9**	0.6	100.0	0.8	100.0	3.8	-	0.8	0.5	2.1	**0.7**	**1.0**	10	21	77.8	22.2
	a. Osteosarcoma	2	0	0	0	0	**2**	**2**	0.3	40.0	0.2	22.2	3.8	-	-	-	-	**0.3**	**0.2**	4	4	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Ewing & related	0	0	0	0	2	**0**	**2**	-	-	0.2	22.2	-	-	-	-	1.1	**-**	**0.2**	-	5	100.0	0.0
	d. Other specified	0	0	1	1	1	**2**	**3**	0.3	40.0	0.3	33.3	-	-	0.4	0.5	0.5	**0.3**	**0.3**	4	7	100.0	0.0
	e. Unspecified	0	0	1	0	1	**1**	**2**	0.1	20.0	0.2	22.2	-	-	0.4	-	0.5	**0.1**	**0.2**	2	5	0.0	100.0
IX	**SOFT TISSUE SARCOMA**	8	14	14	13	25	**49**	**74**	6.1	100.0	6.9	100.0	15.3	6.7	5.9	6.0	13.3	**6.9**	**8.3**	101	168	100.0	0.0
	a. Rhabdomyosarcoma	2	5	6	2	9	**15**	**24**	1.9	30.6	2.2	32.4	3.8	2.4	2.5	0.9	4.8	**2.1**	**2.7**	31	54	100.0	0.0
	b. Fibrosarcoma	0	1	0	1	2	**2**	**4**	0.3	4.1	0.4	5.4	-	0.5	-	0.5	1.1	**0.3**	**0.5**	4	10	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	4	8	7	10	14	**29**	**43**	3.6	59.2	4.0	58.1	7.7	3.8	2.9	4.6	7.4	**4.1**	**4.8**	61	98	100.0	0.0
	e. Unspecified	2	0	1	0	0	**3**	**3**	0.4	6.1	0.3	4.1	3.8	-	0.4	-	-	**0.4**	**0.3**	6	6	100.0	0.0
X	**GERM CELL TUMOURS**	3	9	4	9	10	**25**	**35**	3.1	100.0	3.3	100.0	5.8	4.3	1.7	4.2	5.3	**3.5**	**3.9**	52	79	91.4	8.6
	a. CNS germ cell	0	1	0	1	0	**2**	**2**	0.3	8.0	0.2	5.7	-	0.5	-	0.5	-	**0.3**	**0.2**	4	4	100.0	0.0
	b. Other extragonadal	3	6	4	8	4	**21**	**25**	2.6	84.0	2.3	71.4	5.8	2.9	1.7	3.7	2.1	**2.9**	**2.8**	44	55	100.0	0.0
	c. Gonadal germ cell	0	1	0	0	0	**1**	**1**	0.1	4.0	0.1	2.9	-	0.5	-	-	-	**0.1**	**0.1**	2	2	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	3	**0**	**3**	-	-	0.3	8.6	-	-	-	-	1.6	**-**	**0.4**	-	8	100.0	0.0
	e. Unspecified gonadal	0	1	0	0	3	**1**	**4**	0.1	4.0	0.4	11.4	-	0.5	-	-	1.6	**0.1**	**0.5**	2	10	25.0	75.0
XI	**CARCINOMA & MELANOMA**	4	5	10	6	1	**25**	**26**	3.1	100.0	2.4	100.0	7.7	2.4	4.2	2.8	0.5	**3.5**	**2.8**	52	55	92.3	0.0
	a. Adrenocortical	0	1	2	2	0	**5**	**5**	0.6	20.0	0.5	19.2	-	0.5	0.8	0.9	-	**0.7**	**0.5**	11	11	60.0	0.0
	b. Thyroid	1	2	3	3	1	**9**	**10**	1.1	36.0	0.9	38.5	1.9	1.0	1.3	1.4	0.5	**1.3**	**1.1**	19	22	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Melanoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Skin carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	f. Other & unspecified	3	2	5	1	0	**11**	**11**	1.4	44.0	1.0	42.3	5.8	1.0	2.1	0.5	-	**1.5**	**1.2**	22	22	100.0	0.0
XII	**OTHER & UNSPECIFIED**	2	3	5	10	8	**20**	**28**	2.5	100.0	2.6	100.0	3.8	1.4	2.1	4.6	4.3	**2.8**	**3.1**	43	65	17.9	71.4
	a. Other specified	0	0	0	1	2	**1**	**3**	0.1	5.0	0.3	10.7	-	-	-	0.5	1.1	**0.1**	**0.3**	2	8	100.0	0.0
	b. Other unspecified	2	3	5	9	6	**19**	**25**	2.4	95.0	2.3	89.3	3.8	1.4	2.1	4.2	3.2	**2.6**	**2.8**	41	57	8.0	80.0
	TOTAL	75	299	195	228	273	**797**	**1070**	100.0	100.0	100.0	100.0	143.8	142.1	81.9	105.9	145.1	**112.3**	**119.7**	1651	2377	92.1	5.4

† includes 32 non-malignant

Please consult the quality indicators for this registry

KUWAIT, Non-Kuwaitis (1994-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	20	85	55	53	63	**213**	**276**	37.8	100.0	37.9	100.0	54.6	57.5	33.1	35.7	46.3	**43.1**	**43.8**	629	860	93.5	6.5
	a. Lymphoid	16	55	40	43	49	**154**	**203**	27.4	72.3	27.9	73.6	43.7	37.2	24.1	28.9	36.0	**31.1**	**32.2**	458	637	100.0	0.0
	b. Acute myeloid	3	16	8	5	8	**32**	**40**	5.7	15.0	5.5	14.5	8.2	10.8	4.8	3.4	5.9	**6.5**	**6.4**	92	122	100.0	0.0
	c. CMD	0	3	2	0	2	**5**	**7**	0.9	2.3	1.0	2.5	-	2.0	1.2	-	1.5	**1.0**	**1.1**	14	21	100.0	0.0
	d. MDS & other	0	3	1	1	1	**5**	**6**	0.9	2.3	0.8	2.2	-	2.0	0.6	0.7	0.7	**1.0**	**1.0**	15	18	100.0	0.0
	e. Unspecified	1	8	4	4	3	**17**	**20**	3.0	8.0	2.7	7.2	2.7	5.4	2.4	2.7	2.2	**3.4**	**3.2**	50	61	10.0	90.0
II	**LYMPHOMA & RELATED**	15	52	38	29	46	**134**	**180**	23.8	100.0	24.7	100.0	40.9	35.2	22.9	19.5	33.8	**27.1**	**28.6**	394	562	100.0	0.0
	a. Hodgkin	7	30	23	17	21	**77**	**98**	13.7	57.5	13.5	54.4	19.1	20.3	13.9	11.4	15.4	**15.6**	**15.5**	227	304	100.0	0.0
	b. Non-Hodgkin except BL	8	18	11	6	20	**43**	**63**	7.6	32.1	8.7	35.0	21.8	12.2	6.6	4.0	14.7	**8.8**	**10.1**	124	197	100.0	0.0
	c. Burkitt (BL)	0	2	3	6	5	**11**	**16**	2.0	8.2	2.2	8.9	-	1.4	1.8	4.0	3.7	**2.2**	**2.5**	35	53	100.0	0.0
	d. Lymphoreticular	0	2	0	0	0	**2**	**2**	0.4	1.5	0.3	1.1	-	1.4	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	e. Unspecified	0	0	1	0	0	**1**	**1**	0.2	0.7	0.1	0.6	-	-	0.6	-	-	**0.2**	**0.2**	3	3	100.0	0.0
III	**CNS NEOPLASMS** †	2	14	17	13	17	**46**	**63**	8.2	100.0	8.7	100.0	5.5	9.5	10.2	8.8	12.5	**9.2**	**9.9**	138	201	92.1	1.6
	a. Ependymoma	0	0	3	1	3	**4**	**7**	0.7	8.7	1.0	11.1	-	-	1.8	0.7	2.2	**0.8**	**1.1**	12	23	100.0	0.0
	b. Astrocytoma	1	5	6	5	7	**17**	**24**	3.0	37.0	3.3	38.1	2.7	3.4	3.6	3.4	5.1	**3.4**	**3.8**	51	77	100.0	0.0
	c. CNS embryonal	1	6	5	4	3	**16**	**19**	2.8	34.8	2.6	30.2	2.7	4.1	3.0	2.7	2.2	**3.2**	**3.0**	47	59	89.5	0.0
	d. Other gliomas	0	0	1	0	0	**1**	**1**	0.2	2.2	0.1	1.6	-	-	0.6	-	-	**0.2**	**0.2**	3	3	0.0	0.0
	e. Other specified	0	3	1	3	3	**7**	**10**	1.2	15.2	1.4	15.9	-	2.0	0.6	2.0	2.2	**1.4**	**1.6**	21	32	90.0	0.0
	f. Unspecified CNS	0	0	1	0	1	**1**	**2**	0.2	2.2	0.3	3.2	-	-	0.6	-	0.7	**0.2**	**0.3**	3	7	50.0	50.0
IV	**NEUROBLASTOMA**	2	11	2	8	10	**23**	**33**	4.1	100.0	4.5	100.0	5.5	7.4	1.2	5.4	7.3	**4.7**	**5.3**	68	105	81.8	0.0
	a. (Ganglio)neuroblastoma	2	11	2	8	10	**23**	**33**	4.1	100.0	4.5	100.0	5.5	7.4	1.2	5.4	7.3	**4.7**	**5.3**	68	105	81.8	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	**RETINOBLASTOMA**	0	2	1	1	0	**4**	**4**	0.7	100.0	0.5	100.0	-	1.4	0.6	0.7	-	**0.8**	**0.6**	12	12	75.0	0.0
VI	**RENAL TUMOURS**	4	16	9	10	4	**39**	**43**	6.9	100.0	5.9	100.0	10.9	10.8	5.4	6.7	2.9	**7.9**	**6.8**	115	130	79.1	7.0
	a. Nephroblastoma	4	11	9	10	4	**34**	**38**	6.0	87.2	5.2	88.4	10.9	7.4	5.4	6.7	2.9	**6.8**	**6.0**	101	116	86.8	0.0
	b. Renal carcinoma	0	1	0	0	0	**1**	**1**	0.2	2.6	0.1	2.3	-	0.7	-	-	-	**0.2**	**0.2**	3	3	100.0	0.0
	c. Unspecified	0	4	0	0	0	**4**	**4**	0.7	10.3	0.5	9.3	-	2.7	-	-	-	**0.8**	**0.7**	11	11	0.0	75.0
VII	**HEPATIC TUMOURS**	0	2	1	1	5	**4**	**9**	0.7	100.0	1.2	100.0	-	1.4	0.6	0.7	3.7	**0.8**	**1.5**	12	30	88.9	0.0
	a. Hepatoblastoma	0	1	0	1	5	**2**	**7**	0.4	50.0	1.0	77.8	-	0.7	-	0.7	3.7	**0.4**	**1.1**	6	24	100.0	0.0
	b. Hepatic carcinoma	0	1	1	0	0	**2**	**2**	0.4	50.0	0.3	22.2	-	0.7	0.6	-	-	**0.4**	**0.3**	6	6	50.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	0	4	2	1	0	**7**	**7**	1.2	100.0	1.0	100.0	-	2.7	1.2	0.7	-	**1.4**	**1.1**	20	20	100.0	0.0
	a. Osteosarcoma	0	2	2	0	0	**4**	**4**	0.7	57.1	0.5	57.1	-	1.4	1.2	-	-	**0.8**	**0.6**	11	11	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Ewing & related	0	2	0	0	0	**2**	**2**	0.4	28.6	0.3	28.6	-	1.4	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	d. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	0	0	0	1	0	**1**	**1**	0.2	14.3	0.1	14.3	-	-	-	0.7	-	**0.2**	**0.2**	3	3	100.0	0.0
IX	**SOFT TISSUE SARCOMA**	6	14	14	12	8	**46**	**54**	8.2	100.0	7.4	100.0	16.4	9.5	8.4	8.1	5.9	**9.3**	**8.5**	137	166	100.0	0.0
	a. Rhabdomyosarcoma	2	7	8	3	2	**20**	**22**	3.6	43.5	3.0	40.7	5.5	4.7	4.8	2.0	1.5	**4.0**	**3.5**	59	66	100.0	0.0
	b. Fibrosarcoma	0	1	0	0	0	**1**	**1**	0.2	2.2	0.1	1.9	-	0.7	-	-	-	**0.2**	**0.2**	3	3	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	4	6	6	9	6	**25**	**31**	4.4	54.3	4.3	57.4	10.9	4.1	3.6	6.1	4.4	**5.0**	**4.9**	75	97	100.0	0.0
	e. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
X	**GERM CELL TUMOURS**	1	5	2	7	1	**15**	**16**	2.7	100.0	2.2	100.0	2.7	3.4	1.2	4.7	0.7	**3.0**	**2.5**	46	50	100.0	0.0
	a. CNS germ cell	1	1	0	1	0	**3**	**3**	0.5	20.0	0.4	18.8	2.7	0.7	-	0.7	-	**0.6**	**0.5**	9	9	100.0	0.0
	b. Other extragonadal	0	4	1	6	1	**11**	**12**	2.0	73.3	1.6	75.0	-	2.7	0.6	4.0	0.7	**2.2**	**1.9**	34	38	100.0	0.0
	c. Gonadal germ cell	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Gonadal carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified gonadal	0	0	1	0	0	**1**	**1**	0.2	6.7	0.1	6.3	-	-	0.6	-	-	**0.2**	**0.2**	3	3	100.0	0.0
XI	**CARCINOMA & MELANOMA**	0	1	6	5	6	**12**	**18**	2.1	100.0	2.5	100.0	-	0.7	3.6	3.4	4.4	**2.4**	**2.8**	38	60	100.0	0.0
	a. Adrenocortical	0	0	2	0	1	**2**	**3**	0.4	16.7	0.4	16.7	-	-	1.2	-	0.7	**0.4**	**0.5**	6	10	100.0	0.0
	b. Thyroid	0	1	1	1	2	**3**	**5**	0.5	25.0	0.7	27.8	-	0.7	0.6	0.7	1.5	**0.6**	**0.8**	9	16	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Melanoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Skin carcinoma	0	0	0	1	0	**1**	**1**	0.2	8.3	0.1	5.6	-	-	-	0.7	-	**0.2**	**0.2**	3	3	100.0	0.0
	f. Other & unspecified	0	0	3	3	3	**6**	**9**	1.1	50.0	1.2	50.0	-	-	1.8	2.0	2.2	**1.2**	**1.4**	19	30	100.0	0.0
XII	**OTHER & UNSPECIFIED**	0	5	10	5	5	**20**	**25**	3.6	100.0	3.4	100.0	-	3.4	6.0	3.4	3.7	**4.0**	**3.9**	61	79	8.0	84.0
	a. Other specified	0	0	0	0	1	**0**	**1**	-	-	0.1	4.0	-	-	-	-	0.7	**-**	**0.2**	-	4	100.0	0.0
	b. Other unspecified	0	5	10	5	4	**20**	**24**	3.6	100.0	3.3	96.0	-	3.4	6.0	3.4	2.9	**4.0**	**3.7**	61	75	4.2	87.5
	TOTAL	50	211	157	145	165	**563**	**728**	100.0	100.0	100.0	100.0	136.4	142.6	94.6	97.6	121.2	**113.6**	**115.3**	1668	2274	91.3	5.9

† includes 14 non-malignant

Please consult the quality indicators for this registry

Lebanon

Lebanon National Cancer Registry, 2008–2010

Walid Ammar, Nada Ghosn, Houieda Amin, Wissam Nasser, Fadia Elias, Ali Shamseddine, Paul Henri Torbey, Georges Aftimos, Marwan Ghosn, Imad Hajj, Nada Sbayti, Ghazi Nsouli, Nabil Yasin, Najla Fakhreddine, Marcel Massoud

Lebanon is located in western Asia and covers an area of 10 452 km^2. It is bordered by the Syrian Arab Republic to the north and east and by Israel to the south; Cyprus is located to the west, across the Mediterranean Sea. Lebanon has a moderate Mediterranean climate. The commodities in Lebanon include gold and, more recently, oil.

The agricultural sector employs 12% of the total workforce and contributes 6% to the GDP. Industry employs 26% of the workforce and contributes 21% to the GDP. Industry is limited mainly to small businesses that reassemble and package imported parts. Most of the population (65%) is employed in the services sector, principally tourism and banking. Lebanon is classified as an upper-middle-income country and has a high HDI. The capital city is Beirut.

In 2010, Lebanon had an estimated population of 4.4 million (Table A.7); however, no official census has been conducted since 1932. At least one third of the population is younger than 20 years (Table A.6), and most of the population lives in urban areas. The Lebanese population descended from many different peoples; some were Indigenous, and others occupied, invaded, or settled in the country. During the Lebanese civil war in 1975–1990, most Lebanese people were affected by the armed conflicts that ravaged the country. Almost 2 million people emigrated from Lebanon in 1975–2011, and in 2012, Lebanon received almost the same number of refugees and asylum seekers, from the Palestinian territories of the West Bank and Gaza Strip, Iraq, the Syrian Arab Republic, and Sudan. In 2011, the life expectancy at birth was 72.59 years. The fertility rate decreased from 5.00 in 1971 to 1.75 in 2004.

In 2009, the country had 28 public hospitals, with a total of 2550 beds. Uninsured patients pay 5% of the cost of services at public hospitals, compared with 15% of the cost at private hospitals; the Ministry of Public Health reimburses the remainder. The Ministry of Public Health contracts with 138 private hospitals and 25 public hospitals. In 2010, health-care spending accounted for 7% of the GDP. In 2009, there were 31 physicians and 20 nurses per 10 000 people. Cancer diagnostic and treatment services are provided in various private and public health-care facilities. Children with cancer are managed by specialized physicians and referral hospitals.

The Lebanon National Cancer Registry covers the entire population of the country. It is located at the Ministry of Public Health, within the Epidemiological Surveillance Program. Cancer has been a notifiable disease since 2002. Cancer cases are identified via notification to the Ministry of Public Health, by active case finding from records of histopathology and haematology laboratories, and by linking with hospital-based cancer registries. A national committee, which includes representatives from academia and major referral hospitals in both the public and private sectors, oversees the performance of the registry. The Ministry of Public Health publishes cancer incidence data on its website and in national reports (https://www.moph.gov.lb/).

POPULATION AT RISK

Since the 1990s, population estimates have been based on national surveys (Table A.7); these estimates are adjusted for the population growth rate. For data in 2008–2010, the estimates are based on the 2007 national survey. Population data were provided by sex and 5-year age groups for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

Residence status is registered as reported by the patient. Day and month of birth and incidence were not provided (Table A.8), and year of birth was unknown for one case. The completeness of the dates depends on data sources, and the registry chose to submit only the years for all cases; thus, age is recorded as provided by the sources. The unknown dates may partly explain the low proportion of infants (aged < 1 year) among children (Table A.9). The basis of diagnosis is 100% MV (Table A.9), because cases without morphology are not reported; therefore, some cancer cases, diagnosed only clinically, may be missing. Despite the complete MV of all cases, almost 6% had unspecified morphology. The registry has access to identified death certificates; however, they were not used because they were provided late and because the quality of the recorded causes of death is poor. Because non-malignant CNS tumours were only reportable beginning in 2011, none were present in the IICC-3 dataset. There were no cases of pilocytic astrocytoma. Skin carcinomas were reportable. Laterality was known for half of the cases of interest. Because of population movement in this region of the world, some non-resident cases may have been included.

LEBANON (2008-2010)

	Age group (years)	Males	Females
Person-years	0	108 770	101 891
	1-4	435 080	407 564
	5-9	645 585	613 120
	10-14	677 405	634 970
	15-19	637 795	604 005
	0-14	1 866 840	1 757 545
	0-19	2 504 635	2 361 550
Average annual population	0-14	622 280	585 848
	0-19	834 878	787 183

Please consult the quality indicators for this registry

LEBANON (2008-2010)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	5	55	65	43	35	**168**	**203**	33.3	100.0	26.5	100.0	23.7	65.3	51.6	32.8	28.2	**48.2**	**43.7**	707	848	100.0	0.0
	a. Lymphoid	2	39	57	28	19	**126**	**145**	25.0	75.0	19.0	71.4	9.5	46.3	45.3	21.3	15.3	**35.9**	**31.2**	528	604	100.0	0.0
	b. Acute myeloid	0	12	5	12	9	**29**	**38**	5.7	17.3	5.0	18.7	-	14.2	4.0	9.1	7.2	**8.3**	**8.1**	123	159	100.0	0.0
	c. CMD	1	0	0	1	3	**2**	**5**	0.4	1.2	0.7	2.5	4.7	-	-	0.8	2.4	**0.6**	**1.0**	9	21	100.0	0.0
	d. MDS & other	2	1	0	0	0	**3**	**3**	0.6	1.8	0.4	1.5	9.5	1.2	-	-	-	**1.1**	**0.9**	14	14	100.0	0.0
	e. Unspecified	0	3	3	2	4	**8**	**12**	1.6	4.8	1.6	5.9	-	3.6	2.4	1.5	3.2	**2.3**	**2.5**	34	50	100.0	0.0
II	**LYMPHOMA & RELATED**	2	5	40	42	107	**89**	**196**	17.6	100.0	25.6	100.0	9.5	5.9	31.8	32.0	86.2	**22.1**	**36.5**	352	783	100.0	0.0
	a. Hodgkin	0	0	15	26	63	**41**	**104**	8.1	46.1	13.6	53.1	-	-	11.9	19.8	50.7	**9.6**	**18.9**	159	412	100.0	0.0
	b. Non-Hodgkin except BL	2	4	18	13	36	**37**	**73**	7.3	41.6	9.5	37.2	9.5	4.7	14.3	9.9	29.0	**9.7**	**14.0**	150	294	100.0	0.0
	c. Burkitt (BL)	0	0	5	2	1	**7**	**8**	1.4	7.9	1.0	4.1	-	-	4.0	1.5	0.8	**1.7**	**1.5**	27	32	100.0	0.0
	d. Lymphoreticular	0	1	0	0	2	**1**	**3**	0.2	1.1	0.4	1.5	-	1.2	-	-	1.6	**0.4**	**0.6**	5	13	100.0	0.0
	e. Unspecified	0	0	2	1	5	**3**	**8**	0.6	3.4	1.0	4.1	-	-	1.6	0.8	4.0	**0.7**	**1.5**	12	32	100.0	0.0
III	**CNS NEOPLASMS**	0	26	23	25	17	**74**	**91**	14.7	100.0	11.9	100.0	-	30.9	18.3	19.0	13.7	**21.0**	**19.3**	310	378	100.0	0.0
	a. Ependymoma	0	5	0	1	1	**6**	**7**	1.2	8.1	0.9	7.7	-	5.9	-	0.8	0.8	**2.1**	**1.8**	28	32	100.0	0.0
	b. Astrocytoma	0	10	9	7	6	**26**	**32**	5.1	35.1	4.2	35.2	-	11.9	7.2	5.3	4.8	**7.5**	**6.9**	110	134	100.0	0.0
	c. CNS embryonal	0	6	12	7	4	**25**	**29**	5.0	33.8	3.8	31.9	-	7.1	9.5	5.3	3.2	**6.8**	**6.0**	103	119	100.0	0.0
	d. Other gliomas	0	4	2	6	4	**12**	**16**	2.4	16.2	2.1	17.6	-	4.7	1.6	4.6	3.2	**3.3**	**3.3**	50	66	100.0	0.0
	e. Other specified	0	1	0	2	1	**3**	**4**	0.6	4.1	0.5	4.4	-	1.2	-	1.5	0.8	**0.8**	**0.8**	12	16	100.0	0.0
	f. Unspecified CNS	0	0	0	2	1	**2**	**3**	0.4	2.7	0.4	3.3	-	-	-	1.5	0.8	**0.4**	**0.5**	8	12	100.0	0.0
IV	**NEUROBLASTOMA**	0	20	10	3	2	**33**	**35**	6.5	100.0	4.6	100.0	-	23.7	7.9	2.3	1.6	**10.6**	**8.6**	146	154	100.0	0.0
	a. (Ganglio)neuroblastoma	0	20	10	3	1	**33**	**34**	6.5	100.0	4.4	97.1	-	23.7	7.9	2.3	0.8	**10.6**	**8.4**	146	150	100.0	0.0
	b. Peripheral nervous	0	0	0	0	1	**0**	**1**	-	-	0.1	2.9	-	-	-	-	0.8	**-**	**0.2**	-	4	100.0	0.0
V	**RETINOBLASTOMA**	0	8	3	0	0	**11**	**11**	2.2	100.0	1.4	100.0	-	9.5	2.4	-	-	**3.7**	**2.9**	50	50	100.0	0.0
VI	**RENAL TUMOURS**	0	13	4	1	3	**18**	**21**	3.6	100.0	2.7	100.0	-	15.4	3.2	0.8	2.4	**6.0**	**5.2**	81	93	100.0	0.0
	a. Nephroblastoma	0	13	4	0	0	**17**	**17**	3.4	94.4	2.2	81.0	-	15.4	3.2	-	-	**5.8**	**4.5**	78	78	100.0	0.0
	b. Renal carcinoma	0	0	0	1	3	**1**	**4**	0.2	5.6	0.5	19.0	-	-	-	0.8	2.4	**0.2**	**0.7**	4	16	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	**HEPATIC TUMOURS**	1	1	0	1	0	**3**	**3**	0.6	100.0	0.4	100.0	4.7	1.2	-	0.8	-	**1.0**	**0.7**	13	13	100.0	0.0
	a. Hepatoblastoma	1	1	0	0	0	**2**	**2**	0.4	66.7	0.3	66.7	4.7	1.2	-	-	-	**0.7**	**0.6**	9	9	100.0	0.0
	b. Hepatic carcinoma	0	0	0	1	0	**1**	**1**	0.2	33.3	0.1	33.3	-	-	-	0.8	-	**0.2**	**0.2**	4	4	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	1	3	8	18	33	**30**	**63**	5.9	100.0	8.2	100.0	4.7	3.6	6.4	13.7	26.6	**7.5**	**11.8**	119	252	100.0	0.0
	a. Osteosarcoma	0	1	5	8	12	**14**	**26**	2.8	46.7	3.4	41.3	-	1.2	4.0	6.1	9.7	**3.4**	**4.8**	55	103	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	4	**1**	**5**	0.2	3.3	0.7	7.9	-	-	-	0.8	3.2	**0.2**	**0.9**	4	20	100.0	0.0
	c. Ewing & related	0	2	2	9	16	**13**	**29**	2.6	43.3	3.8	46.0	-	2.4	1.6	6.9	12.9	**3.2**	**5.4**	52	116	100.0	0.0
	d. Other specified	1	0	1	0	1	**2**	**3**	0.4	6.7	0.4	4.8	4.7	-	0.8	-	0.8	**0.6**	**0.7**	9	13	100.0	0.0
	e. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
IX	**SOFT TISSUE SARCOMA**	0	14	18	9	11	**41**	**52**	8.1	100.0	6.8	100.0	-	16.6	14.3	6.9	8.9	**11.7**	**11.1**	172	217	100.0	0.0
	a. Rhabdomyosarcoma	0	10	9	4	1	**23**	**24**	4.6	56.1	3.1	46.2	-	11.9	7.2	3.0	0.8	**6.9**	**5.5**	98	102	100.0	0.0
	b. Fibrosarcoma	0	1	0	0	0	**1**	**1**	0.2	2.4	0.1	1.9	-	1.2	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	0	3	9	3	7	**15**	**22**	3.0	36.6	2.9	42.3	-	3.6	7.2	2.3	5.6	**4.1**	**4.4**	61	90	100.0	0.0
	e. Unspecified	0	0	0	2	3	**2**	**5**	0.4	4.9	0.7	9.6	-	-	-	1.5	2.4	**0.4**	**0.9**	8	20	100.0	0.0
X	**GERM CELL TUMOURS**	0	1	2	1	14	**4**	**18**	0.8	100.0	2.4	100.0	-	1.2	1.6	0.8	11.3	**1.1**	**3.4**	17	73	100.0	0.0
	a. CNS germ cell	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Other extragonadal	0	1	0	0	2	**1**	**3**	0.2	25.0	0.4	16.7	-	1.2	-	-	1.6	**0.4**	**0.6**	5	13	100.0	0.0
	c. Gonadal germ cell	0	0	1	1	9	**2**	**11**	0.4	50.0	1.4	61.1	-	-	0.8	0.8	7.2	**0.5**	**2.0**	8	44	100.0	0.0
	d. Gonadal carcinoma	0	0	1	0	3	**1**	**4**	0.2	25.0	0.5	22.2	-	-	0.8	-	2.4	**0.3**	**0.7**	4	16	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
XI	**CARCINOMA & MELANOMA**	0	2	6	20	35	**28**	**63**	5.5	100.0	8.2	100.0	-	2.4	4.8	15.2	28.2	**6.7**	**11.5**	110	250	100.0	0.0
	a. Adrenocortical	0	0	0	0	1	**0**	**1**	-	-	0.1	1.6	-	-	-	-	0.8	**-**	**0.2**	-	4	100.0	0.0
	b. Thyroid	0	0	1	5	16	**6**	**22**	1.2	21.4	2.9	34.9	-	-	0.8	3.8	12.9	**1.4**	**4.0**	23	87	100.0	0.0
	c. Nasopharyngeal	0	0	0	2	2	**2**	**4**	0.4	7.1	0.5	6.3	-	-	-	1.5	1.6	**0.4**	**0.7**	8	16	100.0	0.0
	d. Melanoma	0	0	1	0	0	**1**	**1**	0.2	3.6	0.1	1.6	-	-	0.8	-	-	**0.3**	**0.2**	4	4	100.0	0.0
	e. Skin carcinoma	0	0	1	7	2	**8**	**10**	1.6	28.6	1.3	15.9	-	-	0.8	5.3	1.6	**1.8**	**1.8**	31	39	100.0	0.0
	f. Other & unspecified	0	2	3	6	14	**11**	**25**	2.2	39.3	3.3	39.7	-	2.4	2.4	4.6	11.3	**2.8**	**4.7**	44	101	100.0	0.0
XII	**OTHER & UNSPECIFIED**	1	0	2	3	3	**6**	**9**	1.2	100.0	1.2	100.0	4.7	-	1.6	2.3	2.4	**1.5**	**1.7**	24	36	100.0	0.0
	a. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Other unspecified	1	0	2	3	3	**6**	**9**	1.2	100.0	1.2	100.0	4.7	-	1.6	2.3	2.4	**1.5**	**1.7**	24	36	100.0	0.0
	TOTAL	10	148	181	166	260	**505**	**765**	100.0	100.0	100.0	100.0	47.5	175.6	143.8	126.5	209.4	**141.2**	**156.5**	2101	3148	100.0	0.0

Please consult the quality indicators for this registry

Pakistan

Pakistan is located in south-central Asia and covers an area of 881 913 km^2. Pakistan has a 1046-km coastline along the Arabian Sea and the Gulf of Oman in the south and is bordered by India to the east, Afghanistan to the west, the Islamic Republic of Iran to the south-west, and China to the north-east. The climate varies from tropical to temperate, with arid conditions in the coastal south. During monsoon season, heavy rainfall causes frequent flooding, whereas the dry season has significantly less rain or none at all.

Natural resources include copper, gold, coal, oil, gas, and iron. The economy is considered to be semi-industrialized, with centres of growth along the Indus River. More than half of the GDP comes from the services sector, 20% of the GDP comes from industry, and 21% from agriculture. Pakistan is a lower-middle-income country with a medium HDI. The life expectancy is about 63 years, and the literacy rate in the age group 15–24 years is 67% for males and 49% for females. The fertility rate is about 4 children per woman. One in 14 children dies before age 1 year, and one in 11 dies before age 5 years.

The population has increased 5-fold since the 1950s. In 2010, the estimated population was 170.0 million (Table A.7), and about 47% of the population was younger than 20 years (Table A.6). Nearly 40% of the population lives in urban areas. In the south, most people live along the Indus River. In the north, most of the population lives in an arc formed by 12 large cities. Pakistan is divided into four provinces and three territories, and these administrative units are further divided into districts. The state religion is Islam, which is practiced by 95–97% of the population.

Widespread poverty, high infant mortality rates, and poor sanitation place considerable strain on health-care providers. The private health sector is expensive and unregulated but provides for 70% of the population. The services range from trained teams to traditional faith healers. Islamabad, Karachi, and Lahore have major hospitals, but expert medical care is commonly sought abroad. Primary health-care outreach is delivered at the community level by Lady Health Workers, Lady Health Visitors, and Community Midwives. These networks are affiliated with government facilities, which train the outreach workers. About 0.4% of the GDP is spent on health care, and out-of-pocket payments account for most of that. Out-of-pocket expenses, which represent up to 80% of health expenditures, are costs that individuals, organizations, or the state pay from their own cash reserves; these expenses may be reimbursed later. Government financing of health care is supported by general taxation, and district governments manage about 60% of these costs. In addition, health outcomes were heavily supported by several nongovernmental organizations and donor agencies. The physician-to-patient ratio is 1 : 1300, and the nurse-to-patient ratio is 1 : 20.

Currently, 21 hospitals are dedicated to providing cancer diagnostic and treatment services and an additional 50 general hospitals have facilities to treat patients with cancer using chemotherapy or radiotherapy. These tend to be larger hospitals in major urban centres. Nationally, there are about 125 oncologists. Paediatric oncology has been recognized as a distinct discipline since 2008. Little systematic state funding exists for paediatric oncology services; thus, these services continue to be supported largely by philanthropy.

A national cancer plan was developed in 2004 as part of a wider plan for managing noncommunicable diseases. Targeted actions include tobacco control legislation, development of a pain control policy, public health education, primary prevention, capacity-building, counselling, and population screening. Cancer is not a notifiable disease in Pakistan.

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POPULATION AT RISK

The census conducted in 1998 provided the basis for the calculations of population at risk, which also incorporated the average annual growth rate provided by the government. Data were provided by the Population Census Organization within the Statistics Division of the Government of Pakistan (https://www.pbs.gov.pk/content/population-census). The data from the 2017 census were not considered.

EDITORS' COMMENTS

Two cancer registries are presented in separate tables in the IICC-3 book (Table A.12). A pooled dataset was not prepared, because the two registries had non-overlapping reporting periods. The data for the defunct Karachi registry were extracted from volumes of the CI5 series, and the Punjab registry provided data for Lahore District.

Both registries are influenced by a lack of official documentation on the demographic details of the patients; only 34% of children younger than 5 years are officially registered, 32% of them have a birth certificate, and 83% of adults 18 years and older are registered with a national identity card number. Recording incorrect age may contribute in part to the low rate in infants (aged < 1 year). The sex ratio is high, possibly because of unequal access to health care for boys and girls. Suboptimal access to care and suboptimal availability of diagnostic services may be the reason for the high proportion of unspecified diagnoses.

Karachi Cancer Registry, 1995–2002

Yasmin Bhurgri, Mishaal Bhurgri, Shahid Pervez, Ahmed Usman, Asif Bhurgri, Naveen Faridi, S.M.H. Zaidi, Imtiaz Bashir, Kauser Nazir, Hadi Bhurgri, G.N. Kakepoto, Naila Kayani, Sheema H. Hasan, Mohammed Khurshid

Karachi is the largest city in Pakistan and the capital of Sindh Province. Located on the coast of the Arabian Sea, Karachi is a major commercial and industrial centre and a large seaport.

In this multi-ethnic city, the Urdu-speaking Muhajir are the predominant ethnic group; the other groups with substantial populations are Sindhi, Balochi, Punjabi, Pashtun, Kashmiri, and Seraiki. Other ethnicities are represented in the refugee population.

The preponderance of males reflects the migration to Karachi for work from other areas of Pakistan. The city of Karachi is divided into five districts.

The Karachi South District has two tertiary care public hospitals that are administered at the provincial level and one hospital that is administered by the armed forces at the federal level. These hospitals incorporate a radiotherapy facility, which provides free access to subsidized surgery and diagnosis. Aga Khan University had six diagnostic centres in the district during the reporting period. Many patients with cancer access services outside the district, the city, or even the country.

The Karachi Cancer Registry was the first population-based registry in Pakistan. It registered incident cases in the southernmost urban district of the city, Karachi South, which had a population of 1.8 million, of which 53% were younger than 20 years (Table A.6).

The registry was funded philanthropically in 1995–2007. It had six permanent staff members and many volunteer workers in two offices at the Sindh Medical College and the pathology department of Aga Khan University. The registry ceased operations in early 2011.

Data were collected by a combination of active case finding, passive notification, and automated notification. The principal source of information on cancer cases was the diagnostic centre of Aga Khan University.

The registry had access to death certificates with personal identifiers, but this source had limited value because the causes of death registered were largely unspecified. The data were computerized using a customized version of CanReg4, and internal checks on the validity of entered data were conducted according to IARC and IACR recommendations.

Undiagnosed cases may have been present in the population, but it is impossible to estimate this because autopsies were not performed and the death registration system was inadequate and incomplete. The registry conducted formal evaluations of the completeness and accuracy of the data annually by using the well-maintained and well-documented cancer data at Zainab Panjwani Memorial Hospital and the Baqai Institute of Oncology.

The incidence data were reported regularly to the federal government and various agencies and were the basis for planning, implementing, and monitoring the national cancer control plan. The data were also used in case–control studies and in research theses and dissertations of postgraduate students and fellows.

PUBLICATIONS

Bhurgri Y, Bhurgri M, Pervez S, Usman A, Bhurgri A, Faridi N, et al. (2007). Pakistan, South Karachi. In: Curado MP, Edwards B, Shin HR, Storm H, Ferlay J, Heanue M, et al., editors. Cancer Incidence in Five Continents, Volume IX. IARC Scientific Publication No. 160. Lyon, France: International Agency for Research on Cancer. Available from: https://publications.iarc.who.int/315.

Bhurgri Y, Bhurgri A, Hasan SH, Hashmi KZ, Usman A, Bashir I, et al. (2002). Pakistan, South Karachi. In: Parkin DM, Whelan S, Ferlay J, Teppo L, Thomas DB, editors. Cancer Incidence in Five Continents, Volume VIII. IARC Scientific Publication No. 155. Lyon, France: International Agency for Research on Cancer. Available from: https://publications.iarc.who.int/310.

POPULATION AT RISK

Population data were extracted from CI5 Volumes VIII and IX. The data were provided by sex and 5-year age groups for 1998–2002. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Pakistan, above.

EDITORS' COMMENTS

The data for the Karachi Cancer Registry were extracted from CI5 Volumes VIII and IX, because the registry unexpectedly ceased operations in 2011. In this dataset, day and month of birth are unknown in almost all cases, and year of birth is unknown in one third of the cases (Table A.8). Age is recorded as reported by parents, but it is not verified; thus, the age-specific rates may be affected. The calculated age was inconsistent with the provided dates in 2% of cases (Table A.8), and the low proportion of infants in the dataset (Table A.9) may also be caused in part by imprecise dates. The sex ratio in children is higher than expected, and the proportion of cases with unspecified morphology is high (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. Non-malignant CNS tumours were not registered, and the two cases of pilocytic astrocytoma were coded with malignant behaviour. Laterality data were not available. See also Pakistan, above.

PAKISTAN, Karachi (1995-2002)

	Age group (years)	Males	Females
Person-years	0	202 888	198 847
	1-4	811 552	795 388
	5-9	1 012 985	958 240
	10-14	909 035	809 935
	15-19	775 470	666 570
	0-14	2 936 460	2 762 410
	0-19	3 711 930	3 428 980
Average annual population	0-14	367 058	345 301
	0-19	463 991	428 623

Please consult the quality indicators for this registry

PAKISTAN, Karachi (1995-2002)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	1	54	55	42	50	152	202	27.9	100.0	24.0	100.0	2.5	33.6	27.9	24.4	34.7	26.7	28.5	399	572	99.5	0.5
	a. Lymphoid	1	42	43	24	16	110	126	20.2	72.4	15.0	62.4	2.5	26.1	21.8	14.0	11.1	19.4	17.5	286	341	99.2	0.8
	b. Acute myeloid	0	10	6	12	20	28	48	5.1	18.4	5.7	23.8	-	6.2	3.0	7.0	13.9	4.9	6.9	75	144	100.0	0.0
	c. CMD	0	0	1	2	3	3	6	0.6	2.0	0.7	3.0	-	-	0.5	1.2	2.1	0.5	0.9	8	19	100.0	0.0
	d. MDS & other	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	2	5	4	11	11	22	2.0	7.2	2.6	10.9	-	1.2	2.5	2.3	7.6	1.9	3.2	29	67	100.0	0.0
II	LYMPHOMA & RELATED	0	18	53	48	51	119	170	21.8	100.0	20.2	100.0	-	11.2	26.9	27.9	35.4	20.2	23.7	319	496	98.2	0.0
	a. Hodgkin	0	5	34	29	11	68	79	12.5	57.1	9.4	46.5	-	3.1	17.2	16.9	7.6	11.4	10.6	183	221	98.7	0.0
	b. Non-Hodgkin except BL	0	6	14	14	34	34	68	6.2	28.6	8.1	40.0	-	3.7	7.1	8.1	23.6	5.8	9.8	91	209	100.0	0.0
	c. Burkitt (BL)	0	6	2	2	0	10	10	1.8	8.4	1.2	5.9	-	3.7	1.0	1.2	-	1.8	1.4	26	26	100.0	0.0
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	1	3	3	6	7	13	1.3	5.9	1.5	7.6	-	0.6	1.5	1.7	4.2	1.2	1.9	19	40	84.6	0.0
III	CNS NEOPLASMS	0	9	35	33	31	77	108	14.1	100.0	12.9	100.0	-	5.6	17.8	19.2	21.5	13.0	14.9	207	315	96.3	0.0
	a. Ependymoma	0	2	2	3	2	7	9	1.3	9.1	1.1	8.3	-	1.2	1.0	1.7	1.4	1.2	1.3	19	26	100.0	0.0
	b. Astrocytoma	0	1	17	21	17	39	56	7.2	50.6	6.7	51.9	-	0.6	8.6	12.2	11.8	6.5	7.7	107	166	96.4	0.0
	c. CNS embryonal	0	2	9	3	3	14	17	2.6	18.2	2.0	15.7	-	1.2	4.6	1.7	2.1	2.4	2.3	37	47	100.0	0.0
	d. Other gliomas	0	2	4	4	5	10	15	1.8	13.0	1.8	13.9	-	1.2	2.0	2.3	3.5	1.7	2.1	27	44	93.3	0.0
	e. Other specified	0	0	1	1	3	2	5	0.4	2.6	0.6	4.6	-	-	0.5	0.6	2.1	0.3	0.7	5	16	100.0	0.0
	f. Unspecified CNS	0	2	2	1	1	5	6	0.9	6.5	0.7	5.6	-	1.2	1.0	0.6	0.7	0.9	0.8	13	16	83.3	0.0
IV	NEUROBLASTOMA	1	5	3	1	0	10	10	1.8	100.0	1.2	100.0	2.5	3.1	1.5	0.6	-	1.8	1.4	25	25	100.0	0.0
	a. (Ganglio)neuroblastoma	1	5	3	1	0	10	10	1.8	100.0	1.2	100.0	2.5	3.1	1.5	0.6	-	1.8	1.4	25	25	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	0	10	5	0	0	15	15	2.8	100.0	1.8	100.0	-	6.2	2.5	-	-	2.7	2.1	38	38	100.0	0.0
VI	RENAL TUMOURS	2	8	7	1	1	18	19	3.3	100.0	2.3	100.0	5.0	5.0	3.6	0.6	0.7	3.2	2.7	46	49	100.0	0.0
	a. Nephroblastoma	2	8	7	0	0	17	17	3.1	94.4	2.0	89.5	5.0	5.0	3.6	-	-	3.1	2.4	43	43	100.0	0.0
	b. Renal carcinoma	0	0	0	1	1	1	2	0.2	5.6	0.2	10.5	-	-	-	0.6	0.7	0.2	0.3	3	6	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	1	2	2	0	1	5	6	0.9	100.0	0.7	100.0	2.5	1.2	1.0	-	0.7	0.9	0.9	13	16	83.3	0.0
	a. Hepatoblastoma	0	1	0	0	0	1	1	0.2	20.0	0.1	16.7	-	0.6	-	-	-	0.2	0.1	2	2	0.0	0.0
	b. Hepatic carcinoma	0	1	2	0	0	3	3	0.6	60.0	0.4	50.0	-	0.6	1.0	-	-	0.5	0.4	8	8	100.0	0.0
	c. Unspecified	1	0	0	0	1	1	2	0.2	20.0	0.2	33.3	2.5	-	-	-	0.7	0.2	0.3	2	6	100.0	0.0
VIII	BONE TUMOURS	0	2	6	35	36	43	79	7.9	100.0	9.4	100.0	-	1.2	3.0	20.4	25.0	7.3	11.3	122	247	98.7	0.0
	a. Osteosarcoma	0	0	0	16	17	16	33	2.9	37.2	3.9	41.8	-	-	-	9.3	11.8	2.7	4.7	47	105	97.0	0.0
	b. Chondrosarcoma	0	0	0	3	3	3	6	0.6	7.0	0.7	7.6	-	-	-	1.7	2.1	0.5	0.9	9	19	100.0	0.0
	c. Ewing & related	0	1	5	13	10	19	29	3.5	44.2	3.5	36.7	-	0.6	2.5	7.6	6.9	3.2	4.0	53	88	100.0	0.0
	d. Other specified	0	1	0	3	4	4	8	0.7	9.3	1.0	10.1	-	0.6	-	1.7	2.8	0.7	1.2	11	25	100.0	0.0
	e. Unspecified	0	0	1	0	2	1	3	0.2	2.3	0.4	3.8	-	-	0.5	-	1.4	0.2	0.4	3	9	100.0	0.0
IX	SOFT TISSUE SARCOMA	1	6	11	15	29	33	62	6.1	100.0	7.4	100.0	2.5	3.7	5.6	8.7	20.1	5.7	8.9	89	190	100.0	0.0
	a. Rhabdomyosarcoma	0	5	6	6	12	17	29	3.1	51.5	3.5	46.8	-	3.1	3.0	3.5	8.3	3.0	4.2	45	87	100.0	0.0
	b. Fibrosarcoma	0	0	0	3	2	3	5	0.6	9.1	0.6	8.1	-	-	-	1.7	1.4	0.5	0.7	9	16	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	0	1	-	-	0.1	1.6	-	-	-	-	0.7	-	0.2	-	3	100.0	0.0
	d. Other specified	0	0	3	5	9	8	17	1.5	24.2	2.0	27.4	-	-	1.5	2.9	6.2	1.3	2.4	22	53	100.0	0.0
	e. Unspecified	1	1	2	1	5	5	10	0.9	15.2	1.2	16.1	2.5	0.6	1.0	0.6	3.5	0.9	1.5	13	30	100.0	0.0
X	GERM CELL TUMOURS	0	7	2	10	19	19	38	3.5	100.0	4.5	100.0	-	4.4	1.0	5.8	13.2	3.4	5.6	52	117	100.0	0.0
	a. CNS germ cell	0	0	1	1	0	2	2	0.4	10.5	0.2	5.3	-	-	0.5	0.6	-	0.3	0.3	5	5	100.0	0.0
	b. Other extragonadal	0	2	0	0	2	2	4	0.4	10.5	0.5	10.5	-	1.2	-	-	1.4	0.4	0.6	5	12	100.0	0.0
	c. Gonadal germ cell	0	5	1	8	13	14	27	2.6	73.7	3.2	71.1	-	3.1	0.5	4.7	9.0	2.5	3.9	38	83	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	4	0	4	-	-	0.5	10.5	-	-	-	-	2.8	-	0.6	-	14	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	0	1	1	0.2	5.3	0.1	2.6	-	-	-	0.6	-	0.2	0.1	3	3	100.0	0.0
XI	CARCINOMA & MELANOMA	0	5	4	22	67	31	98	5.7	100.0	11.7	100.0	-	3.1	2.0	12.8	46.5	5.3	14.6	87	319	96.9	2.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	0	3	15	3	18	0.6	9.7	2.1	18.4	-	-	-	1.7	10.4	0.5	2.7	9	61	100.0	0.0
	c. Nasopharyngeal	0	2	0	4	7	6	13	1.1	19.4	1.5	13.3	-	1.2	-	2.3	4.9	1.1	1.9	17	41	100.0	0.0
	d. Melanoma	0	0	0	2	0	2	2	0.4	6.5	0.2	2.0	-	-	-	1.2	-	0.3	0.3	6	6	100.0	0.0
	e. Skin carcinoma	0	0	0	0	2	0	2	-	-	0.2	2.0	-	-	-	-	1.4	-	0.3	-	7	100.0	0.0
	f. Other & unspecified	0	3	4	13	43	20	63	3.7	64.5	7.5	64.3	-	1.9	2.0	7.6	29.8	3.4	9.4	55	205	95.2	3.2
XII	OTHER & UNSPECIFIED	2	4	10	7	10	23	33	4.2	100.0	3.9	100.0	5.0	2.5	5.1	4.1	6.9	4.0	4.6	61	95	42.4	9.1
	a. Other specified	0	0	1	0	0	1	1	0.2	4.3	0.1	3.0	-	-	0.5	-	-	0.2	0.1	3	3	100.0	0.0
	b. Other unspecified	2	4	9	7	10	22	32	4.0	95.7	3.8	97.0	5.0	2.5	4.6	4.1	6.9	3.8	4.5	58	93	40.6	9.4
	TOTAL	8	130	193	214	295	545	840	100.0	100.0	100.0	100.0	19.9	80.9	97.9	124.5	204.6	94.3	119.1	1456	2478	96.2	0.7

Please consult the quality indicators for this registry

Lahore, Punjab Cancer Registry, 2008–2012

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The Punjab province is divided into 36 census districts, including the most populous, Lahore District. In 2010, the estimated population was 9.5 million, and 51% of the population was younger than 20 years (Table A.6). The district is located in north-eastern Pakistan and covers an area of 1772 km^2, which encompasses the city of Lahore, the district and provincial capital. The estimated average annual population growth rate for Lahore District was 3.46% during the reporting period.

The climate of Lahore District is hot and semi-arid, with a rainy, long, and extremely hot summer season, a dry and warm winter season, monsoon periods, and dust storms.

Cancer care is provided at both government-owned and privately owned hospitals and laboratories. Very few hospitals are devoted exclusively to cancer care. Most oncology departments are located in general hospitals.

Typically, children with cancer are initially diagnosed either at a clinic of a paediatrician or general practitioner or at a hospital. Many children arrive at the Shaukat Khanum Memorial Cancer Hospital and Research Centre with a partial or suspected diagnosis and are diagnosed and staged there. This centre is a dedicated cancer treatment facility and charitable organization, located in Lahore.

The Punjab Cancer Registry (http://punjabcancerregistry.org.pk) was established in Lahore in February 2005 (Table A.10) to determine the distribution of cancer cases within the geographically distinct area of the Punjab province, with the understanding that professionals working in different districts of the province would establish registries in their own districts. The central registry office is located at the Shaukat Khanum Memorial Cancer Hospital and Research Centre, which also sponsors the registry. The registry covers the entire Lahore District and is expanding to cover other districts. The registry has about 30 members from 13 participating institutions in the district. The centres in Lahore that contributed to IICC-3 include the Shaukat Khanum Memorial Cancer Hospital and Research Centre, Children's Hospital and Institute of Child Health, Institute of Nuclear Medicine and Oncology (Pakistan Atomic Energy Commission Medical Center), King Edward Medical University, Chughtai Laboratory, Sheikh Zayed Hospital, Ittefaq Hospital, Allama Iqbal Medical College, and Fatima Jinnah Medical University. All professionals involved are gratefully acknowledged and are listed on the homepage of the registry website (https://punjabcancerregistry.org.pk/members.php).

Data are collected both actively and passively. Although the registry has been functioning for some time, it is believed that cases are still being somewhat underreported. The extent to which cases are being underreported is difficult to determine; however, registration of cancers in children may be more complete than registration of cancers in adults, because of the more centralized treatment of paediatric cancer patients. One-time follow-up of cases was done in 2015.

PUBLICATIONS

Badar F, Mahmood S, Zaidi A, Bhurgri Y (2009). Age-standardized incidence rates for childhood cancers at a cancer hospital in a developing country. Asian Pac J Cancer Prev. 10(5):753–8. PMID:20104964

Badar F, Mahmood S (2015). Cancers among children and adolescents at a cancer hospital in Pakistan. J Ayub Med Coll Abbottabad. 27(4):904–10. PMID:27004350

POPULATION AT RISK

Data were provided in the requested detail by sex and single year of age for each calendar year of the reporting period. See also Pakistan, above.

EDITORS' COMMENTS

The incidence rates are low and are much lower than those reported for Karachi (Table A.9); this may be due to suboptimal access to diagnosis and care in the Punjab province. Day and month of birth are incomplete in almost 20% and 15% of cases, respectively (Table A.8). Death certificates are not ascertained; thus, some cancer cases may be missed by the registry. The proportion of cases with unspecified morphology is relatively high (Table A.9). The registry attributed this to the referral process, in which an initial cancer diagnosis cannot be confirmed because the patient was lost to follow-up before diagnostic workup was completed. Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. The sex ratio is relatively high (Table A.9). The proportion of patients in age 0 or aged 19 years was lower than expected, possibly because of imprecision in the declared age or because of the deficiency of female patients. Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. All skin carcinomas are reportable. Laterality is collected but was missing for one fifth of the cases of interest. See also Pakistan, above.

PAKISTAN, Lahore (2008-2012)

	Age group (years)	Males	Females
Person-years	0	521 518	502 605
	1-4	2 526 622	2 430 064
	5-9	3 309 716	3 110 310
	10-14	3 244 191	3 019 524
	15-19	2 776 312	2 617 190
	0-14	9 602 047	9 062 503
	0-19	12 378 359	11 679 693
Average annual population	0-14	1 920 409	1 812 501
	0-19	2 475 672	2 335 939

Please consult the quality indicators for this registry

PAKISTAN, Lahore (2008-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)					0-14	0-19	0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19			All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	10	170	150	169	55	499	554	35.5	100.0	29.3	100.0	9.8	34.3	23.4	27.0	10.2	27.0	23.2	402	453	99.8	0.0
	a. Lymphoid	5	129	106	112	32	352	384	25.0	70.5	20.3	69.3	4.9	26.0	16.5	17.9	5.9	19.2	16.2	284	314	100.0	0.0
	b. Acute myeloid	1	17	14	19	6	51	57	3.6	10.2	3.0	10.3	1.0	3.4	2.2	3.0	1.1	2.7	2.4	41	47	100.0	0.0
	c. CMD	1	0	4	4	7	9	16	0.6	1.8	0.8	2.9	1.0	-	0.6	0.6	1.3	0.5	0.6	7	14	100.0	0.0
	d. MDS & other	1	1	0	0	0	2	2	0.1	0.4	0.1	0.4	1.0	0.2	-	-	-	0.1	0.1	2	2	100.0	0.0
	e. Unspecified	2	23	26	34	10	85	95	6.0	17.0	5.0	17.1	2.0	4.6	4.0	5.4	1.9	4.5	3.9	68	78	98.9	0.0
II	LYMPHOMA & RELATED	1	45	126	94	85	266	351	18.9	100.0	18.6	100.0	1.0	9.1	19.6	15.0	15.8	13.7	14.1	212	290	100.0	0.0
	a. Hodgkin	0	22	72	38	43	132	175	9.4	49.6	9.3	49.9	-	4.4	11.2	6.1	8.0	6.8	7.1	105	145	100.0	0.0
	b. Non-Hodgkin except BL	0	14	29	44	39	87	126	6.2	32.7	6.7	35.9	-	2.8	4.5	7.0	7.2	4.4	5.0	69	106	100.0	0.0
	c. Burkitt (BL)	1	3	22	9	0	35	35	2.5	13.2	1.9	10.0	1.0	0.6	3.4	1.4	-	1.8	1.4	28	28	100.0	0.0
	d. Lymphoreticular	0	4	0	1	0	5	5	0.4	1.9	0.3	1.4	-	0.8	-	0.2	-	0.3	0.2	4	4	100.0	0.0
	e. Unspecified	0	2	3	2	3	7	10	0.5	2.6	0.5	2.8	-	0.4	0.5	0.3	0.6	0.4	0.4	6	8	100.0	0.0
III	CNS NEOPLASMS †	2	42	65	63	69	172	241	12.2	100.0	12.7	100.0	2.0	8.5	10.1	10.1	12.8	9.0	9.9	138	202	94.6	0.0
	a. Ependymoma	1	11	9	6	9	27	36	1.9	15.7	1.9	14.9	1.0	2.2	1.4	1.0	1.7	1.5	1.5	22	30	100.0	0.0
	b. Astrocytoma	0	13	21	18	30	52	82	3.7	30.2	4.3	34.0	-	2.6	3.3	2.9	5.6	2.7	3.4	42	69	100.0	0.0
	c. CNS embryonal	1	9	17	5	5	32	37	2.3	18.6	2.0	15.4	1.0	1.8	2.6	0.8	0.9	1.7	1.6	26	30	100.0	0.0
	d. Other gliomas	0	3	8	19	6	30	36	2.1	17.4	1.9	14.9	-	0.6	1.2	3.0	1.1	1.5	1.4	24	29	77.8	0.0
	e. Other specified	0	4	6	9	12	19	31	1.4	11.0	1.6	12.9	-	0.8	0.9	1.4	2.2	1.0	1.3	15	26	87.1	0.0
	f. Unspecified CNS	0	2	4	6	7	12	19	0.9	7.0	1.0	7.9	-	0.4	0.6	1.0	1.3	0.6	0.8	10	16	94.7	0.0
IV	NEUROBLASTOMA	1	19	7	1	0	28	28	2.0	100.0	1.5	100.0	1.0	3.8	1.1	0.2	-	1.7	1.3	23	23	75.0	0.0
	a. (Ganglio)neuroblastoma	1	19	7	1	0	28	28	2.0	100.0	1.5	100.0	1.0	3.8	1.1	0.2	-	1.7	1.3	23	23	75.0	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	9	61	11	0	1	81	82	5.8	100.0	4.3	100.0	8.8	12.3	1.7	-	0.2	5.1	4.0	67	68	85.4	0.0
VI	RENAL TUMOURS	5	43	13	0	3	61	64	4.3	100.0	3.4	100.0	4.9	8.7	2.0	-	0.6	3.8	3.0	50	53	96.9	0.0
	a. Nephroblastoma	5	42	12	0	1	59	60	4.2	96.7	3.2	93.8	4.9	8.5	1.9	-	0.2	3.6	2.9	49	50	96.7	0.0
	b. Renal carcinoma	0	0	0	0	2	0	2	-	-	0.1	3.1	-	-	-	-	0.4	-	0.1	-	2	100.0	0.0
	c. Unspecified	0	1	1	0	0	2	2	0.1	3.3	0.1	3.1	-	0.2	0.2	-	-	0.1	0.1	2	2	100.0	0.0
VII	HEPATIC TUMOURS	1	3	2	0	3	6	9	0.4	100.0	0.5	100.0	1.0	0.6	0.3	-	0.6	0.4	0.4	5	8	77.8	0.0
	a. Hepatoblastoma	1	2	2	0	1	5	6	0.4	83.3	0.3	66.7	1.0	0.4	0.3	-	0.2	0.3	0.3	4	5	83.3	0.0
	b. Hepatic carcinoma	0	1	0	0	2	1	3	0.1	16.7	0.2	33.3	-	0.2	-	-	0.4	0.1	0.1	1	3	66.7	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	11	31	74	89	116	205	8.3	100.0	10.8	100.0	-	2.2	4.8	11.8	16.5	5.7	8.1	92	175	100.0	0.0
	a. Osteosarcoma	0	1	11	41	54	53	107	3.8	45.7	5.7	52.2	-	0.2	1.7	6.5	10.0	2.5	4.2	42	92	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Ewing & related	0	10	18	27	30	55	85	3.9	47.4	4.5	41.5	-	2.0	2.8	4.3	5.6	2.8	3.4	44	72	100.0	0.0
	d. Other specified	0	0	0	3	2	3	5	0.2	2.6	0.3	2.4	-	-	-	0.5	0.4	0.1	0.2	2	4	100.0	0.0
	e. Unspecified	0	0	2	3	3	5	8	0.4	4.3	0.4	3.9	-	-	0.3	0.5	0.6	0.2	0.3	4	7	100.0	0.0
IX	SOFT TISSUE SARCOMA	1	22	24	20	51	67	118	4.8	100.0	6.2	100.0	1.0	4.4	3.7	3.2	9.5	3.6	4.9	54	101	100.0	0.0
	a. Rhabdomyosarcoma	1	16	15	8	11	40	51	2.8	59.7	2.7	43.2	1.0	3.2	2.3	1.3	2.0	2.2	2.2	32	42	100.0	0.0
	b. Fibrosarcoma	0	0	1	1	3	2	5	0.1	3.0	0.3	4.2	-	-	0.2	0.2	0.6	0.1	0.2	2	4	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	2	3	7	27	12	39	0.9	17.9	2.1	33.1	-	0.4	0.5	1.1	5.0	0.6	1.6	10	35	100.0	0.0
	e. Unspecified	0	4	5	4	10	13	23	0.9	19.4	1.2	19.5	-	0.8	0.8	0.6	1.9	0.7	1.0	10	20	100.0	0.0
X	GERM CELL TUMOURS	2	18	5	18	36	43	79	3.1	100.0	4.2	100.0	2.0	3.6	0.8	2.9	6.7	2.4	3.3	35	68	100.0	0.0
	a. CNS germ cell	0	0	0	2	0	2	2	0.1	4.7	0.1	2.5	-	-	-	0.3	-	0.1	0.1	2	2	100.0	0.0
	b. Other extragonadal	2	9	3	1	5	15	20	1.1	34.9	1.1	25.3	2.0	1.8	0.5	0.2	0.9	0.9	0.9	12	17	100.0	0.0
	c. Gonadal germ cell	0	9	2	15	26	26	52	1.8	60.5	2.7	65.8	-	1.8	0.3	2.4	4.8	1.4	2.2	21	45	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	4	0	4	-	-	0.2	5.1	-	-	-	-	0.7	-	0.2	-	4	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	1	0	1	-	-	0.1	1.3	-	-	-	-	0.2	-	0.0	-	1	100.0	0.0
XI	CARCINOMA & MELANOMA	0	3	8	35	82	46	128	3.3	100.0	6.8	100.0	-	0.6	1.2	5.6	15.2	2.2	5.1	37	113	100.0	0.0
	a. Adrenocortical	0	1	1	0	0	2	2	0.1	4.3	0.1	1.6	-	0.2	0.2	-	-	0.1	0.1	2	2	100.0	0.0
	b. Thyroid	0	0	0	5	8	5	13	0.4	10.9	0.7	10.2	-	-	-	0.8	1.5	0.2	0.5	4	11	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	8	0	8	-	-	0.4	6.3	-	-	-	-	1.5	-	0.3	-	7	100.0	0.0
	d. Melanoma	0	0	1	0	1	1	2	0.1	2.2	0.1	1.6	-	-	0.2	-	0.2	0.1	0.1	1	2	100.0	0.0
	e. Skin carcinoma	0	2	3	6	2	11	13	0.8	23.9	0.7	10.2	-	0.4	0.5	1.0	0.4	0.6	0.5	9	11	100.0	0.0
	f. Other & unspecified	0	0	3	24	63	27	90	1.9	58.7	4.8	70.3	-	-	0.5	3.8	11.7	1.3	3.6	21	80	100.0	0.0
XII	OTHER & UNSPECIFIED	0	4	2	15	11	21	32	1.5	100.0	1.7	100.0	-	0.8	0.3	2.4	2.0	1.1	1.3	17	27	90.6	0.0
	a. Other specified	0	0	0	1	0	1	1	0.1	4.8	0.1	3.1	-	-	-	0.2	-	0.0	0.0	1	1	100.0	0.0
	b. Other unspecified	0	4	2	14	11	20	31	1.4	95.2	1.6	96.9	-	0.8	0.3	2.2	2.0	1.0	1.2	16	26	90.3	0.0
	TOTAL	32	441	444	489	485	1406	1891	100.0	100.0	100.0	100.0	31.2	89.0	69.2	78.1	89.9	75.6	78.8	1132	1581	97.9	0.0

† includes 72 non-malignant

Please consult the quality indicators for this registry

Philippines

The Philippines is an archipelago located in south-east Asia, in the western Pacific Ocean. The archipelago comprises more than 7000 islands and combines three broad geographical divisions from north to south: Luzon, Visayas, and Mindanao. Surrounded by the West Philippine Sea to the west, the Pacific Ocean to the east, and the Celebes Sea to the south-west, the Philippines shares maritime borders with Taiwan, China, to the north, Viet Nam to the west, Palau to the east, and Malaysia and Indonesia to the south. Its location on the Pacific Ring of Fire and near the equator makes the Philippines prone to earthquakes and typhoons, but it also endows the country with abundant natural resources and biodiversity. The country covers an area of 300 000 km^2. The capital city is Manila.

From 1990 to 2008, the population increased by about 28 million, which corresponds to a 45% increase in population. In 2010, the estimated population was 93.0 million, and 44% of the population was younger than 20 years (Table A.6).

The Philippines is a newly industrialized country that is in transition from an agricultural economy to a more diversified economy. The Philippines is a lower-middle-income country with a medium HDI. Primary exports include semiconductors, electronics, transport equipment, textiles and clothing, copper products, petroleum products, coconut oil, and fruit. Agriculture employs 30% of the workforce; 30% are employed in the service sector and 14% in industry. The daily income for almost half of the population is less than US$ 2. Regional development is uneven; the metropolitan area of Manila gains the largest proportion of revenues from economic growth, but the government has taken steps to distribute economic growth by promoting investment in other areas of the country.

The Department of Health establishes national health policies and standards. The provision of health services in communities is overseen by local government units and private sector agencies since 1991. Health services are provided by *barangay* (the smallest administrative unit) health units, rural health units, city health offices, municipal or district hospitals, provincial and regional hospitals, and medical centres. *Barangay* health stations serve as primary public health facilities and are staffed by doctors, nurses, midwives, and *barangay* health volunteers. The National Health Insurance Act of 1995 established compulsory national health insurance, which is managed by the Philippine Health Insurance Corporation.

Significant barriers to health-care delivery include a decrease in national expenditure since at least 1990 because of the high population growth rate, poor access to medications and care (most paid out of pocket), and inferior access to care in poor communities, especially after 1991, when the responsibility for providing health care was shifted from the national government to local governments. Large areas of the Philippines do not have daily access to any pharmaceuticals because of high costs for drugs, which represent 50% of household medical expenses. Often, qualified medical personnel migrate to other countries or leave the medical profession.

The Philippines does not require medical determination of cause of death before a death is registered; thus, national statistics about cause of death cannot be accurately substantiated. In remote areas, births and deaths may be not recorded unless an administrative need arises for registration.

EDITORS' COMMENTS

The Manila and Rizal registries contributed to IICC-3 (Table A.1) and to the two previous IICC volumes. The registries have worked in close collaboration since 1984, sharing data and cross-notifying cases from each other's areas of coverage. A table with pooled data is included in the IICC-3 book, and data from each registry are presented separately online (Table A.12).

PHILIPPINES, 2 registries (1993-2012)

Registry	Period	Cases	%	Person-years	%
Manila	1993-2012	6039	50.1	46 336 477	46.7
Rizal	1993-2012	6013	49.9	52 907 399	53.3
PHILIPPINES	**1993-2012**	**12052**	**100.0**	**99 243 876**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Manila and Rizal Cancer Registries, 1993–2012

Adriano G. Laudico, Maria Rica Mirasol-Lumague, Cynthia A. Mapua, Victoria M. Medina

Metropolitan Manila and the province of Rizal are located on the island of Luzon. The city of Manila and its environs have been the centre of political and socioeconomic development in the Philippines since Spanish colonization in the 16th century. Development has spread continuously, albeit unevenly, to the 16 cities and municipalities that now constitute Metropolitan Manila, and has reached the province of Rizal. The total covered area is 1898 km^2.

Although the area has 172 private and public hospitals and some advanced tertiary hospitals, access to affordable health care is difficult for about 80% of the population because of socioeconomic factors. Limited accessibility is exacerbated for children with cancer. Although some public and private medical centres in Metropolitan Manila have sufficient clinical expertise and facilities to provide paediatric cancer care, access is severely limited because only about 15–20% of the population can afford the expensive care. The 5-year relative survival rate for childhood leukaemia and lymphoma was estimated to be 32.9% and 47.7%, respectively, in this population.

In 2010, the population covered was 6.6 million for Metropolitan Manila, of which 38% were younger than 20 years, and 7.5 million for the province of Rizal, of which 39% were younger than 20 years (Table A.6).

The Manila Cancer Registry is supported by the Philippine Cancer Society, and the Rizal Cancer Registry is supported by the Department of Health. The two registries use similar methods, forms, and reporting. The registries actively seek cases from the 172 hospitals located in the area and from death certificates held in the Civil Registry Offices of the 16 cities and 14 municipalities in the covered areas. Registry staff members visit the assigned hospitals, and resident case forms are exchanged between the registries. For purposes of registration, resident cases are those residing in the registration area for at least 1 year. Temporary residents (e.g. those staying in the area for the duration of treatment) are registered, but those cases are not included in studies of incidence and survival. Cases of high-fatality cancers identified from death certificates are traced back, which may include home visits. Both registries use CanReg4 software.

Publications series that include registry data are *Cancer in the Philippines* and *Philippine Cancer Facts and Estimates*. Relative survival data for adult gastric, colorectal, liver, lung, breast, cervical, ovarian, and thyroid cancer and leukaemia (1993–2002), and for childhood leukaemia and lymphoma (1996–2005), have been published in cooperation with the German Cancer Research Center. Incidence maps have been generated in cooperation with the Finnish Cancer Registry. Data from the two registries are used in programme planning and evaluation, cancer research, and training initiatives.

Both registries have contributed incidence data to IARC since the early 1980s, and data from both registries have been included in most CI5 volumes and in all IICC volumes.

PUBLICATIONS

Redaniel MT, Laudico A, Mirasol-Lumague MR, Alcasabas AP, Pulte D, Brenner H (2010). Geographic and ethnic differences in childhood leukaemia and lymphoma survival: comparisons of Philippine residents, Asian Americans and Caucasians in the United States. Br J Cancer. 103(1):149–54. https://doi.org/10.1038/sj.bjc.6605703 PMID:20485290

Virola RA, Addawe MB, Querubin MIT (2007). Trends and characteristics of the middle-income class in the Philippines: is it expanding or shrinking? Makati, Philippines: National Statistical Coordination Board.

POPULATION AT RISK

Population data are based on the national censuses conducted in 1990, 1995, 2000, 2007, and 2010 (Table A.7). Data were provided by sex and single year of age for 1995, 2000, 2007, and 2008–2012 and by sex and 5-year age groups for the other calendar years of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. The decimal numbers provided for some counts were rounded to the nearest integer at IARC.

EDITORS' COMMENTS

Day and month of birth are unknown in half of the cases, and date of incidence is incomplete in about 10% of the cases; in the Rizal Cancer Registry, the calculated age was inconsistent with the provided dates in 3% of cases (Table A.8). The proportion of cases with unspecified morphology and the DCO% are high, and the MV% is relatively low; all these indicators are somewhat more extreme in Rizal than in Manila (Table A.9). Non-malignant CNS tumours are not collected in either registry, although a few cases with uncertain behaviour were included in the data from Rizal; most of them were pilocytic astrocytoma. Skin carcinomas are reportable, but there were few cases in the target population. Laterality is not recorded. See also Philippines, above.

PHILIPPINES, 2 registries (1993-2012)

	Age group (years)	Males	Females
Person-years	0	2 946 645	2 786 432
	1-4	11 110 897	10 654 985
	5-9	12 736 469	12 237 688
	10-14	11 468 110	11 307 811
	15-19	11 447 648	12 547 191
	0-14	38 262 121	36 986 916
	0-19	49 709 769	49 534 107
Average annual population	0-14	1 913 106	1 849 346
	0-19	2 485 488	2 476 705

Please consult the quality indicators for this registry

PHILIPPINES, 2 registries (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	250	1737	1323	860	860	4170	5030	47.2	100.0	41.7	100.0	43.6	79.8	53.0	37.8	35.8	56.0	51.5	815	994	91.5	8.3
	a. Lymphoid	130	1055	781	407	264	2373	2637	26.9	56.9	21.9	52.4	22.7	48.5	31.3	17.9	11.0	32.0	27.2	461	516	97.3	2.6
	b. Acute myeloid	41	321	279	231	279	872	1151	9.9	20.9	9.6	22.9	7.2	14.7	11.2	10.1	11.6	11.6	11.6	172	231	97.2	2.6
	c. CMD	26	63	46	36	79	171	250	1.9	4.1	2.1	5.0	4.5	2.9	1.8	1.6	3.3	2.3	2.5	33	50	98.8	1.2
	d. MDS & other	1	8	0	1	5	10	15	0.1	0.2	0.1	0.3	0.2	0.4	-	0.0	0.2	0.1	0.2	2	3	100.0	0.0
	e. Unspecified	52	290	217	185	233	744	977	8.4	17.8	8.1	19.4	9.1	13.3	8.7	8.1	9.7	10.0	9.9	146	195	67.0	32.5
II	LYMPHOMA & RELATED	20	170	187	249	381	626	1007	7.1	100.0	8.4	100.0	3.5	7.8	7.5	10.9	15.9	8.3	10.0	127	206	87.0	2.2
	a. Hodgkin	3	3	29	49	124	84	208	1.0	13.4	1.7	20.7	0.5	0.1	1.2	2.2	5.2	1.1	2.0	18	43	99.0	0.5
	b. Non-Hodgkin except BL	5	62	76	122	149	265	414	3.0	42.3	3.4	41.1	0.9	2.8	3.0	5.4	6.2	3.5	4.1	54	85	98.1	1.7
	c. Burkitt (BL)	0	22	13	12	6	47	53	0.5	7.5	0.4	5.3	-	1.0	0.5	0.5	0.3	0.6	0.5	9	10	100.0	0.0
	d. Lymphoreticular	2	6	0	0	0	8	8	0.1	1.3	0.1	0.8	0.3	0.3	-	-	-	0.1	0.1	1	1	75.0	25.0
	e. Unspecified	10	77	69	66	102	222	324	2.5	35.5	2.7	32.2	1.7	3.5	2.8	2.9	4.3	3.0	3.2	44	65	63.3	3.7
III	CNS NEOPLASMS †	31	226	380	259	174	896	1070	10.2	100.0	8.9	100.0	5.4	10.4	15.2	11.4	7.3	11.8	10.8	180	216	73.4	8.8
	a. Ependymoma	1	14	12	15	7	42	49	0.5	4.7	0.4	4.6	0.2	0.6	0.5	0.7	0.3	0.6	0.5	8	10	98.0	0.0
	b. Astrocytoma	6	48	68	69	67	191	258	2.2	21.3	2.1	24.1	1.0	2.2	2.7	3.0	2.8	2.5	2.6	39	53	98.8	1.2
	c. CNS embryonal	9	90	139	83	31	321	352	3.6	35.8	2.9	32.9	1.6	4.1	5.6	3.6	1.3	4.2	3.6	64	71	99.1	0.3
	d. Other gliomas	5	30	91	44	24	170	194	1.9	19.0	1.6	18.1	0.9	1.4	3.6	1.9	1.0	2.2	2.0	34	39	63.9	2.1
	e. Other specified	1	1	1	3	2	6	8	0.1	0.7	0.1	0.7	0.2	0.0	0.0	0.1	0.1	0.1	0.1	1	2	87.5	0.0
	f. Unspecified CNS	9	43	69	45	43	166	209	1.9	18.5	1.7	19.5	1.6	2.0	2.8	2.0	1.8	2.2	2.1	33	42	1.0	41.1
IV	NEUROBLASTOMA	23	122	42	22	10	209	219	2.4	100.0	1.8	100.0	4.0	5.6	1.7	1.0	0.4	2.9	2.3	40	42	79.9	2.7
	a. (Ganglio)neuroblastoma	23	121	40	21	5	205	210	2.3	98.1	1.7	95.9	4.0	5.6	1.6	0.9	0.2	2.8	2.2	39	40	79.0	2.9
	b. Peripheral nervous	0	1	2	1	5	4	9	0.0	1.9	0.1	4.1	-	0.0	0.1	0.0	0.2	0.1	0.1	1	2	100.0	0.0
V	RETINOBLASTOMA	76	377	36	6	2	495	497	5.6	100.0	4.1	100.0	13.3	17.3	1.4	0.3	0.1	6.9	5.4	91	91	89.7	1.8
VI	RENAL TUMOURS	45	234	53	21	27	353	380	4.0	100.0	3.2	100.0	7.8	10.8	2.1	0.9	1.1	4.9	4.0	66	72	79.2	5.0
	a. Nephroblastoma	40	219	39	14	6	312	318	3.5	88.4	2.6	83.7	7.0	10.1	1.6	0.6	0.3	4.3	3.4	58	59	88.4	0.9
	b. Renal carcinoma	2	3	2	3	17	10	27	0.1	2.8	0.2	7.1	0.3	0.1	0.1	0.1	0.7	0.1	0.3	2	6	74.1	22.2
	c. Unspecified	3	12	12	4	4	31	35	0.4	8.8	0.3	9.2	0.5	0.6	0.5	0.2	0.2	0.4	0.4	6	7	0.0	28.6
VII	HEPATIC TUMOURS	42	110	42	40	63	234	297	2.7	100.0	2.5	100.0	7.3	5.1	1.7	1.8	2.6	3.2	3.1	45	58	62.6	11.8
	a. Hepatoblastoma	32	75	18	10	0	135	135	1.5	57.7	1.1	45.5	5.6	3.4	0.7	0.4	-	1.9	1.4	25	25	97.8	0.0
	b. Hepatic carcinoma	5	13	17	17	42	52	94	0.6	22.2	0.8	31.6	0.9	0.6	0.7	0.7	1.8	0.7	0.9	10	19	54.3	24.5
	c. Unspecified	5	22	7	13	21	47	68	0.5	20.1	0.6	22.9	0.9	1.0	0.3	0.6	0.9	0.6	0.7	9	14	4.4	17.6
VIII	BONE TUMOURS	8	40	114	379	456	541	997	6.1	100.0	8.3	100.0	1.4	1.8	4.6	16.6	19.0	7.0	9.7	115	210	83.9	9.6
	a. Osteosarcoma	1	11	82	283	350	377	727	4.3	69.7	6.0	72.9	0.2	0.5	3.3	12.4	14.6	4.8	7.0	81	154	97.0	1.8
	b. Chondrosarcoma	0	1	0	4	6	5	11	0.1	0.9	0.1	1.1	-	0.0	-	0.2	0.3	0.1	0.1	1	2	100.0	0.0
	c. Ewing & related	3	15	23	36	23	77	100	0.9	14.2	0.8	10.0	0.5	0.7	0.9	1.6	1.0	1.0	1.0	16	21	100.0	0.0
	d. Other specified	0	1	2	5	4	8	12	0.1	1.5	0.1	1.2	-	0.0	0.1	0.2	0.2	0.1	0.1	2	3	100.0	0.0
	e. Unspecified	4	12	7	51	73	74	147	0.8	13.7	1.2	14.7	0.7	0.6	0.3	2.2	3.0	1.0	1.4	16	31	5.4	56.5
IX	SOFT TISSUE SARCOMA	26	152	101	120	178	399	577	4.5	100.0	4.8	100.0	4.5	7.0	4.0	5.3	7.4	5.3	5.8	79	116	97.9	0.7
	a. Rhabdomyosarcoma	15	111	64	55	48	245	293	2.8	61.4	2.4	50.8	2.6	5.1	2.6	2.4	2.0	3.3	3.0	48	58	99.0	0.7
	b. Fibrosarcoma	2	9	8	16	34	35	69	0.4	8.8	0.6	12.0	0.3	0.4	0.3	0.7	1.4	0.5	0.7	7	14	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	5	14	21	26	51	66	117	0.7	16.5	1.0	20.3	0.9	0.6	0.8	1.1	2.1	0.9	1.2	13	24	98.3	0.9
	e. Unspecified	4	18	8	23	45	53	98	0.6	13.3	0.8	17.0	0.7	0.8	0.3	1.0	1.9	0.7	1.0	11	20	92.9	1.0
X	GERM CELL TUMOURS	33	145	54	120	323	352	675	4.0	100.0	5.6	100.0	5.8	6.7	2.2	5.3	13.5	4.7	6.7	70	137	86.4	3.3
	a. CNS germ cell	1	5	10	18	16	34	50	0.4	9.7	0.4	7.4	0.2	0.2	0.4	0.8	0.7	0.4	0.5	7	10	96.0	2.0
	b. Other extragonadal	10	34	3	14	30	61	91	0.7	17.3	0.8	13.5	1.7	1.6	0.1	0.6	1.3	0.8	0.9	12	18	97.8	1.1
	c. Gonadal germ cell	17	90	34	62	129	203	332	2.3	57.7	2.8	49.2	3.0	4.1	1.4	2.7	5.4	2.7	3.3	40	67	99.7	0.3
	d. Gonadal carcinoma	3	4	3	16	85	26	111	0.3	7.4	0.9	16.4	0.5	0.2	0.1	0.7	3.5	0.3	1.1	5	23	90.1	9.0
	e. Unspecified gonadal	2	12	4	10	63	28	91	0.3	8.0	0.8	13.5	0.3	0.6	0.2	0.4	2.6	0.4	0.9	6	19	16.5	9.9
XI	CARCINOMA & MELANOMA	11	50	72	207	590	340	930	3.9	100.0	7.7	100.0	1.9	2.3	2.9	9.1	24.6	4.4	9.0	71	194	91.8	7.2
	a. Adrenocortical	0	1	2	1	0	4	4	0.0	1.2	0.0	0.4	-	0.0	0.1	0.0	-	0.1	0.0	1	1	100.0	0.0
	b. Thyroid	0	2	10	53	216	65	281	0.7	19.1	2.3	30.2	-	0.1	0.4	2.3	9.0	0.8	2.7	14	59	98.9	0.7
	c. Nasopharyngeal	1	1	9	43	95	54	149	0.6	15.9	1.2	16.0	0.2	0.0	0.4	1.9	4.0	0.7	1.4	12	31	97.3	2.7
	d. Melanoma	1	2	5	4	6	12	18	0.1	3.5	0.1	1.9	0.2	0.1	0.2	0.2	0.3	0.2	0.2	2	4	83.3	16.7
	e. Skin carcinoma	3	2	1	10	18	16	34	0.2	4.7	0.3	3.7	0.5	0.1	0.0	0.4	0.8	0.2	0.3	3	7	100.0	0.0
	f. Other & unspecified	6	42	45	96	255	189	444	2.1	55.6	3.7	47.7	1.0	1.9	1.8	4.2	10.6	2.5	4.3	39	92	85.1	13.1
XII	OTHER & UNSPECIFIED	13	89	49	60	162	211	373	2.4	100.0	3.1	100.0	2.3	4.1	2.0	2.6	6.8	2.8	3.7	42	75	12.9	18.5
	a. Other specified	1	2	1	2	2	6	8	0.1	2.8	0.1	2.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	1	2	100.0	0.0
	b. Other unspecified	12	87	48	58	160	205	365	2.3	97.2	3.0	97.9	2.1	4.0	1.9	2.5	6.7	2.8	3.6	40	74	11.0	18.9
	TOTAL	578	3452	2453	2343	3226	8826	12052	100.0	100.0	100.0	100.0	100.8	158.6	98.2	102.9	134.4	118.3	121.9	1738	2410	85.1	7.2

† includes 5 non-malignant

Please consult the quality indicators for this registry

Qatar

Qatar National Cancer Registry, 2002–2014

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Qatar occupies the Qatar Peninsula on the north-eastern coast of the Arabian Peninsula in West Asia. Its only land border is with Saudi Arabia to the south; the rest of Qatar is surrounded by the Persian Gulf. The climate is subtropical dry, hot desert, with an average annual temperature of 33 °C and average annual precipitation of 71 mm.

The discovery of oil in 1940 transformed the national economy. Qatar is a high-income country with a very high HDI. The economy relies heavily on foreign labour. Migrant workers comprise 86% of the population and 94% of the workforce, although the influx of foreign workers has been regulated since the 1980s. The Qatar Investment Authority, which was established in 2005, specializes in foreign investment. Investment in renewable resources is a key aspect of Qatar National Vision 2030.

In 2010, Qatar had an estimated population of 1.8 million (Table A.7), and only 17% of the population was younger than 20 years (Table A.6), despite the fertility rate of 3.2 births per woman. The proportion of children is low because of the large numbers of immigrant workers, mostly male. South Asian people account for about 60% of the population, and 28% are expatriates of other origins, of which the largest groups are Filipinos and Egyptians. The population fluctuates considerably depending on the season.

Qatari citizens are covered by a national health insurance scheme. Expatriates either receive health insurance from their employers, or, if they are self-employed, purchase insurance themselves. General health care is provided by Hamad Medical Corporation, the only tertiary centre in Qatar. Paediatric care is provided by the paediatric haematology unit that since 1982 has been located in Hamad General Hospital, which is part of Hamad Medical Corporation. Since the early 2000s, the paediatric haematology unit has had the most up-to-date therapeutic and diagnostic equipment. The unit has 12 inpatient beds for children with cancer, and care is provided by four consultants, five fellows and specialists, two clinical pharmacists, two subspecialist nurses, a dietician, a social worker, a child-life specialist, a data manager, and a secretary in addition to the staff nurses who serve both oncology units. The day care unit provides therapeutic procedures. The outpatient department has eight clinics that offer haematology and oncology services and is open 5 days per week for ambulatory patients. The emergency department has branches throughout the country and is directly connected 24 hours per day to the on-duty team at the paediatric haematology unit at Hamad Medical Corporation.

The Qatar Cancer Registry was established in 1989 as a hospital-based cancer registry in Hamad General Hospital. The registry was expanded to cover the entire country in 2003 (Table A.10) and was relocated to Al Amal Hospital in 2004. The registry covers all cancer cases diagnosed in Qatar.

The registry is staffed by a director, a data manager, and a full-time registrar, who are supported by a scientific board. The registry routinely collects data from general hospitals, private hospitals and clinics, specialized hospitals and centres, pathology and haematology laboratories, the Overseas Medical Offices Department of the Supreme Council of Health, and death registration offices. The registry is supported by the National Center for Cancer Care and Research, Hamad Medical Corporation, the Supreme Council of Health, and the Planning and Statistics Authority (formerly the Qatar Statistics Authority).

It is difficult to estimate the number of cases that are undiagnosed or missed from registration, but the number of unreported cases is expected to decrease in future years with the implementation of electronic registration methods. Cancer mortality data for the Qatari population are considered to be relatively complete.

The registry regularly publishes reports on the distribution of cancers by age and sex. These reports are used by health planners and policy-makers to assess the cancer burden, allocate resources, and evaluate cancer prevention and control activities. The registry is also a regular contributor to joint publications of countries in the Gulf region.

POPULATION AT RISK

Data are provided by the Ministry of Development Planning and Statistics (https://www.mdps.gov.qa/en). Censuses were conducted in 1997, 2004, and 2010 (Table A.7). Population data were provided by sex and 5-year age groups for 2002–2011 and by sex and the age groups 0, 1–4, 5–9, 10–14, and 15–19 years for 2012–2014. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

Dates of birth or incidence are incomplete in 14% of cases (Table A.8), but they were deemed more precise than the provided age; thus, age was recalculated at IARC. Non-malignant CNS tumours are not recorded systematically (Table A.9). Pilocytic astrocytoma was included and was coded with uncertain behaviour, but one case was coded as in situ. Laterality was not provided.

QATAR (2002-2014)

	Age group (years)	Males	Females
Person-years	0	111 925	106 732
	1-4	454 455	429 560
	5-9	515 549	481 865
	10-14	450 915	405 095
	15-19	475 260	322 992
	0-14	1 532 844	1 423 252
	0-19	2 008 104	1 746 244
Average annual population	0-14	117 911	109 481
	0-19	154 470	134 326

Please consult the quality indicators for this registry

QATAR (2002-2014)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	6	35	25	15	23	**81**	**104**	26.9	100.0	24.2	100.0	27.4	39.6	25.1	17.5	28.8	**27.6**	**27.8**	399	543	98.1	1.0
	a. Lymphoid	2	29	20	13	11	**64**	**75**	21.3	79.0	17.4	72.1	9.1	32.8	20.1	15.2	13.8	**21.8**	**20.0**	317	386	98.7	1.3
	b. Acute myeloid	2	5	3	1	8	**11**	**19**	3.7	13.6	4.4	18.3	9.1	5.7	3.0	1.2	10.0	**3.8**	**5.2**	53	103	100.0	0.0
	c. CMD	0	0	0	0	2	**0**	**2**	-	-	0.5	1.9	-	-	-	-	2.5	**-**	**0.6**	-	13	50.0	0.0
	d. MDS & other	1	0	0	0	0	**1**	**1**	0.3	1.2	0.2	1.0	4.6	-	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	e. Unspecified	1	1	2	1	2	**5**	**7**	1.7	6.2	1.6	6.7	4.6	1.1	2.0	1.2	2.5	**1.7**	**1.9**	25	37	100.0	0.0
II	**LYMPHOMA & RELATED**	1	20	20	24	44	**65**	**109**	21.6	100.0	25.3	100.0	4.6	22.6	20.1	28.0	55.1	**22.0**	**29.4**	336	611	99.1	0.9
	a. Hodgkin	0	7	8	18	32	**33**	**65**	11.0	50.8	15.1	59.6	-	7.9	8.0	21.0	40.1	**11.1**	**17.7**	177	377	100.0	0.0
	b. Non-Hodgkin except BL	0	5	9	5	10	**19**	**29**	6.3	29.2	6.7	26.6	-	5.7	9.0	5.8	12.5	**6.4**	**7.7**	97	160	100.0	0.0
	c. Burkitt (BL)	0	6	2	0	0	**8**	**8**	2.7	12.3	1.9	7.3	-	6.8	2.0	-	-	**2.8**	**2.1**	37	37	100.0	0.0
	d. Lymphoreticular	1	1	0	0	1	**2**	**3**	0.7	3.1	0.7	2.8	4.6	1.1	-	-	1.3	**0.7**	**0.8**	9	15	100.0	0.0
	e. Unspecified	0	1	1	1	1	**3**	**4**	1.0	4.6	0.9	3.7	-	1.1	1.0	1.2	1.3	**1.0**	**1.1**	15	22	75.0	25.0
III	**CNS NEOPLASMS** †	3	16	14	8	9	**41**	**50**	13.6	100.0	11.6	100.0	13.7	18.1	14.0	9.3	11.3	**13.9**	**13.3**	203	259	92.0	2.0
	a. Ependymoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Astrocytoma	1	5	5	5	4	**16**	**20**	5.3	39.0	4.7	40.0	4.6	5.7	5.0	5.8	5.0	**5.4**	**5.3**	81	107	95.0	0.0
	c. CNS embryonal	2	9	5	1	2	**17**	**19**	5.6	41.5	4.4	38.0	9.1	10.2	5.0	1.2	2.5	**5.8**	**5.1**	81	93	100.0	0.0
	d. Other gliomas	0	1	2	1	0	**4**	**4**	1.3	9.8	0.9	8.0	-	1.1	2.0	1.2	-	**1.3**	**1.0**	20	20	100.0	0.0
	e. Other specified	0	0	0	0	2	**0**	**2**	-	-	0.5	4.0	-	-	-	-	2.5	**-**	**0.6**	-	13	100.0	0.0
	f. Unspecified CNS	0	1	2	1	1	**4**	**5**	1.3	9.8	1.2	10.0	-	1.1	2.0	1.2	1.3	**1.3**	**1.3**	20	27	40.0	20.0
IV	**NEUROBLASTOMA**	6	10	2	1	0	**19**	**19**	6.3	100.0	4.4	100.0	27.4	11.3	2.0	1.2	-	**6.6**	**5.1**	88	88	100.0	0.0
	a. (Ganglio)neuroblastoma	6	10	2	1	0	**19**	**19**	6.3	100.0	4.4	100.0	27.4	11.3	2.0	1.2	-	**6.6**	**5.1**	88	88	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	**RETINOBLASTOMA**	1	0	0	0	0	**1**	**1**	0.3	100.0	0.2	100.0	4.6	-	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
VI	**RENAL TUMOURS**	3	10	2	0	2	**15**	**17**	5.0	100.0	4.0	100.0	13.7	11.3	2.0	-	2.5	**5.2**	**4.6**	69	82	100.0	0.0
	a. Nephroblastoma	3	10	2	0	0	**15**	**15**	5.0	100.0	3.5	88.2	13.7	11.3	2.0	-	-	**5.2**	**4.0**	69	69	100.0	0.0
	b. Renal carcinoma	0	0	0	0	2	**0**	**2**	-	-	0.5	11.8	-	-	-	-	2.5	**-**	**0.6**	-	13	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	**HEPATIC TUMOURS**	2	2	0	1	0	**5**	**5**	1.7	100.0	1.2	100.0	9.1	2.3	-	1.2	-	**1.7**	**1.4**	24	24	80.0	20.0
	a. Hepatoblastoma	1	2	0	0	0	**3**	**3**	1.0	60.0	0.7	60.0	4.6	2.3	-	-	-	**1.1**	**0.8**	14	14	100.0	0.0
	b. Hepatic carcinoma	0	0	0	1	0	**1**	**1**	0.3	20.0	0.2	20.0	-	-	-	1.2	-	**0.3**	**0.3**	6	6	100.0	0.0
	c. Unspecified	1	0	0	0	0	**1**	**1**	0.3	20.0	0.2	20.0	4.6	-	-	-	-	**0.4**	**0.3**	5	5	0.0	100.0
VIII	**BONE TUMOURS**	0	0	3	15	6	**18**	**24**	6.0	100.0	5.6	100.0	-	-	3.0	17.5	7.5	**6.1**	**6.4**	103	140	83.3	0.0
	a. Osteosarcoma	0	0	0	7	2	**7**	**9**	2.3	38.9	2.1	37.5	-	-	-	8.2	2.5	**2.4**	**2.4**	41	53	77.8	0.0
	b. Chondrosarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Ewing & related	0	0	3	6	3	**9**	**12**	3.0	50.0	2.8	50.0	-	-	3.0	7.0	3.8	**3.0**	**3.2**	50	69	91.7	0.0
	d. Other specified	0	0	0	1	1	**1**	**2**	0.3	5.6	0.5	8.3	-	-	-	1.2	1.3	**0.3**	**0.5**	6	12	100.0	0.0
	e. Unspecified	0	0	0	1	0	**1**	**1**	0.3	5.6	0.2	4.2	-	-	-	1.2	-	**0.3**	**0.3**	6	6	0.0	0.0
IX	**SOFT TISSUE SARCOMA**	2	5	10	11	12	**28**	**40**	9.3	100.0	9.3	100.0	9.1	5.7	10.0	12.9	15.0	**9.4**	**10.7**	146	221	100.0	0.0
	a. Rhabdomyosarcoma	2	5	4	5	2	**16**	**18**	5.3	57.1	4.2	45.0	9.1	5.7	4.0	5.8	2.5	**5.4**	**4.8**	81	94	100.0	0.0
	b. Fibrosarcoma	0	0	1	1	1	**2**	**3**	0.7	7.1	0.7	7.5	-	-	1.0	1.2	1.3	**0.7**	**0.8**	11	17	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	0	0	5	4	9	**9**	**18**	3.0	32.1	4.2	45.0	-	-	5.0	4.7	11.3	**3.0**	**4.8**	48	105	100.0	0.0
	e. Unspecified	0	0	0	1	0	**1**	**1**	0.3	3.6	0.2	2.5	-	-	-	1.2	-	**0.3**	**0.3**	6	6	100.0	0.0
X	**GERM CELL TUMOURS**	2	2	2	9	10	**15**	**25**	5.0	100.0	5.8	100.0	9.1	2.3	2.0	10.5	12.5	**5.1**	**6.8**	81	143	100.0	0.0
	a. CNS germ cell	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Other extragonadal	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Gonadal germ cell	2	2	2	6	7	**12**	**19**	4.0	80.0	4.4	76.0	9.1	2.3	2.0	7.0	8.8	**4.1**	**5.1**	63	107	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	2	**1**	**3**	0.3	6.7	0.7	12.0	-	-	-	1.2	2.5	**0.3**	**0.8**	6	18	100.0	0.0
	e. Unspecified gonadal	0	0	0	2	1	**2**	**3**	0.7	13.3	0.7	12.0	-	-	-	2.3	1.3	**0.7**	**0.8**	12	18	100.0	0.0
XI	**CARCINOMA & MELANOMA**	0	2	0	9	21	**11**	**32**	3.7	100.0	7.4	100.0	-	2.3	-	10.5	26.3	**3.8**	**8.8**	62	193	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Thyroid	0	1	0	1	9	**2**	**11**	0.7	18.2	2.6	34.4	-	1.1	-	1.2	11.3	**0.7**	**3.1**	10	67	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	3	**0**	**3**	-	-	0.7	9.4	-	-	-	-	3.8	**-**	**0.8**	-	19	100.0	0.0
	d. Melanoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Skin carcinoma	0	0	0	2	0	**2**	**2**	0.7	18.2	0.5	6.3	-	-	-	2.3	-	**0.7**	**0.5**	12	12	100.0	0.0
	f. Other & unspecified	0	1	0	6	9	**7**	**16**	2.3	63.6	3.7	50.0	-	1.1	-	7.0	11.3	**2.4**	**4.4**	40	96	100.0	0.0
XII	**OTHER & UNSPECIFIED**	1	0	0	1	2	**2**	**4**	0.7	100.0	0.9	100.0	4.6	-	-	1.2	2.5	**0.7**	**1.1**	10	23	25.0	25.0
	a. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Other unspecified	1	0	0	1	2	**2**	**4**	0.7	100.0	0.9	100.0	4.6	-	-	1.2	2.5	**0.7**	**1.1**	10	23	25.0	25.0
	TOTAL	27	102	78	94	129	**301**	**430**	100.0	100.0	100.0	100.0	123.5	115.4	78.2	109.8	161.6	**102.4**	**115.7**	1525	2333	96.5	1.2

† includes 8 non-malignant

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Saudi Arabia

Riyadh, Saudi Cancer Registry, 1994–2012

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Saudi Arabia covers an area of 2.1 million km^2 – more than 80% of the Arabian Peninsula. It is located between the Arabian Gulf to the east and the Red Sea to the west. The geography is dominated by the Arabian Desert and several mountain ranges and highlands. With the exception of the south-western province of Asir, Saudi Arabia has a desert climate with a temperature that is very high during the day and drops sharply at night. The average temperature is 45 °C in summer and 15 °C in winter. Annual rainfall is extremely sparse in most of the country.

In the 1970s, most of the population lived in the rural provinces; however, the country urbanized rapidly in the last half of the 20th century. In 2012, about 80% of the population lived in urban metropolitan areas, notably Riyadh, Jeddah, and Dammam. The economy is petroleum-based; the oil industry generates more than 60% of revenues and export earnings. About 30% of the population is non-Saudi, although the percentage of foreign nationals is decreasing.

In 2010, the population was 28.1 million (Table A.7), and 39% of the population was younger than 20 years (Table A.6). At least 20% of the total population is estimated to be foreign nationals living in Saudi Arabia. Large numbers of immigrants are originally from India, Pakistan, Bangladesh, Egypt, and the Philippines. Because of the age and sex composition of the foreign workers, the proportion of children is much lower among non-Saudis (Table A.6). Saudi citizens are Muslim, and almost all residents of Saudi Arabia are Muslim. The overall life expectancy is 74.6 years, and the infant mortality rate is 11.1 per 1000 live births. During the reporting period, the health-care delivery system transformed from one of self-organized institutions to a national health system. In 2002, a royal decree was issued to ensure health care for the entire population. The Ministry of Health provides primary health-care services through a network of 2000 health-care centres throughout the country. The Ministry of Health also oversees the referral system to 220 general and specialist hospitals and supervises health care provided by the private sector. Other ministries undertake health-care management for specific segments of the population (e.g. armed forces, people with mental illness, students, sportspersons). Since 2005, health insurance has been compulsory for all non-Saudi nationals who work in the country, and since 2008, it has also been compulsory for Saudi nationals who work in the private sector. The insured people are eligible for a comprehensive package that includes cancer treatment and bone marrow transplants.

The country is divided into 13 provinces. The province of Riyadh is located in central Saudi Arabia and occupies 17% of the total land area of the country. In 2010, the city of Riyadh, the national capital, had a population of 6.8 million, and 38% of the population was younger than 20 years (Table A.6).

The Saudi Cancer Registry was established in 1992 under the authority of the Ministry of Health; case registration began in 1994 (Table A.10). Since 2014, the registry has been located in the Department of National Registries of the Saudi Health Council. The goal of the registry is to define cancer incidence and provide raw data for clinical and epidemiological research. Representatives from the Ministry of Health, the King Faisal Specialist Hospital and Research Centre, and the medical services departments of the Ministry of Defense and Aviation, the Ministry of Interior, the Ministry of National Guard, and King Saud University were assigned to oversee the activities of the Saudi Cancer Registry at their facilities, provide the registry main office with the required cancer data, and ensure data confidentiality. Although the registry has a national mandate, the data provided to IICC-3 are restricted to the province of Riyadh.

The Saudi Cancer Registry strives for full access to cancer data from all government and private hospitals, as well as clinics and laboratories throughout the region. Cancer data are abstracted from medical records, based on clinical or histopathological diagnosis. The abstracted information includes personal identification (name, identification number, sex, age), demographic data (address, telephone number, nationality), and tumour details (diagnosis date, primary site, histology, behaviour, grade, stage, basis of diagnosis). Every effort is made to accurately code patient and tumour information, to ensure that all data can be reviewed, linked, and consolidated, as appropriate, so that each malignancy is counted only once for statistical analysis. CanReg4 is used for data entry and output of incidence tables. The registry collaborates and exchanges data with other national cancer registries in countries in the Gulf region.

PUBLICATIONS

Al-Othman S, Haoudi A, Alhomoud S, Alkhenizan A, Khoja T, Al-Zahrani A (2015). Tackling cancer control in the Gulf Cooperation Council Countries. Lancet Oncol. 16(5):e246–57. https://doi.org/10.1016/S1470-2045(15)70034-3 PMID:25943069

Al-Mutlaq HM, Bawazir AA, Jradi H, Al-Dhalaan ZA, Al-Shehri A (2015). Patterns of childhood cancer incidence in Saudi Arabia (1999–2008). Asian Pac J Cancer Prev. 16(2):431–5. https://doi.org/10.7314/APJCP.2015.16.2.431 PMID:25684467

POPULATION AT RISK

The source of the population data is the General Authority of Statistics (https://www.stats.gov.sa/en/node). The data are based on the censuses of 1992, 2004, and 2010 (Table A.7). Counts for 1994–1998 are based on the 1992 census, the population for 1999–2000 was estimated from an official survey, data for 2001–2003 and 2005–2007 were based on the 2004 census, and data for 2008 and 2009 are based on the 2010 census. The data for the province of Riyadh were provided by sex, two ethnicities (Saudis, non-Saudis), and the age groups 0, 1–4, 5–9, 10–14, 15–19 years for all calendar years from 1994 to 2010. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. The decimal numbers provided for some counts were rounded to the nearest integer at IARC.

EDITORS' COMMENTS

Because of the differences in the sex, age, and ethnic composition of the Saudi and non-Saudi populations, the two identified population groups are presented separately in the IICC-3 book, in addition to the combined dataset (Table A.12). The registered residence status is based on patient self-declaration, which is verified at the referral clinic. Patients diagnosed or treated abroad are likely to be registered in the Saudi Cancer Registry at some point in their illness. Date of birth is incomplete in about one third of the cases (Table A.8). The uncertain age may explain in part the high proportion of cases aged 0–14 years in the non-Saudis dataset (Table A.9). Non-malignant CNS tumours are not registered (Table A.9); the one case of pilocytic astrocytoma was coded with malignant behaviour. All skin carcinomas are reportable and are registered. Laterality is collected and is known for 88% of the cases of interest. Laterality is complete for gonadal tumours in non-Saudis.

SAUDI ARABIA, Riyadh (1994-2012)

	Age group (years)	Males	Females
Person-years	0	1 203 405	1 104 637
	1-4	4 913 720	4 801 541
	5-9	5 765 808	5 625 623
	10-14	5 139 868	5 059 334
	15-19	4 432 062	4 258 774
	0-14	17 022 801	16 591 135
	0-19	21 454 863	20 849 909
Average annual population	0-14	895 937	873 218
	0-19	1 129 203	1 097 364

Please consult the quality indicators for this registry

SAUDI ARABIA, Riyadh, Saudis (1994-2012)

	Age group (years)	Males	Females
Person-years	0	999 644	913 480
	1-4	4 017 528	3 954 494
	5-9	4 770 412	4 685 213
	10-14	4 302 701	4 275 370
	15-19	3 797 334	3 675 812
	0-14	14 090 285	13 828 557
	0-19	17 887 619	17 504 369
Average annual population	0-14	741 594	727 819
	0-19	941 454	921 283

Please consult the quality indicators for this registry

SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)

	Age group (years)	Males	Females
Person-years	0	203 761	191 157
	1-4	896 192	847 047
	5-9	995 396	940 410
	10-14	837 167	783 964
	15-19	634 728	582 962
	0-14	2 932 516	2 762 578
	0-19	3 567 244	3 345 540
Average annual population	0-14	154 343	145 399
	0-19	187 750	176 081

Please consult the quality indicators for this registry

SAUDI ARABIA, Riyadh (1994-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	81	641	410	292	282	1424	1706	36.3	100.0	32.1	100.0	35.1	66.0	36.0	28.6	32.4	43.2	40.8	623	786	99.1	0.5
	a. Lymphoid	38	530	320	189	159	1077	1236	27.5	75.6	23.2	72.5	16.5	54.6	28.1	18.5	18.3	32.7	29.5	469	561	99.4	0.2
	b. Acute myeloid	25	82	66	80	85	253	338	6.5	17.8	6.4	19.8	10.8	8.4	5.8	7.8	9.8	7.6	8.1	113	162	99.4	0.0
	c. CMD	2	5	8	15	25	30	55	0.8	2.1	1.0	3.2	0.9	0.5	0.7	1.5	2.9	0.9	1.3	14	28	98.2	0.0
	d. MDS & other	8	14	2	3	3	27	30	0.7	1.9	0.6	1.8	3.5	1.4	0.2	0.3	0.3	0.9	0.7	11	13	100.0	0.0
	e. Unspecified	8	10	14	5	10	37	47	0.9	2.6	0.9	2.8	3.5	1.0	1.2	0.5	1.2	1.1	1.1	16	22	89.4	10.6
II	LYMPHOMA & RELATED	9	120	228	285	410	642	1052	16.4	100.0	19.8	100.0	3.9	12.4	20.0	27.9	47.2	18.7	25.1	293	529	99.6	0.0
	a. Hodgkin	2	37	107	185	270	331	601	8.4	51.6	11.3	57.1	0.9	3.8	9.4	18.1	31.1	9.6	14.4	154	309	100.0	0.0
	b. Non-Hodgkin except BL	0	30	78	70	119	178	297	4.5	27.7	5.6	28.2	-	3.1	6.8	6.9	13.7	5.2	7.1	81	149	99.3	0.0
	c. Burkitt (BL)	1	45	39	24	12	109	121	2.8	17.0	2.3	11.5	0.4	4.6	3.4	2.4	1.4	3.3	2.8	48	55	100.0	0.0
	d. Lymphoreticular	5	7	0	1	1	13	14	0.3	2.0	0.3	1.3	2.2	0.7	-	0.1	0.1	0.4	0.3	5	6	85.7	0.0
	e. Unspecified	1	1	4	5	8	11	19	0.3	1.7	0.4	1.8	0.4	0.1	0.4	0.5	0.9	0.3	0.5	5	10	100.0	0.0
III	CNS NEOPLASMS	25	164	202	132	90	523	613	13.3	100.0	11.5	100.0	10.8	16.9	17.7	12.9	10.4	15.6	14.4	232	284	88.7	0.7
	a. Ependymoma	7	24	13	11	9	55	64	1.4	10.5	1.2	10.4	3.0	2.5	1.1	1.1	1.0	1.7	1.5	24	29	98.4	0.0
	b. Astrocytoma	9	26	32	38	34	105	139	2.7	20.1	2.6	22.7	3.9	2.7	2.8	3.7	3.9	3.1	3.3	47	67	90.6	0.7
	c. CNS embryonal	7	86	111	47	23	251	274	6.4	48.0	5.2	44.7	3.0	8.9	9.7	4.6	2.6	7.5	6.4	110	124	98.5	0.0
	d. Other gliomas	2	16	35	26	12	79	91	2.0	15.1	1.7	14.8	0.9	1.6	3.1	2.5	1.4	2.3	2.1	36	42	53.8	0.0
	e. Other specified	0	6	4	6	6	16	22	0.4	3.1	0.4	3.6	-	0.6	0.4	0.6	0.7	0.5	0.5	7	11	100.0	0.0
	f. Unspecified CNS	0	6	7	4	6	17	23	0.4	3.3	0.4	3.8	-	0.6	0.6	0.4	0.7	0.5	0.5	8	11	60.9	13.0
IV	NEUROBLASTOMA	56	115	23	4	6	198	204	5.0	100.0	3.8	100.0	24.3	11.8	2.0	0.4	0.7	6.3	5.0	83	87	97.1	0.0
	a. (Ganglio)neuroblastoma	56	115	23	4	5	198	203	5.0	100.0	3.8	99.5	24.3	11.8	2.0	0.4	0.6	6.3	5.0	83	86	97.0	0.0
	b. Peripheral nervous	0	0	0	0	1	0	1	-	-	0.0	0.5	-	-	-	-	0.1	-	0.0	-	1	100.0	0.0
V	RETINOBLASTOMA	67	133	8	3	0	211	211	5.4	100.0	4.0	100.0	29.0	13.7	0.7	0.3	-	6.8	5.2	88	88	87.7	0.0
VI	RENAL TUMOURS	21	135	34	6	5	196	201	5.0	100.0	3.8	100.0	9.1	13.9	3.0	0.6	0.6	6.2	4.9	83	86	95.5	0.5
	a. Nephroblastoma	21	134	33	5	0	193	193	4.9	98.5	3.6	96.0	9.1	13.8	2.9	0.5	-	6.1	4.7	81	81	95.3	0.5
	b. Renal carcinoma	0	1	1	1	5	3	8	0.1	1.5	0.2	4.0	-	0.1	0.1	0.1	0.6	0.1	0.2	1	4	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	16	34	6	8	10	64	74	1.6	100.0	1.4	100.0	6.9	3.5	0.5	0.8	1.2	2.0	1.8	27	33	86.5	1.4
	a. Hepatoblastoma	15	26	3	1	0	45	45	1.1	70.3	0.8	60.8	6.5	2.7	0.3	0.1	-	1.4	1.1	19	19	100.0	0.0
	b. Hepatic carcinoma	1	8	3	6	8	18	26	0.5	28.1	0.5	35.1	0.4	0.8	0.3	0.6	0.9	0.5	0.6	8	13	69.2	0.0
	c. Unspecified	0	0	0	1	2	1	3	0.0	1.6	0.1	4.1	-	-	-	0.1	0.2	0.0	0.1	0	2	33.3	33.3
VIII	BONE TUMOURS	1	22	60	118	139	201	340	5.1	100.0	6.4	100.0	0.4	2.3	5.3	11.6	16.0	5.8	8.1	94	174	98.8	0.0
	a. Osteosarcoma	0	7	27	75	78	109	187	2.8	54.2	3.5	55.0	-	0.7	2.4	7.4	9.0	3.1	4.4	52	96	98.9	0.0
	b. Chondrosarcoma	0	0	0	0	7	0	7	-	-	0.1	2.1	-	-	-	-	0.8	-	0.2	-	4	100.0	0.0
	c. Ewing & related	1	13	29	40	47	83	130	2.1	41.3	2.4	38.2	0.4	1.3	2.5	3.9	5.4	2.4	3.1	38	65	100.0	0.0
	d. Other specified	0	1	2	3	4	6	10	0.2	3.0	0.2	2.9	-	0.1	0.2	0.3	0.5	0.2	0.2	3	5	100.0	0.0
	e. Unspecified	0	1	2	0	3	3	6	0.1	1.5	0.1	1.8	-	0.1	0.2	-	0.3	0.1	0.1	1	3	66.7	0.0
IX	SOFT TISSUE SARCOMA	18	74	58	59	106	209	315	5.3	100.0	5.9	100.0	7.8	7.6	5.1	5.8	12.2	6.3	7.6	93	154	99.0	0.0
	a. Rhabdomyosarcoma	6	55	35	21	18	117	135	3.0	56.0	2.5	42.9	2.6	5.7	3.1	2.1	2.1	3.6	3.2	51	61	99.3	0.0
	b. Fibrosarcoma	7	4	2	4	13	17	30	0.4	8.1	0.6	9.5	3.0	0.4	0.2	0.4	1.5	0.5	0.7	7	15	100.0	0.0
	c. Kaposi sarcoma	0	1	0	0	0	1	1	0.0	0.5	0.0	0.3	-	0.1	-	-	-	0.0	0.0	0	0	100.0	0.0
	d. Other specified	3	9	16	27	65	55	120	1.4	26.3	2.3	38.1	1.3	0.9	1.4	2.6	7.5	1.6	2.9	25	63	99.2	0.0
	e. Unspecified	2	5	5	7	10	19	29	0.5	9.1	0.5	9.2	0.9	0.5	0.4	0.7	1.2	0.6	0.7	9	14	96.6	0.0
X	GERM CELL TUMOURS	21	29	16	39	80	105	185	2.7	100.0	3.5	100.0	9.1	3.0	1.4	3.8	9.2	3.2	4.5	47	93	98.9	0.0
	a. CNS germ cell	3	0	6	13	6	22	28	0.6	21.0	0.5	15.1	1.3	-	0.5	1.3	0.7	0.6	0.6	10	14	100.0	0.0
	b. Other extragonadal	10	13	0	1	11	24	35	0.6	22.9	0.7	18.9	4.3	1.3	-	0.1	1.3	0.8	0.9	10	16	97.1	0.0
	c. Gonadal germ cell	8	16	10	24	53	58	111	1.5	55.2	2.1	60.0	3.5	1.6	0.9	2.4	6.1	1.7	2.7	26	57	99.1	0.0
	d. Gonadal carcinoma	0	0	0	1	8	1	9	0.0	1.0	0.2	4.9	-	-	-	0.1	0.9	0.0	0.2	0	5	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	2	0	2	-	-	0.0	1.1	-	-	-	-	0.2	-	0.1	-	1	100.0	0.0
XI	CARCINOMA & MELANOMA	4	13	28	87	257	132	389	3.4	100.0	7.3	100.0	1.7	1.3	2.5	8.5	29.6	3.8	9.6	62	210	100.0	0.0
	a. Adrenocortical	0	2	3	2	2	7	9	0.2	5.3	0.2	2.3	-	0.2	0.3	0.2	0.2	0.2	0.2	3	4	100.0	0.0
	b. Thyroid	0	0	8	29	134	37	171	0.9	28.0	3.2	44.0	-	-	0.7	2.8	15.4	1.1	4.3	18	95	100.0	0.0
	c. Nasopharyngeal	0	0	0	23	48	23	71	0.6	17.4	1.3	18.3	-	-	-	2.3	5.5	0.7	1.8	11	39	100.0	0.0
	d. Melanoma	1	2	0	2	2	5	7	0.1	3.8	0.1	1.8	0.4	0.2	-	0.2	0.2	0.2	0.2	2	3	100.0	0.0
	e. Skin carcinoma	1	1	7	8	10	17	27	0.4	12.9	0.5	6.9	0.4	0.1	0.6	0.8	1.2	0.5	0.6	8	14	100.0	0.0
	f. Other & unspecified	2	8	10	23	61	43	104	1.1	32.6	2.0	26.7	0.9	0.8	0.9	2.3	7.0	1.3	2.6	20	55	100.0	0.0
XII	OTHER & UNSPECIFIED	2	6	4	4	11	16	27	0.4	100.0	0.5	100.0	0.9	0.6	0.4	0.4	1.3	0.5	0.7	7	13	66.7	18.5
	a. Other specified	0	1	1	1	5	3	8	0.1	18.8	0.2	29.6	-	0.1	0.1	0.1	0.6	0.1	0.2	1	4	100.0	0.0
	b. Other unspecified	2	5	3	3	6	13	19	0.3	81.3	0.4	70.4	0.9	0.5	0.3	0.3	0.7	0.4	0.5	6	9	52.6	26.3
	TOTAL	321	1486	1077	1037	1396	3921	5317	100.0	100.0	100.0	100.0	139.1	153.0	94.5	101.7	160.6	118.2	127.7	1733	2536	97.0	0.4

Please consult the quality indicators for this registry

SAUDI ARABIA, Riyadh, Saudis (1994-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	67	492	328	236	228	1123	1351	35.5	100.0	31.1	100.0	35.0	61.7	34.7	27.5	30.5	41.1	38.7	594	746	99.3	0.4
	a. Lymphoid	29	412	256	153	127	850	977	26.8	75.7	22.5	72.3	15.2	51.7	27.1	17.8	17.0	31.2	28.0	448	533	99.7	0.2
	b. Acute myeloid	21	57	54	64	70	196	266	6.2	17.5	6.1	19.7	11.0	7.2	5.7	7.5	9.4	7.1	7.6	105	152	99.6	0.0
	c. CMD	2	5	7	11	19	25	44	0.8	2.2	1.0	3.3	1.0	0.6	0.7	1.3	2.5	0.9	1.3	14	26	97.7	0.0
	d. MDS & other	8	12	2	3	3	25	28	0.8	2.2	0.6	2.1	4.2	1.5	0.2	0.3	0.4	1.0	0.8	13	15	100.0	0.0
	e. Unspecified	7	6	9	5	9	27	36	0.9	2.4	0.8	2.7	3.7	0.8	1.0	0.6	1.2	1.0	1.0	14	20	88.9	11.1
II	LYMPHOMA & RELATED	8	93	197	235	360	533	893	16.8	100.0	20.5	100.0	4.2	11.7	20.8	27.4	48.2	18.6	25.3	292	533	99.7	0.0
	a. Hodgkin	1	33	92	154	238	280	518	8.8	52.5	11.9	58.0	0.5	4.1	9.7	18.0	31.8	9.7	14.7	156	315	100.0	0.0
	b. Non-Hodgkin except BL	0	20	67	56	103	143	246	4.5	26.8	5.7	27.5	-	2.5	7.1	6.5	13.8	5.0	6.9	78	147	99.6	0.0
	c. Burkitt (BL)	1	32	34	21	11	88	99	2.8	16.5	2.3	11.1	0.5	4.0	3.6	2.4	1.5	3.2	2.8	47	54	100.0	0.0
	d. Lymphoreticular	5	7	0	1	1	13	14	0.4	2.4	0.3	1.6	2.6	0.9	-	0.1	0.1	0.5	0.4	7	7	85.7	0.0
	e. Unspecified	1	1	4	3	7	9	16	0.3	1.7	0.4	1.8	0.5	0.1	0.4	0.3	0.9	0.3	0.5	5	10	100.0	0.0
III	CNS NEOPLASMS	24	145	166	95	70	430	500	13.6	100.0	11.5	100.0	12.5	18.2	17.6	11.1	9.4	15.5	14.1	229	275	89.2	0.6
	a. Ependymoma	7	19	12	5	7	43	50	1.4	10.0	1.2	10.0	3.7	2.4	1.3	0.6	0.9	1.6	1.4	22	27	98.0	0.0
	b. Astrocytoma	9	24	24	29	31	86	117	2.7	20.0	2.7	23.4	4.7	3.0	2.5	3.4	4.1	3.1	3.3	46	67	89.7	0.0
	c. CNS embryonal	6	77	91	36	17	210	227	6.6	48.8	5.2	45.4	3.1	9.7	9.6	4.2	2.3	7.6	6.4	111	122	98.2	0.0
	d. Other gliomas	2	13	30	16	7	61	68	1.9	14.2	1.6	13.6	1.0	1.6	3.2	1.9	0.9	2.2	1.9	33	37	57.4	0.0
	e. Other specified	0	6	2	5	3	13	16	0.4	3.0	0.4	3.2	-	0.8	0.2	0.6	0.4	0.5	0.5	7	9	100.0	0.0
	f. Unspecified CNS	0	6	7	4	5	17	22	0.5	4.0	0.5	4.4	-	0.8	0.7	0.5	0.7	0.6	0.6	9	12	63.6	13.6
IV	NEUROBLASTOMA	49	99	17	3	4	168	172	5.3	100.0	4.0	100.0	25.6	12.4	1.8	0.3	0.5	6.5	5.1	86	88	97.1	0.0
	a. (Ganglio)neuroblastoma	49	99	17	3	3	168	171	5.3	100.0	3.9	99.4	25.6	12.4	1.8	0.3	0.4	6.5	5.1	86	88	97.1	0.0
	b. Peripheral nervous	0	0	0	0	1	0	1	-	-	0.0	0.6	-	-	-	-	0.1	-	0.0	-	1	100.0	0.0
V	RETINOBLASTOMA	55	102	6	2	0	165	165	5.2	100.0	3.8	100.0	28.7	12.8	0.6	0.2	-	6.4	5.0	84	84	87.3	0.0
VI	RENAL TUMOURS	21	111	30	6	5	168	173	5.3	100.0	4.0	100.0	11.0	13.9	3.2	0.7	0.7	6.4	5.1	86	89	96.0	0.0
	a. Nephroblastoma	21	110	29	5	0	165	165	5.2	98.2	3.8	95.4	11.0	13.8	3.1	0.6	-	6.3	4.9	85	85	95.8	0.0
	b. Renal carcinoma	0	1	1	1	5	3	8	0.1	1.8	0.2	4.6	-	0.1	0.1	0.1	0.7	0.1	0.2	2	5	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	10	30	5	5	9	50	59	1.6	100.0	1.4	100.0	5.2	3.8	0.5	0.6	1.2	1.9	1.7	26	32	88.1	1.7
	a. Hepatoblastoma	10	23	3	1	0	37	37	1.2	74.0	0.9	62.7	5.2	2.9	0.3	0.1	-	1.4	1.1	19	19	100.0	0.0
	b. Hepatic carcinoma	0	7	2	3	7	12	19	0.4	24.0	0.4	32.2	-	0.9	0.2	0.3	0.9	0.4	0.6	6	11	73.7	0.0
	c. Unspecified	0	0	0	1	2	1	3	0.0	2.0	0.1	5.1	-	-	-	0.1	0.3	0.0	0.1	1	2	33.3	33.3
VIII	BONE TUMOURS	1	15	48	91	115	155	270	4.9	100.0	6.2	100.0	0.5	1.9	5.1	10.6	15.4	5.3	7.6	87	163	99.3	0.0
	a. Osteosarcoma	0	4	22	53	65	79	144	2.5	51.0	3.3	53.3	-	0.5	2.3	6.2	8.7	2.7	4.1	45	88	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	6	0	6	-	-	0.1	2.2	-	-	-	-	0.8	-	0.2	-	4	100.0	0.0
	c. Ewing & related	1	11	23	35	39	70	109	2.2	45.2	2.5	40.4	0.5	1.4	2.4	4.1	5.2	2.4	3.1	39	65	100.0	0.0
	d. Other specified	0	0	2	3	3	5	8	0.2	3.2	0.2	3.0	-	-	0.2	0.3	0.4	0.2	0.2	3	5	100.0	0.0
	e. Unspecified	0	0	1	0	2	1	3	0.0	0.6	0.1	1.1	-	-	0.1	-	0.3	0.0	0.1	1	2	33.3	0.0
IX	SOFT TISSUE SARCOMA	13	59	51	46	90	169	259	5.3	100.0	6.0	100.0	6.8	7.4	5.4	5.4	12.0	6.1	7.4	90	150	98.8	0.0
	a. Rhabdomyosarcoma	4	45	31	12	14	92	106	2.9	54.4	2.4	40.9	2.1	5.6	3.3	1.4	1.9	3.4	3.0	48	58	99.1	0.0
	b. Fibrosarcoma	6	2	2	4	12	14	26	0.4	8.3	0.6	10.0	3.1	0.3	0.2	0.5	1.6	0.5	0.8	7	15	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	2	9	14	25	54	50	104	1.6	29.6	2.4	40.2	1.0	1.1	1.5	2.9	7.2	1.8	3.0	28	64	99.0	0.0
	e. Unspecified	1	3	4	5	10	13	23	0.4	7.7	0.5	8.9	0.5	0.4	0.4	0.6	1.3	0.5	0.7	7	14	95.7	0.0
X	GERM CELL TUMOURS	17	22	13	39	70	91	161	2.9	100.0	3.7	100.0	8.9	2.8	1.4	4.5	9.4	3.3	4.7	49	96	98.8	0.0
	a. CNS germ cell	3	0	4	13	6	20	26	0.6	22.0	0.6	16.1	1.6	-	0.4	1.5	0.8	0.7	0.7	11	15	100.0	0.0
	b. Other extragonadal	7	9	0	1	10	17	27	0.5	18.7	0.6	16.8	3.7	1.1	-	0.1	1.3	0.7	0.8	9	15	96.3	0.0
	c. Gonadal germ cell	7	13	9	24	45	53	98	1.7	58.2	2.3	60.9	3.7	1.6	1.0	2.8	6.0	1.9	2.8	29	59	99.0	0.0
	d. Gonadal carcinoma	0	0	0	1	7	1	8	0.0	1.1	0.2	5.0	-	-	-	0.1	0.9	0.0	0.2	1	5	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	2	0	2	-	-	0.0	1.2	-	-	-	-	0.3	-	0.1	-	1	100.0	0.0
XI	CARCINOMA & MELANOMA	3	12	18	71	222	104	326	3.3	100.0	7.5	100.0	1.6	1.5	1.9	8.3	29.7	3.6	9.5	58	207	100.0	0.0
	a. Adrenocortical	0	2	3	1	2	6	8	0.2	5.8	0.2	2.5	-	0.3	0.3	0.1	0.3	0.2	0.2	3	5	100.0	0.0
	b. Thyroid	0	0	7	24	118	31	149	1.0	29.8	3.4	45.7	-	-	0.7	2.8	15.8	1.1	4.4	18	97	100.0	0.0
	c. Nasopharyngeal	0	0	0	17	43	17	60	0.5	16.3	1.4	18.4	-	-	-	2.0	5.8	0.6	1.7	10	39	100.0	0.0
	d. Melanoma	0	2	0	1	2	3	5	0.1	2.9	0.1	1.5	-	0.3	-	0.1	0.3	0.1	0.1	2	3	100.0	0.0
	e. Skin carcinoma	1	1	4	7	7	13	20	0.4	12.5	0.5	6.1	0.5	0.1	0.4	0.8	0.9	0.5	0.6	7	12	100.0	0.0
	f. Other & unspecified	2	7	4	21	50	34	84	1.1	32.7	1.9	25.8	1.0	0.9	0.4	2.4	6.7	1.2	2.4	19	52	100.0	0.0
XII	OTHER & UNSPECIFIED	2	3	4	2	7	11	18	0.3	100.0	0.4	100.0	1.0	0.4	0.4	0.2	0.9	0.4	0.5	6	10	72.2	16.7
	a. Other specified	0	1	1	1	3	3	6	0.1	27.3	0.1	33.3	-	0.1	0.1	0.1	0.4	0.1	0.2	2	4	100.0	0.0
	b. Other unspecified	2	2	3	1	4	8	12	0.3	72.7	0.3	66.7	1.0	0.3	0.3	0.1	0.5	0.3	0.3	4	7	58.3	25.0
	TOTAL	270	1183	883	831	1180	3167	4347	100.0	100.0	100.0	100.0	141.1	148.4	93.4	96.9	157.9	115.1	124.8	1686	2476	97.3	0.3

Please consult the quality indicators for this registry

SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	14	149	82	56	54	301	355	39.9	100.0	36.6	100.0	35.5	85.5	42.4	34.5	44.3	53.2	51.2	766	987	98.0	0.6
	a. Lymphoid	9	118	64	36	32	227	259	30.1	75.4	26.7	73.0	22.8	67.7	33.1	22.2	26.3	40.1	37.0	573	705	98.1	0.4
	b. Acute myeloid	4	25	12	16	15	57	72	7.6	18.9	7.4	20.3	10.1	14.3	6.2	9.9	12.3	10.1	10.6	148	210	98.6	0.0
	c. CMD	0	0	1	4	6	5	11	0.7	1.7	1.1	3.1	-	-	0.5	2.5	4.9	0.9	1.8	15	40	100.0	0.0
	d. MDS & other	0	2	0	0	0	2	2	0.3	0.7	0.2	0.6	-	1.1	-	-	-	0.4	0.3	5	5	100.0	0.0
	e. Unspecified	1	4	5	0	1	10	11	1.3	3.3	1.1	3.1	2.5	2.3	2.6	-	0.8	1.7	1.5	25	29	90.9	9.1
II	LYMPHOMA & RELATED	1	27	31	50	50	109	159	14.5	100.0	16.4	100.0	2.5	15.5	16.0	30.8	41.1	19.2	24.1	300	505	99.4	0.0
	a. Hodgkin	1	4	15	31	32	51	83	6.8	46.8	8.6	52.2	2.5	2.3	7.7	19.1	26.3	9.0	12.9	146	277	100.0	0.0
	b. Non-Hodgkin except BL	0	10	11	14	16	35	51	4.6	32.1	5.3	32.1	-	5.7	5.7	8.6	13.1	6.2	7.7	95	161	98.0	0.0
	c. Burkitt (BL)	0	13	5	3	1	21	22	2.8	19.3	2.3	13.8	-	7.5	2.6	1.9	0.8	3.7	3.1	53	57	100.0	0.0
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	0	0	2	1	2	3	0.3	1.8	0.3	1.9	-	-	-	1.2	0.8	0.4	0.5	6	10	100.0	0.0
III	CNS NEOPLASMS	1	19	36	37	20	93	113	12.3	100.0	11.6	100.0	2.5	10.9	18.6	22.8	16.4	16.2	16.3	254	336	86.7	0.9
	a. Ependymoma	0	5	1	6	2	12	14	1.6	12.9	1.4	12.4	-	2.9	0.5	3.7	1.6	2.1	2.0	33	41	100.0	0.0
	b. Astrocytoma	0	2	8	9	3	19	22	2.5	20.4	2.3	19.5	-	1.1	4.1	5.6	2.5	3.3	3.1	53	65	95.5	4.5
	c. CNS embryonal	1	9	20	11	6	41	47	5.4	44.1	4.8	41.6	2.5	5.2	10.3	6.8	4.9	7.1	6.6	109	134	100.0	0.0
	d. Other gliomas	0	3	5	10	5	18	23	2.4	19.4	2.4	20.4	-	1.7	2.6	6.2	4.1	3.2	3.4	51	71	43.5	0.0
	e. Other specified	0	0	2	1	3	3	6	0.4	3.2	0.6	5.3	-	-	1.0	0.6	2.5	0.5	1.0	8	21	100.0	0.0
	f. Unspecified CNS	0	0	0	0	1	0	1	-	-	0.1	0.9	-	-	-	-	0.8	-	0.2	-	4	0.0	0.0
IV	NEUROBLASTOMA	7	16	6	1	2	30	32	4.0	100.0	3.3	100.0	17.7	9.2	3.1	0.6	1.6	5.3	4.5	72	81	96.9	0.0
	a. (Ganglio)neuroblastoma	7	16	6	1	2	30	32	4.0	100.0	3.3	100.0	17.7	9.2	3.1	0.6	1.6	5.3	4.5	72	81	96.9	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	12	31	2	1	0	46	46	6.1	100.0	4.7	100.0	30.4	17.8	1.0	0.6	-	8.3	6.4	109	109	89.1	0.0
VI	RENAL TUMOURS	0	24	4	0	0	28	28	3.7	100.0	2.9	100.0	-	13.8	2.1	-	-	5.0	3.9	66	66	92.9	3.6
	a. Nephroblastoma	0	24	4	0	0	28	28	3.7	100.0	2.9	100.0	-	13.8	2.1	-	-	5.0	3.9	66	66	92.9	3.6
	b. Renal carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	6	4	1	3	1	14	15	1.9	100.0	1.5	100.0	15.2	2.3	0.5	1.9	0.8	2.5	2.1	35	39	80.0	0.0
	a. Hepatoblastoma	5	3	0	0	0	8	8	1.1	57.1	0.8	53.3	12.7	1.7	-	-	-	1.4	1.1	19	19	100.0	0.0
	b. Hepatic carcinoma	1	1	1	3	1	6	7	0.8	42.9	0.7	46.7	2.5	0.6	0.5	1.9	0.8	1.1	1.0	17	21	57.1	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	7	12	27	24	46	70	6.1	100.0	7.2	100.0	-	4.0	6.2	16.7	19.7	8.1	10.7	131	229	97.1	0.0
	a. Osteosarcoma	0	3	5	22	13	30	43	4.0	65.2	4.4	61.4	-	1.7	2.6	13.6	10.7	5.3	6.5	88	141	95.3	0.0
	b. Chondrosarcoma	0	0	0	0	1	0	1	-	-	0.1	1.4	-	-	-	-	0.8	-	0.2	-	4	100.0	0.0
	c. Ewing & related	0	2	6	5	8	13	21	1.7	28.3	2.2	30.0	-	1.1	3.1	3.1	6.6	2.3	3.2	36	68	100.0	0.0
	d. Other specified	0	1	0	0	1	1	2	0.1	2.2	0.2	2.9	-	0.6	-	-	0.8	0.2	0.3	2	6	100.0	0.0
	e. Unspecified	0	1	1	0	1	2	3	0.3	4.3	0.3	4.3	-	0.6	0.5	-	0.8	0.3	0.5	5	9	100.0	0.0
IX	SOFT TISSUE SARCOMA	5	15	7	13	16	40	56	5.3	100.0	5.8	100.0	12.7	8.6	3.6	8.0	13.1	7.1	8.5	105	171	100.0	0.0
	a. Rhabdomyosarcoma	2	10	4	9	4	25	29	3.3	62.5	3.0	51.8	5.1	5.7	2.1	5.6	3.3	4.5	4.2	66	83	100.0	0.0
	b. Fibrosarcoma	1	2	0	0	1	3	4	0.4	7.5	0.4	7.1	2.5	1.1	-	-	0.8	0.5	0.6	7	11	100.0	0.0
	c. Kaposi sarcoma	0	1	0	0	0	1	1	0.1	2.5	0.1	1.8	-	0.6	-	-	-	0.2	0.1	2	2	100.0	0.0
	d. Other specified	1	0	2	2	11	5	16	0.7	12.5	1.6	28.6	2.5	-	1.0	1.2	9.0	0.9	2.7	14	59	100.0	0.0
	e. Unspecified	1	2	1	2	0	6	6	0.8	15.0	0.6	10.7	2.5	1.1	0.5	1.2	-	1.1	0.8	16	16	100.0	0.0
X	GERM CELL TUMOURS	4	7	3	0	10	14	24	1.9	100.0	2.5	100.0	10.1	4.0	1.5	-	8.2	2.5	3.8	33	75	100.0	0.0
	a. CNS germ cell	0	0	2	0	0	2	2	0.3	14.3	0.2	8.3	-	-	1.0	-	-	0.3	0.3	5	5	100.0	0.0
	b. Other extragonadal	3	4	0	0	1	7	8	0.9	50.0	0.8	33.3	7.6	2.3	-	-	0.8	1.3	1.2	16	20	100.0	0.0
	c. Gonadal germ cell	1	3	1	0	8	5	13	0.7	35.7	1.3	54.2	2.5	1.7	0.5	-	6.6	0.9	2.2	12	45	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	1	0	1	-	-	0.1	4.2	-	-	-	-	0.8	-	0.2	-	4	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XI	CARCINOMA & MELANOMA	1	1	10	16	35	28	63	3.7	100.0	6.5	100.0	2.5	0.6	5.2	9.9	28.7	4.9	10.3	80	224	100.0	0.0
	a. Adrenocortical	0	0	0	1	0	1	1	0.1	3.6	0.1	1.6	-	-	-	0.6	-	0.2	0.1	3	3	100.0	0.0
	b. Thyroid	0	0	1	5	16	6	22	0.8	21.4	2.3	34.9	-	-	0.5	3.1	13.1	1.1	3.8	18	84	100.0	0.0
	c. Nasopharyngeal	0	0	0	6	5	6	11	0.8	21.4	1.1	17.5	-	-	-	3.7	4.1	1.1	1.8	19	39	100.0	0.0
	d. Melanoma	1	0	0	1	0	2	2	0.3	7.1	0.2	3.2	2.5	-	-	0.6	-	0.4	0.3	5	5	100.0	0.0
	e. Skin carcinoma	0	0	3	1	3	4	7	0.5	14.3	0.7	11.1	-	-	1.5	0.6	2.5	0.7	1.1	11	23	100.0	0.0
	f. Other & unspecified	0	1	6	2	11	9	20	1.2	32.1	2.1	31.7	-	0.6	3.1	1.2	9.0	1.5	3.2	24	69	100.0	0.0
XII	OTHER & UNSPECIFIED	0	3	0	2	4	5	9	0.7	100.0	0.9	100.0	-	1.7	-	1.2	3.3	0.9	1.4	13	30	55.6	22.2
	a. Other specified	0	0	0	0	2	0	2	-	-	0.2	22.2	-	-	-	-	1.6	-	0.4	-	8	100.0	0.0
	b. Other unspecified	0	3	0	2	2	5	7	0.7	100.0	0.7	77.8	-	1.7	-	1.2	1.6	0.9	1.1	13	21	42.9	28.6
	TOTAL	51	303	194	206	216	754	970	100.0	100.0	100.0	100.0	129.1	173.8	100.2	127.1	177.4	133.3	143.2	1964	2851	95.9	0.6

Please consult the quality indicators for this registry

Thailand

Thailand is in south-eastern Asia and covers an area of 513 155 km^2. The country is bordered to the north by Myanmar and the Lao People's Democratic Republic, to the east by the Lao People's Democratic Republic and Cambodia, to the south by the Gulf of Thailand and Malaysia, and to the west by the Andaman Sea and Myanmar.

Thailand is a newly industrialized country with a high HDI. Manufacturing, agriculture, and tourism are the leading sectors of the economy. The territory is administratively divided into 77 provinces. The capital and the largest city is Bangkok, which is a special administrative area.

The population is 66.7 million (Table A.7), and 26% of the population is younger than 20 years (Table A.6). The population is largely rural (54% in the 2010 census) and is concentrated in the rice-growing areas of the central, north-eastern, and northern regions. In 2008, the life expectancy was 71 years for males and 78 years for females. The government-sponsored family planning programme resulted in a dramatic decrease in population growth, from 3.1% in 1960 to about 0.4% in 2010, with an average household size of 3.2 people. Thai nationals comprise 96% of the population, and the official language is Thai. Buddhism is the most common religion (95%), and Islam is the largest minority religion (4%).

Medical care is overseen by the Ministry of Public Health. In 2009, the total national expenditure on health care was 4.3% of the GDP, of which 76% was spent in the public sector and 24% in the private sector. In 2004, there were an average of 2.98 physicians per 10 000 people; in 2002, there were 22 hospital beds per 100 000 people. In 2008, years of life were lost mostly as the result of noncommunicable diseases (55%), communicable diseases (24%), and injuries (22%). Although noncommunicable diseases account for the major burden of morbidity and mortality, other health issues include infectious diseases (including malaria and tuberculosis), traffic accidents, HIV prevalence (1.3% in 2009), use of toxic pesticides, uncontrolled use of antibiotics, teen pregnancy, and air pollution. In 2008, improved sources of drinking water were available to 98% of the population, and improved sanitation facilities were available to 96%.

Most health services are delivered by the public sector, which in 2010 included 1002 hospitals and 9765 health stations. Universal health coverage was instituted in 2001 as the result of reforms. Some private hospitals participate in the programmes, but most are financed by patient self-payment and private insurance. Overall, more than 99% of the population has health insurance coverage.

Health care is provided through health districts, each of which is responsible for about 3–6 million people. Health districts provide medical services for citizens within their area or transfers to facilities in other districts if care cannot be provided locally. Most hospitals in Thailand are operated by the Ministry of Public Health. Private hospitals are regulated by the Medical Registration Division. Other government units and public organizations, including the military, universities, local governments, and the Red Cross, also operate hospitals.

Cancer registration in Thailand is coordinated by the National Cancer Institute (https://www.nci.go.th/en). Registries exchange data and contribute to a central database. Since 2003, patients must provide their national identification number to access health-care services. Because of this change, people can now be correctly identified in the national database and date of birth can be accurately recorded. The registries can confirm the residence status of the registered patients by consulting the departments of provincial administration of the Ministry of Interior where the residents are identified by their national identification number and the address code. Because the national identification number was not always available, duplicate registration of some cases could not be excluded. Death registration is considered to be relatively complete, but the recorded causes of death are not always accurate. All registries have access to death certificates of all causes at the national level, as provided by the Bureau of Policy and Strategy of the Ministry of Public Health. Registered cases are followed up for vital status by matching the cases against the population database of the National Health Security Office. It is not possible to estimate the level of underdiagnosis, but some cancers may go undiagnosed in rural areas.

THAILAND, 6 registries (1993-2013)

Registry	Period	Cases	%	Person-years	%
Bangkok	2001-2012	2125	34.5	19 240 055	34.5
Chiang Mai	1993-2012	958	15.6	8 110 218	14.6
Chonburi	1998-2012	694	11.3	5 057 515	9.1
Khon Kaen	1993-2012	994	16.1	10 410 137	18.7
Lampang	1993-2013	492	8.0	4 101 229	7.4
Songkhla	1994-2013	892	14.5	8 777 597	15.8
THAILAND	**1993-2013**	**6155**	**100.0**	**55 696 751**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

PUBLICATIONS

Suwanrungruang K, Sriplung H, Attasara P, Temiyasathit S, Buasom R, Waisri N, et al. (2011). Quality of case ascertainment in cancer registries: a proposal for a virtual three-source capture-recapture technique. Asian Pac J Cancer Prev. 12(1):173–8. PMID:21517253

Wiangnon S, Kamsa-Ard S, Jetsrisuparb A, Sriplung H, Sontipong S, Sumitsawan Y, et al. (2003). Childhood cancer in Thailand: 1995–1997. Asian Pac J Cancer Prev. 4(4):337–43. PMID:14728593

Wongmas P, Jetsrisuparb A, Komvilaisak P, Suwanrungruang K, Choeyprasert W, Sriplung H, et al. (2015). Incidences, trends and long term outcomes of retinoblastoma in three cancer registries, Thailand. Asian Pac J Cancer Prev. 16(16):6899–902. PMID:26514464

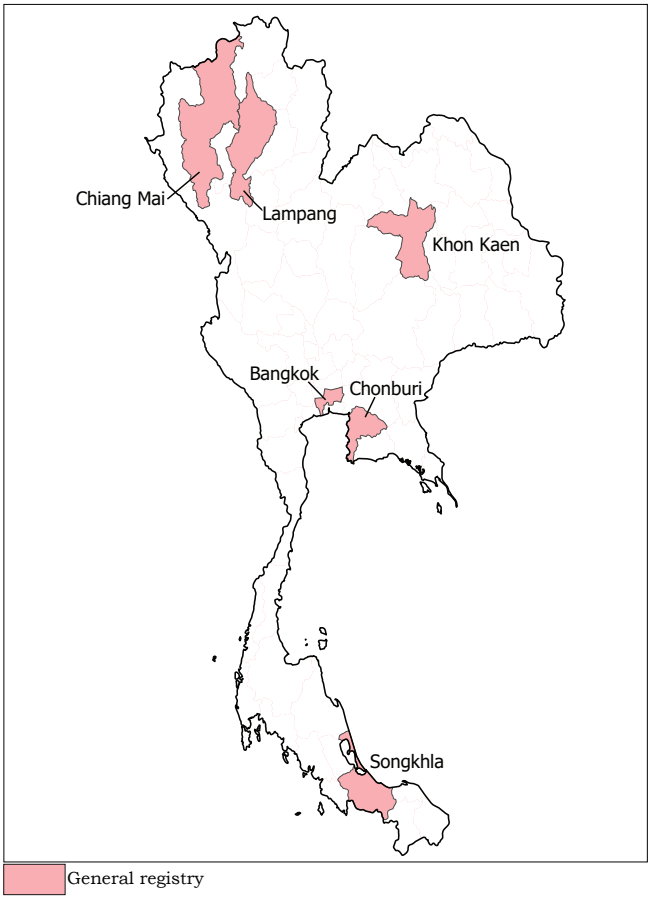
POPULATION AT RISK

The Thai population is counted in decennial censuses, the most recent of which were conducted in 1990, 2000, and 2010 (Table A.7). The detailed census data and the intercensal estimates are supplied by the National Statistical Office of Thailand (http://web.nso.go.th).

EDITORS' COMMENTS

Six registries contributed to the combined Thai dataset. The participants include the registries that contributed to IICC-2 (Bangkok, Chiang Mai, Khon Kaen, and Songkhla) (Table A.1) as well as the registries that were established more recently (Chonburi and Lampang). The combined dataset covered 19% of the national population younger than 20 years (Table A.6). The full incidence tables for all individual registries are available online.

The Bangkok Cancer Registry contributed more than twice the number of cases compared with any other Thai registry; thus, it affected the pooled dataset the most. The proportion of cases with unspecified morphology was relatively high in the pooled dataset and in the constituent registries (Table A.9). Date of birth was incomplete in 20% of cases in the pooled dataset, and day of incidence was not available for 10% of cases (Table A.8). The calculated age was inconsistent with the provided dates in 19% of cases in the pooled dataset; most such cases were supplied by the Bangkok Cancer Registry (Table A.8). The completeness of dates of birth should have improved after 2002 as a result of systematic use of the national identification number by health services. Registration and reporting of non-malignant tumours varied across the registries (Table A.9). No criteria were in place to exclude non-melanoma skin cancers from registration in any of the contributing registries. Laterality was recorded for only one third of the cases in the pooled dataset; thus, it is not presented in the IICC-3 book.



Bangkok Cancer Registry, 2001–2012

W. Imsamran, A. Chaiwerawattana, S. Sangrajrang, R. Buasom

Bangkok, the capital of Thailand, covers a total area of 1569 km^2 and is located in the Chao Phraya River delta of central Thailand.

The Bangkok Cancer Registry was established in 1990 (Table A.10) by the Cancer Research Foundation of the National Cancer Institute of Thailand, where the registry is located. The registry is supported and funded by the government and the Cancer Research Foundation. The registry covers the entire population of Bangkok Metropolis. In 2010, the population was 7.7 million, and 20% of the population was younger than 20 years (Table A.6). The childhood population covered by the registry represented almost 9% of the national childhood population (Table A.6). The registry's work began with a retrospective review of records for 1988–1990. Data are collected both actively and passively from government cancer centres, university hospitals, government hospitals, private hospitals, and pathology laboratories. All death certificates established at the national level are also reviewed, and cancer deaths are matched with the incident case records. The unmatched cancer deaths are traced back to obtain further information, and they are registered as DCO if no other medical information is found. The coverage area of the Bangkok Cancer Registry includes large referral hospitals. Information on non-residents seeking treatment in these facilities is provided to the registries covering the patients' area of residence. However, because of significant migration, inaccurate information on residence status of some cases cannot be excluded.

POPULATION AT RISK

Population data were provided by sex and 5-year age groups for 2001–2010. The data for the missing year–age–

sex categories were estimated at IARC using the methods described in Chapter 2. See also Thailand, above.

EDITORS' COMMENTS

The Bangkok Cancer Registry contributed data for 1988–1992 to IICC-2; however, it did not provide data for 1993–2000, so there is a gap between the periods covered in IICC-2 and IICC-3 (Table A.1). About one quarter of cases had unspecified morphology, and 15% of the MV cases had unspecified morphology. The proportion of infants (aged < 1 year) was low (Table A.9). This could be explained partly by a large proportion of cases with incomplete dates of birth and incidence, and cases for which age was queried (52%) (Table A.8). The registry uses only the year of birth and incidence to calculate the age at diagnosis. Thus, the proportion of cases with an unlikely combination of age and tumour was highest among the Thai registries (Table A.11). Although non-malignant CNS tumours are reportable, some may have been missed. Of the 14 non-malignant CNS tumours, 11 were pilocytic astrocytoma (recorded with uncertain behaviour), and one was recorded with malignant behaviour. Laterality was not provided. See also Thailand, above.

Chiang Mai Cancer Registry, 1993–2012

Imjai Chitapanarux, Udomluk Chaisangkhaum, Puttachart Maneesai, Narate Waisri, Panrada Tansiri, Varunee Khamsan, Malisa Poungsombat

Chiang Mai Province is located in northern Thailand in the Mae Ping River basin, surrounded by the mountain ranges of the Thai highlands. It covers an area of about 20 107 km^2 and is composed of forest (70%), agricultural land (13%), and residential and other areas (17%). The temperature ranges between 20 °C and 31 °C, and the relative humidity is 72%. Major sources of revenue are agriculture (15%), real estate (14%), commerce (12%), and education (11%). In 2010, the population of Chiang Mai was 1.5 million (2.5% of the national population), and 25% of the population was younger than 20 years (Table A.6). The city of Chiang Mai is the capital of the province and is located about 700 km north of Bangkok.

The Chiang Mai Provincial Public Health Office administers the provision of health care through the provincial hospitals and district hospitals. Cancer diagnostic services are available in most hospitals. However, only the Maharaj Nakorn Chiang Mai university hospital offers a full range of cancer-related diagnostic and therapeutic facilities, and it is the only hospital with radiotherapy equipment. Most patients suspected to have cancer are referred from primary and secondary care facilities to the university hospital.

The registry is located within the Maharaj Nakorn Chiang Mai hospital and is fully supported by the Faculty of Medicine at Chiang Mai University. The registry is staffed by two part-time physicians, five full-time registrar nurses, and two practical nurses. Data are collected actively from all hospitals, medical clinics, and pathology laboratories in Chiang Mai Province. Completeness of registration is measured indirectly using several indicators, including MV%, mortality-to-incidence ratio, and DCO%. The registry has reported annually on cancer incidence since 1978, when it was a hospital-based registry. Coverage of the entire population of the province started in 1986, with retrospective data collection from 1983 (Table A.10). Residence status of the registered patients is validated by comparison with official independent sources (as described above for Thailand), and non-residents are excluded. Together with other Thai registries, the Chiang Mai Cancer Registry contributes to national reports on cancer incidence, which are prepared every 3–5 years.

POPULATION AT RISK

Data were provided in the requested detail. See also Thailand, above.

EDITORS' COMMENTS

Date of birth was incomplete for one quarter of cases, although the recorded age was consistent with the provided dates (Table A.8). The proportion of cases with unspecified morphology was high (Table A.9), although it was the lowest among the Thai registries. Non-malignant CNS tumours, including pilocytic astrocytoma, were coded with uncertain behaviour. Laterality was unknown for about one third of the cases of interest. See also Thailand, above.

Chonburi Cancer Registry, 1998–2012

Jitraporn Tanabodee, Thitare Kulanan, Watcharaporn Aromsawa, Sasinan Krachun, Kamonchanok Sarakorn, Phachirapatsorn Rachkratok, Supasiri Ponnurak, Areerat Phadungmueang

Chonburi Province is located in eastern Thailand and covers an area of 4363 km^2. The province has the country's largest primary seaport and its most popular beach, Pattaya. The population is growing rapidly. In 2010, it was 1.3 million, and 28% of the population was younger than 20 years (Table A.6), albeit with a large floating or unregistered population. Most people work in the industrial sector, and some work in fisheries.

Chonburi Province has 26 hospitals, 10 of which provide cancer diagnostic services, surgery, and chemotherapy. Radiotherapy is provided only at Chonburi Cancer Hospital (CCH), which is the referral centre in eastern Thailand. Palliative care is provided in all hospitals. Patients suspected to have cancer are referred either to the CCH or to provincial or private hospitals.

Chonburi Cancer Registry is located within the CCH, which provides equipment and funding. The registry staff consists of one part-time medical doctor, one part-time expert consultant, one part-time nurse, and four full-time workers. Data are collected both passively and actively

from all hospitals in Chonburi Province. Registry staff members visit the large hospitals and collect data from medical records and pathology records, and community hospitals send notification forms to the registry. Information on new cases is also obtained through the network of Thai cancer registries. Registered cases are followed up for vital status by matching the registered cases against the national population database. Individuals certified as having died of cancer are registered as DCO cases if no additional medical information is found.

The CCH has a full range of diagnostic and treatment facilities, and few patients travel to facilities outside the province for treatment.

The registry provides 5-year reports on cancer incidence and mortality in Chonburi and contributes, with the other registries, to the series *Cancer in Thailand*. Registry data are used by the local health authority to evaluate the effectiveness of cancer prevention, screening, and treatment initiatives. The registry is involved in epidemiological research on cancers that are common in the province.

POPULATION AT RISK

Data were provided in the requested detail. See also Thailand, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology was high (Table A.9), which may indicate either a reduced ability to make an accurate diagnosis or difficulty accessing pathology reports. Only one non-malignant CNS tumour was included in this dataset: pilocytic astrocytoma, which was coded with uncertain behaviour. Laterality was not recorded. See also Thailand, above.

Khon Kaen Cancer Registry, 1993–2012

Surapon Wiangnon, Krittika Suwanrungruang, Patravoot Vatanasapt, Supot Kamsa-ard

Khon Kaen Province is located on a plateau 200 m above sea level, in the central part of north-eastern Thailand. It covers an area of 13 404 km^2. The city of Khon Kaen, the capital of the province, is located about 450 km north-east of Bangkok. The climate is generally hot and dry; the average annual temperature is about 28 °C, and the average annual rainfall is about 1200 mm. Most of the population is employed in rice, sugar cane, and cassava farming, but because farming depends on the rainfall, annual income is quite irregular. Many men migrate from the villages to Bangkok to find jobs in other parts of Thailand. In 2010, the estimated population of Khon Kaen Province was 1.7 million, and 28% of the population was younger than 20 years (Table A.6). The physician-to-population ratio is about 1 : 3000.

The Khon Kaen Cancer Registry was established in 1984 within the Faculty of Medicine and Srinagarind Hospital, Khon Kaen University, by a group of lecturers from several departments who were involved in the management of cancer cases. Population-based data have been collected for the entire province since 1985 (Table A.10). The Khon Kaen Cancer Registry is supported in part by the Buddhist Aid Centre of Japan and by IARC.

Cancer registration is not mandated by law, but the chief medical officers and directors of the hospitals in Khon Kaen have agreed to require registration of cancer cases at their institutions. Data are actively collected from outpatient, inpatient, radiotherapy, and pathology records at hospitals in the area at regular intervals; registry staff members also review registration procedures and resolve any questionable data. The most important data sources are the 867-bed Khon Kaen Regional Hospital and the 1031-bed university hospital (Srinagarind Hospital), which is the largest referral centre in north-eastern Thailand. The two hospitals are well equipped, and children with cancer are treated in the paediatrics department. Treatment services include chemotherapy, targeted therapy, radiotherapy, surgery, and stem cell transplantation. The other institutions that provide data to the registry are two health promotion centres, a military hospital (Sripatcharin), three private hospitals, and 24 community hospitals.

All cases are eligible for registration, although the non-malignant cases were not provided to IICC-3. To determine residence status, the declared permanent address is verified against the patient's identity card. All multiple primary cases are verified against the original records, and the relevant physicians are consulted if necessary. Registered cases are followed up for vital status. The data are stored and analysed using CanReg software.

PUBLICATIONS

Suwanrungruang K, Kamsa-ard S, Wiangnon S (2014). Data quality of childhood cancer in Khon Kaen, Thailand, 1990–2007. Asian Pac J Cancer Prev. 15(18):7985–7. https://doi.org/10.7314/APJCP.2014.15.18.7985 PMID:25292100

POPULATION AT RISK

Population figures were provided by sex and single year of age for all except one year of the reporting period. For 1993, data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years), and the data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Thailand, above.

EDITORS' COMMENTS

The dataset included almost 20% of cases with incomplete date of birth (Table A.8) and unspecified neoplasms (Table A.9). The calculated age was inconsistent with the provided dates in 4% of cases (Table A.8). Non-malignant CNS tumours were recorded but were not provided. There were no cases of pilocytic astrocytoma in the dataset. The relatively low incidence rates may be the result of the population being predominantly rural. Laterality was complete for retinoblastoma and was unknown for a large proportion of the other tumours of interest. See also Thailand, above.

Lampang Cancer Registry, 1993–2013

Somkiat Lalitwongsa, Donsuk Pongnikorn, Karnchana Daoprasert

Lampang Province covers an area of 12 534 km^2 and is located in northern Thailand at 268.8 m above sea level. In 2010, the total population was 0.7 million, and 23% of the population was younger than 20 years (Table A.6). About 30% of the population lives in urban areas. The average population density is about 60 per km^2. The most important occupations are rice, peanut, sugar bean, and pineapple farming. There are large coal-fired power plants and coal mining areas in the Moe Moh district, as well as more than 200 ceramics industries, more than 100 woodworking industries, and large cement factories.

Health-care services are provided in Lampang Provincial Hospital, 12 community hospitals, two private hospitals, one military hospital, and one cancer hospital (Lampang Cancer Hospital). These hospitals offer cancer diagnostic services, including CT, clinical consultations, and radiological and pathological investigations. Oncological surgery, chemotherapy, and targeted therapy are available in Lampang Cancer Hospital and Lampang Provincial Hospital. Radiotherapy is provided only in Lampang Cancer Hospital. The radiotherapy equipment includes one CT simulator, two dual-energy linear accelerators with multileaf collimators, one cobalt-60 teletherapy machine, two treatment planning systems for three-dimensional conformal radiotherapy and intensity-modulated radiotherapy, and one high-dose-rate brachytherapy machine. All hospitals in the province provide palliative care; however, some patients are referred to the National Cancer Institute or to the university hospitals in Chiang Mai or Bangkok. In 2012, the physician-to-population ratio was 1 : 2499, and the registered nurse-to-population ratio was 1 : 405.

The Lampang Cancer Registry covers the population of all 13 districts of the province. The registry was established in 1995 (Table A.10); it is located within Lampang Cancer Centre. Data are passively collected from 21 medical institutions. A small proportion of cases may undergo treatment in private hospitals outside the registration area and may not be registered.

All malignant tumours are eligible for registration. All mandatory variables are recorded, as are date of last contact and vital status. Neoplasms are coded according to ICD-O-3. The registry uses the IARC/IACR rules for multiple primary tumours. Data are entered and stored using CanReg5 software. In a research project titled "Quality of case ascertainment in cancer registries", the completeness of registration was shown to be more than 97%.

POPULATION AT RISK

Population figures were provided by sex and single year of age for all except one year of the reporting period. For 1993, data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years), and the data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Thailand, above.

EDITORS' COMMENTS

Date of birth was incomplete for almost 30% of cases (Table A.8), and almost one quarter of the cases had unspecified morphology (Table A.9). The registry collected only malignant tumours. There were no cases of pilocytic astrocytoma in the dataset. Laterality was available for one quarter of the cases of interest. See also Thailand, above.

Songkhla Cancer Registry, 1994–2013

Hutcha Sriplung, Paradee Prechavitayakul, Surichai Bilheem

Songkhla Province is located in southern Thailand and covers an area of 7394 km^2. In 2010, the population was 1.5 million, and 29% of the population was younger than 20 years (Table A.6). Religious representation differs slightly from the national average; 75% of residents are Buddhist, and 25% Muslim or Christian. Two cities in the province, Songkhla (the capital) and Hat Yai (the largest city and an economic centre of southern Thailand), have high proportions of ethnic Chinese residents compared with other Thai cities.

The Songkhla Cancer Registry covers the entire population of the province. It is part of the Cancer Information Centre within Prince of Songkla University. The registry is headed by a practising clinician and is staffed by a pathologist, an oncologist, an epidemiologist, a nurse, and five support staff members. Data are actively collected from 23 sources: all hospitals in the province, the provincial health office, and the provincial population registration office. The university teaching hospital affiliated with Prince of Songkla University (Songklanagarind Hospital) is the only hospital in the southern-most area of Thailand with facilities for treating children with cancer. The Cancer Information Centre runs both hospital-based and population-based cancer registries.

The Songkhla Cancer Registry was involved in collaboration on retinoblastoma incidence and trends.

PUBLICATIONS

Demanelis K, Sriplung H, Meza R, Wiangnon S, Rozek LS, Scheurer ME, et al. (2015). Differences in childhood leukemia incidence and survival between Southern Thailand and the United States: a population-based analysis. Pediatr Blood Cancer. 62(10):1790–8. https://doi.org/10.1002/pbc.25571 PMID:25962869

POPULATION AT RISK

Data were provided in the requested detail. See also Thailand, above.

EDITORS' COMMENTS

The Songkhla Cancer Registry had the lowest incidence rates of all the included Thai registries. The proportion of

unspecified cases was high. Dates of birth and incidence were incomplete in almost 20% and 30% of cases, respectively (Table A.8). Non-malignant CNS tumours were not registered systematically (Table A.9); of the few cases coded with uncertain behaviour, most were pilocytic astrocytoma. Laterality was available for about 50% of the cases of interest. See also Thailand, above.

THAILAND, 6 registries (1993-2013)

	Age group (years)	Males	Females
Person-years	0	1 218 491	1 148 230
	1-4	5 091 907	4 805 321
	5-9	6 818 068	6 471 865
	10-14	7 130 705	6 856 304
	15-19	8 012 868	8 142 992
	0-14	20 259 171	19 281 720
	0-19	28 272 039	27 424 712

Please consult the quality indicators for this pool and its constituent registries

THAILAND, 6 registries (1993-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	95	667	484	422	387	**1668**	**2055**	39.2	100.0	33.4	100.0	40.1	67.4	36.4	30.2	24.0	**44.6**	**39.9**	644	763	99.2	0.7
	a. Lymphoid	36	425	329	217	133	**1007**	**1140**	23.6	60.4	18.5	55.5	15.2	42.9	24.8	15.5	8.2	**27.0**	**22.8**	389	430	100.0	0.0
	b. Acute myeloid	25	97	64	84	116	**270**	**386**	6.3	16.2	6.3	18.8	10.6	9.8	4.8	6.0	7.2	**7.1**	**7.2**	104	140	100.0	0.0
	c. CMD	3	13	15	27	35	**58**	**93**	1.4	3.5	1.5	4.5	1.3	1.3	1.1	1.9	2.2	**1.4**	**1.6**	22	33	100.0	0.0
	d. MDS & other	2	5	0	2	7	**9**	**16**	0.2	0.5	0.3	0.8	0.8	0.5	-	0.1	0.4	**0.3**	**0.3**	4	6	100.0	0.0
	e. Unspecified	29	127	76	92	96	**324**	**420**	7.6	19.4	6.8	20.4	12.3	12.8	5.7	6.6	5.9	**8.7**	**8.1**	125	155	96.2	3.3
II	LYMPHOMA & RELATED	9	97	138	169	273	**413**	**686**	9.7	100.0	11.1	100.0	3.8	9.8	10.4	12.1	16.9	**10.2**	**11.7**	156	240	100.0	0.0
	a. Hodgkin	0	12	30	42	59	**84**	**143**	2.0	20.3	2.3	20.8	-	1.2	2.3	3.0	3.7	**2.0**	**2.4**	31	49	100.0	0.0
	b. Non-Hodgkin except BL	2	31	63	89	149	**185**	**334**	4.3	44.8	5.4	48.7	0.8	3.1	4.7	6.4	9.2	**4.4**	**5.5**	69	115	100.0	0.0
	c. Burkitt (BL)	1	15	14	4	7	**34**	**41**	0.8	8.2	0.7	6.0	0.4	1.5	1.1	0.3	0.4	**0.9**	**0.8**	13	15	100.0	0.0
	d. Lymphoreticular	6	15	5	5	3	**31**	**34**	0.7	7.5	0.6	5.0	2.5	1.5	0.4	0.4	0.2	**0.9**	**0.7**	12	13	100.0	0.0
	e. Unspecified	0	24	26	29	55	**79**	**134**	1.9	19.1	2.2	19.5	-	2.4	2.0	2.1	3.4	**2.0**	**2.3**	30	47	100.0	0.0
III	CNS NEOPLASMS †	23	158	228	197	148	**606**	**754**	14.2	100.0	12.3	100.0	9.7	16.0	17.2	14.1	9.2	**15.3**	**13.9**	230	276	73.7	3.8
	a. Ependymoma	4	13	9	12	6	**38**	**44**	0.9	6.3	0.7	5.8	1.7	1.3	0.7	0.9	0.4	**1.0**	**0.9**	15	16	100.0	0.0
	b. Astrocytoma	5	49	66	74	71	**194**	**265**	4.6	32.0	4.3	35.1	2.1	5.0	5.0	5.3	4.4	**4.8**	**4.7**	73	95	100.0	0.0
	c. CNS embryonal	7	51	62	35	14	**155**	**169**	3.6	25.6	2.7	22.4	3.0	5.2	4.7	2.5	0.9	**4.1**	**3.3**	59	64	100.0	0.0
	d. Other gliomas	1	7	20	16	10	**44**	**54**	1.0	7.3	0.9	7.2	0.4	0.7	1.5	1.1	0.6	**1.1**	**1.0**	17	20	98.1	0.0
	e. Other specified	0	3	7	7	8	**17**	**25**	0.4	2.8	0.4	3.3	-	0.3	0.5	0.5	0.5	**0.4**	**0.4**	6	9	100.0	0.0
	f. Unspecified CNS	6	35	64	53	39	**158**	**197**	3.7	26.1	3.2	26.1	2.5	3.5	4.8	3.8	2.4	**3.9**	**3.6**	60	72	0.0	14.7
IV	NEUROBLASTOMA	16	105	29	9	6	**159**	**165**	3.7	100.0	2.7	100.0	6.8	10.6	2.2	0.6	0.4	**4.7**	**3.7**	63	65	99.4	0.0
	a. (Ganglio)neuroblastoma	15	105	28	8	5	**156**	**161**	3.7	98.1	2.6	97.6	6.3	10.6	2.1	0.6	0.3	**4.6**	**3.7**	62	64	99.4	0.0
	b. Peripheral nervous	1	0	1	1	1	**3**	**4**	0.1	1.9	0.1	2.4	0.4	-	0.1	0.1	0.1	**0.1**	**0.1**	1	1	100.0	0.0
V	RETINOBLASTOMA	18	104	9	2	0	**133**	**133**	3.1	100.0	2.2	100.0	7.6	10.5	0.7	0.1	-	**4.1**	**3.2**	54	54	99.2	0.0
VI	RENAL TUMOURS	17	72	17	9	14	**115**	**129**	2.7	100.0	2.1	100.0	7.2	7.3	1.3	0.6	0.9	**3.4**	**2.8**	46	50	86.8	0.8
	a. Nephroblastoma	15	63	11	2	1	**91**	**92**	2.1	79.1	1.5	71.3	6.3	6.4	0.8	0.1	0.1	**2.8**	**2.2**	37	37	100.0	0.0
	b. Renal carcinoma	0	1	3	6	9	**10**	**19**	0.2	8.7	0.3	14.7	-	0.1	0.2	0.4	0.6	**0.2**	**0.3**	4	6	100.0	0.0
	c. Unspecified	2	8	3	1	4	**14**	**18**	0.3	12.2	0.3	14.0	0.8	0.8	0.2	0.1	0.2	**0.4**	**0.4**	6	7	5.6	5.6
VII	HEPATIC TUMOURS	18	38	15	21	34	**92**	**126**	2.2	100.0	2.0	100.0	7.6	3.8	1.1	1.5	2.1	**2.6**	**2.5**	36	47	60.3	4.0
	a. Hepatoblastoma	12	26	5	3	5	**46**	**51**	1.1	50.0	0.8	40.5	5.1	2.6	0.4	0.2	0.3	**1.4**	**1.1**	18	20	100.0	0.0
	b. Hepatic carcinoma	0	2	2	7	13	**11**	**24**	0.3	12.0	0.4	19.0	-	0.2	0.2	0.5	0.8	**0.3**	**0.4**	4	8	100.0	0.0
	c. Unspecified	6	10	8	11	16	**35**	**51**	0.8	38.0	0.8	40.5	2.5	1.0	0.6	0.8	1.0	**0.9**	**0.9**	13	18	2.0	9.8
VIII	BONE TUMOURS	1	13	42	137	154	**193**	**347**	4.5	100.0	5.6	100.0	0.4	1.3	3.2	9.8	9.5	**4.3**	**5.5**	70	118	88.2	3.7
	a. Osteosarcoma	0	4	30	99	106	**133**	**239**	3.1	68.9	3.9	68.9	-	0.4	2.3	7.1	6.6	**2.9**	**3.7**	48	81	100.0	0.0
	b. Chondrosarcoma	0	0	1	5	9	**6**	**15**	0.1	3.1	0.2	4.3	-	-	0.1	0.4	0.6	**0.1**	**0.2**	2	5	100.0	0.0
	c. Ewing & related	1	7	7	16	14	**31**	**45**	0.7	16.1	0.7	13.0	0.4	0.7	0.5	1.1	0.9	**0.8**	**0.8**	12	16	100.0	0.0
	d. Other specified	0	1	0	1	4	**2**	**6**	0.0	1.0	0.1	1.7	-	0.1	-	0.1	0.2	**0.1**	**0.1**	1	2	100.0	0.0
	e. Unspecified	0	1	4	16	21	**21**	**42**	0.5	10.9	0.7	12.1	-	0.1	0.3	1.1	1.3	**0.5**	**0.6**	8	14	2.4	31.0
IX	SOFT TISSUE SARCOMA	16	61	42	75	116	**194**	**310**	4.6	100.0	5.0	100.0	6.8	6.2	3.2	5.4	7.2	**5.0**	**5.5**	74	110	100.0	0.0
	a. Rhabdomyosarcoma	6	44	20	22	23	**92**	**115**	2.2	47.4	1.9	37.1	2.5	4.4	1.5	1.6	1.4	**2.5**	**2.3**	36	43	100.0	0.0
	b. Fibrosarcoma	3	4	3	12	10	**22**	**32**	0.5	11.3	0.5	10.3	1.3	0.4	0.2	0.9	0.6	**0.5**	**0.6**	8	11	100.0	0.0
	c. Kaposi sarcoma	0	0	1	0	3	**1**	**4**	0.0	0.5	0.1	1.3	-	-	0.1	-	0.2	**0.0**	**0.1**	0	1	100.0	0.0
	d. Other specified	7	9	13	28	62	**57**	**119**	1.3	29.4	1.9	38.4	3.0	0.9	1.0	2.0	3.8	**1.4**	**1.9**	21	41	100.0	0.0
	e. Unspecified	0	4	5	13	18	**22**	**40**	0.5	11.3	0.6	12.9	-	0.4	0.4	0.9	1.1	**0.5**	**0.7**	8	14	100.0	0.0
X	GERM CELL TUMOURS	10	56	42	138	233	**246**	**479**	5.8	100.0	7.8	100.0	4.2	5.7	3.2	9.9	14.4	**6.0**	**7.9**	92	164	93.1	0.2
	a. CNS germ cell	0	4	12	41	30	**57**	**87**	1.3	23.2	1.4	18.2	-	0.4	0.9	2.9	1.9	**1.3**	**1.4**	21	30	100.0	0.0
	b. Other extragonadal	6	18	1	19	45	**44**	**89**	1.0	17.9	1.4	18.6	2.5	1.8	0.1	1.4	2.8	**1.2**	**1.5**	17	31	97.8	0.0
	c. Gonadal germ cell	4	30	26	62	101	**122**	**223**	2.9	49.6	3.6	46.6	1.7	3.0	2.0	4.4	6.3	**3.0**	**3.7**	46	77	100.0	0.0
	d. Gonadal carcinoma	0	0	1	9	35	**10**	**45**	0.2	4.1	0.7	9.4	-	-	0.1	0.6	2.2	**0.2**	**0.7**	4	14	100.0	0.0
	e. Unspecified gonadal	0	4	2	7	22	**13**	**35**	0.3	5.3	0.6	7.3	-	0.4	0.2	0.5	1.4	**0.3**	**0.6**	5	12	11.4	2.9
XI	CARCINOMA & MELANOMA	12	51	45	142	390	**250**	**640**	5.9	100.0	10.4	100.0	5.1	5.2	3.4	10.2	24.1	**6.0**	**10.1**	93	214	100.0	0.0
	a. Adrenocortical	0	6	0	0	1	**6**	**7**	0.1	2.4	0.1	1.1	-	0.6	-	-	0.1	**0.2**	**0.2**	2	3	100.0	0.0
	b. Thyroid	2	4	12	56	144	**74**	**218**	1.7	29.6	3.5	34.1	0.8	0.4	0.9	4.0	8.9	**1.6**	**3.3**	27	72	100.0	0.0
	c. Nasopharyngeal	0	3	3	26	63	**32**	**95**	0.8	12.8	1.5	14.8	-	0.3	0.2	1.9	3.9	**0.7**	**1.4**	12	31	100.0	0.0
	d. Melanoma	1	1	6	7	6	**15**	**21**	0.4	6.0	0.3	3.3	0.4	0.1	0.5	0.5	0.4	**0.4**	**0.4**	6	7	100.0	0.0
	e. Skin carcinoma	0	2	4	7	19	**13**	**32**	0.3	5.2	0.5	5.0	-	0.2	0.3	0.5	1.2	**0.3**	**0.5**	5	11	100.0	0.0
	f. Other & unspecified	9	35	20	46	157	**110**	**267**	2.6	44.0	4.3	41.7	3.8	3.5	1.5	3.3	9.7	**2.8**	**4.4**	42	90	100.0	0.0
XII	OTHER & UNSPECIFIED	18	82	33	58	140	**191**	**331**	4.5	100.0	5.4	100.0	7.6	8.3	2.5	4.1	8.7	**5.2**	**5.9**	74	117	7.9	24.5
	a. Other specified	1	0	1	3	5	**5**	**10**	0.1	2.6	0.2	3.0	0.4	-	0.1	0.2	0.3	**0.1**	**0.2**	2	3	100.0	0.0
	b. Other unspecified	17	82	32	55	135	**186**	**321**	4.4	97.4	5.2	97.0	7.2	8.3	2.4	3.9	8.4	**5.0**	**5.8**	72	114	5.0	25.2
	TOTAL	253	1504	1124	1379	1895	**4260**	**6155**	100.0	100.0	100.0	100.0	106.9	152.0	84.6	98.6	117.3	**111.4**	**112.7**	1632	2219	89.2	2.3

† includes 40 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Turkey

Turkey is a transcontinental country located mainly in western Asia, with a smaller portion on the Balkan Peninsula in south-eastern Europe. Turkey is bordered by eight countries: Greece and Bulgaria to the north-west; Georgia to the north-east; Armenia, Azerbaijan, and the Islamic Republic of Iran to the east; and Iraq and the Syrian Arab Republic to the south. Turkey is surrounded by seas on three sides, with the Aegean Sea to the west, the Black Sea to the north, and the Mediterranean Sea to the south. The coastal region has a mild climate, and the interior areas have hot summers and cold winters. Ankara is the capital city, and İstanbul is the country's largest city and a main cultural and commercial centre.

Turkey is a secular, unitary, parliamentary republic. In 2010, the population was 72.3 million (Table A.7), and 36% of the population was younger than 20 years (Table A.6). The official language is Turkish; some minority languages are also spoken. Turkey has a high HDI, and the life expectancy at birth is almost 76 years.

Historically, health care in Turkey was dominated by a centralized state system run by the Ministry of Health. In 2003, implementation of a governmental health reform programme resulted in increased provision of health care by the private sector and the availability of health care to a larger share of the population. A fee-for-service system was adopted, which better rewards medical personnel. In 2012, Turkey had 29 960 medical institutions, with on average one doctor per 583 people and 2.65 beds per 1000 people; 80% of health-care expenditure was covered by the social security system, and 15% was paid directly by the patients. For children and adolescents, health care is covered through governmental universal coverage even if they have no insurance. Private insurance makes up a small fraction of coverage, although it is becoming more common.

A cancer control programme started in 2008 includes prevention education targeting reduction of tobacco consumption and promotion of healthy nutrition habits.

Although cancer notification has been compulsory since 1983 and passive registration is performed nationwide, estimates of cancer incidence are generated from the data collected actively by the trained registry staff of several regional cancer registries. Data are collected actively from patient files and electronic databases, in accordance with IARC and MECC standards. By 2000, active registration had been adopted in eight provinces, thus covering 20% of the population.

Additional structural changes on a national scale helped to further improve the quality and availability of cancer data. The unique Turkish Republic Identity Number (TRIN) was devised in 2000, and use of these numbers was implemented in hospitals in 2007, which is when the address-based population registration system (ABPRS) was established. The system is integrated with the Central Civil Registration System (MERNIS), in which personal identification items such as name, surname, mother's name, father's name, place of birth, date of birth, and civil status events are stored and accessed using the TRIN. An electronic patient database, which was launched in 2008–2009, links automatically with the personal information in the ABPRS-MERNIS database to help ensure completeness of records (e.g. date of birth, date of death, place of residence), check for duplicates, and match the resident population against resident patients with cancer. However, the TRIN was not mandatory for medical records before 2007, and some elements of identification information (e.g. dates) may have been incomplete.

The regional cancer registries are linked among themselves and through the Cancer Control Department of the Ministry of Health, where the reported data are double-checked and duplicate records are resolved. Each registry reports both resident and non-resident cases. The records of non-residents are forwarded to the patient's provincial registry of residence.

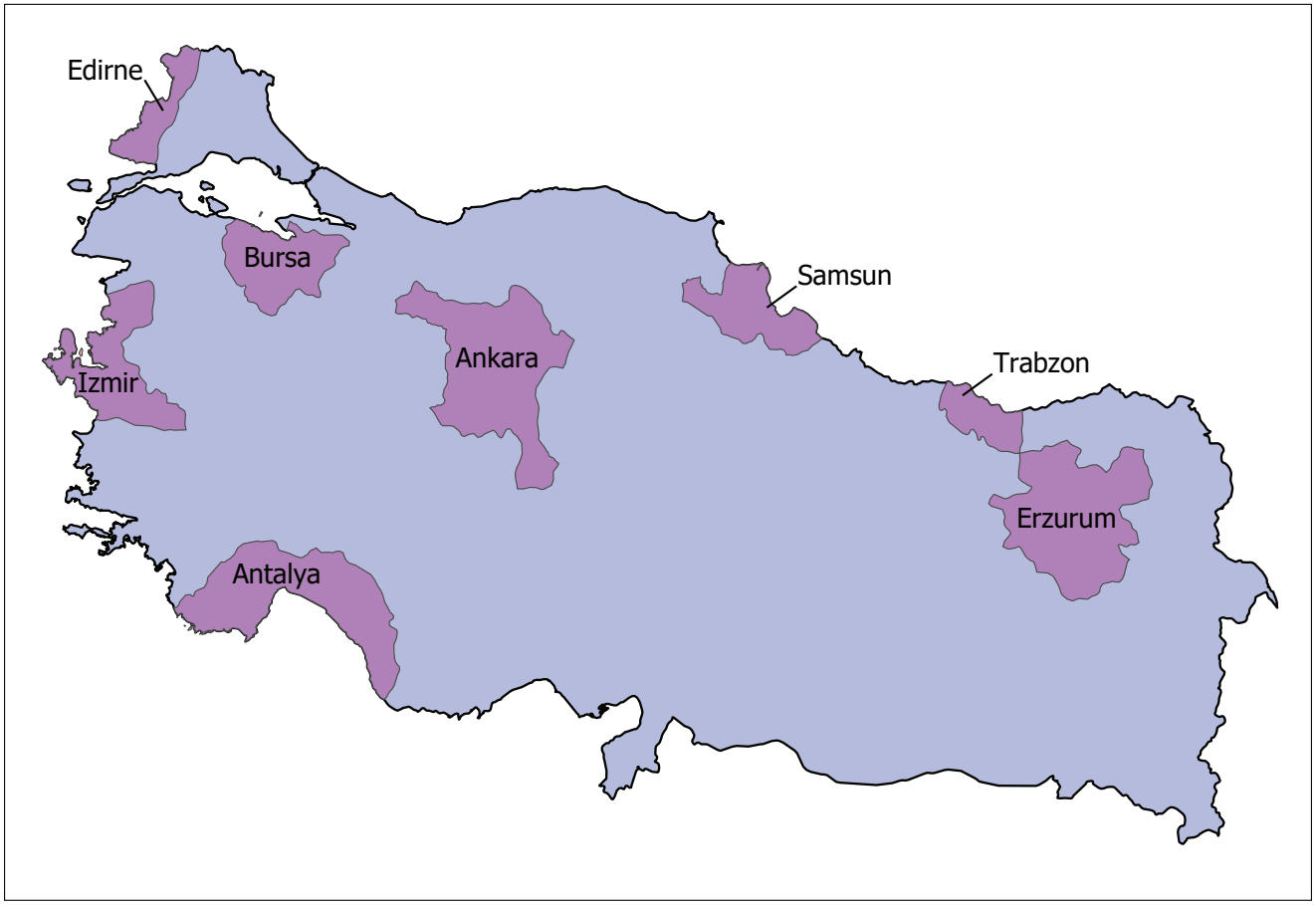
PUBLICATIONS

Yılmaz HH, Yazıhan N, Tunca D, Sevinç A, Olcayto EO, Ozgül N, et al. (2011). Cancer trends and incidence and mortality patterns in Turkey. Jpn J Clin Oncol. 41(1):10–6. https://doi.org/10.1093/jjco/hyq075 PMID:20558464

TURKEY, 8 registries (1992-2012)

Registry	Period	Cases	%	Person-years	%
Ankara	2008-2012	1362	15.7	7 125 468	13.2
Antalya	1998-2012	1293	14.9	8 199 211	15.2
Bursa	2004-2012	958	11.1	6 884 571	12.8
Edirne	2004-2012	133	1.5	870 329	1.6
Erzurum	2006-2012	370	4.3	2 192 103	4.1
İzmir	1992-2012	3534	40.8	22 044 321	40.9
Samsun	2003-2012	624	7.2	4 201 062	7.8
Trabzon	2003-2012	389	4.5	2 356 172	4.4
TURKEY	**1992-2012**	**8663**	**100.0**	**53 873 237**	**100.0**

Please consult the quality indicators for this pool and its constituent registries



Eser S, Yakut C, Özdemir R, Karakilinç H, Özalan S, Marshall SF, et al. (2010). Cancer incidence rates in Turkey in 2006: a detailed registry based estimation. Asian Pac J Cancer Prev. 11(6):1731–9. PMID:21338224

POPULATION AT RISK

The 14th population census was conducted by the Turkish Statistical Institute (TURKSTAT) in 2000 (Table A.7). Since 2007, the ABPRS-MERNIS located within TURKSTAT (https://www.turkstat.gov.tr/) has provided population data. The population data used in IICC-3 were supplied by the registries. Until 2006, the mid-year estimates were estimated by the provincial health directorates. These estimates were generated based on household-based annual registration of the covered population as routinely carried out by primary health-care centres. For the period from 2007, the end-year data are provided by TURKSTAT.

EDITORS' COMMENTS

Eight general cancer registries, located in Ankara, Antalya, Bursa, Edirne, Erzurum, İzmir, Samsun, and Trabzon, contributed to IICC-3. Data provided by the Turkish Childhood Cancer Registry for children aged 0–14 years are also included for a 3-year period. Two standard tables are presented in the IICC-3 book, one for the national paediatric registry and the other for the pooled dataset of the regional cancer registries, which combined cover almost 20% of the national childhood population (Table A.6). The full tables for the individual registries are available online, except for Edirne, for which the number of cases was low and which was therefore not presented separately (Table A.12).

The national paediatric cancer registry had markedly lower incidence rates than those in the pooled dataset of the eight general cancer registries, probably because of the limited number of data sources used by the paediatric cancer registry. Close collaboration between the national paediatric cancer registry and the general cancer registries would help to improve the completeness and quality of data in all registries. A marked increase in the incidence rates in the pooled dataset of the general cancer registries may suggest a gradual improvement in the completeness of registration over the reporting period. However, the possibility of overreporting in the general registries, especially those in towns with large treatment centres for children with cancer, could also contribute to the high rates.

The precise dates of birth and incidence were unavailable for a proportion of cases (Table A.8), which may have affected the precision of the recorded age to some extent. Non-malignant CNS tumours are registered; they comprise between 20% and 50% of all CNS malignancies in individual registries (Table A.9). There were cases of pilocytic astrocytoma in all registries; they were coded with uncertain behaviour, except in the Ankara Cancer Registry, in which they were coded with malignant behaviour. Non-melanoma skin cancers were reportable in all Turkish registries. Laterality was reported for all tumours of interest. The proportion of unknown laterality among ovarian tumours in the paediatric cancer registry and among testicular tumours in the general cancer registries was slightly higher than 5%; these datasets were not included in the relevant laterality tables in the IICC-3 book.

Turkish Childhood Cancer Registry, 2009–2011

M.T. Kutluk, A. Yesilipek

In Turkey, the subspecialties of paediatric oncology and haematology were established in 1983 and then merged in 2009. The Turkish National Pediatric Cancer Registry was started in 2002 by Professor Tezer Kutluk on behalf of the Turkish Pediatric Oncology Group, and the Turkish Pediatric Hematology Association joined in 2005. Initially, registration was based on manually completed forms. A web-based registry portal was created in 2005. In 2009, it was updated to include a web-based data management system and to become compatible with international cancer registry methodologies using the ICD-O-3 coding system and ICCC-3 diagnostic categories (Table A.10). The National Pediatric Cancer Registry collects data from all paediatric oncology and haematology clinics at the national level. The contact person from each paediatric haematology–oncology centre is instructed in a face-to-face or online training, and continuous communication is maintained between the data manager, principal investigators, and registry offices. Follow-up information on the registered patients is also recorded and updated annually, based on the reports from the registration offices.

Although more than 2000 cases are collected per year by the cooperating institutions, 2500–3000 new paediatric cancer cases are expected annually. Although all malignant tumours are referred to paediatric haematology–oncology clinics, the completeness of the registry may be about 75%. Benign tumours and low-grade tumours are underregistered. Because of improved compliance with international standards implemented in 2009, the data for 2009–2011 were provided to IICC-3. Data collection for the following years continues, with a focus on improving completeness.

PUBLICATIONS

Kutluk MT, Yesilipek A (2013). Turkish National Pediatric Cancer Registry 2002–2008 (Turkish Pediatric Oncology Group and Turkish Pediatric Hematology Society). J Clin Oncol. 31(15 Suppl):10067. https://doi.org/10.1200/jco.2013.31.15_suppl.10067

POPULATION AT RISK

Data were provided in the requested detail. See also Turkey, above.

EDITORS' COMMENTS

The incidence rates are underestimated overall and within the diagnostic groups. However, the registry has national coverage, which is supported by national associations of paediatric oncologists and haematologists. The registry has the potential to provide good-quality data on incidence and survival, especially if data exchange with the regional cancer registries is implemented. Death certificates are not ascertained. Sex is unknown in 0.1% of all cases, and age was recalculated at IARC (Table A.8). The proportion of non-malignant CNS tumours was the lowest of all the Turkish cancer registries, possibly due to missing some of the data sources. See also Turkey, above.

TURKEY, paediatric (2009-2011)

	Age group (years)	Males	Females
Person-years	0	1 824 674	1 722 843
	1-4	7 693 731	7 292 620
	5-9	9 455 691	8 961 220
	10-14	10 093 852	9 579 860
	0-14	29 067 948	27 556 543
Average annual population	0-14	9 689 316	9 185 514

Please consult the quality indicators for this registry

TURKEY, paediatric (2009-2011)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	72	815	491	412	**1790**	34.1	100.0	20.3	54.4	26.7	20.9	**33.2**	477	100.0	0.0
	a. Lymphoid	44	697	388	282	**1411**	26.9	78.8	12.4	46.5	21.1	14.3	**26.4**	377	100.0	0.0
	b. Acute myeloid	21	94	93	116	**324**	6.2	18.1	5.9	6.3	5.0	5.9	**5.7**	86	100.0	0.0
	c. CMD	1	7	6	10	**24**	0.5	1.3	0.3	0.5	0.3	0.5	**0.4**	6	100.0	0.0
	d. MDS & other	4	6	1	2	**13**	0.2	0.7	1.1	0.4	0.1	0.1	**0.3**	3	100.0	0.0
	e. Unspecified	2	11	3	2	**18**	0.3	1.0	0.6	0.7	0.2	0.1	**0.4**	5	100.0	0.0
II	LYMPHOMA & RELATED	12	185	318	352	**867**	16.5	100.0	3.4	12.3	17.3	17.9	**14.9**	229	99.7	0.0
	a. Hodgkin	3	49	139	166	**357**	6.8	41.2	0.8	3.3	7.5	8.4	**6.0**	94	100.0	0.0
	b. Non-Hodgkin except BL	1	54	87	120	**262**	5.0	30.2	0.3	3.6	4.7	6.1	**4.4**	69	99.6	0.0
	c. Burkitt (BL)	0	71	89	62	**222**	4.2	25.6	-	4.7	4.8	3.2	**4.0**	59	100.0	0.0
	d. Lymphoreticular	8	11	0	3	**22**	0.4	2.5	2.3	0.7	-	0.2	**0.4**	6	100.0	0.0
	e. Unspecified	0	0	3	1	**4**	0.1	0.5	-	-	0.2	0.1	**0.1**	1	50.0	0.0
III	CNS NEOPLASMS †	42	246	289	176	**753**	14.3	100.0	11.8	16.4	15.7	8.9	**13.7**	201	77.8	0.0
	a. Ependymoma	13	50	20	17	**100**	1.9	13.3	3.7	3.3	1.1	0.9	**1.9**	27	96.0	0.0
	b. Astrocytoma	10	71	85	73	**239**	4.6	31.7	2.8	4.7	4.6	3.7	**4.3**	63	73.6	0.0
	c. CNS embryonal	10	84	103	49	**246**	4.7	32.7	2.8	5.6	5.6	2.5	**4.5**	66	98.0	0.0
	d. Other gliomas	0	24	58	18	**100**	1.9	13.3	-	1.6	3.1	0.9	**1.8**	27	23.0	0.0
	e. Other specified	2	15	19	14	**50**	1.0	6.6	0.6	1.0	1.0	0.7	**0.9**	13	84.0	0.0
	f. Unspecified CNS	7	2	4	5	**18**	0.3	2.4	2.0	0.1	0.2	0.3	**0.3**	5	44.4	0.0
IV	NEUROBLASTOMA	128	233	50	12	**423**	8.1	100.0	36.1	15.5	2.7	0.6	**8.6**	114	96.5	0.0
	a. (Ganglio)neuroblastoma	128	232	47	7	**414**	7.9	97.9	36.1	15.5	2.6	0.4	**8.4**	112	96.4	0.0
	b. Peripheral nervous	0	1	3	5	**9**	0.2	2.1	-	0.1	0.2	0.3	**0.1**	2	100.0	0.0
V	RETINOBLASTOMA	67	93	9	2	**171**	3.3	100.0	18.9	6.2	0.5	0.1	**3.5**	46	46.8	0.0
VI	RENAL TUMOURS	40	170	63	11	**284**	5.4	100.0	11.3	11.3	3.4	0.6	**5.7**	77	93.3	0.0
	a. Nephroblastoma	40	168	58	6	**272**	5.2	95.8	11.3	11.2	3.1	0.3	**5.4**	73	93.0	0.0
	b. Renal carcinoma	0	2	4	5	**11**	0.2	3.9	-	0.1	0.2	0.3	**0.2**	3	100.0	0.0
	c. Unspecified	0	0	1	0	**1**	0.0	0.4	-	-	0.1	-	**0.0**	0	100.0	0.0
VII	HEPATIC TUMOURS	24	40	11	9	**84**	1.6	100.0	6.8	2.7	0.6	0.5	**1.7**	23	98.8	0.0
	a. Hepatoblastoma	22	39	7	2	**70**	1.3	83.3	6.2	2.6	0.4	0.1	**1.4**	19	98.6	0.0
	b. Hepatic carcinoma	2	1	4	7	**14**	0.3	16.7	0.6	0.1	0.2	0.4	**0.2**	4	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	1	20	80	162	**263**	5.0	100.0	0.3	1.3	4.3	8.2	**4.2**	69	100.0	0.0
	a. Osteosarcoma	0	2	29	85	**116**	2.2	44.1	-	0.1	1.6	4.3	**1.8**	30	100.0	0.0
	b. Chondrosarcoma	0	0	1	0	**1**	0.0	0.4	-	-	0.1	-	**0.0**	0	100.0	0.0
	c. Ewing & related	1	18	49	76	**144**	2.7	54.8	0.3	1.2	2.7	3.9	**2.4**	38	100.0	0.0
	d. Other specified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	0	0	1	1	**2**	0.0	0.8	-	-	0.1	0.1	**0.0**	1	100.0	0.0
IX	SOFT TISSUE SARCOMA	30	104	75	78	**287**	5.5	100.0	8.5	6.9	4.1	4.0	**5.3**	76	99.7	0.0
	a. Rhabdomyosarcoma	12	75	43	21	**151**	2.9	52.6	3.4	5.0	2.3	1.1	**2.9**	40	99.3	0.0
	b. Fibrosarcoma	9	12	9	5	**35**	0.7	12.2	2.5	0.8	0.5	0.3	**0.7**	9	100.0	0.0
	c. Kaposi sarcoma	0	0	1	0	**1**	0.0	0.3	-	-	0.1	-	**0.0**	0	100.0	0.0
	d. Other specified	9	12	18	43	**82**	1.6	28.6	2.5	0.8	1.0	2.2	**1.4**	21	100.0	0.0
	e. Unspecified	0	5	4	9	**18**	0.3	6.3	-	0.3	0.2	0.5	**0.3**	5	100.0	0.0
X	GERM CELL TUMOURS	54	64	27	59	**204**	3.9	100.0	15.2	4.3	1.5	3.0	**3.8**	54	97.5	0.0
	a. CNS germ cell	1	2	10	15	**28**	0.5	13.7	0.3	0.1	0.5	0.8	**0.5**	7	92.9	0.0
	b. Other extragonadal	33	36	3	4	**76**	1.4	37.3	9.3	2.4	0.2	0.2	**1.6**	20	97.4	0.0
	c. Gonadal germ cell	20	26	14	37	**97**	1.8	47.5	5.6	1.7	0.8	1.9	**1.8**	26	99.0	0.0
	d. Gonadal carcinoma	0	0	0	3	**3**	0.1	1.5	-	-	-	0.2	**0.0**	1	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	3	9	15	89	**116**	2.2	100.0	0.8	0.6	0.8	4.5	**1.8**	30	99.1	0.0
	a. Adrenocortical	2	4	2	2	**10**	0.2	8.6	0.6	0.3	0.1	0.1	**0.2**	3	100.0	0.0
	b. Thyroid	0	0	3	27	**30**	0.6	25.9	-	-	0.2	1.4	**0.5**	8	100.0	0.0
	c. Nasopharyngeal	1	0	3	41	**45**	0.9	38.8	0.3	-	0.2	2.1	**0.7**	12	97.8	0.0
	d. Melanoma	0	3	5	5	**13**	0.2	11.2	-	0.2	0.3	0.3	**0.2**	3	100.0	0.0
	e. Skin carcinoma	0	1	0	2	**3**	0.1	2.6	-	0.1	-	0.1	**0.1**	1	100.0	0.0
	f. Other & unspecified	0	1	2	12	**15**	0.3	12.9	-	0.1	0.1	0.6	**0.2**	4	100.0	0.0
XII	OTHER & UNSPECIFIED	0	7	0	2	**9**	0.2	100.0	-	0.5	-	0.1	**0.2**	2	100.0	0.0
	a. Other specified	0	7	0	0	**7**	0.1	77.8	-	0.5	-	-	**0.1**	2	100.0	0.0
	b. Other unspecified	0	0	0	2	**2**	0.0	22.2	-	-	-	0.1	**0.0**	1	100.0	0.0
	TOTAL §	473	1986	1428	1364	**5251**	100.0	100.0	133.3	132.5	77.5	69.3	**96.5**	1398	94.2	0.0

† includes 170 non-malignant
§ includes 3 with sex unknown

Please consult the quality indicators for this registry

Ankara Cancer Registry, 2008–2012

İskender Kog, Mustafa Savas, Ilkay Oztoklu

The Ankara Cancer Registry covers Ankara Province in central Turkey. The province covers an area of 25 437 km^2 and is divided into 25 districts. In 2010, the total population was 4.8 million, and almost 30% of the population was younger than 20 years (Table A.6); 95% of the population lives in urban areas.

Patients suspected to have cancer are referred mostly to university or government hospitals in the centre of Ankara. Cancer cases are diagnosed in eight university hospitals, 33 public hospitals, 28 private hospitals, and 14 private pathology laboratories. Ankara receives significant numbers of patients from all of the Turkish provinces.

The Ankara Cancer Registry has recorded incident cancer cases since 2006 (Table A.10). Nine full-time health workers work in the registry, and an additional 83 staff members are based in hospitals. Three staff members visit the hospitals that lack registry staff as necessary. All registrars are certified.

All neoplasms are registered, irrespective of the method of diagnosis. Invasive and in situ lesions at any anatomical site (including non-melanoma skin cancer) and benign tumours of the brain are registered. For each case, the Ankara Cancer Registry records a set of mandatory information items, defined by SEER. The registry uses IARC/IACR and ENCR rules for coding multiple primary tumours.

Active case finding is performed, and data are recorded from all hospitals that provide cancer diagnostic and treatment services in the province. Neoplasms are coded according to ICD-O-3 (Table A.10). CanReg4 software is used for registration, database management, quality control, and data processing. The IARC software package DEPedits is used to identify erroneous or unlikely records. The registry publishes annual reports on cancer incidence, highlighting trends and changes, and provides data to Turkish Cancer Statistics.

POPULATION AT RISK

Data were provided in the requested detail. See also Turkey, above.

EDITORS' COMMENTS

Ankara has the highest incidence rate among the eight general cancer registries in Turkey (Table A.9). This can be explained by the reporting period, which completely overlaps the existence of the national system of population registration, which probably contributed to more complete cancer registration. However, Ankara's central position in treatment of children with cancer may also make it difficult to exclude non-residents and could thus facilitate overreporting. This suggestion is supported by the observation of almost 100% MV cases and less than 0.5% of clinically diagnosed cases; these values exceed those observed in all other Turkish cancer registries (Table A.9). The proportion of non-malignant cases is lower than in the other general Turkish registries, possibly because pilocytic astrocytoma was coded with malignant behaviour in this registry, whereas all the other registries coded these cases with uncertain behaviour. See also Turkey, above.

Antalya Cancer Registry, 1998–2012

Oya Dirican, Murat Özdemir, Songül Çatalbaş, Derya Akgül Kanalıcı, Nurten Eryiğit, Gülşen Kurt, Gülşen Çelik, Keziban Kasap

Antalya Province is located on the south-western coast of the region of Anatolia; the province is bordered by the Taurus Mountains and Turkey's largest sea resort. The Mediterranean climate with its hot, dry, and sunny summers and mild and rainy winters, as well as large-scale development funded by the government, have promoted tourism: a record 12.5 million tourists passed through the city of Antalya in 2014. Antalya, the capital of the province, is the largest Turkish city on the Mediterranean coast, with more than 1 million people in the metropolitan area.

Two university hospitals, 14 state hospitals, 27 private hospitals, 15 specialty centres, and three private pathology laboratories provide cancer diagnostic and treatment services.

The Antalya Cancer Registry has collected data since 1995, as part of the Cancer Control Branch of the provincial Public Health Directorate under the management of the Cancer Control Department of the Ministry of Health. The registry has 10 full-time and 42 part-time staff. A central office operates as the core administrative body, gathering data from numerous hospital-based cancer registry units.

The registry actively collects data on every cancer case in Antalya Province. The covered population is almost 2.0 million, and 31% of the population is younger than 20 years (Table A.6). Although non-residents may be treated in Antalya Province, the registry is able to identify resident cases. Readily accessible medical care facilities guarantee that almost all patients with cancer will interact with the health-care system at some point in their illness and, therefore, will be registered.

The registry's main sources of information include cancer centres, major hospitals, pathology departments, and death certificates from the death registration system. Tumours are coded according to the ICD-O in use (Table A.10).

POPULATION AT RISK

Population data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years) for 1998–2006 and by sex and single year of age for 2007–2012. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Turkey, above.

EDITORS' COMMENTS

Date of birth was incomplete for 16% of cases (Table A.8), which may have affected the precision of the recorded age in some cases. See also Turkey, above.

Bursa Cancer Registry, 2004–2012

Ismail Serkan Ursavas, Gulden Karaca, Sevgi Ayik, Yasemin Durgut, Melin Kirbiyik

The Bursa Cancer Registry covers Bursa Province in western Turkey. The province covers an area of 10 882 km^2. The population is 2.6 million, and 31% of the population is younger than 20 years (Table A.6).

Cancer cases are diagnosed in one university hospital, one public teaching hospital, one public oncology hospital, 12 general public hospitals, 10 private hospitals, and four private pathology centres; these facilities serve both residents and non-residents.

The registry has recorded incident cancer cases in Bursa Province and neighbouring provinces since 2000 (Table A.10). It is staffed by five full-time health workers, and an additional 43 staff members are based in hospitals. The registry actively collects data from all hospitals and some clinics that provide cancer diagnostic and treatment services in the province. Tumours are coded according to ICD-O-3, and CanReg software provided by IARC is used for database management and data processing. The registry publishes annual reports on cancer incidence, highlighting trends and changes.

POPULATION AT RISK

Population data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years) for 2004–2006 and by sex and single year of age for 2007–2012. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Turkey, above.

EDITORS' COMMENTS

Date of birth was incomplete for almost 10% of cases (Table A.8), which may have resulted in recording imprecise age for some cases. See also Turkey, above.

Edirne Cancer Registry, 2004–2012

Bahattin Ilter, Deniz Ozden, Umit Akin, Ayse Beller, Tijen Ozturk Taskin, Filiz Guler,Remziye Akin, Zülfiye Yazici, Gulbiye Ozgur, Yelda Karabas

Edirne Province is located in the West Anatolia Region of Turkey. Regional income originates from livestock, agriculture, tourism, and small industries. The covered population is 0.4 million, and 24% of the population is younger than 20 years (Table A.6). A large proportion (66%) of the population lives in urban areas. The majority religion is Islam. The population is decreasing because of emigration.

Health-care provision is ensured by primary health centres and government hospitals. Patients suspected to have cancer are mostly referred to Trakya University Hospital and government hospitals in the centre of Edirne. Patients may be diagnosed and treated outside the province.

The Edirne Cancer Registry collects data on all new cases in the Edirne Province. Passive data collection was replaced in 2004 with active case finding from three governmental hospitals, one university hospital, and three private hospitals that provide cancer diagnostic and treatment services in the province. The registry is staffed by five full-time health workers and seven staff members based in hospitals. The registry prepares annual reports of cancer incidence, highlighting trends and changes.

POPULATION AT RISK

Population data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years) for 2004–2006 and by sex and single year of age for 2007–2012. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Turkey, above.

EDITORS' COMMENTS

The Edirne Cancer Registry contributed to the combined Turkish dataset. However, because of the small number of cases provided, the data and their quality indicators are not presented separately (Table A.12). See also Turkey, above.

Erzurum Cancer Registry, 2006–2012

Mahmut Uçar, Mihriban Yazici, Engin Kurt, Hatice Bayar, Duygu Turhan, Tayyar Çelik, Uğur Merih, Murat Akçay, Turan Özbek, Sibel Yilmaz

Erzurum Province is located in the Eastern Anatolia Region of Turkey. In 2010, the population was 0.8 million, and more than 40% of the population was younger than 20 years (Table A.6). Its eponymous capital, Erzurum, is located 1757 m above sea level.

The Erzurum population-based cancer registry covers the entire province. It was established in 2005, and active registration of cancer cases started in 2006 (Table A.10). Three full-time and two half-time staff members work in the public and private hospitals, and four staff members work at the registry office. Four of the registrars are certified. Data are collected actively from all hospitals and clinics that provide cancer diagnostic and treatment services in the province. Registry staff members visit the other hospitals in the province annually to complete the database. Death certificates for all deaths collected on the national level are used for case finding.

POPULATION AT RISK

Population data for 2006 were provided by age groups (0, 1–4, 5–9, 10–14, and 15–19 years) and were provided in the requested detail for the other covered years. The data for the missing year–age–sex combinations were estimated at IARC using the methods described in Chapter 2. See also Turkey, above.

EDITORS' COMMENTS

One quarter of cases had incomplete dates of birth (Table A.8). The lowest MV% was accompanied by the highest proportion of NOS tumours among all Turkish registries (Table A.9). Malignant carcinoid of appendix constituted 1.4% of all cases (Table A.11). See also Turkey, above.

İzmir Cancer Registry, 1992–2012

Sultan Eser, Cankut Yakut, Saniye Ozalan

İzmir Province is located in the extreme west of Turkey, on the coast of the Aegean Sea. The city of İzmir is the major commercial and industrial centre of the Aegean region, and agricultural activities (e.g. tobacco, cotton, vegetables, fruits) predominate in the rural areas of the province. Tourism is one of the main industries. In 2010, the population was 3.9 million (5.4% of the total national population), of which 91% lived in urban areas, and 27% of the population was younger than 20 years (Table A.6).

Patients from nearby provinces travel to İzmir because of its well-developed health-care facilities. Health care is easily accessible, particularly since 2003, when major changes were implemented in the organization of health services.

The İzmir Cancer Registry (ICR) was established in 1992 (Table A.10) as the first population-based cancer registry in Turkey. It functions as a subunit of the Cancer Control Department of the İzmir Provincial Public Health Directorate under the structure of the Ministry of Health. The ICR is funded mainly by the government, although it receives some support from the MECC.

The ICR collects data actively on all new cases of cancer from all 59 medical facilities in the province, including five university hospitals, 26 public hospitals, 10 private hospitals, two private oncology centres, eight pathology laboratories, and other facilities. Diagnosis and treatment of childhood cancers was very much centralized in İzmir, especially before the health-care transition in 2003, and the ICR has well-established ascertainment procedures in collaboration with all centres that treat children with cancer. Completeness of registration may have been lower at the beginning of registration in the early 1990s, although improved registration can only partly explain the increasing incidence of childhood cancers.

Neoplasms are coded according to ICD-O-3. Since 1998, data for benign CNS tumours are collected. The ICR uses ENCR/IARC rules for multiple primary tumours, and staging is coded according to SEER rules for summary staging and the Condensed TNM. The registry performs active follow-up, contacting patients' families by phone or searching the records of all major health-care facilities. Based on case re-finding audits, the completeness of registration was estimated to be 96.1% in 2001–2005 and 97.7% in 2006–2007.

The most striking pattern of cancer incidence in İzmir is the dominance of tobacco-related cancers, particularly in men. Using the data from ICR, Turkey shaped policies and allocated funding and other resources towards preventive measures. For example, in 2009 the Ministry of Health banned smoking in all indoor public places.

POPULATION AT RISK

Population data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years) for 1993–2006 and by sex and single year of age for 2007–2012. The population for 1992 was linearly extrapolated within each sex–age category, based on the data available for 1993–2012; the data for the other missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Turkey, above.

EDITORS' COMMENTS

The relatively low incidence rates are probably the result of a lower completeness of registration at the beginning of the period, as the steeply increasing incidence rates attained or surpassed those observed in Ankara in 2008–2012. These trends merit a specific study to discover their causes. Date of birth is incomplete for about 20% of cases, and age was calculated at IARC (Table A.8). Pilocytic astrocytoma was coded with uncertain behaviour, although one case was coded with malignant behaviour. See also Turkey, above.

Samsun Cancer Registry, 2003–2012

Merve Altinisik, Yasar Cavusoglu, Sevgi Yazicioglu, Seyhan Guven, Nurten Meydan Yildirim, Gulnaz Kaplan Bas, Azize Sanli Bayram

Samsun Province is located on the south coast of the Black Sea in northern Turkey. The population is 1.3 million, and 33% of the population is younger than 20 years (Table A.6); 64% of the population lives in urban areas. The capital of the province is Samsun, a large city with a busy port.

The city of Samsun has a central role in providing health care and oncology services in the region, and patients travel there from the adjacent provinces to receive health services. Three hospitals provide radiotherapy with four devices; chemotherapy is provided in these and other hospitals. All patients with cancer can easily access treatment facilities.

The Samsun Cancer Registry, which was established in 2001 (Table A.10), covers Samsun Province. The registry office is staffed by a general practitioner and eight full-time health workers. Eleven qualified and certified cancer registrars are based in hospitals. Data are actively collected on all new cancer cases in all data sources, including 11 governmental hospitals, one university hospital, seven private hospitals, two private pathology laboratories, 17 public health centres, and two nursing homes. Neoplasms are coded according to ICD-O-3. Data are stored and processed using CanReg4, which is provided by IARC. The

IARCcrgTools program is used in routine quality control procedures.

The factors that may influence incidence rates are the population changes within the area and changes in the availability of diagnostic and treatment services. The Samsun Cancer Registry provides information required to plan control cancer strategies in Samsun.

POPULATION AT RISK

Population data were provided by sex and 5-year age groups for 2003–2006 and were provided in all required detail for 2007–2012. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Turkey, above.

EDITORS' COMMENTS

Date of birth and date of incidence were incomplete in about 20% of cases (Table A.8). See also Turkey, above.

Trabzon Cancer Registry, 2003–2012

Nurşen Uçuncu, Ayşe Turkkoylu, Melek Erden, Nazan Kalay, Nejla Kurt, Hayri Yapici, Ahmet Karaguzel, Hanim Bektas, Erdal Aydin, Ozgul Ozbayrak

Trabzon Province is located in north-eastern Turkey and covers an area of 4685 km^2. The city of Trabzon (the provincial capital) is a port on the Black Sea coast. The population is 0.8 million, and 31% of the population is younger than 20 years (Table A.6).

The health-care facilities that provide cancer diagnostic services include five provincial centres, eight district hospitals, four private hospitals, and one private pathology centre.

The Trabzon Cancer Registry covers the entire province. The registry has recorded incident cancer cases in Trabzon Province and neighbouring provinces since 2003. It is staffed by four full-time health workers based in the registry office and 16 staff members based in hospitals, three of whom are allocated to the university hospital. Data are actively collected from all hospitals and some clinics that provide cancer diagnostic and treatment services in the province. Neoplasms are coded according to ICD-O-3, and data are managed and processed using CanReg software. The registry publishes an annual report on cancer incidence, highlighting trends and changes.

POPULATION AT RISK

Population data for 2003–2006 are based on the annual registrations by primary health centres of the Provincial Health Directorate of Trabzon; the data were provided by sex and age groups (0, 1–4, 5–9, 10–14, and 15–19 years). Data for 2007–2012 are based on the population registration system and were provided in all required detail. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Turkey, above.

EDITORS' COMMENTS

Date of birth was incomplete in 17% of cases, and the calculated age was inconsistent with the provided dates in 3% of cases (Table A.8). See also Turkey, above.

TURKEY, 8 registries (1992-2012)

	Age group (years)	Males	Females
Person-years	0	1 258 091	1 195 120
	1-4	5 131 932	4 885 950
	5-9	6 705 833	6 396 410
	10-14	7 163 227	6 845 272
	15-19	7 278 272	7 013 130
	0-14	20 259 083	19 322 752
	0-19	27 537 355	26 335 882

Please consult the quality indicators for this pool and its constituent registries

TURKEY, 8 registries (1992-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	106	906	525	434	411	**1971**	**2382**	32.9	100.0	27.5	100.0	43.2	90.4	40.1	31.0	28.8	**53.3**	**47.8**	761	905	99.7	0.3
	a. Lymphoid	48	768	406	272	225	**1494**	**1719**	24.9	75.8	19.8	72.2	19.6	76.7	31.0	19.4	15.7	**41.0**	**35.3**	579	658	99.9	0.1
	b. Acute myeloid	32	99	83	116	121	**330**	**451**	5.5	16.7	5.2	18.9	13.0	9.9	6.3	8.3	8.5	**8.5**	**8.5**	126	168	99.8	0.0
	c. CMD	1	4	10	18	33	**33**	**66**	0.5	1.7	0.8	2.8	0.4	0.4	0.8	1.3	2.3	**0.8**	**1.1**	12	24	100.0	0.0
	d. MDS & other	15	22	12	14	18	**63**	**81**	1.1	3.2	0.9	3.4	6.1	2.2	0.9	1.0	1.3	**1.7**	**1.6**	24	31	100.0	0.0
	e. Unspecified	10	13	14	14	14	**51**	**65**	0.9	2.6	0.8	2.7	4.1	1.3	1.1	1.0	1.0	**1.3**	**1.3**	20	24	90.8	7.7
II	LYMPHOMA & RELATED	18	183	323	343	463	**867**	**1330**	14.4	100.0	15.4	100.0	7.3	18.3	24.7	24.5	32.4	**21.3**	**23.8**	326	488	99.3	0.2
	a. Hodgkin	1	48	109	163	238	**321**	**559**	5.3	37.0	6.5	42.0	0.4	4.8	8.3	11.6	16.7	**7.6**	**9.6**	119	203	100.0	0.0
	b. Non-Hodgkin except BL	5	56	112	126	183	**299**	**482**	5.0	34.5	5.6	36.2	2.0	5.6	8.5	9.0	12.8	**7.3**	**8.5**	112	176	99.8	0.0
	c. Burkitt (BL)	1	46	75	42	16	**164**	**180**	2.7	18.9	2.1	13.5	0.4	4.6	5.7	3.0	1.1	**4.2**	**3.5**	62	68	100.0	0.0
	d. Lymphoreticular	11	25	18	7	4	**61**	**65**	1.0	7.0	0.8	4.9	4.5	2.5	1.4	0.5	0.3	**1.7**	**1.4**	24	25	96.9	3.1
	e. Unspecified	0	8	9	5	22	**22**	**44**	0.4	2.5	0.5	3.3	-	0.8	0.7	0.4	1.5	**0.6**	**0.8**	8	16	86.4	0.0
III	CNS NEOPLASMS †	55	324	407	382	461	**1168**	**1629**	19.5	100.0	18.8	100.0	22.4	32.3	31.1	27.3	32.3	**29.7**	**30.3**	444	605	80.9	0.3
	a. Ependymoma	15	66	21	29	34	**131**	**165**	2.2	11.2	1.9	10.1	6.1	6.6	1.6	2.1	2.4	**3.6**	**3.4**	51	63	98.8	0.0
	b. Astrocytoma	11	91	136	123	120	**361**	**481**	6.0	30.9	5.6	29.5	4.5	9.1	10.4	8.8	8.4	**9.1**	**8.9**	137	179	94.4	0.2
	c. CNS embryonal	14	74	105	72	42	**265**	**307**	4.4	22.7	3.5	18.8	5.7	7.4	8.0	5.1	2.9	**6.8**	**5.9**	101	116	100.0	0.0
	d. Other gliomas	5	50	75	51	53	**181**	**234**	3.0	15.5	2.7	14.4	2.0	5.0	5.7	3.6	3.7	**4.6**	**4.4**	69	87	64.5	0.0
	e. Other specified	3	26	40	79	170	**148**	**318**	2.5	12.7	3.7	19.5	1.2	2.6	3.1	5.6	11.9	**3.5**	**5.4**	55	115	68.2	0.0
	f. Unspecified CNS	7	17	30	28	42	**82**	**124**	1.4	7.0	1.4	7.6	2.9	1.7	2.3	2.0	2.9	**2.1**	**2.3**	31	46	21.0	3.2
IV	NEUROBLASTOMA	113	210	38	12	9	**373**	**382**	6.2	100.0	4.4	100.0	46.1	21.0	2.9	0.9	0.6	**11.2**	**8.8**	148	151	96.6	0.0
	a. (Ganglio)neuroblastoma	112	207	38	11	5	**368**	**373**	6.1	98.7	4.3	97.6	45.7	20.7	2.9	0.8	0.3	**11.1**	**8.7**	146	148	96.5	0.0
	b. Peripheral nervous	1	3	0	1	4	**5**	**9**	0.1	1.3	0.1	2.4	0.4	0.3	-	0.1	0.3	**0.1**	**0.2**	2	3	100.0	0.0
V	RETINOBLASTOMA	61	64	10	2	1	**137**	**138**	2.3	100.0	1.6	100.0	24.9	6.4	0.8	0.1	0.1	**4.2**	**3.2**	55	55	90.6	0.7
VI	RENAL TUMOURS	43	154	58	12	13	**267**	**280**	4.5	100.0	3.2	100.0	17.5	15.4	4.4	0.9	0.9	**7.8**	**6.2**	105	110	97.5	0.0
	a. Nephroblastoma	43	151	54	7	3	**255**	**258**	4.3	95.5	3.0	92.1	17.5	15.1	4.1	0.5	0.2	**7.5**	**5.9**	101	102	98.1	0.0
	b. Renal carcinoma	0	3	3	5	9	**11**	**20**	0.2	4.1	0.2	7.1	-	0.3	0.2	0.4	0.6	**0.3**	**0.4**	4	7	100.0	0.0
	c. Unspecified	0	0	1	0	1	**1**	**2**	0.0	0.4	0.0	0.7	-	-	0.1	-	0.1	**0.0**	**0.0**	0	1	0.0	0.0
VII	HEPATIC TUMOURS	23	30	8	6	11	**67**	**78**	1.1	100.0	0.9	100.0	9.4	3.0	0.6	0.4	0.8	**2.0**	**1.7**	26	30	93.6	2.6
	a. Hepatoblastoma	22	28	7	2	0	**59**	**59**	1.0	88.1	0.7	75.6	9.0	2.8	0.5	0.1	-	**1.8**	**1.4**	23	23	96.6	0.0
	b. Hepatic carcinoma	0	2	1	4	11	**7**	**18**	0.1	10.4	0.2	23.1	-	0.2	0.1	0.3	0.8	**0.2**	**0.3**	3	6	88.9	5.6
	c. Unspecified	1	0	0	0	0	**1**	**1**	0.0	1.5	0.0	1.3	0.4	-	-	-	-	**0.0**	**0.0**	0	0	0.0	100.0
VIII	BONE TUMOURS	5	16	68	189	257	**278**	**535**	4.6	100.0	6.2	100.0	2.0	1.6	5.2	13.5	18.0	**6.2**	**8.9**	102	192	97.8	0.2
	a. Osteosarcoma	1	2	31	97	116	**131**	**247**	2.2	47.1	2.9	46.2	0.4	0.2	2.4	6.9	8.1	**2.9**	**4.0**	48	88	100.0	0.0
	b. Chondrosarcoma	0	0	2	4	18	**6**	**24**	0.1	2.2	0.3	4.5	-	-	0.2	0.3	1.3	**0.1**	**0.4**	2	8	100.0	0.0
	c. Ewing & related	3	11	30	70	95	**114**	**209**	1.9	41.0	2.4	39.1	1.2	1.1	2.3	5.0	6.6	**2.6**	**3.5**	42	75	100.0	0.0
	d. Other specified	1	1	3	10	16	**15**	**31**	0.3	5.4	0.4	5.8	0.4	0.1	0.2	0.7	1.1	**0.3**	**0.5**	6	11	100.0	0.0
	e. Unspecified	0	2	2	8	12	**12**	**24**	0.2	4.3	0.3	4.5	-	0.2	0.2	0.6	0.8	**0.3**	**0.4**	4	9	50.0	4.2
IX	SOFT TISSUE SARCOMA	34	93	87	119	190	**333**	**523**	5.5	100.0	6.0	100.0	13.9	9.3	6.6	8.5	13.3	**8.6**	**9.6**	127	193	99.6	0.2
	a. Rhabdomyosarcoma	19	61	49	36	41	**165**	**206**	2.8	49.5	2.4	39.4	7.7	6.1	3.7	2.6	2.9	**4.4**	**4.1**	64	78	100.0	0.0
	b. Fibrosarcoma	10	9	10	10	27	**39**	**66**	0.7	11.7	0.8	12.6	4.1	0.9	0.8	0.7	1.9	**1.0**	**1.2**	15	24	100.0	0.0
	c. Kaposi sarcoma	0	0	2	1	3	**3**	**6**	0.1	0.9	0.1	1.1	-	-	0.2	0.1	0.2	**0.1**	**0.1**	1	2	100.0	0.0
	d. Other specified	4	15	17	54	92	**90**	**182**	1.5	27.0	2.1	34.8	1.6	1.5	1.3	3.9	6.4	**2.1**	**3.1**	33	66	100.0	0.0
	e. Unspecified	1	8	9	18	27	**36**	**63**	0.6	10.8	0.7	12.0	0.4	0.8	0.7	1.3	1.9	**0.9**	**1.1**	13	23	96.8	1.6
X	GERM CELL TUMOURS	47	58	26	83	280	**214**	**494**	3.6	100.0	5.7	100.0	19.2	5.8	2.0	5.9	19.6	**5.6**	**8.8**	82	180	98.2	0.4
	a. CNS germ cell ‡	4	1	8	18	6	**31**	**37**	0.5	14.5	0.4	7.5	1.6	0.1	0.6	1.3	0.4	**0.7**	**0.7**	11	14	97.3	0.0
	b. Other extragonadal	26	26	3	7	9	**62**	**71**	1.0	29.0	0.8	14.4	10.6	2.6	0.2	0.5	0.6	**1.8**	**1.6**	24	28	100.0	0.0
	c. Gonadal germ cell	17	31	13	50	237	**111**	**348**	1.8	51.9	4.0	70.4	6.9	3.1	1.0	3.6	16.6	**2.8**	**5.9**	42	125	100.0	0.0
	d. Gonadal carcinoma	0	0	0	4	15	**4**	**19**	0.1	1.9	0.2	3.8	-	-	-	0.3	1.0	**0.1**	**0.3**	1	7	100.0	0.0
	e. Unspecified gonadal	0	0	2	4	13	**6**	**19**	0.1	2.8	0.2	3.8	-	-	0.2	0.3	0.9	**0.1**	**0.3**	2	7	57.9	10.5
XI	CARCINOMA & MELANOMA	4	16	48	210	517	**278**	**795**	4.6	100.0	9.2	100.0	1.6	1.6	3.7	15.0	36.2	**6.2**	**12.9**	101	282	99.9	0.1
	a. Adrenocortical	2	4	2	1	1	**9**	**10**	0.1	3.2	0.1	1.3	0.8	0.4	0.2	0.1	0.1	**0.3**	**0.2**	4	4	100.0	0.0
	b. Thyroid	0	1	11	71	239	**83**	**322**	1.4	29.9	3.7	40.5	-	0.1	0.8	5.1	16.7	**1.8**	**5.1**	30	114	100.0	0.0
	c. Nasopharyngeal	1	0	2	46	61	**49**	**110**	0.8	17.6	1.3	13.8	0.4	-	0.2	3.3	4.3	**1.0**	**1.8**	18	39	100.0	0.0
	d. Melanoma	0	3	6	14	27	**23**	**50**	0.4	8.3	0.6	6.3	-	0.3	0.5	1.0	1.9	**0.5**	**0.8**	8	18	100.0	0.0
	e. Skin carcinoma	0	3	7	26	58	**36**	**94**	0.6	12.9	1.1	11.8	-	0.3	0.5	1.9	4.1	**0.8**	**1.5**	13	33	100.0	0.0
	f. Other & unspecified	1	5	20	52	131	**78**	**209**	1.3	28.1	2.4	26.3	0.4	0.5	1.5	3.7	9.2	**1.8**	**3.4**	29	74	99.5	0.5
XII	OTHER & UNSPECIFIED	5	15	7	20	50	**47**	**97**	0.8	100.0	1.1	100.0	2.0	1.5	0.5	1.4	3.5	**1.2**	**1.7**	18	35	45.4	15.5
	a. Other specified	0	2	0	2	5	**4**	**9**	0.1	8.5	0.1	9.3	-	0.2	-	0.1	0.3	**0.1**	**0.2**	2	3	100.0	0.0
	b. Other unspecified	5	13	7	18	45	**43**	**88**	0.7	91.5	1.0	90.7	2.0	1.3	0.5	1.3	3.1	**1.1**	**1.6**	16	32	39.8	17.0
	TOTAL	514	2069	1605	1812	2663	**6000**	**8663**	100.0	100.0	100.0	100.0	209.5	206.5	122.5	129.4	186.3	**157.2**	**163.8**	2295	3227	94.9	0.4

† includes 571 non-malignant ‡ includes 5 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Viet Nam

Ho Chi Minh City Cancer Registry, 1995–2013

Nguyen Chan Hung, Pham Xuan Dung, Dang Huy Quoc Thinh, Ngo Thi Thanh Thuy, Bui Duc Tung, Quach Thanh Khanh

Ho Chi Minh City, which is located in southern Viet Nam, is one of the largest cities in the country. The climate is tropical and humid, with an average annual temperature of 27.7 °C and an average annual rainfall of 178 cm. The season of equatorial rains extends from June to October. Ho Chi Minh City is the economic centre of Viet Nam and accounts for a large proportion of the national economy. Industries include mining, seafood processing, agriculture, construction, tourism, finance, industry, and trade. State-owned production comprises one third of the economy, the private sector 5%, and foreign investment the remainder. The service sector accounts for 51% of the economy, industry and construction 48%, and forestry, agriculture, and other industries the remainder. Viet Nam has a medium HDI.

In 2010, the population of Ho Chi Minh City was 7.4 million, and 29% of the population was younger than 20 years (Table A.6). The majority (93.5%) are Vietnamese (Kinh), and most of the remainder are of Chinese ethnicity. The health-care system is supported by a network of 100 government-owned hospitals or medical centres and dozens of privately owned clinics. The 1400-bed Cho Ray Hospital, which was upgraded in the 1970s with the help of the Japanese government, and the France-sponsored Institute of Cardiology and City International Hospital are among the top medical facilities in south-east Asia. Ho Chi Minh City has one hospital that specializes in oncology, two paediatric hospitals, and several paediatric departments and oncology departments in general hospitals.

In 1985, the Ho Chi Minh City Health Service merged the Cancer Hospital and the Oncology Department of Binh Dan Hospital into Ho Chi Minh Cancer Center (now renamed Ho Chi Minh City Oncology Hospital) to organize a better system for screening, diagnosis, and treatment of cancer in southern Viet Nam. Most patients suspected to have cancer in Ho Chi Minh City and in southern Viet Nam are referred to Ho Chi Minh City Oncology Hospital, which provides radiotherapy, cancer surgery, and chemotherapy services.

The Ho Chi Minh City Cancer Registry was established in 1995 (Table A.10), with the help of IARC. The registry covers the population of all 19 urban and five rural districts of the city, and it is funded by Ho Chi Minh City Oncology Hospital and the Ho Chi Minh City Health Service. The registry is staffed by seven doctors and seven registrars.

The registry carries out active and passive case finding from 34 data sources, which include cancer hospitals, specialist hospitals, general hospitals, institutes, and pathology laboratories. Death certificates are not used as a source of information; however, most deaths that occur in hospitals are certified. Registry staff members visit the sources to collect and abstract information from hospital inpatient and outpatient records and logs and reports of diagnostic laboratories on residents of the registry region. Cancer is not a notifiable disease in Viet Nam.

The registry uses IARC/IACR CanReg4 software for data entry and management. The program provides a range of validity checks at the time of data entry and recognizes duplicate records based on name, sex, address, incidence date, and diagnosis. Such validation is especially important in Viet Nam because of the relatively small number of family names. It is not possible to estimate how many cancer cases are undiagnosed; this may occur in elderly people. The lack of a useful vital statistics system means that the registry data cannot be completed or updated from death records. Registry staff members prepare annual reports on cancer incidence, highlighting geographical differences and time trends. A population-based survival study for all cancer cases is planned. The registry data are used for research and for health services planning and evaluation.

POPULATION AT RISK

The population data are provided by the Ho Chi Minh City Statistical Office every 5 years. These data are based on the censuses of 1989, 1999, and 2009 (Table A.7). Data were provided by sex and single year of age for 2004 and 2009, by sex and 5-year age groups for 1999 and 2014, and by sex and all ages combined (0–99 years) for 1993, 1994, 1995, and 1996. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

Frequency data were contributed to IICC-1 by the former Ho Chi Minh City Cancer Institute (now the Ho Chi Minh City Cancer Registry) (Table A.1). Day and month of birth were missing for almost all cases (Table A.8), because only year of birth is recorded in medical records. In the registry, age is calculated as the difference between the year of incidence and the year of birth; this may contribute to the unexpected age pattern (Table A.9). One quarter of the cases had unspecified morphology; 12% of the MV cases had unspecified morphology (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. The MV% was low, with a correspondingly high proportion of clinical diagnoses (Table A.9); this may be attributed partly to tumours of the CNS and liver, which are not always biopsied. In addition, some families refuse diagnostic procedures and treatment if a cancer is suspected, and they may seek alternative treatment. Non-malignant CNS tumours were recorded, but their proportion was low (Table A.9). Pilocytic astrocytoma was coded with malignant behaviour until 1997 and with uncertain behaviour thereafter. Laterality was not provided. All skin carcinomas with pathology review were included.

VIET NAM, Ho Chi Minh City (1995-2013)

	Age group (years)	Males	Females
Person-years	0	847 800	779 175
	1-4	3 432 016	3 161 762
	5-9	4 222 899	3 932 016
	10-14	4 049 160	3 838 616
	15-19	5 409 183	5 873 745
	0-14	12 551 875	11 711 569
	0-19	17 961 058	17 585 314
Average annual population	0-14	660 625	616 398
	0-19	945 319	925 543

Please consult the quality indicators for this registry

VIET NAM, Ho Chi Minh City (1995-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	50	470	282	223	166	**1025**	**1191**	37.7	100.0	33.5	100.0	30.7	71.3	34.6	28.3	14.7	**43.8**	**37.3**	631	704	95.8	0.0
	a. Lymphoid	15	250	155	111	66	**531**	**597**	19.5	51.8	16.8	50.1	9.2	37.9	19.0	14.1	5.8	**22.7**	**18.9**	327	356	100.0	0.0
	b. Acute myeloid	14	69	51	55	52	**189**	**241**	7.0	18.4	6.8	20.2	8.6	10.5	6.3	7.0	4.6	**8.0**	**7.2**	117	140	100.0	0.0
	c. CMD	0	4	3	3	6	**10**	**16**	0.4	1.0	0.5	1.3	-	0.6	0.4	0.4	0.5	**0.4**	**0.4**	6	9	100.0	0.0
	d. MDS & other	0	1	0	2	0	**3**	**3**	0.1	0.3	0.1	0.3	-	0.2	-	0.3	-	**0.1**	**0.1**	2	2	100.0	0.0
	e. Unspecified	21	146	73	52	42	**292**	**334**	10.7	28.5	9.4	28.0	12.9	22.1	9.0	6.6	3.7	**12.7**	**10.7**	179	198	85.0	0.0
II	**LYMPHOMA & RELATED**	15	71	102	93	89	**281**	**370**	10.3	100.0	10.4	100.0	9.2	10.8	12.5	11.8	7.9	**11.5**	**10.7**	174	213	93.5	0.0
	a. Hodgkin	0	3	14	17	17	**34**	**51**	1.3	12.1	1.4	13.8	-	0.5	1.7	2.2	1.5	**1.3**	**1.4**	21	29	100.0	0.0
	b. Non-Hodgkin except BL	7	37	52	56	60	**152**	**212**	5.6	54.1	6.0	57.3	4.3	5.6	6.4	7.1	5.3	**6.2**	**6.0**	94	121	100.0	0.0
	c. Burkitt (BL)	0	6	4	1	1	**11**	**12**	0.4	3.9	0.3	3.2	-	0.9	0.5	0.1	0.1	**0.5**	**0.4**	7	7	100.0	0.0
	d. Lymphoreticular	7	12	7	2	0	**28**	**28**	1.0	10.0	0.8	7.6	4.3	1.8	0.9	0.3	-	**1.2**	**1.0**	17	17	92.9	0.0
	e. Unspecified	1	13	25	17	11	**56**	**67**	2.1	19.9	1.9	18.1	0.6	2.0	3.1	2.2	1.0	**2.3**	**2.0**	35	39	67.2	0.0
III	**CNS NEOPLASMS** †	9	86	102	91	77	**288**	**365**	10.6	100.0	10.3	100.0	5.5	13.0	12.5	11.5	6.8	**11.9**	**10.7**	178	212	61.6	0.0
	a. Ependymoma	0	6	2	3	2	**11**	**13**	0.4	3.8	0.4	3.6	-	0.9	0.2	0.4	0.2	**0.5**	**0.4**	7	8	100.0	0.0
	b. Astrocytoma	2	29	31	39	33	**101**	**134**	3.7	35.1	3.8	36.7	1.2	4.4	3.8	4.9	2.9	**4.1**	**3.9**	63	77	100.0	0.0
	c. CNS embryonal	1	15	14	14	2	**44**	**46**	1.6	15.3	1.3	12.6	0.6	2.3	1.7	1.8	0.2	**1.8**	**1.5**	27	28	100.0	0.0
	d. Other gliomas	0	2	1	0	2	**3**	**5**	0.1	1.0	0.1	1.4	-	0.3	0.1	-	0.2	**0.1**	**0.1**	2	3	100.0	0.0
	e. Other specified	1	3	7	4	8	**15**	**23**	0.6	5.2	0.6	6.3	0.6	0.5	0.9	0.5	0.7	**0.6**	**0.6**	9	13	100.0	0.0
	f. Unspecified CNS	5	31	47	31	30	**114**	**144**	4.2	39.6	4.1	39.5	3.1	4.7	5.8	3.9	2.7	**4.7**	**4.2**	70	84	2.8	0.0
IV	**NEUROBLASTOMA**	19	109	35	7	2	**170**	**172**	6.3	100.0	4.8	100.0	11.7	16.5	4.3	0.9	0.2	**7.7**	**6.0**	104	105	86.0	0.0
	a. (Ganglio)neuroblastoma	19	109	35	7	2	**170**	**172**	6.3	100.0	4.8	100.0	11.7	16.5	4.3	0.9	0.2	**7.7**	**6.0**	104	105	86.0	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	**RETINOBLASTOMA**	14	102	9	0	0	**125**	**125**	4.6	100.0	3.5	100.0	8.6	15.5	1.1	-	-	**5.8**	**4.5**	76	76	97.6	0.0
VI	**RENAL TUMOURS**	19	104	31	9	6	**163**	**169**	6.0	100.0	4.8	100.0	11.7	15.8	3.8	1.1	0.5	**7.3**	**5.8**	100	102	72.8	0.0
	a. Nephroblastoma	19	98	27	6	1	**150**	**151**	5.5	92.0	4.3	89.3	11.7	14.9	3.3	0.8	0.1	**6.8**	**5.3**	92	92	72.2	0.0
	b. Renal carcinoma	0	4	4	3	3	**11**	**14**	0.4	6.7	0.4	8.3	-	0.6	0.5	0.4	0.3	**0.5**	**0.4**	7	8	100.0	0.0
	c. Unspecified	0	2	0	0	2	**2**	**4**	0.1	1.2	0.1	2.4	-	0.3	-	-	0.2	**0.1**	**0.1**	1	2	0.0	0.0
VII	**HEPATIC TUMOURS**	12	32	18	11	35	**73**	**108**	2.7	100.0	3.0	100.0	7.4	4.9	2.2	1.4	3.1	**3.2**	**3.2**	45	60	42.6	0.0
	a. Hepatoblastoma	4	15	4	2	0	**25**	**25**	0.9	34.2	0.7	23.1	2.5	2.3	0.5	0.3	-	**1.1**	**0.9**	15	15	100.0	0.0
	b. Hepatic carcinoma	0	3	3	5	7	**11**	**18**	0.4	15.1	0.5	16.7	-	0.5	0.4	0.6	0.6	**0.4**	**0.5**	7	10	100.0	0.0
	c. Unspecified	8	14	11	4	28	**37**	**65**	1.4	50.7	1.8	60.2	4.9	2.1	1.3	0.5	2.5	**1.6**	**1.8**	23	35	4.6	0.0
VIII	**BONE TUMOURS**	0	5	27	65	104	**97**	**201**	3.6	100.0	5.7	100.0	-	0.8	3.3	8.2	9.2	**3.7**	**4.9**	61	107	92.0	0.0
	a. Osteosarcoma	0	2	20	48	81	**70**	**151**	2.6	72.2	4.3	75.1	-	0.3	2.5	6.1	7.2	**2.7**	**3.7**	44	80	100.0	0.0
	b. Chondrosarcoma	0	0	0	2	2	**2**	**4**	0.1	2.1	0.1	2.0	-	-	-	0.3	0.2	**0.1**	**0.1**	1	2	100.0	0.0
	c. Ewing & related	0	1	5	8	2	**14**	**16**	0.5	14.4	0.5	8.0	-	0.2	0.6	1.0	0.2	**0.5**	**0.5**	9	10	100.0	0.0
	d. Other specified	0	0	0	0	8	**0**	**8**	-	-	0.2	4.0	-	-	-	-	0.7	**-**	**0.2**	-	4	100.0	0.0
	e. Unspecified	0	2	2	7	11	**11**	**22**	0.4	11.3	0.6	10.9	-	0.3	0.2	0.9	1.0	**0.4**	**0.6**	7	12	27.3	0.0
IX	**SOFT TISSUE SARCOMA**	14	62	38	33	38	**147**	**185**	5.4	100.0	5.2	100.0	8.6	9.4	4.7	4.2	3.4	**6.3**	**5.6**	90	107	94.6	0.0
	a. Rhabdomyosarcoma	4	29	21	7	3	**61**	**64**	2.2	41.5	1.8	34.6	2.5	4.4	2.6	0.9	0.3	**2.6**	**2.1**	37	39	100.0	0.0
	b. Fibrosarcoma	2	4	2	6	3	**14**	**17**	0.5	9.5	0.5	9.2	1.2	0.6	0.2	0.8	0.3	**0.6**	**0.5**	9	10	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	2	12	8	8	16	**30**	**46**	1.1	20.4	1.3	24.9	1.2	1.8	1.0	1.0	1.4	**1.3**	**1.3**	18	26	100.0	0.0
	e. Unspecified	6	17	7	12	16	**42**	**58**	1.5	28.6	1.6	31.4	3.7	2.6	0.9	1.5	1.4	**1.8**	**1.7**	26	33	82.8	0.0
X	**GERM CELL TUMOURS**	19	61	21	40	76	**141**	**217**	5.2	100.0	6.1	100.0	11.7	9.3	2.6	5.1	6.7	**6.1**	**6.2**	87	121	88.0	0.0
	a. CNS germ cell	0	0	3	3	6	**6**	**12**	0.2	4.3	0.3	5.5	-	-	0.4	0.4	0.5	**0.2**	**0.3**	4	6	100.0	0.0
	b. Other extragonadal	9	14	1	1	9	**25**	**34**	0.9	17.7	1.0	15.7	5.5	2.1	0.1	0.1	0.8	**1.2**	**1.1**	15	19	100.0	0.0
	c. Gonadal germ cell	7	36	10	26	39	**79**	**118**	2.9	56.0	3.3	54.4	4.3	5.5	1.2	3.3	3.5	**3.4**	**3.4**	49	66	100.0	0.0
	d. Gonadal carcinoma	1	3	1	3	14	**8**	**22**	0.3	5.7	0.6	10.1	0.6	0.5	0.1	0.4	1.2	**0.3**	**0.5**	5	11	100.0	0.0
	e. Unspecified gonadal	2	8	6	7	8	**23**	**31**	0.8	16.3	0.9	14.3	1.2	1.2	0.7	0.9	0.7	**1.0**	**0.9**	14	18	16.1	0.0
XI	**CARCINOMA & MELANOMA**	1	15	13	58	201	**87**	**288**	3.2	100.0	8.1	100.0	0.6	2.3	1.6	7.4	17.8	**3.4**	**6.6**	54	144	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Thyroid	0	2	5	26	104	**33**	**137**	1.2	37.9	3.9	47.6	-	0.3	0.6	3.3	9.2	**1.2**	**3.0**	21	67	100.0	0.0
	c. Nasopharyngeal	0	0	2	11	36	**13**	**49**	0.5	14.9	1.4	17.0	-	-	0.2	1.4	3.2	**0.5**	**1.1**	8	24	100.0	0.0
	d. Melanoma	0	2	0	1	0	**3**	**3**	0.1	3.4	0.1	1.0	-	0.3	-	0.1	-	**0.1**	**0.1**	2	2	100.0	0.0
	e. Skin carcinoma	1	1	3	0	6	**5**	**11**	0.2	5.7	0.3	3.8	0.6	0.2	0.4	-	0.5	**0.2**	**0.3**	3	6	100.0	0.0
	f. Other & unspecified	0	10	3	20	55	**33**	**88**	1.2	37.9	2.5	30.6	-	1.5	0.4	2.5	4.9	**1.3**	**2.1**	21	45	100.0	0.0
XII	**OTHER & UNSPECIFIED**	9	62	25	25	40	**121**	**161**	4.5	100.0	4.5	100.0	5.5	9.4	3.1	3.2	3.5	**5.3**	**4.9**	74	92	8.1	0.0
	a. Other specified	0	0	0	0	2	**0**	**2**	-	-	0.1	1.2	-	-	-	-	0.2	**-**	**0.0**	-	1	100.0	0.0
	b. Other unspecified	9	62	25	25	38	**121**	**159**	4.5	100.0	4.5	98.8	5.5	9.4	3.1	3.2	3.4	**5.3**	**4.8**	74	91	6.9	0.0
	TOTAL	181	1179	703	655	834	**2718**	**3552**	100.0	100.0	100.0	100.0	111.2	178.8	86.2	83.0	73.9	**116.0**	**106.5**	1673	2043	84.5	0.0

† includes 20 non-malignant

Please consult the quality indicators for this registry

EUROPE

Austria

Austrian National Cancer Registry, 1990–2012

Monika Hackl, Henrike Karim-Kos

Austria is located in central Europe. It is bordered by Slovakia and Hungary to the east, Slovenia and Italy to the south, Switzerland to the west, and Germany and the Czech Republic to the north. The well-developed market economy, with a skilled labour force and a high standard of living, is based on a sound balance between a large service sector, a comprehensive industrial sector, and an efficient agricultural sector.

In 2010, Austria had a population of 8.4 million (Table A.7); 21% of the population was younger than 20 years (Table A.6), and 19% was aged 65 years and older. The life expectancy at birth increased, to 78.9 years for men and 83.7 years for women in 2014. The infant mortality rate in 2015 was 3.1 per 1000 live births.

More than 90% of children with cancer are enrolled into centralized clinical trials, resulting from a trend initiated in the early 1980s. Since the early 1990s, treatment of childhood cancer has been centralized in three paediatric haematology and oncology centres (in Vienna, Graz, and Innsbruck) and one specialized centre for brain tumours (in Vienna).

The Austrian National Cancer Registry (ANCR) is located in Vienna and is hosted by the Austrian national statistical institute, Statistics Austria. It is a population-based, epidemiological cancer registry, which is financed by the government. The 1969 Cancer Statistics Act and the 1978 Cancer Statistics Ordinance provide the legal basis for the ANCR and mandate the reporting by hospitals of newly diagnosed cancer cases occurring at any age. In accordance with the 2000 Federal Statistics Act, the Austrian government appointed Statistics Austria as the national provider of cancer statistics. Information collected includes general demographic characteristics (age, sex, residence), date of diagnosis, tumour site, histology, and tumour stage at diagnosis. Annual reports on incidence, prevalence, survival, and mortality contain data for all years after 1983. Registration data and ad hoc analyses are provided to external institutions for research purposes. Population-based data since 1970 are available (Table A.10)

The states of Vorarlberg, Tyrol, Carinthia, and Salzburg have regional cancer registries and provide their quality-assured data to the ANCR. Data from registries and hospitals are stored in an electronic database, and data checks at the national level are performed using the IARC-CHECK program. The registry uses IARC/IACR rules for multiple primary tumours. Data quality and completeness are assessed using data from pathology laboratories and various study groups. Statistics Austria regularly provides quality indicators and indirect measures of completeness. Completeness was estimated to be 94% after a registration period of 5 years after diagnosis. The low rates of retinoblastoma might be because most patients, especially those from Vienna and the surrounding area, are referred to Germany for treatment and thus these cases are not reported to the ANCR.

PUBLICATIONS

Karim-Kos HE, Hackl M, Mann G, Urban C, Woehrer A, Slavc I, et al. (2016). Trends in incidence, survival and mortality of childhood and adolescent cancer in Austria, 1994–2011. Cancer Epidemiol. 42:72–81. https://doi.org/10.1016/j.canep.2016.03.015 PMID:27054577

Hackl M, Waldhoer T (2013). Estimation of completeness of case ascertainment of Austrian cancer incidence data using the flow method. Eur J Public Health. 23(5):889–93. https://doi.org/10.1093/eurpub/cks125 PMID:23002230

POPULATION AT RISK

Population censuses were conducted in 1981, 1991, 2001, and 2011 (Table A.7). Since 2002, data from the Central Register of Residents, which contains registrations of principal residence, have been used by Statistics Austria to produce consistent figures on population at risk, population change, and demographic change for all territorial units. These data were forwarded quarterly from the Central Register of Residents to Statistics Austria, according to the methods described at http://www.statistik.at/web_en/statistics/PeopleSociety/population/index.html. The mid-year population data were provided in the requested detail.

EDITORS' COMMENTS

The proportion of clinically diagnosed cases was less than 1% (Table A.9); some of these cases may be missed by the registry. Non-malignant CNS tumours were reported, and pilocytic astrocytoma was coded with uncertain behaviour according to ICD-O-3 (Table A.10). Skin carcinomas were eligible for registration, but because the completeness of their ascertainment is not checked, they were not submitted to IICC-3. The level of overall incidence rates and the rates of diagnostic group XI are affected by their exclusion. Laterality was provided for 17% of the cases of interest.

AUSTRIA (1990-2012)

	Age group (years)	Males	Females
Person-years	0	972 872	924 049
	1-4	4 033 114	3 833 678
	5-9	5 269 284	5 015 251
	10-14	5 485 130	5 216 444
	15-19	5 705 000	5 439 783
	0-14	15 760 400	14 989 422
	0-19	21 465 400	20 429 205
Average annual population	0-14	685 235	651 714
	0-19	933 278	888 226

Please consult the quality indicators for this registry

AUSTRIA (1990-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	68	646	407	307	289	**1428**	**1717**	31.2	100.0	25.1	100.0	35.8	82.1	39.6	28.7	25.9	**49.4**	**44.1**	707	837	98.4	1.5
	a. Lymphoid	32	534	342	202	165	**1110**	**1275**	24.2	77.7	18.6	74.3	16.9	67.9	33.3	18.9	14.8	**38.6**	**33.3**	550	625	99.2	0.8
	b. Acute myeloid	23	83	43	73	82	**222**	**304**	4.8	15.5	4.4	17.7	12.1	10.6	4.2	6.8	7.4	**7.5**	**7.5**	109	146	97.7	2.3
	c. CMD	7	13	7	23	21	**50**	**71**	1.1	3.5	1.0	4.1	3.7	1.7	0.7	2.1	1.9	**1.6**	**1.7**	24	34	97.2	2.8
	d. MDS & other	1	6	3	5	8	**15**	**23**	0.3	1.1	0.3	1.3	0.5	0.8	0.3	0.5	0.7	**0.5**	**0.6**	7	11	100.0	0.0
	e. Unspecified	5	10	12	4	13	**31**	**44**	0.7	2.2	0.6	2.6	2.6	1.3	1.2	0.4	1.2	**1.1**	**1.1**	15	21	81.8	15.9
II	LYMPHOMA & RELATED	17	68	161	272	531	**518**	**1049**	11.3	100.0	15.3	100.0	9.0	8.6	15.7	25.4	47.6	**15.8**	**23.0**	249	487	98.9	1.0
	a. Hodgkin	2	10	45	149	346	**206**	**552**	4.5	39.8	8.1	52.6	1.1	1.3	4.4	13.9	31.0	**5.9**	**11.6**	98	253	99.3	0.7
	b. Non-Hodgkin except BL	4	33	53	76	132	**166**	**298**	3.6	32.0	4.4	28.4	2.1	4.2	5.2	7.1	11.8	**5.2**	**6.7**	80	139	99.3	0.7
	c. Burkitt (BL)	0	8	36	35	20	**79**	**99**	1.7	15.3	1.4	9.4	-	1.0	3.5	3.3	1.8	**2.4**	**2.3**	38	47	100.0	0.0
	d. Lymphoreticular	10	12	4	6	8	**32**	**40**	0.7	6.2	0.6	3.8	5.3	1.5	0.4	0.6	0.7	**1.2**	**1.1**	16	20	95.0	5.0
	e. Unspecified	1	5	23	6	25	**35**	**60**	0.8	6.8	0.9	5.7	0.5	0.6	2.2	0.6	2.2	**1.1**	**1.4**	17	28	93.3	5.0
III	CNS NEOPLASMS †	81	322	350	326	277	**1079**	**1356**	23.6	100.0	19.8	100.0	42.7	40.9	34.0	30.5	24.9	**35.8**	**33.3**	529	653	92.8	3.4
	a. Ependymoma	16	35	19	29	12	**99**	**111**	2.2	9.2	1.6	8.2	8.4	4.4	1.8	2.7	1.1	**3.4**	**2.9**	49	54	100.0	0.0
	b. Astrocytoma	18	140	149	146	113	**453**	**566**	9.9	42.0	8.3	41.7	9.5	17.8	14.5	13.6	10.1	**14.9**	**13.8**	222	272	98.9	0.0
	c. CNS embryonal	16	77	78	56	37	**227**	**264**	5.0	21.0	3.9	19.5	8.4	9.8	7.6	5.2	3.3	**7.7**	**6.7**	112	128	100.0	0.0
	d. Other gliomas	3	27	44	32	35	**106**	**141**	2.3	9.8	2.1	10.4	1.6	3.4	4.3	3.0	3.1	**3.4**	**3.4**	52	67	81.6	0.0
	e. Other specified	12	13	31	43	49	**99**	**148**	2.2	9.2	2.2	10.9	6.3	1.7	3.0	4.0	4.4	**3.1**	**3.4**	48	70	99.3	0.0
	f. Unspecified CNS	16	30	29	20	31	**95**	**126**	2.1	8.8	1.8	9.3	8.4	3.8	2.8	1.9	2.8	**3.3**	**3.2**	47	61	48.4	36.5
IV	NEUROBLASTOMA	162	144	36	8	12	**350**	**362**	7.6	100.0	5.3	100.0	85.4	18.3	3.5	0.7	1.1	**13.5**	**10.7**	178	183	99.4	0.0
	a. (Ganglio)neuroblastoma	162	142	35	6	9	**345**	**354**	7.5	98.6	5.2	97.8	85.4	18.1	3.4	0.6	0.8	**13.3**	**10.5**	175	180	99.4	0.0
	b. Peripheral nervous	0	2	1	2	3	**5**	**8**	0.1	1.4	0.1	2.2	-	0.3	0.1	0.2	0.3	**0.2**	**0.2**	2	4	100.0	0.0
V	RETINOBLASTOMA	18	27	2	0	0	**47**	**47**	1.0	100.0	0.7	100.0	9.5	3.4	0.2	-	-	**1.8**	**1.4**	24	24	89.4	0.0
VI	RENAL TUMOURS	46	135	49	13	18	**243**	**261**	5.3	100.0	3.8	100.0	24.2	17.2	4.8	1.2	1.6	**9.1**	**7.4**	123	131	97.3	1.1
	a. Nephroblastoma	42	132	45	10	3	**229**	**232**	5.0	94.2	3.4	88.9	22.1	16.8	4.4	0.9	0.3	**8.6**	**6.7**	116	117	98.7	0.0
	b. Renal carcinoma	1	1	3	3	13	**8**	**21**	0.2	3.3	0.3	8.0	0.5	0.1	0.3	0.3	1.2	**0.3**	**0.5**	4	10	100.0	0.0
	c. Unspecified	3	2	1	0	2	**6**	**8**	0.1	2.5	0.1	3.1	1.6	0.3	0.1	-	0.2	**0.2**	**0.2**	3	4	50.0	37.5
VII	HEPATIC TUMOURS	14	13	10	3	9	**40**	**49**	0.9	100.0	0.7	100.0	7.4	1.7	1.0	0.3	0.8	**1.5**	**1.3**	20	24	98.0	2.0
	a. Hepatoblastoma	14	13	7	1	3	**35**	**38**	0.8	87.5	0.6	77.6	7.4	1.7	0.7	0.1	0.3	**1.3**	**1.1**	18	19	100.0	0.0
	b. Hepatic carcinoma	0	0	2	2	6	**4**	**10**	0.1	10.0	0.1	20.4	-	-	0.2	0.2	0.5	**0.1**	**0.2**	2	5	90.0	10.0
	c. Unspecified	0	0	1	0	0	**1**	**1**	0.0	2.5	0.0	2.0	-	-	0.1	-	-	**0.0**	**0.0**	0	0	100.0	0.0
VIII	BONE TUMOURS	3	16	71	174	179	**264**	**443**	5.8	100.0	6.5	100.0	1.6	2.0	6.9	16.3	16.1	**7.7**	**9.6**	126	206	98.9	1.1
	a. Osteosarcoma	1	3	30	98	93	**132**	**225**	2.9	50.0	3.3	50.8	0.5	0.4	2.9	9.2	8.3	**3.8**	**4.8**	62	104	100.0	0.0
	b. Chondrosarcoma	0	0	2	6	14	**8**	**22**	0.2	3.0	0.3	5.0	-	-	0.2	0.6	1.3	**0.2**	**0.5**	4	10	100.0	0.0
	c. Ewing & related	1	11	34	61	55	**107**	**162**	2.3	40.5	2.4	36.6	0.5	1.4	3.3	5.7	4.9	**3.2**	**3.6**	51	76	100.0	0.0
	d. Other specified	0	1	3	5	11	**9**	**20**	0.2	3.4	0.3	4.5	-	0.1	0.3	0.5	1.0	**0.3**	**0.4**	4	9	100.0	0.0
	e. Unspecified	1	1	2	4	6	**8**	**14**	0.2	3.0	0.2	3.2	0.5	0.1	0.2	0.4	0.5	**0.3**	**0.3**	4	7	64.3	35.7
IX	SOFT TISSUE SARCOMA	35	77	69	88	128	**269**	**397**	5.9	100.0	5.8	100.0	18.5	9.8	6.7	8.2	11.5	**9.0**	**9.6**	132	189	100.0	0.0
	a. Rhabdomyosarcoma	15	61	48	28	44	**152**	**196**	3.3	56.5	2.9	49.4	7.9	7.8	4.7	2.6	3.9	**5.3**	**5.0**	75	95	100.0	0.0
	b. Fibrosarcoma	7	5	2	12	21	**26**	**47**	0.6	9.7	0.7	11.8	3.7	0.6	0.2	1.1	1.9	**0.9**	**1.1**	13	22	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	8	7	15	36	52	**66**	**118**	1.4	24.5	1.7	29.7	4.2	0.9	1.5	3.4	4.7	**2.0**	**2.6**	32	55	100.0	0.0
	e. Unspecified	5	4	4	12	11	**25**	**36**	0.5	9.3	0.5	9.1	2.6	0.5	0.4	1.1	1.0	**0.8**	**0.8**	12	17	100.0	0.0
X	GERM CELL TUMOURS	19	30	19	67	331	**135**	**466**	2.9	100.0	6.8	100.0	10.0	3.8	1.8	6.3	29.7	**4.4**	**10.1**	66	214	99.1	0.4
	a. CNS germ cell	1	1	6	17	14	**25**	**39**	0.5	18.5	0.6	8.4	0.5	0.1	0.6	1.6	1.3	**0.7**	**0.8**	12	18	100.0	0.0
	b. Other extragonadal	9	11	2	10	18	**32**	**50**	0.7	23.7	0.7	10.7	4.7	1.4	0.2	0.9	1.6	**1.1**	**1.2**	16	24	98.0	0.0
	c. Gonadal germ cell	7	14	10	36	238	**67**	**305**	1.5	49.6	4.5	65.5	3.7	1.8	1.0	3.4	21.4	**2.1**	**6.5**	32	139	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	38	**0**	**38**	-	-	0.6	8.2	-	-	-	-	3.4	**-**	**0.8**	-	17	100.0	0.0
	e. Unspecified gonadal	2	4	1	4	23	**11**	**34**	0.2	8.1	0.5	7.3	1.1	0.5	0.1	0.4	2.1	**0.4**	**0.8**	5	16	91.2	5.9
XI	CARCINOMA & MELANOMA	2	4	36	123	468	**165**	**633**	3.6	100.0	9.2	100.0	1.1	0.5	3.5	11.5	42.0	**4.7**	**13.1**	78	288	99.7	0.2
	a. Adrenocortical	1	1	2	1	0	**5**	**5**	0.1	3.0	0.1	0.8	0.5	0.1	0.2	0.1	-	**0.2**	**0.1**	2	2	100.0	0.0
	b. Thyroid	0	1	9	41	136	**51**	**187**	1.1	30.9	2.7	29.5	-	0.1	0.9	3.8	12.2	**1.4**	**3.9**	24	85	100.0	0.0
	c. Nasopharyngeal	0	0	2	6	7	**8**	**15**	0.2	4.8	0.2	2.4	-	-	0.2	0.6	0.6	**0.2**	**0.3**	4	7	100.0	0.0
	d. Melanoma	1	1	15	47	200	**64**	**264**	1.4	38.8	3.9	41.7	0.5	0.1	1.5	4.4	17.9	**1.8**	**5.5**	30	120	99.2	0.4
	e. Skin carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	f. Other & unspecified	0	1	8	28	125	**37**	**162**	0.8	22.4	2.4	25.6	-	0.1	0.8	2.6	11.2	**1.1**	**3.3**	17	74	100.0	0.0
XII	OTHER & UNSPECIFIED	8	13	8	11	28	**40**	**68**	0.9	100.0	1.0	100.0	4.2	1.7	0.8	1.0	2.5	**1.4**	**1.6**	20	32	63.2	23.5
	a. Other specified	3	1	0	3	3	**7**	**10**	0.2	17.5	0.1	14.7	1.6	0.1	-	0.3	0.3	**0.2**	**0.2**	3	5	100.0	0.0
	b. Other unspecified	5	12	8	8	25	**33**	**58**	0.7	82.5	0.8	85.3	2.6	1.5	0.8	0.7	2.2	**1.1**	**1.4**	16	28	56.9	27.6
	TOTAL	473	1495	1218	1392	2270	**4578**	**6848**	100.0	100.0	100.0	100.0	249.4	190.0	118.4	130.1	203.7	**154.0**	**165.2**	2250	3269	97.3	1.6

† includes 351 non-malignant

Please consult the quality indicators for this registry

Belarus

National Paediatric Cancer Registry, 1990–2014

Anna Zborovskaya, Olga Aleinikova

Belarus is in eastern Europe. It is bordered by the Russian Federation to the north-east, Ukraine to the south, Poland to the west, and Lithuania and Latvia to the north-west. More than 40% of the area of 207 600 km^2 is covered by forests. In 2010, the estimated population was 9.5 million (Table A.7), and 21% of the population was younger than 20 years (Table A.6). More than 70% of the population lives in urban areas. More than 80% of the population is ethnic Belarusian. There are sizeable minorities of other ethnicities: Russian, Polish, and Ukrainian.

The nationwide Childhood Cancer Sub-Registry of Belarus was established by the Ministry of Health of Belarus in 1999 (Table A.10) and is based at the Department for Clinical and Epidemiological Research of the Belarusian Research Center for Pediatric Oncology, Hematology, and Immunology (BRCPOHI), which is the main clinic in Belarus for patients with cancer aged 0–18 years.

The Childhood Cancer Sub-Registry of Belarus is computerized, with active data collection on cancer cases prospectively in children (ages 0–14 years) since 1999 and in adolescents (ages 15–19 years) since 2004, and with retrospective data collection in children and adolescents since 1986. The information is standardized according to IARC recommendations. Almost all cancer cases (other than CNS tumours) diagnosed after 1990 are MV. The main goals of the registry are to register all cases of malignant neoplasms in children and adolescents in Belarus at the population level in a quality-controlled database, to follow up patients for vital status, and to use the data in clinical and epidemiological studies.

The data sources are BRCPOHI (medical records from inpatient and outpatient departments, the morphology department, and the surgery block), the National Cancer Registry (especially for adolescent cases), specialized clinics (paediatric neurosurgery, thyroid tumour centre), oncology units, morphology laboratories, and pathology laboratories. Information on place of residence of the patients is matched against detailed addresses for Belarusian citizens, and cancers in temporary residents are excluded from incidence studies. Diagnoses are coded according to ICD-10 and ICD-O-3 and are classified using ICCC-3 (Table A.10).

PUBLICATIONS

Savva N, Zborovskaya A, Aleinikova O (2008). Current system of childhood cancer registration in Belarus. Radiol Oncol. 42(1):45–9. https://doi.org/10.2478/v10019-007-0038-1

POPULATION AT RISK

The population figures with distribution by age and region at the beginning of each year are provided by the National Statistical Committee of the Republic of Belarus (https://www.belstat.gov.by/en). They are based on population censuses conducted in 1989, 1999, and 2009 (Table A.7) and account for annual demographic changes. Data were provided in the requested detail.

EDITORS' COMMENTS

Non-malignant CNS tumours were registered (Table A.9), and pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were reportable. Laterality was complete for 97% of relevant cases.

BELARUS, paediatric (1990-2014)

	Age group (years)	Males	Females
Person-years	0	1 397 087	1 313 176
	1-4	5 575 366	5 272 707
	5-9	7 404 162	7 024 163
	10-14	8 455 502	8 054 066
	15-19	9 241 027	8 791 429
	0-14	22 832 117	21 664 112
	0-19	32 073 144	30 455 541
Average annual population	0-14	913 285	866 564
	0-19	1 282 926	1 218 222

Please consult the quality indicators for this registry

BELARUS, paediatric (1990-2014)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	93	789	529	422	422	**1833**	**2255**	26.7	100.0	21.9	100.0	34.3	72.7	36.7	25.6	23.4	**44.4**	**39.7**	636	753	99.8	0.2
	a. Lymphoid	46	684	423	274	198	**1427**	**1625**	20.8	77.9	15.8	72.1	17.0	63.1	29.3	16.6	11.0	**35.1**	**29.7**	499	554	99.9	0.1
	b. Acute myeloid	28	67	79	108	156	**282**	**438**	4.1	15.4	4.3	19.4	10.3	6.2	5.5	6.5	8.7	**6.4**	**6.9**	95	138	99.5	0.5
	c. CMD	1	5	11	25	45	**42**	**87**	0.6	2.3	0.8	3.9	0.4	0.5	0.8	1.5	2.5	**0.9**	**1.2**	14	26	100.0	0.0
	d. MDS & other	8	16	13	10	4	**47**	**51**	0.7	2.6	0.5	2.3	3.0	1.5	0.9	0.6	0.2	**1.2**	**0.9**	16	17	100.0	0.0
	e. Unspecified	10	17	3	5	19	**35**	**54**	0.5	1.9	0.5	2.4	3.7	1.6	0.2	0.3	1.1	**0.9**	**1.0**	13	18	100.0	0.0
II	LYMPHOMA & RELATED	7	163	269	410	887	**849**	**1736**	12.4	100.0	16.9	100.0	2.6	15.0	18.6	24.8	49.2	**18.1**	**25.1**	280	526	99.8	0.2
	a. Hodgkin	0	60	106	276	723	**442**	**1165**	6.4	52.1	11.3	67.1	-	5.5	7.3	16.7	40.1	**8.9**	**15.9**	142	343	100.0	0.0
	b. Non-Hodgkin except BL	4	47	72	74	137	**197**	**334**	2.9	23.2	3.2	19.2	1.5	4.3	5.0	4.5	7.6	**4.4**	**5.1**	66	104	99.7	0.3
	c. Burkitt (BL)	0	51	91	59	21	**201**	**222**	2.9	23.7	2.2	12.8	-	4.7	6.3	3.6	1.2	**4.5**	**3.8**	68	74	100.0	0.0
	d. Lymphoreticular	3	4	0	1	1	**8**	**9**	0.1	0.9	0.1	0.5	1.1	0.4	-	0.1	0.1	**0.2**	**0.2**	3	3	88.9	11.1
	e. Unspecified	0	1	0	0	5	**1**	**6**	0.0	0.1	0.1	0.3	-	0.1	-	-	0.3	**0.0**	**0.1**	0	2	83.3	16.7
III	CNS NEOPLASMS †	82	407	494	454	307	**1437**	**1744**	20.9	100.0	16.9	100.0	30.3	37.5	34.2	27.5	17.0	**33.0**	**29.4**	489	574	86.1	0.5
	a. Ependymoma	10	52	21	27	23	**110**	**133**	1.6	7.7	1.3	7.6	3.7	4.8	1.5	1.6	1.3	**2.7**	**2.4**	38	45	97.7	2.3
	b. Astrocytoma	18	136	184	194	131	**532**	**663**	7.8	37.0	6.4	38.0	6.6	12.5	12.8	11.8	7.3	**11.9**	**10.9**	179	216	99.5	0.0
	c. CNS embryonal	20	100	125	66	39	**311**	**350**	4.5	21.6	3.4	20.1	7.4	9.2	8.7	4.0	2.2	**7.4**	**6.2**	108	118	99.7	0.3
	d. Other gliomas	4	16	36	56	24	**112**	**136**	1.6	7.8	1.3	7.8	1.5	1.5	2.5	3.4	1.3	**2.4**	**2.1**	37	43	96.3	0.0
	e. Other specified	7	20	58	63	38	**148**	**186**	2.2	10.3	1.8	10.7	2.6	1.8	4.0	3.8	2.1	**3.2**	**2.9**	49	60	98.4	0.0
	f. Unspecified CNS	23	83	70	48	52	**224**	**276**	3.3	15.6	2.7	15.8	8.5	7.7	4.9	2.9	2.9	**5.4**	**4.9**	78	92	17.4	1.8
IV	NEUROBLASTOMA	107	168	46	20	18	**341**	**359**	5.0	100.0	3.5	100.0	39.5	15.5	3.2	1.2	1.0	**9.2**	**7.4**	123	128	99.2	0.6
	a. (Ganglio)neuroblastoma	107	167	45	19	8	**338**	**346**	4.9	99.1	3.4	96.4	39.5	15.4	3.1	1.2	0.4	**9.2**	**7.2**	122	125	99.1	0.6
	b. Peripheral nervous	0	1	1	1	10	**3**	**13**	0.0	0.9	0.1	3.6	-	0.1	0.1	0.1	0.6	**0.1**	**0.2**	1	4	100.0	0.0
V	RETINOBLASTOMA	50	93	7	0	0	**150**	**150**	2.2	100.0	1.5	100.0	18.4	8.6	0.5	-	-	**4.2**	**3.3**	55	55	82.0	0.7
VI	RENAL TUMOURS	50	200	87	21	27	**358**	**385**	5.2	100.0	3.7	100.0	18.4	18.4	6.0	1.3	1.5	**9.5**	**7.7**	129	136	93.5	0.0
	a. Nephroblastoma	50	197	82	8	3	**337**	**340**	4.9	94.1	3.3	88.3	18.4	18.2	5.7	0.5	0.2	**9.0**	**7.0**	122	123	93.2	0.0
	b. Renal carcinoma	0	1	5	13	24	**19**	**43**	0.3	5.3	0.4	11.2	-	0.1	0.3	0.8	1.3	**0.4**	**0.6**	6	13	100.0	0.0
	c. Unspecified	0	2	0	0	0	**2**	**2**	0.0	0.6	0.0	0.5	-	0.2	-	-	-	**0.1**	**0.0**	1	1	0.0	0.0
VII	HEPATIC TUMOURS	22	29	10	15	16	**76**	**92**	1.1	100.0	0.9	100.0	8.1	2.7	0.7	0.9	0.9	**1.9**	**1.7**	27	31	97.8	0.0
	a. Hepatoblastoma	22	29	7	4	0	**62**	**62**	0.9	81.6	0.6	67.4	8.1	2.7	0.5	0.2	-	**1.7**	**1.3**	22	22	100.0	0.0
	b. Hepatic carcinoma	0	0	3	10	14	**13**	**27**	0.2	17.1	0.3	29.3	-	-	0.2	0.6	0.8	**0.2**	**0.4**	4	8	100.0	0.0
	c. Unspecified	0	0	0	1	2	**1**	**3**	0.0	1.3	0.0	3.3	-	-	-	0.1	0.1	**0.0**	**0.0**	0	1	33.3	0.0
VIII	BONE TUMOURS	1	12	71	197	230	**281**	**511**	4.1	100.0	5.0	100.0	0.4	1.1	4.9	11.9	12.8	**5.4**	**7.1**	89	153	99.2	0.0
	a. Osteosarcoma	0	1	28	99	100	**128**	**228**	1.9	45.6	2.2	44.6	-	0.1	1.9	6.0	5.5	**2.4**	**3.1**	40	68	100.0	0.0
	b. Chondrosarcoma	0	0	2	11	26	**13**	**39**	0.2	4.6	0.4	7.6	-	-	0.1	0.7	1.4	**0.2**	**0.5**	4	11	100.0	0.0
	c. Ewing & related	1	10	38	75	66	**124**	**190**	1.8	44.1	1.8	37.2	0.4	0.9	2.6	4.5	3.7	**2.5**	**2.7**	40	58	100.0	0.0
	d. Other specified	0	1	3	11	24	**15**	**39**	0.2	5.3	0.4	7.6	-	0.1	0.2	0.7	1.3	**0.3**	**0.5**	5	11	100.0	0.0
	e. Unspecified	0	0	0	1	14	**1**	**15**	0.0	0.4	0.1	2.9	-	-	-	0.1	0.8	**0.0**	**0.2**	0	4	73.3	0.0
IX	SOFT TISSUE SARCOMA	32	116	74	145	183	**367**	**550**	5.3	100.0	5.3	100.0	11.8	10.7	5.1	8.8	10.1	**8.4**	**8.8**	124	175	99.6	0.2
	a. Rhabdomyosarcoma	17	94	50	55	52	**216**	**268**	3.1	58.9	2.6	48.7	6.3	8.7	3.5	3.3	2.9	**5.3**	**4.7**	75	89	100.0	0.0
	b. Fibrosarcoma	11	6	7	23	26	**47**	**73**	0.7	12.8	0.7	13.3	4.1	0.6	0.5	1.4	1.4	**1.0**	**1.1**	16	23	98.6	1.4
	c. Kaposi sarcoma	0	0	0	1	2	**1**	**3**	0.0	0.3	0.0	0.5	-	-	-	0.1	0.1	**0.0**	**0.0**	0	1	100.0	0.0
	d. Other specified	4	15	17	65	91	**101**	**192**	1.5	27.5	1.9	34.9	1.5	1.4	1.2	3.9	5.0	**2.1**	**2.7**	33	58	99.5	0.0
	e. Unspecified	0	1	0	1	12	**2**	**14**	0.0	0.5	0.1	2.5	-	0.1	-	0.1	0.7	**0.0**	**0.2**	1	4	100.0	0.0
X	GERM CELL TUMOURS	30	46	31	88	214	**195**	**409**	2.8	100.0	4.0	100.0	11.1	4.2	2.1	5.3	11.9	**4.4**	**6.1**	65	125	99.3	0.0
	a. CNS germ cell	2	2	9	18	9	**31**	**40**	0.5	15.9	0.4	9.8	0.7	0.2	0.6	1.1	0.5	**0.6**	**0.6**	10	13	100.0	0.0
	b. Other extragonadal	23	30	3	5	17	**61**	**78**	0.9	31.3	0.8	19.1	8.5	2.8	0.2	0.3	0.9	**1.7**	**1.5**	22	27	98.7	0.0
	c. Gonadal germ cell	5	14	17	57	134	**93**	**227**	1.4	47.7	2.2	55.5	1.8	1.3	1.2	3.5	7.4	**1.9**	**3.2**	30	67	100.0	0.0
	d. Gonadal carcinoma	0	0	0	4	27	**4**	**31**	0.1	2.1	0.3	7.6	-	-	-	0.2	1.5	**0.1**	**0.4**	1	9	100.0	0.0
	e. Unspecified gonadal	0	0	2	4	27	**6**	**33**	0.1	3.1	0.3	8.1	-	-	0.1	0.2	1.5	**0.1**	**0.4**	2	9	93.9	0.0
XI	CARCINOMA & MELANOMA	2	18	199	741	1084	**960**	**2044**	14.0	100.0	19.9	100.0	0.7	1.7	13.8	44.9	60.1	**18.1**	**27.5**	301	601	100.0	0.0
	a. Adrenocortical	1	3	2	2	4	**8**	**12**	0.1	0.8	0.1	0.6	0.4	0.3	0.1	0.1	0.2	**0.2**	**0.2**	3	4	100.0	0.0
	b. Thyroid	0	7	181	647	821	**835**	**1656**	12.2	87.0	16.1	81.0	-	0.6	12.5	39.2	45.5	**15.6**	**22.4**	261	489	100.0	0.0
	c. Nasopharyngeal	0	1	1	9	14	**11**	**25**	0.2	1.1	0.2	1.2	-	0.1	0.1	0.5	0.8	**0.2**	**0.3**	3	7	100.0	0.0
	d. Melanoma	1	3	9	26	73	**39**	**112**	0.6	4.1	1.1	5.5	0.4	0.3	0.6	1.6	4.0	**0.8**	**1.5**	12	33	99.1	0.9
	e. Skin carcinoma	0	1	1	17	42	**19**	**61**	0.3	2.0	0.6	3.0	-	0.1	0.1	1.0	2.3	**0.3**	**0.8**	6	18	100.0	0.0
	f. Other & unspecified	0	3	5	40	130	**48**	**178**	0.7	5.0	1.7	8.7	-	0.3	0.3	2.4	7.2	**0.9**	**2.3**	15	51	100.0	0.0
XII	OTHER & UNSPECIFIED	1	5	4	6	43	**16**	**59**	0.2	100.0	0.6	100.0	0.4	0.5	0.3	0.4	2.4	**0.4**	**0.8**	5	17	54.2	0.0
	a. Other specified	1	1	3	2	3	**7**	**10**	0.1	43.8	0.1	16.9	0.4	0.1	0.2	0.1	0.2	**0.2**	**0.2**	2	3	100.0	0.0
	b. Other unspecified	0	4	1	4	40	**9**	**49**	0.1	56.3	0.5	83.1	-	0.4	0.1	0.2	2.2	**0.2**	**0.7**	3	14	44.9	0.0
	TOTAL	477	2046	1821	2519	3431	**6863**	**10294**	100.0	100.0	100.0	100.0	176.0	188.6	126.2	152.6	190.3	**157.0**	**164.5**	2324	3276	96.7	0.2

† includes 479 non-malignant

Please consult the quality indicators for this registry

Belgium

Belgian Cancer Registry, 2004–2013

Liesbet Van Eycken, Kris Henau, Nancy Van Damme

Belgium covers an area of 30 528 km². It is located in western Europe and is a founding member of the European Union. The economy has a highly productive workforce, a high GDP, and a strong exports sector.

In 2010, the population was 10.9 million, and 23% of the population was younger than 20 years (Table A.6).

Health-care institutions are easily accessible, and oncological care is provided by general and academic hospitals. Belgium has eight paediatric haematology and oncology centres.

The Belgian Cancer Registry was founded in 2005, with coverage of the whole country since 2004 (Table A.10).

Cancer registration is established by law since 2006. It stipulates compulsory notification of cancer. All data are provided electronically to the Belgian Cancer Registry. Hospitals send the standard cancer registration forms, which include a specific set of variables. Tumour characteristics are coded according to ICD-O-3 and the seventh edition of the TNM classification (TNM-7). Pathology files contain specimen data coded according to classification rules and the accompanying text protocols. The specimens are coded at the registry according to ICD-O-3 (Table A.10). In 2009, a supplementary collaboration was established with all eight Belgian paediatric haematology and oncology centres to improve the quality of data on childhood malignancies. Under this collaboration, data have been retrospectively reviewed from the incidence year 2004 onwards.

The law authorizes the use of the national social security number as the unique patient identifier. This enables accurate linkage with other medical or administrative data and, through linkage with the Crossroads Bank for Social Security, it also enables the registry to perform accurate follow-up of patients for vital status and date of death.

Annual incidence data by sex, age, primary site, and geographical unit are routinely tabulated and are electronically available at https://kankerregister.org/. More detailed epidemiological analyses on incidence and survival are regularly made available through other publications, including a detailed overview of cancer incidence and survival in children and adolescents. In addition to producing descriptive statistics, the Belgian Cancer Registry is actively involved in evaluating screening programmes and the analysis of process, structure, and outcome indicators in quality-of-care projects.

PUBLICATIONS

Belgian Cancer Registry (2013). Cancer incidence in Belgium 2010: cancer in children and adolescents. Available from: https://kankerregister.org/en/publicaties/cancer-incidence-belgium-2010-special-issue-cancer-children-and-adolescents.

Belgian Cancer Registry (2012). Cancer survival in Belgium. Available from: https://kankerregister.org/en/publicaties/cancer-survival-belgium.

POPULATION AT RISK

Annual tables of the number of Belgian residents on 1 January are published by the Belgian Directorate-General of Statistics and Economic Information (https://www.statbel.fgov.be/). Population figures are based on the censuses conducted in 2001 and 2011 (Table A.7) and on the National Register, which has real-time, up-to-date data. Data were provided in the requested detail.

EDITORS' COMMENTS

Death certificates were not used for ascertainment of cancer cases because the registry does not have access to identified death certificates (Table A.9). Thus, a small number of new cases may be missed by the registry. The reported proportion of non-malignant CNS tumours is high (Table A.9), because there are strong links with the neurology clinics in the registration area and because all types of CNS tumours are systematically registered. Pilocytic astrocytoma was coded with uncertain behaviour according to ICD-O-3 (Table A.10). This should be considered when interpreting the high incidence rates of CNS tumours and the total. Skin carcinomas are registered, although underreporting is possible, especially before 2006. Laterality is unknown in 20% of relevant cases. All carcinoid tumours of the appendix are coded with malignant behaviour, and they constitute 3.5% of all cases (Table A.11).

BELGIUM (2004-2013)

	Age group (years)	Males	Females
Person-years	0	627 813	599 099
	1-4	2 493 202	2 381 466
	5-9	3 057 447	2 926 677
	10-14	3 148 928	3 013 672
	15-19	3 254 767	3 122 542
	0-14	9 327 390	8 920 914
	0-19	12 582 157	12 043 456
Average annual population	0-14	932 739	892 091
	0-19	1 258 216	1 204 346

Please consult the quality indicators for this registry

BELGIUM (2004-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	58	384	214	202	196	858	1054	25.0	100.0	20.3	100.0	47.3	78.8	35.8	32.8	30.7	49.1	45.0	705	859	100.0	0.0
	a. Lymphoid	22	328	173	132	101	655	756	19.1	76.3	14.5	71.7	17.9	67.3	28.9	21.4	15.8	37.7	32.8	538	618	100.0	0.0
	b. Acute myeloid	24	35	22	35	54	116	170	3.4	13.5	3.3	16.1	19.6	7.2	3.7	5.7	8.5	6.6	7.0	95	137	100.0	0.0
	c. CMD	3	3	3	17	28	26	54	0.8	3.0	1.0	5.1	2.4	0.6	0.5	2.8	4.4	1.3	2.0	21	43	100.0	0.0
	d. MDS & other	6	18	16	17	11	57	68	1.7	6.6	1.3	6.5	4.9	3.7	2.7	2.8	1.7	3.2	2.9	47	55	100.0	0.0
	e. Unspecified	3	0	0	1	2	4	6	0.1	0.5	0.1	0.6	2.4	-	-	0.2	0.3	0.2	0.3	3	5	100.0	0.0
II	LYMPHOMA & RELATED	38	106	149	207	442	500	942	14.6	100.0	18.1	100.0	31.0	21.7	24.9	33.6	69.3	26.9	36.5	410	757	99.7	0.0
	a. Hodgkin	0	5	33	95	282	133	415	3.9	26.6	8.0	44.1	-	1.0	5.5	15.4	44.2	6.6	15.0	109	330	100.0	0.0
	b. Non-Hodgkin except BL	3	18	37	50	118	108	226	3.2	21.6	4.3	24.0	2.4	3.7	6.2	8.1	18.5	5.7	8.6	89	181	100.0	0.0
	c. Burkitt (BL)	0	22	49	28	19	99	118	2.9	19.8	2.3	12.5	-	4.5	8.2	4.5	3.0	5.4	4.8	82	97	100.0	0.0
	d. Lymphoreticular	35	61	29	30	15	155	170	4.5	31.0	3.3	18.0	28.5	12.5	4.8	4.9	2.4	9.1	7.6	127	139	100.0	0.0
	e. Unspecified	0	0	1	4	8	5	13	0.1	1.0	0.2	1.4	-	-	0.2	0.6	1.3	0.2	0.5	4	10	76.9	0.0
III	CNS NEOPLASMS †	73	256	258	257	249	844	1093	24.6	100.0	21.0	100.0	59.5	52.5	43.1	41.7	39.0	46.9	45.1	694	889	87.9	0.0
	a. Ependymoma	18	43	10	18	21	89	110	2.6	10.5	2.1	10.1	14.7	8.8	1.7	2.9	3.3	5.3	4.8	73	89	100.0	0.0
	b. Astrocytoma	26	103	122	113	99	364	463	10.6	43.1	8.9	42.4	21.2	21.1	20.4	18.3	15.5	20.1	19.1	299	377	94.2	0.0
	c. CNS embryonal	11	51	44	34	14	140	154	4.1	16.6	3.0	14.1	9.0	10.5	7.4	5.5	2.2	7.9	6.6	115	126	100.0	0.0
	d. Other gliomas	5	22	34	35	16	96	112	2.8	11.4	2.2	10.2	4.1	4.5	5.7	5.7	2.5	5.2	4.6	79	91	47.3	0.0
	e. Other specified	11	29	39	47	84	126	210	3.7	14.9	4.0	19.2	9.0	5.9	6.5	7.6	13.2	6.9	8.3	103	169	96.2	0.0
	f. Unspecified CNS	2	8	9	10	15	29	44	0.8	3.4	0.8	4.0	1.6	1.6	1.5	1.6	2.4	1.6	1.8	24	36	13.6	0.0
IV	NEUROBLASTOMA	83	108	24	11	6	226	232	6.6	100.0	4.5	100.0	67.6	22.2	4.0	1.8	0.9	13.9	11.0	185	190	99.1	0.0
	a. (Ganglio)neuroblastoma	83	107	23	3	3	216	219	6.3	95.6	4.2	94.4	67.6	22.0	3.8	0.5	0.5	13.4	10.5	177	180	99.1	0.0
	b. Peripheral nervous	0	1	1	8	3	10	13	0.3	4.4	0.2	5.6	-	0.2	0.2	1.3	0.5	0.5	0.5	8	10	100.0	0.0
V	RETINOBLASTOMA	37	62	5	0	0	104	104	3.0	100.0	2.0	100.0	30.2	12.7	0.8	-	-	6.6	5.1	85	85	76.9	0.0
VI	RENAL TUMOURS	24	89	26	10	11	149	160	4.3	100.0	3.1	100.0	19.6	18.3	4.3	1.6	1.7	9.0	7.4	122	131	96.9	0.0
	a. Nephroblastoma	23	88	24	6	5	141	146	4.1	94.6	2.8	91.3	18.7	18.1	4.0	1.0	0.8	8.6	6.9	116	120	97.9	0.0
	b. Renal carcinoma	0	0	2	4	6	6	12	0.2	4.0	0.2	7.5	-	-	0.3	0.6	0.9	0.3	0.4	5	10	100.0	0.0
	c. Unspecified	1	1	0	0	0	2	2	0.1	1.3	0.0	1.3	0.8	0.2	-	-	-	0.1	0.1	2	2	0.0	0.0
VII	HEPATIC TUMOURS	8	15	3	4	4	30	34	0.9	100.0	0.7	100.0	6.5	3.1	0.5	0.6	0.6	1.8	1.5	25	28	100.0	0.0
	a. Hepatoblastoma	8	14	3	2	1	27	28	0.8	90.0	0.5	82.4	6.5	2.9	0.5	0.3	0.2	1.7	1.3	22	23	100.0	0.0
	b. Hepatic carcinoma	0	1	0	2	3	3	6	0.1	10.0	0.1	17.6	-	0.2	-	0.3	0.5	0.2	0.2	2	5	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	2	7	43	113	117	165	282	4.8	100.0	5.4	100.0	1.6	1.4	7.2	18.3	18.3	8.2	10.5	135	227	99.3	0.0
	a. Osteosarcoma	0	0	16	63	64	79	143	2.3	47.9	2.7	50.7	-	-	2.7	10.2	10.0	3.8	5.2	64	115	100.0	0.0
	b. Chondrosarcoma	0	0	2	3	11	5	16	0.1	3.0	0.3	5.7	-	-	0.3	0.5	1.7	0.2	0.6	4	13	100.0	0.0
	c. Ewing & related	2	6	22	43	35	73	108	2.1	44.2	2.1	38.3	1.6	1.2	3.7	7.0	5.5	3.7	4.1	60	87	100.0	0.0
	d. Other specified	0	1	2	4	4	7	11	0.2	4.2	0.2	3.9	-	0.2	0.3	0.6	0.6	0.4	0.4	6	9	100.0	0.0
	e. Unspecified	0	0	1	0	3	1	4	0.0	0.6	0.1	1.4	-	-	0.2	-	0.5	0.1	0.1	1	3	50.0	0.0
IX	SOFT TISSUE SARCOMA	33	51	37	67	124	188	312	5.5	100.0	6.0	100.0	26.9	10.5	6.2	10.9	19.4	10.5	12.5	154	251	99.4	0.0
	a. Rhabdomyosarcoma	13	38	26	14	20	91	111	2.7	48.4	2.1	35.6	10.6	7.8	4.3	2.3	3.1	5.3	4.8	75	91	100.0	0.0
	b. Fibrosarcoma	4	3	3	8	14	18	32	0.5	9.6	0.6	10.3	3.3	0.6	0.5	1.3	2.2	1.0	1.3	15	26	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	2	1	3	0.0	0.5	0.1	1.0	-	-	-	0.2	0.3	0.0	0.1	1	2	100.0	0.0
	d. Other specified	14	7	8	39	81	68	149	2.0	36.2	2.9	47.8	11.4	1.4	1.3	6.3	12.7	3.6	5.6	56	119	100.0	0.0
	e. Unspecified	2	3	0	5	7	10	17	0.3	5.3	0.3	5.4	1.6	0.6	-	0.8	1.1	0.6	0.7	8	14	88.2	0.0
X	GERM CELL TUMOURS	36	18	16	40	168	110	278	3.2	100.0	5.3	100.0	29.3	3.7	2.7	6.5	26.3	6.2	10.7	90	222	99.3	0.0
	a. CNS germ cell ‡	5	0	7	16	17	28	45	0.8	25.5	0.9	16.2	4.1	-	1.2	2.6	2.7	1.4	1.7	23	36	100.0	0.0
	b. Other extragonadal	22	11	1	1	4	35	39	1.0	31.8	0.7	14.0	17.9	2.3	0.2	0.2	0.6	2.2	1.8	29	32	97.4	0.0
	c. Gonadal germ cell	8	7	7	22	138	44	182	1.3	40.0	3.5	65.5	6.5	1.4	1.2	3.6	21.6	2.4	6.7	36	144	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	7	0	7	-	-	0.1	2.5	-	-	-	-	1.1	-	0.2	-	5	100.0	0.0
	e. Unspecified gonadal	1	0	1	1	2	3	5	0.1	2.7	0.1	1.8	0.8	-	0.2	0.2	0.3	0.2	0.2	2	4	80.0	0.0
XI	CARCINOMA & MELANOMA	2	7	54	179	450	242	692	7.1	100.0	13.3	100.0	1.6	1.4	9.0	29.0	70.6	11.9	25.1	198	551	100.0	0.0
	a. Adrenocortical	1	1	1	1	3	4	7	0.1	1.7	0.1	1.0	0.8	0.2	0.2	0.2	0.5	0.2	0.3	3	6	100.0	0.0
	b. Thyroid	0	0	7	30	84	37	121	1.1	15.3	2.3	17.5	-	-	1.2	4.9	13.2	1.8	4.4	30	96	100.0	0.0
	c. Nasopharyngeal	0	0	1	7	6	8	14	0.2	3.3	0.3	2.0	-	-	0.2	1.1	0.9	0.4	0.5	7	11	100.0	0.0
	d. Melanoma	1	5	11	29	112	46	158	1.3	19.0	3.0	22.8	0.8	1.0	1.8	4.7	17.6	2.3	5.8	38	125	100.0	0.0
	e. Skin carcinoma	0	1	11	33	62	45	107	1.3	18.6	2.1	15.5	-	0.2	1.8	5.4	9.7	2.2	3.9	37	85	100.0	0.0
	f. Other & unspecified	0	0	23	79	183	102	285	3.0	42.1	5.5	41.2	-	-	3.8	12.8	28.7	5.0	10.3	83	227	100.0	0.0
XII	OTHER & UNSPECIFIED	4	2	2	2	8	10	18	0.3	100.0	0.3	100.0	3.3	0.4	0.3	0.3	1.3	0.6	0.7	8	14	77.8	0.0
	a. Other specified	1	1	1	1	7	4	11	0.1	40.0	0.2	61.1	0.8	0.2	0.2	0.2	1.1	0.2	0.4	3	9	100.0	0.0
	b. Other unspecified	3	1	1	1	1	6	7	0.2	60.0	0.1	38.9	2.4	0.2	0.2	0.2	0.2	0.4	0.3	5	6	42.9	0.0
	TOTAL	398	1105	831	1092	1775	3426	5201	100.0	100.0	100.0	100.0	324.4	226.7	138.9	177.2	278.3	191.6	211.1	2812	4204	96.6	0.0

† includes 576 non-malignant ‡ includes 9 non-malignant

Please consult the quality indicators for this registry

Bulgaria

Bulgarian National Cancer Registry, 1990–2013

Zdravka Valerianova, Nadya Dimitrova, Trayan Yordanov, Minka Yordanova

Bulgaria is a southern European country. It is bordered by Romania to the north, Serbia and North Macedonia to the west, Greece and Turkey to the south, and the Black Sea to the east. It covers an area of 110 994 km^2. During the reporting period, the country transformed from a one-party socialist state into a democracy with a market-based economy. The economy is based on heavy industry, power engineering, and agriculture and relies on natural resources. In 2010, the population was 7.4 million (Table A.7), and 19% of the population was younger than 20 years (Table A.6). Most residents live in urban areas. The capital and largest city is Sofia.

Cancer care is funded mainly by the National Health Insurance Fund (NHIF). Use of the NHIF identification number enables follow-up of patients along the pathway from diagnosis to treatment and beyond. Specialized and general hospitals that provide cancer treatment services adhere to the common protocols of care included in the Act for Medical Treatment Facilities, which was most recently amended in 2016. Uniform standards for diagnosis and treatment of patients with cancer are mandatory for all hospitals. Cancer care is coordinated by a council of specialists, composed of a clinical oncologist, a radiotherapist, a surgeon, and a pathologist or other health-care professional, who is nominated according to the cancer type being discussed.

Bulgaria has a separate network for cancer care in children and haematological diseases. Surgery, chemotherapy, radiotherapy, and follow-up of children with malignant tumours are conducted mainly in specialized children's clinics in university hospitals in Sofia, Plovdiv, and Varna. Occasionally, surgical treatment is also provided in some other university hospitals.

Cancer registration has been compulsory since 1952 and is regulated by instructions and orders of the Ministry of Health, which also provides funding based on the number of registered cancer cases.

The Bulgarian National Cancer Registry, which is located in the National Oncology Hospital in Sofia, covers the whole country. The data are collected by 13 regional cancer registries based in the regional oncology centres or hospitals and are recorded in a specialized information system. The main sources of information are hospital discharge records, pathology and other diagnostic units and laboratories, medical records, cancer notification forms, protocols from oncology committees, and reports from the hospital information systems, national and regional health insurance funds, and the national mortality database. Data collection is both passive and active; in recent years, active collection is more prevalent. Based on official agreement, the registry regularly receives data on all deceased people from the Civil Registration System and data on cause of death, population and mortality data, and life tables from the National Statistical Institute. Patients treated abroad may be lost to registration if they are diagnosed abroad and do not seek medical care after returning to Bulgaria.

The Bulgarian National Cancer Registry collects data on all invasive, in situ, and borderline behaviour cases. Information on each cancer case is structured in more than 85 fields and includes the patient's personal information, cancer characteristics, and data on treatment and disease progression. The registry database contains 0.65 million records of cancer cases, diagnosed in 1993–2013, of which 0.5% are for ages 0–14 years and 0.2% are for ages 15–19 years. For IICC-3, all available paper records for 1990–1992 were incorporated into the registry's electronic database.

Multiple primary tumours are defined according to IARC/IACR rules. Since 2005, cancers are coded according to ICD-10 and converted to ICD-O-3 using standard programs (Table A.10). Since 2008, date of incidence has been coded according to ENCR recommendations. Stage is recorded according to the sixth edition of the TNM classification (TNM-6).

POPULATION AT RISK

The official estimates are based on the censuses conducted in1985, 1992, 2001, and 2011 (Table A.7) and were provided by the National Statistical Institute (https://nsi.bg/). The population numbers within age, sex, and administrative units at the end of each year are calculated based on the population data for the previous year and births, deaths, and migration during the current year. Data were provided in the requested detail.

EDITORS' COMMENTS

The registry also participated in IICC-2 (Table A.1). Day of incidence may be unknown for almost 30% of the cases (Table A.8); the missing information pertains mostly to the 1990s. The high DCO% (Table A.9) may suggest that some cases were missed. The precision of diagnosis of the DCO cases is usually limited and is not validated as for other cases. The proportion of cases with unspecified morphology was rather high (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. Pilocytic astrocytoma was originally coded with malignant behaviour and was recoded with uncertain behaviour with the conversion to ICD-O-3 (Table A.10). Other non-malignant CNS tumours were not registered. Some surgical departments (including neurosurgery) do not submit information to the registry; thus, patients treated only surgically are more likely to be missed. The incidence rates increased significantly over the reporting period. According to the registry, this may be explained by gradually solving administrative obstacles to registration from some hospitals and by the addition of death certificates as a routine source of information beginning in 1998. Skin carcinomas are registered, but some cases may have been missed. Laterality was not sufficiently complete for inclusion of this dataset in the relevant tables.

BULGARIA (1990-2013)

	Age group (years)	Males	Females
Person-years	0	909 460	860 422
	1-4	3 818 634	3 617 906
	5-9	5 107 270	4 843 490
	10-14	5 751 506	5 454 223
	15-19	6 495 370	6 174 400
	0-14	15 586 870	14 776 041
	0-19	22 082 240	20 950 441
Average annual population	0-14	649 453	615 668
	0-19	920 093	872 935

Please consult the quality indicators for this registry

BULGARIA (1990-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	57	499	382	295	241	1233	1474	34.9	100.0	27.9	100.0	32.2	67.1	38.4	26.3	19.0	43.4	37.9	626	721	94.1	5.9
	a. Lymphoid	28	394	303	191	119	916	1035	25.9	74.3	19.6	70.2	15.8	53.0	30.4	17.0	9.4	32.5	27.3	467	514	97.2	2.8
	b. Acute myeloid	14	39	35	54	45	142	187	4.0	11.5	3.5	12.7	7.9	5.2	3.5	4.8	3.6	4.8	4.5	70	88	97.3	2.7
	c. CMD	1	6	13	12	24	32	56	0.9	2.6	1.1	3.8	0.6	0.8	1.3	1.1	1.9	1.0	1.2	16	25	96.4	3.6
	d. MDS & other	1	2	4	4	12	11	23	0.3	0.9	0.4	1.6	0.6	0.3	0.4	0.4	0.9	0.4	0.5	5	10	100.0	0.0
	e. Unspecified	13	58	27	34	41	132	173	3.7	10.7	3.3	11.7	7.3	7.8	2.7	3.0	3.2	4.7	4.4	67	83	70.5	29.5
II	LYMPHOMA & RELATED	11	126	194	233	374	564	938	16.0	100.0	17.8	100.0	6.2	16.9	19.5	20.8	29.5	18.1	20.7	276	423	96.7	3.3
	a. Hodgkin	0	43	98	123	255	264	519	7.5	46.8	9.8	55.3	-	5.8	9.8	11.0	20.1	8.2	10.9	127	228	97.5	2.5
	b. Non-Hodgkin except BL	2	41	65	82	100	190	290	5.4	33.7	5.5	30.9	1.1	5.5	6.5	7.3	7.9	6.0	6.5	93	132	96.6	3.4
	c. Burkitt (BL)	0	16	21	12	6	49	55	1.4	8.7	1.0	5.9	-	2.2	2.1	1.1	0.5	1.7	1.4	25	27	100.0	0.0
	d. Lymphoreticular	9	20	1	6	5	36	41	1.0	6.4	0.8	4.4	5.1	2.7	0.1	0.5	0.4	1.4	1.2	19	21	100.0	0.0
	e. Unspecified	0	6	9	10	8	25	33	0.7	4.4	0.6	3.5	-	0.8	0.9	0.9	0.6	0.8	0.8	12	15	75.8	24.2
III	CNS NEOPLASMS †	33	149	194	188	196	564	760	16.0	100.0	14.4	100.0	18.6	20.0	19.5	16.8	15.5	18.8	18.1	280	358	73.9	11.7
	a. Ependymoma	5	11	7	12	19	35	54	1.0	6.2	1.0	7.1	2.8	1.5	0.7	1.1	1.5	1.2	1.3	18	25	100.0	0.0
	b. Astrocytoma	2	38	72	72	100	184	284	5.2	32.6	5.4	37.4	1.1	5.1	7.2	6.4	7.9	5.9	6.3	90	129	100.0	0.0
	c. CNS embryonal	3	44	52	44	28	143	171	4.0	25.4	3.2	22.5	1.7	5.9	5.2	3.9	2.2	4.8	4.2	71	82	100.0	0.0
	d. Other gliomas	0	3	12	11	10	26	36	0.7	4.6	0.7	4.7	-	0.4	1.2	1.0	0.8	0.8	0.8	13	17	100.0	0.0
	e. Other specified	1	5	2	5	3	13	16	0.4	2.3	0.3	2.1	0.6	0.7	0.2	0.4	0.2	0.4	0.4	6	8	100.0	0.0
	f. Unspecified CNS	22	48	49	44	36	163	199	4.6	28.9	3.8	26.2	12.4	6.5	4.9	3.9	2.8	5.7	5.0	82	96	0.5	44.7
IV	NEUROBLASTOMA	41	102	29	12	15	184	199	5.2	100.0	3.8	100.0	23.2	13.7	2.9	1.1	1.2	7.3	5.9	98	104	99.0	0.0
	a. (Ganglio)neuroblastoma	41	99	28	10	6	178	184	5.0	96.7	3.5	92.5	23.2	13.3	2.8	0.9	0.5	7.1	5.6	95	97	98.9	0.0
	b. Peripheral nervous	0	3	1	2	9	6	15	0.2	3.3	0.3	7.5	-	0.4	0.1	0.2	0.7	0.2	0.3	3	7	100.0	0.0
V	RETINOBLASTOMA	11	52	5	0	0	68	68	1.9	100.0	1.3	100.0	6.2	7.0	0.5	-	-	2.8	2.2	37	37	100.0	0.0
VI	RENAL TUMOURS	22	98	41	14	13	175	188	5.0	100.0	3.6	100.0	12.4	13.2	4.1	1.2	1.0	6.7	5.5	92	97	92.6	3.7
	a. Nephroblastoma	21	88	39	9	2	157	159	4.4	89.7	3.0	84.6	11.9	11.8	3.9	0.8	0.2	6.1	4.7	83	84	98.7	0.0
	b. Renal carcinoma	0	2	1	5	9	8	17	0.2	4.6	0.3	9.0	-	0.3	0.1	0.4	0.7	0.2	0.4	4	7	100.0	0.0
	c. Unspecified	1	8	1	0	2	10	12	0.3	5.7	0.2	6.4	0.6	1.1	0.1	-	0.2	0.4	0.4	5	6	0.0	58.3
VII	HEPATIC TUMOURS	10	17	4	10	14	41	55	1.2	100.0	1.0	100.0	5.7	2.3	0.4	0.9	1.1	1.5	1.4	21	27	69.1	10.9
	a. Hepatoblastoma	4	16	0	3	1	23	24	0.7	56.1	0.5	43.6	2.3	2.2	-	0.3	0.1	0.9	0.7	12	13	100.0	0.0
	b. Hepatic carcinoma	0	0	0	6	8	6	14	0.2	14.6	0.3	25.5	-	-	-	0.5	0.6	0.2	0.3	3	6	100.0	0.0
	c. Unspecified	6	1	4	1	5	12	17	0.3	29.3	0.3	30.9	3.4	0.1	0.4	0.1	0.4	0.4	0.4	6	8	0.0	35.3
VIII	BONE TUMOURS	1	12	47	143	189	203	392	5.7	100.0	7.4	100.0	0.6	1.6	4.7	12.8	14.9	5.8	7.8	94	169	97.2	1.0
	a. Osteosarcoma	0	1	14	61	57	76	133	2.2	37.4	2.5	33.9	-	0.1	1.4	5.4	4.5	2.1	2.6	35	57	100.0	0.0
	b. Chondrosarcoma	0	2	6	19	47	27	74	0.8	13.3	1.4	18.9	-	0.3	0.6	1.7	3.7	0.8	1.4	13	31	100.0	0.0
	c. Ewing & related	0	9	25	56	67	90	157	2.5	44.3	3.0	40.1	-	1.2	2.5	5.0	5.3	2.6	3.2	42	69	100.0	0.0
	d. Other specified	0	0	0	3	12	3	15	0.1	1.5	0.3	3.8	-	-	-	0.3	0.9	0.1	0.3	1	6	100.0	0.0
	e. Unspecified	1	0	2	4	6	7	13	0.2	3.4	0.2	3.3	0.6	-	0.2	0.4	0.5	0.2	0.3	3	6	15.4	30.8
IX	SOFT TISSUE SARCOMA	14	57	51	67	122	189	311	5.3	100.0	5.9	100.0	7.9	7.7	5.1	6.0	9.6	6.4	7.1	94	142	100.0	0.0
	a. Rhabdomyosarcoma	11	42	34	29	32	116	148	3.3	61.4	2.8	47.6	6.2	5.6	3.4	2.6	2.5	4.1	3.7	59	71	100.0	0.0
	b. Fibrosarcoma	2	4	5	13	33	24	57	0.7	12.7	1.1	18.3	1.1	0.5	0.5	1.2	2.6	0.8	1.2	12	25	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	1	8	9	20	47	38	85	1.1	20.1	1.6	27.3	0.6	1.1	0.9	1.8	3.7	1.2	1.8	18	37	100.0	0.0
	e. Unspecified	0	3	3	5	10	11	21	0.3	5.8	0.4	6.8	-	0.4	0.3	0.4	0.8	0.4	0.5	5	9	100.0	0.0
X	GERM CELL TUMOURS	6	36	10	51	232	103	335	2.9	100.0	6.4	100.0	3.4	4.8	1.0	4.6	18.3	3.4	6.8	51	142	96.7	1.2
	a. CNS germ cell	0	0	1	4	9	5	14	0.1	4.9	0.3	4.2	-	-	0.1	0.4	0.7	0.1	0.3	2	6	100.0	0.0
	b. Other extragonadal	1	10	0	3	9	14	23	0.4	13.6	0.4	6.9	0.6	1.3	-	0.3	0.7	0.5	0.6	7	11	100.0	0.0
	c. Gonadal germ cell	5	26	9	34	158	74	232	2.1	71.8	4.4	69.3	2.8	3.5	0.9	3.0	12.5	2.5	4.7	37	99	100.0	0.0
	d. Gonadal carcinoma	0	0	0	8	39	8	47	0.2	7.8	0.9	14.0	-	-	-	0.7	3.1	0.2	0.9	4	19	100.0	0.0
	e. Unspecified gonadal	0	0	0	2	17	2	19	0.1	1.9	0.4	5.7	-	-	-	0.2	1.3	0.1	0.3	1	8	42.1	21.1
XI	CARCINOMA & MELANOMA	1	7	21	89	292	118	410	3.3	100.0	7.8	100.0	0.6	0.9	2.1	7.9	23.0	3.3	7.8	55	170	100.0	0.0
	a. Adrenocortical	0	0	0	1	8	1	9	0.0	0.8	0.2	2.2	-	-	-	0.1	0.6	0.0	0.2	0	4	100.0	0.0
	b. Thyroid	0	0	5	20	63	25	88	0.7	21.2	1.7	21.5	-	-	0.5	1.8	5.0	0.7	1.6	11	36	100.0	0.0
	c. Nasopharyngeal	0	1	1	23	26	25	51	0.7	21.2	1.0	12.4	-	0.1	0.1	2.1	2.1	0.7	1.0	11	22	100.0	0.0
	d. Melanoma	0	2	7	12	36	21	57	0.6	17.8	1.1	13.9	-	0.3	0.7	1.1	2.8	0.6	1.1	10	24	100.0	0.0
	e. Skin carcinoma	0	0	3	11	33	14	47	0.4	11.9	0.9	11.5	-	-	0.3	1.0	2.6	0.4	0.9	6	19	100.0	0.0
	f. Other & unspecified	1	4	5	22	126	32	158	0.9	27.1	3.0	38.5	0.6	0.5	0.5	2.0	9.9	0.9	3.0	15	65	100.0	0.0
XII	OTHER & UNSPECIFIED	22	30	19	20	53	91	144	2.6	100.0	2.7	100.0	12.4	4.0	1.9	1.8	4.2	3.3	3.5	47	68	15.3	42.4
	a. Other specified	2	3	3	4	8	12	20	0.3	13.2	0.4	13.9	1.1	0.4	0.3	0.4	0.6	0.4	0.5	6	9	100.0	0.0
	b. Other unspecified	20	27	16	16	45	79	124	2.2	86.8	2.4	86.1	11.3	3.6	1.6	1.4	3.6	2.9	3.1	41	58	1.6	49.2
	TOTAL	229	1185	997	1122	1741	3533	5274	100.0	100.0	100.0	100.0	129.4	159.3	100.2	100.1	137.4	120.8	124.6	1770	2457	90.7	5.5

† includes 54 non-malignant

Please consult the quality indicators for this registry

Croatia

Croatian National Cancer Registry, 2001–2014

Mario Šekerija, Ljubica Bubanović, Petra Čukelj

Croatia is located in southern Europe and has two main geographical regions, inland and coastal, with continental and Mediterranean climates, respectively. The economy is based on the service sector, with smaller contributions by industry, agriculture, and tourism, in all of which the state has significant involvement. Croatia has a very high HDI.

In 2010, the population was 4.3 million, and 21% of the population was younger than 20 years (Table A.6). Administratively, the country is divided into 20 counties and the capital city of Zagreb. The population is covered by the social health insurance scheme operated by the Croatian Health Insurance Fund, the sole insurer for mandatory health insurance; it covers about 99% of citizens. The main regional oncology centres with a full range of services for treating childhood cancer are located in the university hospitals in Zagreb, Split, and Rijeka. Croatia has two referral centres for childhood cancer: one for solid tumours and one for haematological malignancies. Both centres are located in Zagreb.

The Croatian National Cancer Registry was founded in 1959 and began collecting incidence data in 1962 (Table A.10). It operates within the Croatian Institute of Public Health in Zagreb and is funded by the Ministry of Health and the Croatian Health Insurance Fund. The registry covers the whole of Croatia.

Sources of cancer cases are notifications from hospitals and primary care providers, pathology reports, and mortality databases. Notifications include the name of the health-care provider (hospital or physician), so that they can be contacted for additional information. Electronic hospital discharge records are a supplementary data source. In IICC-3, data topography and morphology were coded according to ICD-O-2 (Table A.10). The registry is currently being restructured to incorporate the increasing proportion of electronic notifications and ICD-O-3 coding, and it aims to increase the percentage of histologically confirmed cases.

Cancer incidence data have been published in an annual report since 1976. The data have been used for scientific and public health purposes, including CI5 Volumes VII–X, CONCORD-2, and EUROCARE-5 cancer survival studies, and in several other scientific projects.

PUBLICATIONS

Karalexi MA, Papathoma P, Thomopoulos TP, Ryzhov A, Zborovskaya A, Dimitrova N, et al. (2015). Childhood central nervous system tumour mortality and survival in Southern and Eastern Europe (1983–2014): gaps persist across 14 cancer registries. Eur J Cancer. 51(17):2665–77. https://doi.org/10.1016/j.ejca.2015.08.018 PMID:26343313

Vučemilo L, Znaor T, Kuliš T, Šekerija M, Znaor A (2015). Thyroid cancer incidence and mortality trends in Croatia 1988–2010. Acta Clin Croat. 54(1):30–7. PMID:26058240

POPULATION AT RISK

The population data are based on decennial censuses conducted in 2001 and 2011 and intercensal estimates provided by the National Bureau of Statistics (https://www.dzs.hr/). Data were provided in the requested detail.

EDITORS' COMMENTS

The registry also participated in IICC-2 (Table A.1). The proportion of cases with unspecified morphology is rather high (Table A.9), especially for CNS tumours (35%), bone tumours (30%), and soft tissue sarcomas (21%). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. Non-malignant CNS tumours defined by the ICD-10 codes D32, D33.0-D33.2, D42, and D43 are registered. Pilocytic astrocytoma was originally coded with malignant behaviour and was recoded with uncertain behaviour for IICC-3. Skin carcinomas are not registered, which affected the incidence of diagnostic group XI and overall. The high incidence rate is influenced by a marked increase in the incidence of thyroid cancer over the reporting period. The registry attributes this increase to more pronounced diagnostic efforts and increased awareness resulting from several recent public service campaigns. Information on laterality is not systematically collected; thus, this dataset was not included in the laterality tables.

CROATIA (2001-2014)

	Age group (years)	Males	Females
Person-years	0	295 350	278 923
	1-4	1 210 061	1 146 109
	5-9	1 586 671	1 507 284
	10-14	1 694 912	1 615 228
	15-19	1 822 453	1 743 536
	0-14	4 786 994	4 547 544
	0-19	6 609 447	6 291 080
Average annual population	0-14	341 928	324 825
	0-19	472 103	449 363

Please consult the quality indicators for this registry

CROATIA (2001-2014)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	21	242	142	123	87	528	615	30.4	100.0	23.9	100.0	36.6	102.7	45.9	37.2	24.4	60.3	52.2	864	986	99.8	0.0
	a. Lymphoid	15	208	123	94	52	440	492	25.3	83.3	19.1	80.0	26.1	88.3	39.8	28.4	14.6	50.5	42.4	721	794	100.0	0.0
	b. Acute myeloid	6	26	17	19	22	68	90	3.9	12.9	3.5	14.6	10.4	11.0	5.5	5.7	6.2	7.7	7.3	111	142	100.0	0.0
	c. CMD	0	3	0	5	6	8	14	0.5	1.5	0.5	2.3	-	1.3	-	1.5	1.7	0.8	1.0	13	21	100.0	0.0
	d. MDS & other	0	1	0	2	0	3	3	0.2	0.6	0.1	0.5	-	0.4	-	0.6	-	0.3	0.2	5	5	100.0	0.0
	e. Unspecified	0	4	2	3	7	9	16	0.5	1.7	0.6	2.6	-	1.7	0.6	0.9	2.0	1.0	1.2	15	24	93.8	0.0
II	LYMPHOMA & RELATED	15	43	61	104	192	223	415	12.8	100.0	16.1	100.0	26.1	18.2	19.7	31.4	53.8	23.1	30.1	355	624	100.0	0.0
	a. Hodgkin	0	6	16	54	119	76	195	4.4	34.1	7.6	47.0	-	2.5	5.2	16.3	33.4	7.2	13.1	118	285	100.0	0.0
	b. Non-Hodgkin except BL	0	16	25	35	63	76	139	4.4	34.1	5.4	33.5	-	6.8	8.1	10.6	17.7	7.8	10.0	121	209	100.0	0.0
	c. Burkitt (BL)	0	6	11	11	6	28	34	1.6	12.6	1.3	8.2	-	2.5	3.6	3.3	1.7	2.9	2.6	45	53	100.0	0.0
	d. Lymphoreticular	15	15	9	2	3	41	44	2.4	18.4	1.7	10.6	26.1	6.4	2.9	0.6	0.8	5.1	4.1	69	73	100.0	0.0
	e. Unspecified	0	0	0	2	1	2	3	0.1	0.9	0.1	0.7	-	-	-	0.6	0.3	0.2	0.2	3	4	100.0	0.0
III	CNS NEOPLASMS †	25	132	130	128	158	415	573	23.9	100.0	22.3	100.0	43.5	56.0	42.0	38.7	44.3	45.5	45.2	671	893	68.4	0.3
	a. Ependymoma	4	24	5	7	5	40	45	2.3	9.6	1.7	7.9	7.0	10.2	1.6	2.1	1.4	4.8	4.1	66	73	100.0	0.0
	b. Astrocytoma	3	32	35	41	32	111	143	6.4	26.7	5.6	25.0	5.2	13.6	11.3	12.4	9.0	11.9	11.2	178	223	95.8	0.0
	c. CNS embryonal	3	28	29	19	13	79	92	4.5	19.0	3.6	16.1	5.2	11.9	9.4	5.7	3.6	8.8	7.6	128	147	100.0	0.0
	d. Other gliomas	0	13	12	5	11	30	41	1.7	7.2	1.6	7.2	-	5.5	3.9	1.5	3.1	3.4	3.3	49	65	97.6	0.0
	e. Other specified	2	6	14	12	19	34	53	2.0	8.2	2.1	9.2	3.5	2.5	4.5	3.6	5.3	3.6	4.0	54	81	100.0	0.0
	f. Unspecified CNS	13	29	35	44	78	121	199	7.0	29.2	7.7	34.7	22.6	12.3	11.3	13.3	21.9	13.1	15.0	195	304	12.6	1.0
IV	NEUROBLASTOMA	31	57	15	3	2	106	108	6.1	100.0	4.2	100.0	54.0	24.2	4.8	0.9	0.6	13.5	10.6	179	182	95.4	0.0
	a. (Ganglio)neuroblastoma	30	57	15	2	2	104	106	6.0	98.1	4.1	98.1	52.2	24.2	4.8	0.6	0.6	13.2	10.4	176	179	95.3	0.0
	b. Peripheral nervous	1	0	0	1	0	2	2	0.1	1.9	0.1	1.9	1.7	-	-	0.3	-	0.2	0.2	3	3	100.0	0.0
V	RETINOBLASTOMA	4	19	2	0	0	25	25	1.4	100.0	1.0	100.0	7.0	8.1	0.6	-	-	3.2	2.5	42	42	100.0	0.0
VI	RENAL TUMOURS	12	66	14	6	12	98	110	5.6	100.0	4.3	100.0	20.9	28.0	4.5	1.8	3.4	12.3	10.3	165	182	91.8	0.0
	a. Nephroblastoma	12	64	13	0	0	89	89	5.1	90.8	3.5	80.9	20.9	27.2	4.2	-	-	11.4	8.8	151	151	95.5	0.0
	b. Renal carcinoma	0	0	0	6	10	6	16	0.3	6.1	0.6	14.5	-	-	-	1.8	2.8	0.5	1.0	9	23	100.0	0.0
	c. Unspecified	0	2	1	0	2	3	5	0.2	3.1	0.2	4.5	-	0.8	0.3	-	0.6	0.4	0.4	5	8	0.0	0.0
VII	HEPATIC TUMOURS	4	15	0	4	3	23	26	1.3	100.0	1.0	100.0	7.0	6.4	-	1.2	0.8	2.9	2.4	38	43	100.0	0.0
	a. Hepatoblastoma	4	15	0	0	0	19	19	1.1	82.6	0.7	73.1	7.0	6.4	-	-	-	2.5	1.9	32	32	100.0	0.0
	b. Hepatic carcinoma	0	0	0	4	3	4	7	0.2	17.4	0.3	26.9	-	-	-	1.2	0.8	0.4	0.5	6	10	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	2	10	37	63	74	112	186	6.4	100.0	7.2	100.0	3.5	4.2	12.0	19.0	20.8	11.0	13.2	175	279	97.8	1.1
	a. Osteosarcoma	0	0	13	24	30	37	67	2.1	33.0	2.6	36.0	-	-	4.2	7.3	8.4	3.5	4.6	57	99	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	5	1	6	0.1	0.9	0.2	3.2	-	-	-	0.3	1.4	0.1	0.4	2	9	100.0	0.0
	c. Ewing & related	0	5	11	19	19	35	54	2.0	31.3	2.1	29.0	-	2.1	3.6	5.7	5.3	3.5	3.9	55	82	100.0	0.0
	d. Other specified	0	0	0	1	3	1	4	0.1	0.9	0.2	2.2	-	-	-	0.3	0.8	0.1	0.3	2	6	100.0	0.0
	e. Unspecified	2	5	13	18	17	38	55	2.2	33.9	2.1	29.6	3.5	2.1	4.2	5.4	4.8	3.9	4.1	60	84	92.7	3.6
IX	SOFT TISSUE SARCOMA	12	40	31	22	42	105	147	6.0	100.0	5.7	100.0	20.9	17.0	10.0	6.6	11.8	12.0	12.0	172	231	99.3	0.0
	a. Rhabdomyosarcoma	4	27	21	9	8	61	69	3.5	58.1	2.7	46.9	7.0	11.5	6.8	2.7	2.2	7.1	6.0	100	112	98.6	0.0
	b. Fibrosarcoma	2	5	2	4	2	13	15	0.7	12.4	0.6	10.2	3.5	2.1	0.6	1.2	0.6	1.5	1.3	21	24	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	0	1	1	0.1	1.0	0.0	0.7	-	-	-	0.3	-	0.1	0.1	2	2	100.0	0.0
	d. Other specified	1	1	5	4	20	11	31	0.6	10.5	1.2	21.1	1.7	0.4	1.6	1.2	5.6	1.1	2.1	18	46	100.0	0.0
	e. Unspecified	5	7	3	4	12	19	31	1.1	18.1	1.2	21.1	8.7	3.0	1.0	1.2	3.4	2.2	2.5	31	48	100.0	0.0
X	GERM CELL TUMOURS	4	5	10	24	97	43	140	2.5	100.0	5.4	100.0	7.0	2.1	3.2	7.3	27.2	4.3	9.5	68	204	88.6	0.0
	a. CNS germ cell	0	0	3	2	1	5	6	0.3	11.6	0.2	4.3	-	-	1.0	0.6	0.3	0.5	0.4	8	9	100.0	0.0
	b. Other extragonadal	0	0	0	3	0	3	3	0.2	7.0	0.1	2.1	-	-	-	0.9	-	0.3	0.2	5	5	100.0	0.0
	c. Gonadal germ cell	3	5	6	18	75	32	107	1.8	74.4	4.2	76.4	5.2	2.1	1.9	5.4	21.0	3.3	7.3	51	156	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	2	0	2	-	-	0.1	1.4	-	-	-	-	0.6	-	0.1	-	3	100.0	0.0
	e. Unspecified gonadal	1	0	1	1	19	3	22	0.2	7.0	0.9	15.7	1.7	-	0.3	0.3	5.3	0.3	1.4	5	31	27.3	0.0
XI	CARCINOMA & MELANOMA	0	2	7	40	154	49	203	2.8	100.0	7.9	100.0	-	0.8	2.3	12.1	43.2	4.5	13.2	75	291	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	1	3	28	88	32	120	1.8	65.3	4.7	59.1	-	0.4	1.0	8.5	24.7	2.9	7.8	49	172	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	5	1	6	0.1	2.0	0.2	3.0	-	-	-	0.3	1.4	0.1	0.4	2	9	100.0	0.0
	d. Melanoma	0	1	4	9	30	14	44	0.8	28.6	1.7	21.7	-	0.4	1.3	2.7	8.4	1.3	2.9	22	64	100.0	0.0
	e. Skin carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Other & unspecified	0	0	0	2	31	2	33	0.1	4.1	1.3	16.3	-	-	-	0.6	8.7	0.2	2.1	3	46	100.0	0.0
XII	OTHER & UNSPECIFIED	2	2	3	4	13	11	24	0.6	100.0	0.9	100.0	3.5	0.8	1.0	1.2	3.6	1.2	1.7	18	36	16.7	4.2
	a. Other specified	0	0	0	0	2	0	2	-	-	0.1	8.3	-	-	-	-	0.6	-	0.1	-	3	100.0	0.0
	b. Other unspecified	2	2	3	4	11	11	22	0.6	100.0	0.9	91.7	3.5	0.8	1.0	1.2	3.1	1.2	1.6	18	33	9.1	4.5
	TOTAL	132	633	452	521	834	1738	2572	100.0	100.0	100.0	100.0	229.9	268.7	146.1	157.4	233.9	193.9	202.9	2823	3992	90.8	0.2

† includes 199 non-malignant

Please consult the quality indicators for this registry

Cyprus

South-West, Cyprus Cancer Registry, 1998–2012

Pavlos Pavlou, Anna Demetriou

Cyprus is an island country in the eastern Mediterranean. It is located south of Turkey, west of the Syrian Arab Republic and Lebanon, north-west of Israel, and south-east of Greece. The island is a major tourist destination. The advanced market economy is based on the service sector, including tourism, finance, shipping, and real estate.

The area covered by the Cyprus Cancer Registry is the Cyprus Government-controlled area of 6060 km^2. It is divided into five districts: Nicosia, Larnaca, Limassol, Paphos, and Famagusta. In 2010, the resident population was 0.8 million, and 24% of the population was younger than 20 years (Table A.6).

General health care in Cyprus is provided by the Ministry of Health through district hospitals, primary health-care centres, and the private sector. The Bank of Cyprus Oncology Centre, a government-funded non-profit organization, provides health-care services – notably, radiotherapy and chemotherapy – to patients with cancer. Makarios III Hospital in Nicosia has a paediatric oncology unit. Children with retinoblastoma are usually diagnosed and treated in Birmingham, United Kingdom.

The Cyprus Cancer Registry is part of the Health Monitoring Unit of the Ministry of Health. Direct responsibility for the registry is shared by the unit's coordinator and the Permanent Secretary of the Ministry of Health.

Cases are actively identified based on various sources, mainly inpatient records from general hospitals, inpatient and outpatient facilities in each district, the Bank of Cyprus Oncology Centre, private-sector hospitals, pathology laboratories, haematology laboratories, cytology departments, and the death registry. The cases notified from death certificates were imported from the electronic Causes of Death Database that was created in 2004.

Registry staff members visit all sources and scrutinize the records kept in the medical records departments and registers of individual departments concerned with diagnosis and treatment of cancers, to identify and abstract information on cancer cases diagnosed by all methods among residents of the registry's coverage area. Cancer is not a notifiable disease in Cyprus, but legislation is being introduced. Since 2010, data collection procedures have included electronic data transfer of all data available electronically, such as demographic data and type of therapy.

POPULATION AT RISK

The source of the population data is the Statistical Service of Cyprus, specifically, the Demographic Report of 2014 (https://library.cystat.gov.cy/Documents/Publication/DEMOGRAPHIC_REPORT-2014-271115.pdf). Population estimates are based on the censuses conducted in 1992, 2001, and 2011 and are updated annually to account for demographic changes due to births, deaths, and net migration. Data were provided in the requested detail.

EDITORS' COMMENTS

The proportion of cases aged 0–14 years in the age group 0–19 years is lower than expected (Table A.9), possibly because of high rates of tumours that predominantly affect adolescents (ages 15–19 years), such as thyroid cancer. Non-malignant CNS tumours were not registered during the reporting period (Table A.9), and there were no cases of pilocytic astrocytoma in the dataset. The incidence rates for retinoblastoma are lower than expected. Children with this tumour are routinely referred to the United Kingdom for treatment, and the registry confirmed that it is not possible to obtain information on cases initially diagnosed abroad. The incidence rates of diagnostic group XI and overall are affected by the ineligibility of basal and squamous cell tumours of the skin for registration. Laterality was not sufficiently complete for inclusion of the dataset in the laterality tables.

CYPRUS, South-West (1998-2012)

	Age group (years)	Males	Females
Person-years	0	69 172	65 409
	1-4	278 254	263 705
	5-9	372 257	352 611
	10-14	411 597	389 534
	15-19	454 622	432 056
	0-14	1 131 280	1 071 259
	0-19	1 585 902	1 503 315
Average annual population	0-14	75 419	71 417
	0-19	105 727	100 221

Please consult the quality indicators for this registry

CYPRUS, South-West (1998-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	5	49	38	28	36	120	156	33.3	100.0	25.4	100.0	37.2	90.4	52.4	35.0	40.6	58.0	54.1	836	1039	97.4	2.6
	a. Lymphoid	3	42	25	21	21	91	112	25.3	75.8	18.2	71.8	22.3	77.5	34.5	26.2	23.7	44.5	39.8	636	755	99.1	0.9
	b. Acute myeloid	2	5	8	7	9	22	31	6.1	18.3	5.0	19.9	14.9	9.2	11.0	8.7	10.2	10.1	10.1	151	201	100.0	0.0
	c. CMD	0	0	1	0	5	1	6	0.3	0.8	1.0	3.8	-	-	1.4	-	5.6	0.4	1.6	7	35	100.0	0.0
	d. MDS & other	0	0	3	0	0	3	3	0.8	2.5	0.5	1.9	-	-	4.1	-	-	1.3	1.0	21	21	66.7	33.3
	e. Unspecified	0	2	1	0	1	3	4	0.8	2.5	0.7	2.6	-	3.7	1.4	-	1.1	1.6	1.5	22	27	50.0	50.0
II	LYMPHOMA & RELATED	0	3	22	34	80	59	139	16.4	100.0	22.6	100.0	-	5.5	30.4	42.4	90.2	23.8	38.8	386	837	98.6	1.4
	a. Hodgkin	0	2	5	24	58	31	89	8.6	52.5	14.5	64.0	-	3.7	6.9	30.0	65.4	12.1	24.1	199	526	100.0	0.0
	b. Non-Hodgkin except BL	0	1	12	9	17	22	39	6.1	37.3	6.3	28.1	-	1.8	16.6	11.2	19.2	9.2	11.4	146	242	97.4	2.6
	c. Burkitt (BL)	0	0	4	0	2	4	6	1.1	6.8	1.0	4.3	-	-	5.5	-	2.3	1.8	1.9	28	39	100.0	0.0
	d. Lymphoreticular	0	0	0	0	1	0	1	-	-	0.2	0.7	-	-	-	-	1.1	-	0.3	-	6	100.0	0.0
	e. Unspecified	0	0	1	1	2	2	4	0.6	3.4	0.7	2.9	-	-	1.4	1.2	2.3	0.8	1.1	13	24	75.0	25.0
III	CNS NEOPLASMS	7	17	16	12	12	52	64	14.4	100.0	10.4	100.0	52.0	31.4	22.1	15.0	13.5	25.2	22.6	363	430	62.5	3.1
	a. Ependymoma	0	5	0	0	0	5	5	1.4	9.6	0.8	7.8	-	9.2	-	-	-	2.9	2.2	37	37	100.0	0.0
	b. Astrocytoma	3	4	3	5	5	15	20	4.2	28.8	3.3	31.3	22.3	7.4	4.1	6.2	5.6	7.2	6.8	104	132	75.0	0.0
	c. CNS embryonal	2	5	3	4	2	14	16	3.9	26.9	2.6	25.0	14.9	9.2	4.1	5.0	2.3	6.8	5.8	97	109	87.5	0.0
	d. Other gliomas	1	1	7	1	2	10	12	2.8	19.2	2.0	18.8	7.4	1.8	9.7	1.2	2.3	4.6	4.1	69	81	33.3	0.0
	e. Other specified	0	1	0	0	1	1	2	0.3	1.9	0.3	3.1	-	1.8	-	-	1.1	0.6	0.7	7	13	100.0	0.0
	f. Unspecified CNS	1	1	3	2	2	7	9	1.9	13.5	1.5	14.1	7.4	1.8	4.1	2.5	2.3	3.2	3.0	48	59	0.0	22.2
IV	NEUROBLASTOMA	12	11	3	1	1	27	28	7.5	100.0	4.6	100.0	89.2	20.3	4.1	1.2	1.1	14.9	11.8	197	203	100.0	0.0
	a. (Ganglio)neuroblastoma	12	11	3	1	1	27	28	7.5	100.0	4.6	100.0	89.2	20.3	4.1	1.2	1.1	14.9	11.8	197	203	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	1	0	0	0	0	1	1	0.3	100.0	0.2	100.0	7.4	-	-	-	-	0.6	0.4	7	7	0.0	0.0
VI	RENAL TUMOURS	5	10	1	2	2	18	20	5.0	100.0	3.3	100.0	37.2	18.5	1.4	2.5	2.3	9.8	8.1	130	142	90.0	5.0
	a. Nephroblastoma	5	10	1	2	0	18	18	5.0	100.0	2.9	90.0	37.2	18.5	1.4	2.5	-	9.8	7.6	130	130	88.9	5.6
	b. Renal carcinoma	0	0	0	0	2	0	2	-	-	0.3	10.0	-	-	-	-	2.3	-	0.5	-	11	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	1	0	3	0	1	4	5	1.1	100.0	0.8	100.0	7.4	-	4.1	-	1.1	1.9	1.7	28	34	100.0	0.0
	a. Hepatoblastoma	1	0	3	0	0	4	4	1.1	100.0	0.7	80.0	7.4	-	4.1	-	-	1.9	1.5	28	28	100.0	0.0
	b. Hepatic carcinoma	0	0	0	0	1	0	1	-	-	0.2	20.0	-	-	-	-	1.1	-	0.3	-	6	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	0	4	22	19	26	45	7.2	100.0	7.3	100.0	-	-	5.5	27.5	21.4	9.8	12.4	165	272	97.8	2.2
	a. Osteosarcoma	0	0	0	14	9	14	23	3.9	53.8	3.7	51.1	-	-	-	17.5	10.2	5.1	6.2	87	138	95.7	4.3
	b. Chondrosarcoma	0	0	1	0	1	1	2	0.3	3.8	0.3	4.4	-	-	1.4	-	1.1	0.4	0.6	7	13	100.0	0.0
	c. Ewing & related	0	0	3	7	8	10	18	2.8	38.5	2.9	40.0	-	-	4.1	8.7	9.0	3.9	5.0	64	109	100.0	0.0
	d. Other specified	0	0	0	1	1	1	2	0.3	3.8	0.3	4.4	-	-	-	1.2	1.1	0.4	0.5	6	12	100.0	0.0
	e. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IX	SOFT TISSUE SARCOMA	1	7	4	9	11	21	32	5.8	100.0	5.2	100.0	7.4	12.9	5.5	11.2	12.4	9.6	10.2	143	205	100.0	0.0
	a. Rhabdomyosarcoma	0	5	4	4	2	13	15	3.6	61.9	2.4	46.9	-	9.2	5.5	5.0	2.3	6.1	5.2	90	101	100.0	0.0
	b. Fibrosarcoma	1	0	0	1	2	2	4	0.6	9.5	0.7	12.5	7.4	-	-	1.2	2.3	0.9	1.2	14	25	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	0	1	-	-	0.2	3.1	-	-	-	-	1.1	-	0.3	-	6	100.0	0.0
	d. Other specified	0	0	0	3	6	3	9	0.8	14.3	1.5	28.1	-	-	-	3.7	6.8	1.1	2.4	19	53	100.0	0.0
	e. Unspecified	0	2	0	1	0	3	3	0.8	14.3	0.5	9.4	-	3.7	-	1.2	-	1.5	1.2	21	21	100.0	0.0
X	GERM CELL TUMOURS	2	2	0	5	32	9	41	2.5	100.0	6.7	100.0	14.9	3.7	-	6.2	36.1	4.1	11.3	61	241	100.0	0.0
	a. CNS germ cell	1	1	0	1	0	3	3	0.8	33.3	0.5	7.3	7.4	1.8	-	1.2	-	1.5	1.2	21	21	100.0	0.0
	b. Other extragonadal	1	0	0	0	1	1	2	0.3	11.1	0.3	4.9	7.4	-	-	-	1.1	0.6	0.7	7	13	100.0	0.0
	c. Gonadal germ cell	0	1	0	4	29	5	34	1.4	55.6	5.5	82.9	-	1.8	-	5.0	32.7	2.0	8.9	32	196	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	2	0	2	-	-	0.3	4.9	-	-	-	-	2.3	-	0.5	-	11	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XI	CARCINOMA & MELANOMA	0	0	3	16	60	19	79	5.3	100.0	12.8	100.0	-	-	4.1	20.0	67.7	7.1	20.8	121	459	98.7	0.0
	a. Adrenocortical	0	0	0	1	0	1	1	0.3	5.3	0.2	1.3	-	-	-	1.2	-	0.4	0.3	6	6	100.0	0.0
	b. Thyroid	0	0	1	12	40	13	53	3.6	68.4	8.6	67.1	-	-	1.4	15.0	45.1	4.8	13.9	82	307	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	0	1	1	0.3	5.3	0.2	1.3	-	-	-	1.2	-	0.4	0.3	6	6	100.0	0.0
	d. Melanoma	0	0	2	1	6	3	9	0.8	15.8	1.5	11.4	-	-	2.8	1.2	6.8	1.3	2.5	20	54	100.0	0.0
	e. Skin carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Other & unspecified	0	0	0	1	14	1	15	0.3	5.3	2.4	19.0	-	-	-	1.2	15.8	0.4	3.8	6	85	93.3	0.0
XII	OTHER & UNSPECIFIED	1	1	1	1	1	4	5	1.1	100.0	0.8	100.0	7.4	1.8	1.4	1.2	1.1	2.0	1.8	28	34	20.0	60.0
	a. Other specified	0	1	0	0	0	1	1	0.3	25.0	0.2	20.0	-	1.8	-	-	-	0.6	0.4	7	7	100.0	0.0
	b. Other unspecified	1	0	1	1	1	3	4	0.8	75.0	0.7	80.0	7.4	-	1.4	1.2	1.1	1.4	1.3	21	26	0.0	75.0
	TOTAL	35	100	95	130	255	360	615	100.0	100.0	100.0	100.0	260.1	184.5	131.1	162.3	287.6	166.6	193.8	2464	3902	93.7	2.1

Please consult the quality indicators for this registry

Czech Republic

Czech National Cancer Registry, 1990–2012

Daniel Klimeš, Jan Mužík, Denisa Malúšková, Michaela Kučerová, Miroslav Zvolský

The Czech Republic is located in central Europe and has a temperate continental climate. It is bordered by Slovakia to the east, Austria to the south, Germany to the west, and Poland to the north. During the reporting period, the country transformed from a one-party socialist state to a democracy with an advanced, fast-growing economy and a high standard of living. The largest industry is automobile manufacturing. The Czech Republic became a member of the European Union in 2004.

In 2010, the total population was 10.5 million (Table A.7). The age structure is weighted towards older age groups; 20% of the population is younger than 20 years (Table A.6), and 15% is aged 65 years and older.

The health-care system in the Czech Republic is well developed, with mandatory public health insurance. Cancer care is centralized in a network of 13 comprehensive cancer care centres. Health care for childhood cancer is provided by two specialized hospitals: Motol University Hospital in Prague and the University Hospital in Brno.

The Czech National Cancer Registry is a national population-based registry. The reporting of cancer cases to the registry is required by law. Paper forms are completed by clinicians in health-care facilities and sent to registry offices on a county level, where trained staff members validate information and complete the treatment data. Annual linkage with the administrative registry of death certificates enables completion of the registry database. The cases identified from death certificates are traced back and coded as death-certificate-initiated cases if more details on the diagnosis are found, or as DCO cases if no additional details are found.

Cancer diagnoses were coded according to ICD-9 before 1994 and according to ICD-10 since 1994. In addition, ICD-O-1 was used before 1994, ICD-O-2 was used in 1994–2004, and ICD-O-3 has been used since 2005 (Table A.10). The TNM-7 staging system has been used since 2010.

For IICC-3, the Czech National Cancer Registry validated and completed diagnostic information for childhood cancer cases through linkage with the clinical registry of childhood cancer maintained by the two childhood cancer care centres, in Prague and Brno.

PUBLICATIONS

Bajciova V (2011). Paediatric oncology must be based on reliable data. [in Czech] Onkologie. 7(3):C2–3.

POPULATION AT RISK

The population data were provided by the Czech Statistical Office (https://www.czso.cz/csu/czso/home) through the inter-organizational information system and are based on the censuses conducted in 1980, 1991, 2001, and 2011 (Table A.7). Data were provided in the requested detail.

EDITORS' COMMENTS

The registry also participated in IICC-2 (Table A.1). Non-malignant CNS tumours were registered, and pilocytic astrocytoma was originally coded according to the ICD-O edition in use and was recoded with uncertain behaviour with the conversion to ICD-O-3 (Table A.10). Skin carcinomas were reportable (Table A.9). Laterality was complete and is provided for retinoblastoma.

CZECH REPUBLIC (1990-2012)

	Age group (years)	Males	Females
Person-years	0	1 246 921	1 182 733
	1-4	5 079 372	4 820 185
	5-9	6 597 686	6 265 667
	10-14	7 417 709	7 058 093
	15-19	8 527 180	8 138 092
	0-14	20 341 688	19 326 678
	0-19	28 868 868	27 464 770
Average annual population	0-14	884 421	840 290
	0-19	1 255 168	1 194 120

Please consult the quality indicators for this registry

CZECH REPUBLIC (1990-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	98	812	450	391	393	**1751**	**2144**	27.8	100.0	22.2	100.0	40.3	82.0	35.0	27.0	23.6	**47.7**	**42.3**	679	797	93.1	0.9
	a. Lymphoid	56	692	342	258	206	**1348**	**1554**	21.4	77.0	16.1	72.5	23.0	69.9	26.6	17.8	12.4	**37.2**	**31.6**	525	587	93.6	0.6
	b. Acute myeloid	28	81	67	90	111	**266**	**377**	4.2	15.2	3.9	17.6	11.5	8.2	5.2	6.2	6.7	**6.9**	**6.9**	101	135	91.2	2.1
	c. CMD	2	4	14	23	32	**43**	**75**	0.7	2.5	0.8	3.5	0.8	0.4	1.1	1.6	1.9	**1.0**	**1.2**	16	25	93.3	0.0
	d. MDS & other	6	14	14	10	20	**44**	**64**	0.7	2.5	0.7	3.0	2.5	1.4	1.1	0.7	1.2	**1.2**	**1.2**	17	23	100.0	0.0
	e. Unspecified	6	21	13	10	24	**50**	**74**	0.8	2.9	0.8	3.5	2.5	2.1	1.0	0.7	1.4	**1.4**	**1.4**	19	27	85.1	2.7
II	**LYMPHOMA & RELATED**	24	156	258	405	896	**843**	**1739**	13.4	100.0	18.0	100.0	9.9	15.8	20.1	28.0	53.8	**20.2**	**27.8**	313	582	97.2	1.0
	a. Hodgkin	1	36	88	219	647	**344**	**991**	5.5	40.8	10.3	57.0	0.4	3.6	6.8	15.1	38.8	**7.8**	**14.7**	125	319	99.0	0.5
	b. Non-Hodgkin except BL	2	57	99	130	188	**288**	**476**	4.6	34.2	4.9	27.4	0.8	5.8	7.7	9.0	11.3	**6.9**	**7.9**	107	164	94.3	1.9
	c. Burkitt (BL)	0	26	41	35	18	**102**	**120**	1.6	12.1	1.2	6.9	-	2.6	3.2	2.4	1.1	**2.5**	**2.2**	39	44	96.7	1.7
	d. Lymphoreticular	21	29	12	11	13	**73**	**86**	1.2	8.7	0.9	4.9	8.6	2.9	0.9	0.8	0.8	**2.1**	**1.8**	29	33	97.7	1.2
	e. Unspecified	0	8	18	10	30	**36**	**66**	0.6	4.3	0.7	3.8	-	0.8	1.4	0.7	1.8	**0.9**	**1.1**	14	23	92.4	0.0
III	**CNS NEOPLASMS** †	80	390	435	418	351	**1323**	**1674**	21.0	100.0	17.4	100.0	32.9	39.4	33.8	28.9	21.1	**34.0**	**31.1**	504	609	84.3	3.0
	a. Ependymoma	22	62	40	41	36	**165**	**201**	2.6	12.5	2.1	12.0	9.1	6.3	3.1	2.8	2.2	**4.5**	**3.9**	64	75	96.5	0.0
	b. Astrocytoma	22	162	185	188	162	**557**	**719**	8.8	42.1	7.5	43.0	9.1	16.4	14.4	13.0	9.7	**14.2**	**13.2**	211	260	97.2	0.1
	c. CNS embryonal	12	67	95	71	29	**245**	**274**	3.9	18.5	2.8	16.4	4.9	6.8	7.4	4.9	1.7	**6.3**	**5.3**	93	102	98.2	0.0
	d. Other gliomas	3	8	10	22	28	**43**	**71**	0.7	3.3	0.7	4.2	1.2	0.8	0.8	1.5	1.7	**1.0**	**1.2**	16	24	98.6	0.0
	e. Other specified	4	14	33	35	31	**86**	**117**	1.4	6.5	1.2	7.0	1.6	1.4	2.6	2.4	1.9	**2.1**	**2.0**	32	42	96.6	0.0
	f. Unspecified CNS	17	77	72	61	65	**227**	**292**	3.6	17.2	3.0	17.4	7.0	7.8	5.6	4.2	3.9	**6.0**	**5.5**	87	107	22.6	17.1
IV	**NEUROBLASTOMA**	189	209	59	26	21	**483**	**504**	7.7	100.0	5.2	100.0	77.8	21.1	4.6	1.8	1.3	**14.5**	**11.5**	193	200	98.0	0.2
	a. (Ganglio)neuroblastoma	188	207	55	17	13	**467**	**480**	7.4	96.7	5.0	95.2	77.4	20.9	4.3	1.2	0.8	**14.1**	**11.1**	187	191	97.9	0.2
	b. Peripheral nervous	1	2	4	9	8	**16**	**24**	0.3	3.3	0.2	4.8	0.4	0.2	0.3	0.6	0.5	**0.4**	**0.4**	6	8	100.0	0.0
V	**RETINOBLASTOMA**	48	86	3	2	0	**139**	**139**	2.2	100.0	1.4	100.0	19.8	8.7	0.2	0.1	-	**4.3**	**3.3**	56	56	99.3	0.7
VI	**RENAL TUMOURS**	44	217	78	16	27	**355**	**382**	5.6	100.0	4.0	100.0	18.1	21.9	6.1	1.1	1.6	**10.5**	**8.5**	142	150	95.5	0.8
	a. Nephroblastoma	40	207	66	11	10	**324**	**334**	5.1	91.3	3.5	87.4	16.5	20.9	5.1	0.8	0.6	**9.6**	**7.6**	130	133	98.2	0.0
	b. Renal carcinoma	0	3	6	4	17	**13**	**30**	0.2	3.7	0.3	7.9	-	0.3	0.5	0.3	1.0	**0.3**	**0.5**	5	10	96.7	0.0
	c. Unspecified	4	7	6	1	0	**18**	**18**	0.3	5.1	0.2	4.7	1.6	0.7	0.5	0.1	-	**0.5**	**0.4**	7	7	44.4	16.7
VII	**HEPATIC TUMOURS**	34	38	8	14	14	**94**	**108**	1.5	100.0	1.1	100.0	14.0	3.8	0.6	1.0	0.8	**2.7**	**2.3**	37	41	84.3	2.8
	a. Hepatoblastoma	27	29	6	2	0	**64**	**64**	1.0	68.1	0.7	59.3	11.1	2.9	0.5	0.1	-	**1.9**	**1.5**	26	26	95.3	1.6
	b. Hepatic carcinoma	2	4	1	12	10	**19**	**29**	0.3	20.2	0.3	26.9	0.8	0.4	0.1	0.8	0.6	**0.5**	**0.5**	7	10	96.6	0.0
	c. Unspecified	5	5	1	0	4	**11**	**15**	0.2	11.7	0.2	13.9	2.1	0.5	0.1	-	0.2	**0.3**	**0.3**	4	6	13.3	13.3
VIII	**BONE TUMOURS**	3	21	77	182	219	**283**	**502**	4.5	100.0	5.2	100.0	1.2	2.1	6.0	12.6	13.1	**6.3**	**7.9**	103	168	93.8	2.4
	a. Osteosarcoma	0	3	33	83	82	**119**	**201**	1.9	42.0	2.1	40.0	-	0.3	2.6	5.7	4.9	**2.6**	**3.1**	43	67	99.0	0.0
	b. Chondrosarcoma	0	0	1	10	16	**11**	**27**	0.2	3.9	0.3	5.4	-	-	0.1	0.7	1.0	**0.2**	**0.4**	4	9	96.3	0.0
	c. Ewing & related	2	16	38	71	89	**127**	**216**	2.0	44.9	2.2	43.0	0.8	1.6	3.0	4.9	5.3	**2.9**	**3.5**	47	73	99.1	0.0
	d. Other specified	0	0	2	7	10	**9**	**19**	0.1	3.2	0.2	3.8	-	-	0.2	0.5	0.6	**0.2**	**0.3**	3	6	100.0	0.0
	e. Unspecified	1	2	3	11	22	**17**	**39**	0.3	6.0	0.4	7.8	0.4	0.2	0.2	0.8	1.3	**0.4**	**0.6**	6	13	33.3	30.8
IX	**SOFT TISSUE SARCOMA**	59	100	94	130	165	**383**	**548**	6.1	100.0	5.7	100.0	24.3	10.1	7.3	9.0	9.9	**10.0**	**9.9**	146	195	99.3	0.0
	a. Rhabdomyosarcoma	22	71	54	44	30	**191**	**221**	3.0	49.9	2.3	40.3	9.1	7.2	4.2	3.0	1.8	**5.2**	**4.4**	74	83	99.1	0.0
	b. Fibrosarcoma	15	4	7	12	14	**38**	**52**	0.6	9.9	0.5	9.5	6.2	0.4	0.5	0.8	0.8	**1.0**	**1.0**	15	19	100.0	0.0
	c. Kaposi sarcoma	0	1	0	1	0	**2**	**2**	0.0	0.5	0.0	0.4	-	0.1	-	0.1	-	**0.1**	**0.0**	1	1	100.0	0.0
	d. Other specified	10	14	23	55	94	**102**	**196**	1.6	26.6	2.0	35.8	4.1	1.4	1.8	3.8	5.6	**2.4**	**3.2**	38	66	100.0	0.0
	e. Unspecified	12	10	10	18	27	**50**	**77**	0.8	13.1	0.8	14.1	4.9	1.0	0.8	1.2	1.6	**1.3**	**1.4**	19	27	97.4	0.0
X	**GERM CELL TUMOURS**	29	42	31	92	495	**194**	**689**	3.1	100.0	7.1	100.0	11.9	4.2	2.4	6.4	29.7	**4.9**	**10.4**	73	221	96.7	0.3
	a. CNS germ cell ‡	4	8	5	24	16	**41**	**57**	0.7	21.1	0.6	8.3	1.6	0.8	0.4	1.7	1.0	**1.0**	**1.0**	15	20	96.5	0.0
	b. Other extragonadal	17	19	5	3	18	**44**	**62**	0.7	22.7	0.6	9.0	7.0	1.9	0.4	0.2	1.1	**1.3**	**1.3**	18	23	96.8	0.0
	c. Gonadal germ cell	6	13	16	53	395	**88**	**483**	1.4	45.4	5.0	70.1	2.5	1.3	1.2	3.7	23.7	**2.1**	**6.9**	32	151	98.3	0.0
	d. Gonadal carcinoma	0	0	1	8	48	**9**	**57**	0.1	4.6	0.6	8.3	-	-	0.1	0.6	2.9	**0.2**	**0.8**	3	18	100.0	0.0
	e. Unspecified gonadal	2	2	4	4	18	**12**	**30**	0.2	6.2	0.3	4.4	0.8	0.2	0.3	0.3	1.1	**0.3**	**0.5**	5	10	63.3	6.7
XI	**CARCINOMA & MELANOMA**	5	22	76	244	711	**347**	**1058**	5.5	100.0	11.0	100.0	2.1	2.2	5.9	16.9	42.7	**7.6**	**15.5**	125	338	99.1	0.0
	a. Adrenocortical	2	5	0	2	6	**9**	**15**	0.1	2.6	0.2	1.4	0.8	0.5	-	0.1	0.4	**0.3**	**0.3**	4	5	100.0	0.0
	b. Thyroid	0	2	20	101	244	**123**	**367**	2.0	35.4	3.8	34.7	-	0.2	1.6	7.0	14.6	**2.6**	**5.3**	43	117	99.5	0.0
	c. Nasopharyngeal	0	0	1	4	18	**5**	**23**	0.1	1.4	0.2	2.2	-	-	0.1	0.3	1.1	**0.1**	**0.3**	2	7	95.7	0.0
	d. Melanoma	3	8	19	52	182	**82**	**264**	1.3	23.6	2.7	25.0	1.2	0.8	1.5	3.6	10.9	**1.9**	**3.9**	30	84	98.9	0.0
	e. Skin carcinoma	0	2	16	34	79	**52**	**131**	0.8	15.0	1.4	12.4	-	0.2	1.2	2.3	4.7	**1.1**	**2.0**	19	42	99.2	0.0
	f. Other & unspecified	0	5	20	51	182	**76**	**258**	1.2	21.9	2.7	24.4	-	0.5	1.6	3.5	10.9	**1.7**	**3.8**	27	82	99.2	0.0
XII	**OTHER & UNSPECIFIED**	25	35	22	24	49	**106**	**155**	1.7	100.0	1.6	100.0	10.3	3.5	1.7	1.7	2.9	**2.9**	**2.9**	41	56	40.6	18.1
	a. Other specified	1	8	3	3	10	**15**	**25**	0.2	14.2	0.3	16.1	0.4	0.8	0.2	0.2	0.6	**0.4**	**0.5**	6	9	100.0	0.0
	b. Other unspecified	24	27	19	21	39	**91**	**130**	1.4	85.8	1.3	83.9	9.9	2.7	1.5	1.5	2.3	**2.5**	**2.5**	35	47	29.2	21.5
	TOTAL	638	2128	1591	1944	3341	**6301**	**9642**	100.0	100.0	100.0	100.0	262.6	215.0	123.7	134.3	200.5	**165.7**	**173.5**	2412	3414	93.1	1.4

† includes 418 non-malignant ‡ includes 3 non-malignant

Please consult the quality indicators for this registry

Estonia

Estonian Cancer Registry, 1990–2012

Margit Mägi, Pille Härmaorg, Mari-Liis Zimmermann

Estonia is located on the eastern shores of the Baltic Sea and covers an area of 45 227 km^2. It is bordered to the south by Latvia and to the east by the Russian Federation. Estonia is located in a transition zone between maritime and continental climates. During the reporting period, the country transformed from a regulated socialist economy as a republic of the former Soviet Union to a free market advanced, high-income economy with a very high HDI. Estonians benefit from free education, universal health care, and paid maternity leave of 1.5 years.

In 2010, the population was 1.3 million (Table A.7), and 21% of the population was younger than 20 years (Table A.6). The major nationalities were Estonian (69%) and Russian (25%). About 68% of the population lived in urban areas. The life expectancy at birth was 71.4 years for men and 81.2 years for women.

The Estonian health-care system is based on a compulsory, solidarity-based insurance scheme, which covers about 94% of the population. Patients with cancer are referred mainly to two specialized hospitals, which provide radiotherapy, surgical oncology, and chemotherapy services. Estonia has two specialized departments for paediatric and adolescent oncology: one in Tartu University Hospital and one in Tallinn Children's Hospital.

The Estonian Cancer Registry was founded in 1978, and reliable incidence data are available beginning from 1968 (Table A.10). The registry is state-funded and operates as a subunit of the National Institute for Health Development. Cancer reporting is mandated by a decree issued by the Minister of Social Affairs. In 2011, the new Public Health Act came into force and cancer reporting became compulsory by law. The registry covers the whole country.

A list of reportable diseases includes all malignant tumours and in situ carcinomas. CNS tumours with benign and uncertain behaviour are reportable since 1998. Diagnosis is coded using ICD-O. The registry is notified by treating physicians and by pathology and haematology laboratories. Registry staff members code and input the data.

Cancer cases are followed up until death or emigration. The registry receives death certificate data and performs trace-back procedure for cases first notified from death certificates. Since 2000, the registry has performed regular linkage with the Estonian Population Registry (https://www.tallinn.ee/en/population-register).

The registry routinely produces cancer incidence statistics. The data have been used for several epidemiological studies, including international comparisons and registry-based clinical research. A special study of childhood cancer data quality in the registry was recently conducted.

PUBLICATIONS

Paapsi K, Mägi M, Mikkel S, Saks K, Aareleid T, Innos K (2017). The impact of under-reporting of cases on the estimates of childhood cancer incidence and survival in Estonia. Eur J Cancer Prev. 26:S147–52. https://doi.org/10.1097/CEJ.0000000000000377 PMID:28604420

POPULATION AT RISK

The official estimates are based on the 1989, 2000, and 2011 censuses (Table A.7), making allowances for births, deaths, and migration. The source of the population data is Statistics Estonia (https://www.stat.ee/). Data were provided in the requested detail.

EDITORS' COMMENTS

The registry also participated in IICC-2 (Table A.1). Day of incidence is missing for 27% of cases (Table A.8), mostly because it was not collected during the first half of the 1990s. Non-malignant CNS tumours were present in the database since 1993; thus, their proportion and the reported incidence rates are likely to be underestimated for the diagnostic groups III and Xa and the total. Pilocytic astrocytoma has been coded with uncertain behaviour since 2008; in the same year, the earlier malignant cases were recoded with uncertain behaviour. Skin carcinomas are recorded, and laterality is complete.

ESTONIA (1990-2012)

	Age group (years)	Males	Females
Person-years	0	175 964	166 131
	1-4	739 138	700 274
	5-9	991 578	943 728
	10-14	1 071 716	1 017 942
	15-19	1 142 511	1 083 673
	0-14	2 978 396	2 828 075
	0-19	4 120 907	3 911 748
Average annual population	0-14	129 495	122 960
	0-19	179 170	170 076

Please consult the quality indicators for this registry

ESTONIA (1990-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	10	105	58	56	58	229	287	28.0	100.0	23.2	100.0	29.2	72.9	30.0	26.8	26.1	42.4	38.7	607	737	99.7	0.3
	a. Lymphoid	4	89	44	38	27	175	202	21.4	76.4	16.3	70.4	11.7	61.8	22.7	18.2	12.1	32.8	28.2	466	526	100.0	0.0
	b. Acute myeloid	5	5	9	16	21	35	56	4.3	15.3	4.5	19.5	14.6	3.5	4.7	7.7	9.4	5.9	6.7	90	137	100.0	0.0
	c. CMD	0	2	1	1	7	4	11	0.5	1.7	0.9	3.8	-	1.4	0.5	0.5	3.1	0.7	1.3	11	26	100.0	0.0
	d. MDS & other	1	4	2	0	0	7	7	0.9	3.1	0.6	2.4	2.9	2.8	1.0	-	-	1.4	1.1	19	19	100.0	0.0
	e. Unspecified	0	5	2	1	3	8	11	1.0	3.5	0.9	3.8	-	3.5	1.0	0.5	1.3	1.6	1.5	22	28	90.9	9.1
II	LYMPHOMA & RELATED	5	13	34	54	118	106	224	12.9	100.0	18.1	100.0	14.6	9.0	17.6	25.8	53.0	17.1	25.2	268	533	98.7	0.0
	a. Hodgkin	0	3	10	24	90	37	127	4.5	34.9	10.3	56.7	-	2.1	5.2	11.5	40.4	5.7	13.5	92	294	100.0	0.0
	b. Non-Hodgkin except BL	2	6	13	19	22	40	62	4.9	37.7	5.0	27.7	5.8	4.2	6.7	9.1	9.9	6.5	7.3	102	151	100.0	0.0
	c. Burkitt (BL)	0	1	9	5	2	15	17	1.8	14.2	1.4	7.6	-	0.7	4.7	2.4	0.9	2.4	2.1	38	43	100.0	0.0
	d. Lymphoreticular	3	3	2	3	1	11	12	1.3	10.4	1.0	5.4	8.8	2.1	1.0	1.4	0.4	2.1	1.7	29	31	100.0	0.0
	e. Unspecified	0	0	0	3	3	3	6	0.4	2.8	0.5	2.7	-	-	-	1.4	1.3	0.4	0.6	7	14	50.0	0.0
III	CNS NEOPLASMS †	12	67	68	80	75	227	302	27.7	100.0	24.4	100.0	35.1	46.5	35.1	38.3	33.7	39.6	38.3	589	757	85.4	0.3
	a. Ependymoma	6	14	7	3	2	30	32	3.7	13.2	2.6	10.6	17.5	9.7	3.6	1.4	0.9	5.9	4.8	81	86	100.0	0.0
	b. Astrocytoma	2	25	31	40	28	98	126	12.0	43.2	10.2	41.7	5.8	17.4	16.0	19.1	12.6	16.6	15.7	252	314	100.0	0.0
	c. CNS embryonal	2	20	17	8	9	47	56	5.7	20.7	4.5	18.5	5.8	13.9	8.8	3.8	4.0	8.7	7.7	125	145	100.0	0.0
	d. Other gliomas	1	1	3	4	2	9	11	1.1	4.0	0.9	3.6	2.9	0.7	1.6	1.9	0.9	1.5	1.4	23	27	100.0	0.0
	e. Other specified	0	3	1	14	17	18	35	2.2	7.9	2.8	11.6	-	2.1	0.5	6.7	7.6	2.8	3.9	45	83	88.6	0.0
	f. Unspecified CNS	1	4	9	11	17	25	42	3.1	11.0	3.4	13.9	2.9	2.8	4.7	5.3	7.6	4.1	4.9	64	102	4.8	2.4
IV	NEUROBLASTOMA	16	22	4	9	4	51	55	6.2	100.0	4.4	100.0	46.8	15.3	2.1	4.3	1.8	10.2	8.3	139	148	98.2	0.0
	a. (Ganglio)neuroblastoma	16	22	4	8	2	50	52	6.1	98.0	4.2	94.5	46.8	15.3	2.1	3.8	0.9	10.0	8.0	136	141	98.1	0.0
	b. Peripheral nervous	0	0	0	1	2	1	3	0.1	2.0	0.2	5.5	-	-	-	0.5	0.9	0.1	0.3	2	7	100.0	0.0
V	RETINOBLASTOMA	5	10	0	0	0	15	15	1.8	100.0	1.2	100.0	14.6	6.9	-	-	-	3.3	2.5	42	42	100.0	0.0
VI	RENAL TUMOURS	9	26	16	2	4	53	57	6.5	100.0	4.6	100.0	26.3	18.1	8.3	1.0	1.8	10.5	8.6	144	153	94.7	0.0
	a. Nephroblastoma	9	25	15	2	1	51	52	6.2	96.2	4.2	91.2	26.3	17.4	7.8	1.0	0.4	10.2	8.0	139	141	98.1	0.0
	b. Renal carcinoma	0	0	0	0	3	0	3	-	-	0.2	5.3	-	-	-	-	1.3	-	0.3	-	7	100.0	0.0
	c. Unspecified	0	1	1	0	0	2	2	0.2	3.8	0.2	3.5	-	0.7	0.5	-	-	0.4	0.3	5	5	0.0	0.0
VII	HEPATIC TUMOURS	4	4	2	2	2	12	14	1.5	100.0	1.1	100.0	11.7	2.8	1.0	1.0	0.9	2.3	2.0	32	37	100.0	0.0
	a. Hepatoblastoma	4	4	2	1	1	11	12	1.3	91.7	1.0	85.7	11.7	2.8	1.0	0.5	0.4	2.2	1.8	30	32	100.0	0.0
	b. Hepatic carcinoma	0	0	0	1	1	1	2	0.1	8.3	0.2	14.3	-	-	-	0.5	0.4	0.1	0.2	2	5	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	1	2	12	18	39	33	72	4.0	100.0	5.8	100.0	2.9	1.4	6.2	8.6	17.5	5.2	7.9	82	170	94.4	1.4
	a. Osteosarcoma	0	0	8	3	20	11	31	1.3	33.3	2.5	43.1	-	-	4.1	1.4	9.0	1.8	3.4	28	73	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	7	1	8	0.1	3.0	0.6	11.1	-	-	-	0.5	3.1	0.1	0.8	2	18	100.0	0.0
	c. Ewing & related	0	2	4	11	8	17	25	2.1	51.5	2.0	34.7	-	1.4	2.1	5.3	3.6	2.6	2.8	42	60	100.0	0.0
	d. Other specified	1	0	0	0	2	1	3	0.1	3.0	0.2	4.2	2.9	-	-	-	0.9	0.2	0.4	3	7	100.0	0.0
	e. Unspecified	0	0	0	3	2	3	5	0.4	9.1	0.4	6.9	-	-	-	1.4	0.9	0.4	0.5	7	12	20.0	20.0
IX	SOFT TISSUE SARCOMA	2	13	8	11	21	34	55	4.2	100.0	4.4	100.0	5.8	9.0	4.1	5.3	9.4	6.1	6.9	89	136	100.0	0.0
	a. Rhabdomyosarcoma	2	8	5	2	1	17	18	2.1	50.0	1.5	32.7	5.8	5.6	2.6	1.0	0.4	3.3	2.6	46	48	100.0	0.0
	b. Fibrosarcoma	0	3	0	2	9	5	14	0.6	14.7	1.1	25.5	-	2.1	-	1.0	4.0	0.9	1.6	13	33	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	2	2	7	11	11	22	1.3	32.4	1.8	40.0	-	1.4	1.0	3.3	4.9	1.7	2.5	28	52	100.0	0.0
	e. Unspecified	0	0	1	0	0	1	1	0.1	2.9	0.1	1.8	-	-	0.5	-	-	0.2	0.1	3	3	100.0	0.0
X	GERM CELL TUMOURS	7	7	6	14	39	34	73	4.2	100.0	5.9	100.0	20.5	4.9	3.1	6.7	17.5	6.0	8.6	88	176	98.6	0.0
	a. CNS germ cell	0	0	3	1	3	4	7	0.5	11.8	0.6	9.6	-	-	1.6	0.5	1.3	0.6	0.8	10	17	100.0	0.0
	b. Other extragonadal	7	4	2	3	3	16	19	2.0	47.1	1.5	26.0	20.5	2.8	1.0	1.4	1.3	3.1	2.7	43	50	100.0	0.0
	c. Gonadal germ cell	0	3	1	8	29	12	41	1.5	35.3	3.3	56.2	-	2.1	0.5	3.8	13.0	1.9	4.4	30	95	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	2	1	3	0.1	2.9	0.2	4.1	-	-	-	0.5	0.9	0.1	0.3	2	7	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	2	1	3	0.1	2.9	0.2	4.1	-	-	-	0.5	0.9	0.1	0.3	2	7	66.7	0.0
XI	CARCINOMA & MELANOMA	0	1	1	18	57	20	77	2.4	100.0	6.2	100.0	-	0.7	0.5	8.6	25.6	2.9	8.0	48	176	98.7	0.0
	a. Adrenocortical	0	1	0	0	1	1	2	0.1	5.0	0.2	2.6	-	0.7	-	-	0.4	0.2	0.3	3	5	100.0	0.0
	b. Thyroid	0	0	1	6	15	7	22	0.9	35.0	1.8	28.6	-	-	0.5	2.9	6.7	1.0	2.3	17	51	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	3	1	4	0.1	5.0	0.3	5.2	-	-	-	0.5	1.3	0.1	0.4	2	9	100.0	0.0
	d. Melanoma	0	0	0	6	17	6	23	0.7	30.0	1.9	29.9	-	-	-	2.9	7.6	0.8	2.4	14	53	100.0	0.0
	e. Skin carcinoma	0	0	0	2	6	2	8	0.2	10.0	0.6	10.4	-	-	-	1.0	2.7	0.3	0.8	5	18	87.5	0.0
	f. Other & unspecified	0	0	0	3	15	3	18	0.4	15.0	1.5	23.4	-	-	-	1.4	6.7	0.4	1.8	7	41	100.0	0.0
XII	OTHER & UNSPECIFIED	0	3	2	0	3	5	8	0.6	100.0	0.6	100.0	-	2.1	1.0	-	1.3	1.0	1.1	14	20	50.0	37.5
	a. Other specified	0	1	1	0	1	2	3	0.2	40.0	0.2	37.5	-	0.7	0.5	-	0.4	0.4	0.4	5	8	100.0	0.0
	b. Other unspecified	0	2	1	0	2	3	5	0.4	60.0	0.4	62.5	-	1.4	0.5	-	0.9	0.6	0.7	8	13	20.0	60.0
	TOTAL	71	273	211	264	420	819	1239	100.0	100.0	100.0	100.0	207.5	189.7	109.0	126.3	188.7	146.6	156.1	2142	3086	95.0	0.5

† includes 105 non-malignant

Please consult the quality indicators for this registry

France

The territory of France comprises metropolitan France, in western Europe, and several overseas regions and territories. Metropolitan France has a temperate climate and covers an area of 551 500 km^2. France is a developed country with a very high HDI.

The population of metropolitan France was estimated to be 63.0 million (Table A.7); 19% of the population was younger than 15 years, and 25% was younger than 20 years (Table A.6). In 2010, the average population density was 115 per km^2, with marked variations throughout the country. The area of Paris, the capital city, is by far the most densely populated, and one quarter of the population lives there. The average urban-to-rural ratio was 3 (compared with > 5 in the areas of Paris, Lille, and Marseille), with marked between-region variations. Of children younger than 15 years, 34% lived in a highly urbanized region and 18% lived in a low urbanization region. Overall, 5.6% of the population was of foreign nationality (4.3% for children aged 0–14 years), but this percentage was higher in the eastern half of the country and in the Parisian region, where the foreign population accounted for 12% of the total (8.5% for children aged 0–14 years).

France has a universal health-care system that covers the entire population. The French social security system provides basic coverage (70%) for all employees, and the complementary regimens provide additional coverage. Other schemes are available for the remainder of the residents (self-employed, foreign-born). All children younger than 16 years are covered by the French social security system, which includes health insurance, regardless of their nationality. Also, cancer is one of the 30 long-duration diseases for which patients' health-care costs are covered entirely (100%) by the French social security system.

Children who are ill are treated by both general practitioners and paediatricians; the numbers of paediatricians vary by region and patient age, from 45 to 60 per 100 000 children. The treatment of children with cancer is highly concentrated in specialized paediatric oncology departments or units located in teaching hospitals or comprehensive cancer centres. Most of these specialized units treat solid tumours and haematopoietic malignancies, but 33% of solid tumours are treated in four comprehensive cancer centres located in Paris, Lyon, and Lille, whereas leukaemia is treated only in the teaching hospitals.

Cancer registration in France started in 1975 in the department of Bas-Rhin as an interest-driven individual initiative to monitor the cancer burden and to conduct research. The National Committee of Registries was created in 1986. Since 1991, the registries qualified by the National Committee of Registries are affiliated with the French Network of Cancer Registries (FRANCIM; France cancer incidence et mortalité), which coordinates research using the data collected by the registries. The common database is managed by the biostatistics unit of the Hospices Civils de Lyon (HCL) and administered by a steering committee composed of representatives of four institutions: FRANCIM, HCL, Public Health France (SPF; Santé publique France), and the National Cancer Institute (InCa; Institut national du Cancer). SPF was established in 2016 by merging the National Institute for Public Health Surveillance with other public health institutions. The Registries Evaluation Committee (CER; Comité d'evaluation des registres) assesses the work of each registry every 4–5 years and is authorized to certify the registry with respect to data quality and research activities. The accredited registries receive funding from SPF and INCa. Activities of the cancer registries are also approved by the National Commission on Informatics and Liberty (CNIL; Commission nationale de l'informatique et des libertés), which is responsible for the protection of personal data.

Cancer registration coverage is split between the two national paediatric cancer registries described below, 19 general subnational registries that cover about 24% of the population in metropolitan France, 10 subnational registries that specialize in the collection of data on selected neoplasms, and one mesothelioma registry that covers 22 departments and has the goal of achieving national coverage. In the areas covered by more than one registry, each registry may collect data on a restricted section of the population of patients with cancer. The data are annually cross-linked to identify potential tumour duplicates between registries.

Cancer is not a reportable disease in France; therefore, data collection is mainly active. The cancer registries in France do not have access to the nominal death certificates, because cause of death information is confidential. The international recommendations for data collection, registration, and coding formulated by IARC are followed. Registries also use the number of data sources per patient as an indicator of data quality and completeness. The registration of non-malignant CNS tumours was limited by time period in some registries, whereas data on pilocytic astrocytoma were collected for the entire reporting period in all registries. Most registries recorded squamous cell skin carcinomas but not basal cell skin carcinomas.

The registries participate in data exchange agreements and subnational, national, and international research. The data and statistics produced by the registries are disseminated online by SPF (https://www.santepubliquefrance.fr/maladies-et-traumatismes/cancers) and INCa (https://www.e-cancer.fr/Expertises-et-publications/Les-donnees-sur-les-cancers/Les-registres-des-cancers).

PUBLICATIONS

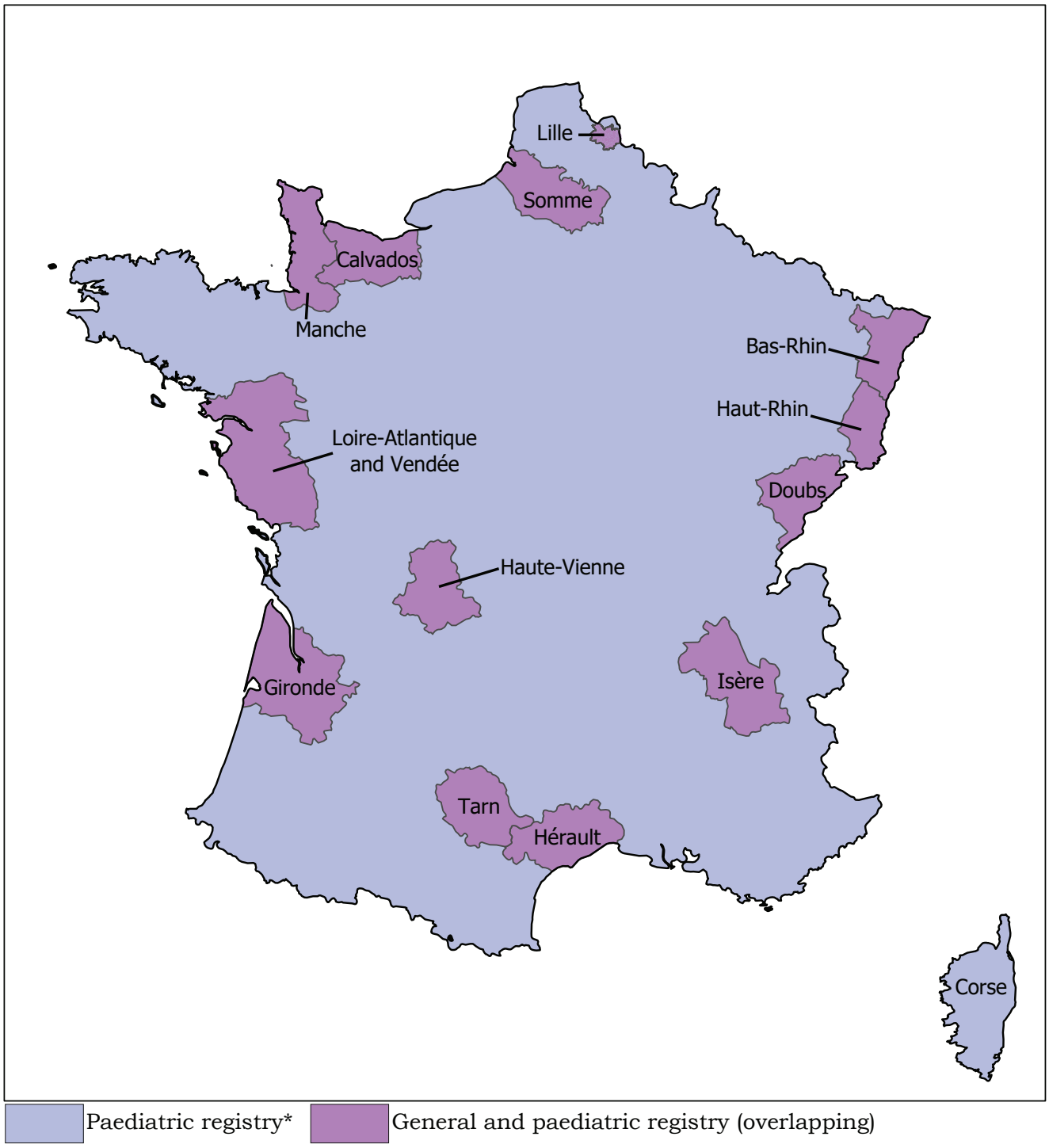
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POPULATION AT RISK

During the reporting period, national censuses were conducted in 1990 and 1999; from 2004, the population data are derived from annual surveys (Table A.7). Annual population data are provided by the French National



*Haematopoietic neoplasms only for the period 1990-1999

Institute of Statistics and Economic Studies (INSEE; Institut national de la statistique et des études économiques) (https://www.insee.fr/). These mid-year estimates are based on data on births, deaths, and migration. All registries provided data in the requested detail, by sex and single year of age for each calendar year of the reporting period. The decimal numbers provided for some subnational population counts within sex and age categories were rounded to the nearest integer at IARC.

EDITORS' COMMENTS

The cancer data for France presented here were combined into three tables: (i) the data collected over the common recording period (2000–2012) in the two national paediatric registries, (ii) the data on haematopoietic malignancies collected in 1990–1999, and (iii) the data pooled from 12 subnational areas covered by the general or specialized cancer registries. Data for the third dataset were provided by HCL and were complemented by the individual cancer registries if required. Additional full incidence tables are available online for 10 individual general cancer registries, and abbreviated tables are available for two registries

(Lille and Tarn). Data for Haute-Vienne were not tabulated, because the dataset was small (Table A.12). All registries included in IICC-3 were accredited by CER. The Bas-Rhin Cancer Registry contributed to all three IICC volumes, and the registries of Doubs, Haut-Rhin, Hérault, Isère, and Tarn contributed to IICC-2 (Table A.1).

Death certificates were not available for ascertainment of cancer cases (Table A.9); thus, a proportion of new cases may have been missed. Day of birth and day of incidence were not provided by FRANCIM for the general cancer registries (Table A.8), so precise age could not be verified at IARC. The unexpectedly high proportion of patients in age 0 years or aged 19 years observed in some general cancer registries (Table A.9) may be attributed in part to the imprecise dates and in part to the high incidence rates of tumours that predominantly affect these years of age. Collection and reporting of non-malignant CNS tumours varied by registry (see below); nevertheless, their overall incidence in the pooled dataset was relatively high (Table A.9). Pilocytic astrocytoma was originally coded according to the ICD-O edition in use and recoded with uncertain behaviour with the conversion to ICD-O-3 (Table A.10). The exclusion of basal cell skin carcinomas in many registries may affect the incidence rates of skin carcinomas; however, the effect is expected to be minimal because of the low incidence in children. Information on laterality was complete, unless otherwise specified below for individual registries.

French National Childhood Cancer Registries, 2000–2012: National Registry of Childhood Haematological Malignancies, 1990–1999

National Registry of Childhood Solid Tumours and National Registry of Childhood Haematological Malignancies, 2000–2012

Jacqueline Clavel, Brigitte Lacour, Stéphanie Goujon, Emmanuel Désandes, Laure Faure, Sandra Guissou

The French National Registry of Childhood Haematological Malignancies (RNHE) and the French National Registry of Childhood Solid Tumours (RNTSE) jointly ensure the surveillance of cancer in children younger than 15 years in metropolitan France. RNHE has specifically recorded haematological malignancies since 1990, and RNTSE has recorded malignant solid tumours, including benign tumours of the CNS, since 2000 (Table A.10). The registries receive national public funding, which covers data collection and quality control.

Data are actively collected by trained investigators in all paediatric haematology and oncology departments and paediatric neurosurgery departments (~40 centres). Active registration is supplemented by an annual request for data from the Medical Information System Programme of the teaching hospitals and comprehensive cancer centres, which lists all children younger than 15 years who have been admitted to any department with a diagnosis of cancer, a brain tumour, or any of a few borderline diagnoses. Additional data sources are the long-duration disease database derived from health insurance organizations and therapeutic networks. The medical causes of death are matched against the cancer cases that are fatal before the patient is transferred to a specialized department (mainly neonatal cases), using probabilistic methods within the CépiDc database of the National Institute of Health and Medical Research (INSERM). Because this database is anonymous, no cases can be registered on the basis of a death certificate only.

The registration form is common to both registries and includes identification data (first and last names, sex, date and place of birth, address at diagnosis), diagnostic data (date of incidence, basis of diagnosis, method of first detection, site of primary tumour, histological type, immunophenotype and genetics, stage at diagnosis, laterality, histological grade), patient pathway from diagnosis to treatment, initial treatment (date of treatment initiation, cancer treatment type), vital status, and date of last contact. Vital status is updated every 2 years by comparing the registry files with the central population register.

The two national registries work closely together and have used a common database since 2012. They comply with the international recommendations for data collection, registration, and coding formulated by IARC. Data quality is regularly monitored by searching for duplicates and conducting consistency checks. Data are used for surveillance and research. Paediatric registries provide the national figures of cancer incidence and survival in

FRANCE, paediatric (2000-2012)

	Age group (years)	Males	Females
Person-years	0	5 026 801	4 801 810
	1-4	20 057 157	19 141 302
	5-9	25 020 356	23 829 425
	10-14	25 345 283	24 141 436
	0-14	75 449 597	71 913 973
Average annual population	0-14	5 803 815	5 531 844

Please consult the quality indicators for this registry

FRANCE, paediatric, haematological malignancies (1990-1999)

	Age group (years)	Males	Females
Person-years	0	3 712 566	3 535 545
	1-4	14 985 758	14 306 315
	5-9	19 439 096	18 555 160
	10-14	19 659 716	18 753 230
	0-14	57 797 136	55 150 250
Average annual population	0-14	5 779 714	5 515 025

Please consult the quality indicators for this registry

FRANCE, paediatric (2000-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	366	2833	1833	1411	**6443**	28.5	100.0	37.2	72.3	37.5	28.5	**45.6**	656	99.9	0.0
	a. Lymphoid	150	2397	1518	968	**5033**	22.3	78.1	15.3	61.2	31.1	19.6	**35.8**	513	100.0	0.0
	b. Acute myeloid	146	312	214	289	**961**	4.3	14.9	14.9	8.0	4.4	5.8	**6.7**	98	100.0	0.0
	c. CMD	3	17	30	81	**131**	0.6	2.0	0.3	0.4	0.6	1.6	**0.8**	13	99.2	0.0
	d. MDS & other	50	76	39	33	**198**	0.9	3.1	5.1	1.9	0.8	0.7	**1.4**	20	99.5	0.0
	e. Unspecified	17	31	32	40	**120**	0.5	1.9	1.7	0.8	0.7	0.8	**0.8**	12	100.0	0.0
II	LYMPHOMA & RELATED	52	336	771	1409	**2568**	11.4	100.0	5.3	8.6	15.8	28.5	**16.4**	261	99.7	0.0
	a. Hodgkin	0	32	217	843	**1092**	4.8	42.5	-	0.8	4.4	17.0	**6.6**	111	99.9	0.0
	b. Non-Hodgkin except BL	8	121	256	370	**755**	3.3	29.4	0.8	3.1	5.2	7.5	**4.9**	77	99.5	0.0
	c. Burkitt (BL)	1	139	292	187	**619**	2.7	24.1	0.1	3.5	6.0	3.8	**4.1**	63	99.8	0.0
	d. Lymphoreticular	43	44	6	6	**99**	0.4	3.9	4.4	1.1	0.1	0.1	**0.8**	10	99.0	0.0
	e. Unspecified	0	0	0	3	**3**	0.0	0.1	-	-	-	0.1	**0.0**	0	100.0	0.0
III	CNS NEOPLASMS †	384	1733	1787	1522	**5426**	24.0	100.0	39.1	44.2	36.6	30.8	**37.4**	553	85.2	0.0
	a. Ependymoma	83	223	116	108	**530**	2.3	9.8	8.4	5.7	2.4	2.2	**3.8**	54	98.5	0.0
	b. Astrocytoma	116	701	646	525	**1988**	8.8	36.6	11.8	17.9	13.2	10.6	**13.8**	202	81.5	0.0
	c. CNS embryonal	100	406	373	201	**1080**	4.8	19.9	10.2	10.4	7.6	4.1	**7.6**	110	99.2	0.0
	d. Other gliomas	29	196	306	232	**763**	3.4	14.1	3.0	5.0	6.3	4.7	**5.2**	78	63.7	0.0
	e. Other specified	41	190	330	425	**986**	4.4	18.2	4.2	4.8	6.8	8.6	**6.5**	100	91.7	0.0
	f. Unspecified CNS	15	17	16	31	**79**	0.3	1.5	1.5	0.4	0.3	0.6	**0.5**	8	26.6	0.0
IV	NEUROBLASTOMA	720	876	208	66	**1870**	8.3	100.0	73.3	22.3	4.3	1.3	**14.4**	191	96.7	0.0
	a. (Ganglio)neuroblastoma	718	872	205	52	**1847**	8.2	98.8	73.1	22.2	4.2	1.1	**14.2**	188	96.6	0.0
	b. Peripheral nervous	2	4	3	14	**23**	0.1	1.2	0.2	0.1	0.1	0.3	**0.1**	2	100.0	0.0
V	RETINOBLASTOMA	281	339	23	1	**644**	2.9	100.0	28.6	8.6	0.5	0.0	**5.1**	66	63.5	0.0
VI	RENAL TUMOURS	191	770	263	46	**1270**	5.6	100.0	19.4	19.6	5.4	0.9	**9.6**	130	98.2	0.0
	a. Nephroblastoma	191	768	241	26	**1226**	5.4	96.5	19.4	19.6	4.9	0.5	**9.3**	125	98.1	0.0
	b. Renal carcinoma	0	2	22	20	**44**	0.2	3.5	-	0.1	0.5	0.4	**0.3**	4	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	60	122	33	31	**246**	1.1	100.0	6.1	3.1	0.7	0.6	**1.8**	25	97.2	0.0
	a. Hepatoblastoma	60	118	24	8	**210**	0.9	85.4	6.1	3.0	0.5	0.2	**1.6**	21	96.7	0.0
	b. Hepatic carcinoma	0	4	9	23	**36**	0.2	14.6	-	0.1	0.2	0.5	**0.2**	4	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	3	61	323	682	**1069**	4.7	100.0	0.3	1.6	6.6	13.8	**6.6**	108	99.9	0.0
	a. Osteosarcoma	1	10	137	360	**508**	2.2	47.5	0.1	0.3	2.8	7.3	**3.1**	52	99.8	0.0
	b. Chondrosarcoma	0	1	5	23	**29**	0.1	2.7	-	0.0	0.1	0.5	**0.2**	3	100.0	0.0
	c. Ewing & related	2	46	163	266	**477**	2.1	44.6	0.2	1.2	3.3	5.4	**3.0**	48	100.0	0.0
	d. Other specified	0	2	13	23	**38**	0.2	3.6	-	0.1	0.3	0.5	**0.2**	4	100.0	0.0
	e. Unspecified	0	2	5	10	**17**	0.1	1.6	-	0.1	0.1	0.2	**0.1**	2	100.0	0.0
IX	SOFT TISSUE SARCOMA	144	434	404	439	**1421**	6.3	100.0	14.7	11.1	8.3	8.9	**9.8**	145	99.9	0.0
	a. Rhabdomyosarcoma	50	328	243	142	**763**	3.4	53.7	5.1	8.4	5.0	2.9	**5.4**	78	100.0	0.0
	b. Fibrosarcoma	45	11	15	34	**105**	0.5	7.4	4.6	0.3	0.3	0.7	**0.7**	11	100.0	0.0
	c. Kaposi sarcoma	1	1	2	0	**4**	0.0	0.3	0.1	0.0	0.0	-	**0.0**	0	75.0	0.0
	d. Other specified	37	77	113	216	**443**	2.0	31.2	3.8	2.0	2.3	4.4	**2.9**	45	100.0	0.0
	e. Unspecified	11	17	31	47	**106**	0.5	7.5	1.1	0.4	0.6	0.9	**0.7**	11	100.0	0.0
X	GERM CELL TUMOURS	203	170	123	351	**847**	3.8	100.0	20.7	4.3	2.5	7.1	**5.8**	86	92.1	0.0
	a. CNS germ cell ‡	30	59	67	160	**316**	1.4	37.3	3.1	1.5	1.4	3.2	**2.1**	32	86.4	0.0
	b. Other extragonadal	139	61	6	26	**232**	1.0	27.4	14.1	1.6	0.1	0.5	**1.8**	24	90.9	0.0
	c. Gonadal germ cell	33	49	46	151	**279**	1.2	32.9	3.4	1.3	0.9	3.1	**1.8**	28	98.9	0.0
	d. Gonadal carcinoma	0	0	0	8	**8**	0.0	0.9	-	-	-	0.2	**0.0**	1	100.0	0.0
	e. Unspecified gonadal	1	1	4	6	**12**	0.1	1.4	0.1	0.0	0.1	0.1	**0.1**	1	100.0	0.0
XI	CARCINOMA & MELANOMA	26	62	159	484	**731**	3.2	100.0	2.6	1.6	3.3	9.8	**4.6**	74	99.6	0.0
	a. Adrenocortical	16	18	7	8	**49**	0.2	6.7	1.6	0.5	0.1	0.2	**0.4**	5	100.0	0.0
	b. Thyroid	7	21	68	235	**331**	1.5	45.3	0.7	0.5	1.4	4.7	**2.0**	34	99.7	0.0
	c. Nasopharyngeal	0	1	6	37	**44**	0.2	6.0	-	0.0	0.1	0.7	**0.3**	4	100.0	0.0
	d. Melanoma	3	19	36	81	**139**	0.6	19.0	0.3	0.5	0.7	1.6	**0.9**	14	99.3	0.0
	e. Skin carcinoma	0	2	16	16	**34**	0.2	4.7	-	0.1	0.3	0.3	**0.2**	3	97.1	0.0
	f. Other & unspecified	0	1	26	107	**134**	0.6	18.3	-	0.0	0.5	2.2	**0.8**	14	100.0	0.0
XII	OTHER & UNSPECIFIED	7	25	8	9	**49**	0.2	100.0	0.7	0.6	0.2	0.2	**0.4**	5	100.0	0.0
	a. Other specified	7	23	7	9	**46**	0.2	93.9	0.7	0.6	0.1	0.2	**0.3**	5	100.0	0.0
	b. Other unspecified	0	2	1	0	**3**	0.0	6.1	-	0.1	0.0	-	**0.0**	0	100.0	0.0
	TOTAL	2437	7761	5935	6451	**22584**	100.0	100.0	247.9	198.0	121.5	130.4	**157.6**	2299	94.6	0.0

† includes 2414 non-malignant ‡ includes 119 non-malignant

Please consult the quality indicators for this registry

FRANCE, paediatric, haematological malignancies (1990-1999)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	265	2060	1370	945	**4640**	73.9	100.0	36.6	70.3	36.1	24.6	**43.4**	621	98.7	0.0
	a. Lymphoid	107	1744	1121	669	**3641**	58.0	78.5	14.8	59.5	29.5	17.4	**34.2**	488	99.3	0.0
	b. Acute myeloid	124	240	185	216	**765**	12.2	16.5	17.1	8.2	4.9	5.6	**7.1**	102	95.9	0.0
	c. CMD	0	7	25	31	**63**	1.0	1.4	-	0.2	0.7	0.8	**0.5**	8	96.8	0.0
	d. MDS & other	23	49	20	17	**109**	1.7	2.3	3.2	1.7	0.5	0.4	**1.1**	15	98.2	0.0
	e. Unspecified	11	20	19	12	**62**	1.0	1.3	1.5	0.7	0.5	0.3	**0.6**	8	100.0	0.0
II	LYMPHOMA & RELATED	9	250	565	819	**1643**	26.1	100.0	1.2	8.5	14.9	21.3	**13.7**	216	85.0	0.0
	a. Hodgkin	0	46	168	428	**642**	10.2	39.1	-	1.6	4.4	11.1	**5.1**	84	94.7	0.0
	b. Non-Hodgkin except BL	6	98	187	236	**527**	8.4	32.1	0.8	3.3	4.9	6.1	**4.5**	70	80.8	0.0
	c. Burkitt (BL)	1	106	208	151	**466**	7.4	28.4	0.1	3.6	5.5	3.9	**4.0**	62	76.8	0.0
	d. Lymphoreticular	2	0	0	0	**2**	0.0	0.1	0.3	-	-	-	**0.0**	0	100.0	0.0
	e. Unspecified	0	0	2	4	**6**	0.1	0.4	-	-	0.1	0.1	**0.0**	1	33.3	0.0
III	CNS NEOPLASMS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. Ependymoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Astrocytoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. CNS embryonal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other gliomas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Other specified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Unspecified CNS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IV	NEUROBLASTOMA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. (Ganglio)neuroblastoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Peripheral nervous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VI	RENAL TUMOURS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. Nephroblastoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Renal carcinoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. Hepatoblastoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Hepatic carcinoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. Osteosarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Chondrosarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Ewing & related	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IX	SOFT TISSUE SARCOMA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. Rhabdomyosarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Fibrosarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Kaposi sarcoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
X	GERM CELL TUMOURS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. CNS germ cell	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other extragonadal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Gonadal germ cell	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Gonadal carcinoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified gonadal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XI	CARCINOMA & MELANOMA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. Adrenocortical	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Nasopharyngeal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Melanoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Skin carcinoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Other & unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XII	OTHER & UNSPECIFIED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. Other specified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other unspecified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Please consult the quality indicators for this registry

the childhood population; these data are disseminated by SPF and INCa. They also participate in various research projects (https://rnce.inserm.fr).

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

The first incidence table in this section presents a combined dataset provided by both registries (RNHE and RNTSE) for 2000–2012, and the second table shows the data for haematopoietic malignancies only, collected by RNHE in 1990–1999. In both registries, registration focused on the age range 0–14 years during the reporting period. Therefore, data for the age groups 15–19 years and 0–19 years are not shown in the tables.

As expected, the incidence rate and the proportion of infants among children reported in Table A.9 for RNHE are low, because only leukaemia and lymphoma were included in this dataset. The reported proportion of non-malignant CNS tumours in the pooled dataset is high (Table A.9), because of strong links with neurology clinics throughout the country and systematic registration of all types of CNS tumours during the entire recording period. Pilocytic astrocytoma was coded with uncertain behaviour, but one case was coded with malignant behaviour. Skin carcinomas are recorded, but cases diagnosed in private hospitals or by dermatologists providing outpatient treatment may be missed. Laterality information collected by RNTSE was almost complete and is included in the relevant tables. See also France, above.

FRANCE, 13 registries (1993-2012)

Registry	Period	Cases	%	Person-years	%
Bas-Rhin	1993-2011	872	12.1	5 035 555	11.9
Calvados	1993-2012	564	7.8	3 464 517	8.2
Doubs	1993-2012	462	6.4	2 682 953	6.3
Gironde	2008-2012	317	4.4	1 728 884	4.1
Haut-Rhin	1993-2012	594	8.2	3 688 407	8.7
Haute-Vienne	2009-2011	43	0.6	237 246	0.6
Hérault	1993-2012	821	11.4	4 594 978	10.8
Isère	1993-2012	1100	15.3	6 086 411	14.4
Lille	2008-2012	192	2.7	1 018 249	2.4
Loire-Atlantique and Vendée	1998-2012	1181	16.4	6 958 225	16.4
Manche	1994-2012	370	5.1	2 322 619	5.5
Somme	1993-2012	425	5.9	2 937 532	6.9
Tarn	1993-2012	263	3.7	1 618 280	3.8
FRANCE	**1993-2012**	**7204**	**100.0**	**42 373 856**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Bas-Rhin Cancer Registry, 1993–2011

Michel Velten

The department of Bas-Rhin, located in eastern France, is the more populous and more densely populated of the two departments that form the Alsace region. In 2010, the population was 1.1 million, and 24% of the population was younger than 20 years (Table A.6). The capital city is Strasbourg.

The Bas-Rhin Cancer Registry was created in 1974 to collect data for use in epidemiological research and evaluation. It was inspired by international trends and the high cancer mortality in Alsace. The first year with complete data is 1975 (Table A.10).

All diagnosed malignant or in situ tumours are registered for patients residing in the Bas-Rhin department at the time of diagnosis, regardless of where they are treated. Multiple tumours in the same subject are registered, regardless of whether they occur simultaneously in paired organs or in sublocations of the same organ.

Data are collected actively from clinical records either on-site or electronically. Vital status of the patient is based on a sample follow-up with a frequency of one or two large anatomical localizations per year with an average rotation period of 5 years.

The registry provides data and estimates of cancer incidence, prevalence, and survival for the department of Bas-Rhin and participates in national and international studies.

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

The proportion of cases aged 19 years in the age group 15–19 years was 25.4% (Table A.9); the excess was seen for lymphomas and germ cell tumours. The reported proportion of non-malignant CNS tumours is high (Table A.9) because of systematic registration of all types of CNS tumours since 2000. Laterality was complete for retinoblastoma and nephroblastoma. See also France, above.

Calvados, 1990–2012
Calvados General Tumours Registry
Calvados Registry of Digestive Tumours
Lower Normandy Haemopathy Registry

Anne-Valérie Guizard, Guy Launoy, Véronique Bouvier, Xavier Troussard, Edouard Cornet

The department of Calvados is located in the region of Normandy in north-western France. It covers an area of 5548 km^2 and is bordered by the English Channel. The population was 0.7 million, and 25% of the total population was younger than 20 years (Table A.6); 64% of people live in urban areas.

In 2013, there were 607 general practitioners and 92 paediatricians in the department. The major city of Caen has a university hospital and a comprehensive cancer centre. Of the 12 general public and private hospitals, one has radiotherapy facilities.

Three cancer registries operate in the department, all three targeting patients in the entire age range. A general registry and a registry of digestive tumours were started in 1978, and a regional registry of haematological malignancies was started in 2002. These registries are supported mainly by INCa and the Ministry of Health.

Population-based cancer registration has been conducted in the department using data from public and private medical facilities.

Registration is active; information is collected from the medical and pathology records in Calvados and neighbouring areas. Completeness is ensured by linking the information collected from all sources. Follow-up for vital status is updated at regular intervals for all cases. Data from registries are linked periodically to exclude duplicate cases.

The registry data are used to analyse socioeconomic and geographical determinants of incidence and time trends, evaluate mass screening, report on survival, assess the impact of treatment on survival trends, and measure quality of life.

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

A remarkable peak in cancer incidence in 2009 was ascribed by the general registry to random variation due to the small number of cases. Non-malignant CNS tumours were registered from 2000 (Table A.9). Pilocytic astrocytoma was coded with malignant behaviour until 2000 and was coded with uncertain behaviour beginning in 2001, but all cases were recoded with uncertain behaviour for submission to IICC-3. See also France, above.

Doubs Cancer Registry, 1993–2012

Anne-Sophie Woronoff

The Doubs Cancer Registry covers the population of the department of Doubs, which covers an area of 5234 km^2 and is located in the Bourgogne Franche-Comté region of eastern France. The covered population was 0.5 million (0.8% of the national population), and 25% of the population was younger than 20 years (Table A.6). Almost 80% of people live in urban areas. In 2014, the average population density was 102 per km^2.

The numbers of paediatricians per 100 000 children are close to the national averages. The department has five public hospitals (including one university hospital) and four private care facilities but no specialized cancer centre. In 2009, a regional infrastructure for the coordination of multidisciplinary service to provide cancer care was established and centralized at the regional level of Franche-Comté.

The Doubs Cancer Registry is one of the oldest general cancer registries in France; its activities began in 1976, and data were provided from 1978 (Table A.10). The registry is located in the University Hospital of Besançon. The registry staff consists of seven people, who conduct both registration and research activities. The registry received national public funding for data collection and quality control.

The main sources of information are the regional pathology and cytology laboratories (pathology records), medical information systems in public and private care facilities (medical files), records of multidisciplinary team meetings, screening facilities, and health insurance notifications. The registry staff members visit the sources and consult medical records to collect and validate data. The international recommendations for data collection, registration, and coding formulated by IARC are followed. Data quality is regularly monitored by searching for duplicates and conducting consistency checks.

The registry regularly publishes descriptive statistics, conducts studies in collaboration with local clinicians and epidemiologists, and participates in activities with other registries at the national level (in FRANCIM) and the international level (https://www.chu-besancon.fr/registretumeursdoubs). Registry data are used in numerous epidemiological studies, including incidence, prevalence, survival, and evaluation-of-care studies, and for public health assessments.

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

The proportion of cases aged 19 years in the age group 15–19 years was high (26.8%) (Table A.9), mainly because of the high incidence in the diagnostic groups II, X, and XI. The reported proportion of non-malignant CNS tumours is high (Table A.9) because of systematic registration of all types of CNS tumours since 2003. The high proportion of malignant carcinoid tumours of the appendix (Table A.11) was based on nine cases. See also France, above.

Gironde, 2008–2012
General Cancer Registry of Gironde
Registry of CNS Tumours of Gironde
Registry of Haematological Malignancies of Gironde
Mesothelioma Registry

Brice Amadeo, Gaëlle Coureau, Simone Mathoulin-Pélissier, Sylvain Maurisset, Marianne Saves, Isabelle Baldi, Camille Pouchieu, Anne Cantagrel-Gruber, Sandra Le Guyader, Alain Monnereau, Sébastien Orazio, Patrick Brochard, Céline Gramond

The department of Gironde is part of the Aquitaine region, located in south-western France. It covers an area of 9975 km^2 and is the largest department in France. The population was 1.5 million (2.3% of the national population), and 23% of the population was younger than 20 years (Table A.6). The population density is 149 per km^2. Almost 80% of the population lives in urban areas.

Gironde has 30 public and private hospitals with acute care services, including a teaching hospital and a comprehensive cancer centre. The medical coverage in Gironde is above the national average. There are 67 paediatricians per 100 000 children younger than 15 years.

Gironde is covered by four cancer registries that target cancers in patients of all ages: a general population-based registry and three specialized registries that collect data on CNS tumours, haematological malignancies, and mesothelioma. All these registries are located in Bordeaux and are supported mainly by SPF and INCa. Cancer records are based on notifications from four types of data sources: pathology and cytology laboratories, hospital medical information programmes, health insurance notifications for cancer, and multidisciplinary team meetings. Registry staff members systematically check and validate notifications by consulting medical records in hospitals.

The Gironde registries collaborate to provide indicators such as incidence and survival in the department. They also participate in various research projects to study the effects of environmental exposures, socioeconomic determinants

of cancer occurrence, and survivorship. Data and research projects are regularly updated online (http://etudes.isped.u-bordeaux2.fr/registres-cancers-aquitaine).

POPULATION AT RISK
See France, above.

EDITORS' COMMENTS
The proportion of cases aged 19 years in the age group 15–19 years was 32.1% (Table A.9), mainly because of a high incidence of tumours in the diagnostic group XI. The reported proportion of non-malignant CNS tumours is high (Table A.9) because of systematic registration of all types of CNS tumours over the entire reporting period. Skin carcinomas are reportable, but their registration may be incomplete. See also France, above.

Haut-Rhin Cancer Registry, 1993–2012

Emilie Marrer, Antoine Buemi

The department of Haut-Rhin covers an area of 3525 km^2 and is located in north-eastern France. It is bordered by the department of Bas-Rhin to the north (with which it constitutes the Alsace region), the department of Vosges to the west, Germany to the east, and the Franche-Comté region and Switzerland to the south.

In 2010, the total population of Haut-Rhin was 0.8 million (1.2% of the French population), and 24% of the population was younger than 20 years (Table A.6). Haut-Rhin is divided into 377 communes, of which 82% have a population of less than 2000. The average population density is 214 per km^2.

With 83 general practitioners and 140 specialists per 100 000 residents, the medical coverage of the Haut-Rhin population is below the national average. Cancer care for children living in the department is organized in collaboration with the regional specialized reference centre for paediatric oncology, which is located outside the department, in Strasbourg (the capital of the Bas-Rhin department). Haut-Rhin has two radiotherapy wards: one in the south, in Mulhouse, and one in the north, in Colmar.

The Haut-Rhin Cancer Registry was established in 1989 to obtain data on the cancer burden in the department. Data from the registry are used to evaluate public health measures in cancer prevention, screening, and treatment. The registry actively collects information on all new cases of cancer in Haut-Rhin, including on patients diagnosed and treated elsewhere. The main sources of information are pathology and cytology laboratories, hospital discharge data, and radiotherapy, oncology, paediatrics, and haematology services. The data are systematically verified, completed, or modified using secondary sources (hospitalization services, general practitioners). Paediatric cases are also linked annually with the database of the French National Childhood Cancer Registries. Data are collected according to standardized procedures (IARC, ENCR) and maintained using IARC CanReg software. The registry provides data and estimates of cancer incidence and survival for the department and participates in national and international studies.

POPULATION AT RISK
See France, above.

EDITORS' COMMENTS
The MV% is 98% (Table A.9), which may indicate that some clinically diagnosed cases were missed. The high proportion of cases aged 19 years in the age group 15–19 years resulted from the high incidence of tumours in the diagnostic groups XI, II, and X. Non-malignant CNS tumours were registered for the entire reporting period (Table A.9). All skin carcinomas were reportable. See also France, above.

Haute-Vienne, Limousin Cancer Registry, 2009–2011

Tania d'Almeida

The Limousin Cancer Registry covers the population of the department of Haute-Vienne, which is located in the Limousin region of south-western France and covers an area of 5520 km^2. The population was 0.4 million (0.6% of the national population), and 21% of the population was younger than 20 years (Table A.6). Almost 80% of people live in urban areas. In 2010, the ageing index (the ratio of population aged 65 years and older to population younger than 15 years) was higher in Haute-Vienne (99.2%) than the national average (69.4%).

The department has five public hospitals (including one university hospital) and three private care facilities but no specialized cancer centre. Haute-Vienne has two radiotherapy units – one in the university hospital and one in a private care facility – and four pathology laboratories. The numbers of general practitioners and specialists per 100 000 residents are 140 and 81, respectively.

The Limousin Cancer Registry is located in Limoges, the department capital, within the university hospital. Registration activities are funded by SPF, INCa, and the University Hospital of Limoges. The registry staff consists of five people: a medical epidemiologist, a data manager, and three trained registrars.

Cancer cases are found by active searching in the medical records from several sources. The main sources of information are pathology and cytology laboratories, medical information systems in hospitals and private care facilities, and health insurance notifications.

The registry publishes basic descriptive statistics and participates in collaborative studies at the national and international levels. Registry data are included in the FRANCIM database and are used to estimate national incidence and survival.

POPULATION AT RISK
See France, above.

EDITORS' COMMENTS

The number of incident cases during the reporting period was not sufficiently large for presentation of the data in a full table, but the registry contributed to the national pool. Non-malignant CNS tumours were registered for the entire reporting period. There were no cases of pilocytic astrocytoma in the dataset. See also France, above.

Hérault Cancer Registry, 1993–2012

Brigitte Trétarre

The department of Hérault is located in the Languedoc-Roussillon region of southern France, on the Mediterranean Sea. The department covers an area of 6101 km^2. The population is 1.0 million, and 23% of the population is younger than 20 years (Table A.6). The urban population is 4.9 times the rural population, and this ratio is growing.

Residents of the department have good access to medicosocial facilities; Hérault has one specialized cancer hospital, 10 public hospitals (including one academic hospital, in Montpellier), and 16 private clinics. Radiotherapy is available at three main centres. The numbers of general practitioners, specialists, and paediatricians per 100 000 residents are higher than the national averages.

The general population-based cancer registry of the Hérault department was established in 1985 (http://www.registre-tumeurs-herault.fr). The registry has six employees: a medical epidemiologist, a biostatistician, a secretary, and three trained investigators.

The registry relies on several information sources, such as the medical informatics systems of individual hospitals, pathology records, and health insurance databases. Each new case of cancer diagnosed in a resident of the department of Hérault and identified via these sources is verified and updated through systematic checking of source medical files and is then recorded in the registry database. All invasive cancers (except basal cell skin carcinomas), all benign tumours of the CNS, and some in situ cancers are registered. The international recommendations for data collection, registration, and coding formulated by IARC are followed. Active follow-up is performed for all registered cases.

The registry collaborates with other registries at the national level (in FRANCIM) and the international level.

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

All non-malignant CNS tumours were registered during the entire reporting period. Laterality was complete for 84% of the cases of interest. See also France, above.

Isère Cancer Registry, 1993–2012

Marc Colonna

The Isère Cancer Registry covers the population of the department of Isère, which covers an area of 7431 km^2 and is located in the Auvergne-Rhône-Alpes region of south-eastern France. In 2013, the average population density was 166 per km^2. The population is 1.2 million (1.9% of the national population), and 26% of the population is younger than 20 years (Table A.6).

The numbers of paediatricians per 100 000 children younger than 15 years are close to the national average. Isère has public hospitals (including one university hospital) and private care facilities but no specialized cancer centre.

The Isère Cancer Registry began its activities in 1979 (Table A.10). It is one of the oldest general cancer registries in France and is affiliated with FRANCIM. The registry is located in the University Hospital of Grenoble. The registry has 10 staff members, who conduct both registration and research activities. The registry receives national public funding for data collection and quality control.

The main sources of information are the regional pathology and cytology laboratories (pathology records), medical information systems in public and private care facilities (medical files), records of multidisciplinary team meetings, screening facilities, and health insurance notifications. The registry staff members visit the sources and consult medical records to collect and validate data. Data quality is regularly monitored by searching for duplicates and conducting consistency checks.

The registry regularly publishes basic descriptive epidemiological studies, conducts studies with local clinicians and epidemiologists, and collaborates with other registries at the national level (in FRANCIM) and the international level. Registry data are used in numerous epidemiological studies, including incidence, prevalence, survival, evaluation-of-care studies, and for public health assessments.

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

The reported proportion of non-malignant CNS tumours is high (Table A.9) because of systematic registration of all types of CNS tumours over the entire reporting period. Laterality was complete for retinoblastoma and nephroblastoma. See also France, above.

Lille Cancer Registry, 2008–2012

Sandrine Plouvier, Karine Ligier

The cancer registry of Lille and the surrounding area is a general population-based cancer registry that covered a population of 788 877 in 2011. Lille is located in northern France, near the border with Belgium. The city of Lille is both the capital of the Hauts-de-France region in the Nord department and the major city in the European Metropolis of Lille. The covered population includes the residents of Lille and 100 surrounding communities. This population is about 30% of the population of the Nord department, and 27% of the population is younger than 20 years (Table A.6). Lille and the surrounding area has a high population density of 1175 per km^2 and is affected by socioeconomic deprivation and environmental pollution.

There are two teaching hospitals, 10 general public and private hospitals, a regional cancer care centre, and three radiotherapy centres within the study area.

The registry was established in 2005 following the first national cancer plan of France (2003–2007). It is part of the Centre de Référence Régional en Cancérologie – a structure of cooperation in oncology between the University Hospital of Lille and the cancer care centre of Lille.

The registry has nine staff members, some of whom work part-time. Cancer cases are identified from several sources: hospital and radiotherapy centre discharge records, pathology records, health insurance notifications, haematology laboratories, and multidisciplinary team meetings. Information from these sources is systematically checked by registry staff members, and medical files are consulted to validate the registration records. Registration follows international rules (IACR, ENCR). Data completeness and quality and completeness of registration are regularly checked.

The registry regularly publishes incidence and survival data and participates in studies conducted by FRANCIM and in national studies on survival.

PUBLICATIONS

Ligier K, Plouvier S, Danzon A, Martin P, Benoît E, Molinié F, et al. (2012). Éléments d'exhaustivité et résultats pour la première année d'enregistrement du Registre général des cancers de Lille et de sa région. [in French] Rev Epidemiol Sante Publique. 60(2):131–9. https://doi.org/10.1016/j.respe.2011.10.006 PMID:22424751

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

The small numbers of cases may explain the unexpected age distribution (Table A.9); the dates of birth and incidence are considered to be incomplete (Table A.8). Non-malignant CNS tumours were included, except pituitary adenoma. See also France, above.

Loire-Atlantique and Vendée Cancer Registry, 1998–2012

Florence Molinié, Anne Cowppli-Bony, Solenne Billon-Delacour

The registration area consists of the departments of Loire-Atlantique and Vendée, located in western France. The total population is 1.9 million (3% of the national population), and 25% of the population is younger than 20 years (Table A.6). The population density of Loire-Atlantique and Vendée is 187 per km^2 and 94 per km^2, respectively. About 54% of the Loire-Atlantique population and 25% of the Vendée population lives in urban areas (≥ 10 000 inhabitants).

There are 23 public and 37 private hospitals in the two departments, including one university hospital and two cancer centres. The two departments have 2750 general practitioners and 2730 specialists.

The Loire-Atlantique and Vendée Cancer Registry is one of the largest registries in France. It was created in 1998 as a legal association. It is financed entirely by SFP, INCa, and local organizations. The registry is staffed by two medical epidemiologists, a part-time pathologist, and 12.4 full-time equivalent positions.

Data are actively collected from the medical records of several data sources, including pathology departments, medical information systems of hospitals and clinics, and health insurance notifications, to identify and abstract information on cancer diagnosis and treatment. Cancer is not a notifiable disease; however, a few registration forms are received from private practitioners.

Data registration follows the ENCR and IACR recommendations. Data are checked for duplicates and inconsistencies twice a year, using IARCcrgTools.

The registry produces basic descriptive data in annual reports and participates in collaborative studies at the national level (https://www.santepaysdelaloire.com/registre-des-cancers).

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

The reported proportion of non-malignant CNS tumours is high (Table A.9); all types of CNS tumours were systematically registered from 2005. Skin carcinomas were not reportable. Laterality was complete for retinoblastoma and nephroblastoma. See also France, above.

Manche, 1994–2012
Manche General Cancer Registry
Lower Normandy Haemopathy Registry

Simona Bara, Xavier Troussard, Edouard Cornet

The department of Manche covers an area of 5938 km^2 and is located in the region of Normandy, in north-western France. The total population is 0.5 million, and 24% of the population is younger than 20 years (Table A.6). The average population density is 84 per km^2. The population is mainly rural; only 48% of residents live in the five urban areas of Manche.

The level of medical coverage in Manche is relatively low compared with the national average. There are 11 public hospitals (general and local) and seven private care facilities. There are no specialized cancer centres in the department, but there are two radiotherapy units: a private unit in the south and a public unit in the north. The public unit is an external facility of the regional cancer care centre in the neighbouring department of Calvados.

Manche is covered by two cancer registries targeting patients in the entire age range: a general registry and a regional registry of haematological malignancies.

The Manche General Cancer Registry began in 1994. It is based in the general hospital of Cherbourg and was created by an association of practitioners in the department. To reflect a specific interest in malignant haemopathy, the registry established – in collaboration with the haematology laboratory of the regional university hospital – a specific methodology for recording haematological malignancies. The resulting Lower Normandy Haemopathy Registry started operating in 2002. Both registries receive national public funding for data collection and quality control. Data are actively collected from regional sources, including pathology and cytology laboratories, oncology and radiotherapy services, records of multidisciplinary team meetings, screening facilities, health insurance notifications, and the medical records departments of hospitals. After initial notification, every file is checked in regional (private and public) medical facilities and then coded (Table A.10). The international recommendations for data collection, registration, and coding formulated by IARC are followed. Follow-up for vital status is updated at regular intervals for all cases.

The two registries collaborate to provide indicators such as incidence and survival in the department. They also regularly publish basic descriptive epidemiological studies and collaborate with other registries and FRANCIM in national and international studies (https://www.registrecancermanche.org/).

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

The proportion of cases aged 19 years in the age group 15–19 years was 27.0% (Table A.9), because of an increase in incidence in the diagnostic group XI. All non-malignant CNS tumours are systematically registered, and their proportion was relatively high (Table A.9). See also France, above.

Somme Cancer Registry, 1993–2012

Olivier Ganry, Bénédicte Lapôtre-Ledoux, Pascal Caillet

The Somme Cancer Registry covers the population of the department of Somme, located in the Hauts-de-France region. The topography is relatively flat, and the department covers an area of 6170 km^2. Amiens is the capital city. The population is 0.6 million, and almost 25% of the population is younger than 20 years (Table A.6). Cancer diagnostic and treatment services are provided by public and private hospitals. The area has nine public hospitals (including one university hospital), four private care facilities, and two radiotherapy centres but no specialized cancer centre.

Since 1982, the registry has recorded incident cancer cases (Table A.10) occurring in residents even if they are diagnosed or treated outside the registration area. The registry is a department of the University Hospital of Amiens and is funded by SPF, INCa, and the regional health agency. Cancer cases are ascertained actively from multiple medical records of several sources located within and outside the covered area. For paediatric and adolescent cases, the main sources of data are pathology laboratories and the medical information departments in public hospitals or in cancer centres located in neighbouring regions. All incident cases are validated after active consultation of all relevant medical and administrative records. The registry follows international guidelines for cancer registration. Regular checks are performed to ensure data completeness (in particular, cases are linked annually with the French National Childhood Cancer Registries database), quality, and internal consistency and to eliminate duplicates. Descriptive epidemiological studies are conducted and published in collaboration with FRANCIM and other European registries.

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

The proportion of cases aged 19 years in the age group 15–19 years was 27.1% (Table A.9), because of the increase in incidence in the diagnostic groups II, XI, and X. Non-malignant CNS tumours are registered, but data were not provided. There were no cases of pilocytic astrocytoma in the dataset. Thus, the reported incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. Malignant carcinoid tumours of the appendix constituted 1.6% of the total dataset (Table A.11). See also France, above.

Tarn Cancer Registry, 1993–2012

Laetitia Daubisse-Marliac, Pascale Grosclaude, Martine Sauvage, Corine Ferre-Grevaz, Régine Litre-Tournier, Chantal Miquel-Herail, Hélène Siguier, Christophe Lagadic, Cathy Robak, Valérie Bouglon-Testaud

The department of Tarn is administratively part of the Midi-Pyrénées region of southern France. The population is 0.4 million; 22% of the population is younger than 20 years (Table A.6), and 30% is aged 60 years and older.

The registration area is fairly autonomous in its provision of cancer care facilities, which are staffed by five pathologists, six oncologists, and five radiotherapists. These services are complemented by a regional cancer network, which consists of four public hospitals and four private clinics. However, some cancers, and particularly childhood cancers, are treated in the regional university hospital or in the regional cancer centre, both of which are located in Toulouse, the capital of the neighbouring department of Haute-Garonne.

The Tarn Cancer Registry has been in operation since 1982 (Table A.10); it operates as a non-profit association. The registry committee comprises representatives of the medical and university sectors and elected officials of the department of Tarn and the Midi-Pyrénées region. The registry is funded by the General Council of Tarn, the departmental committee of the National League Against Cancer, and INCa. Research is funded by grants. The registry staff of nine (6.3 full-time equivalent positions) is responsible for both registration and research activities. Notifications are systematically checked and completed by consulting the medical files. The medical information is coded by trained encoders. Information is collected by active case finding; four investigators visit the data sources. Laboratory services, private and public hospitals, administrative services, and medical specialists in Tarn are regularly visited. The most significant data sources are the regional university hospital and the regional cancer centre. In hospitals cases are ascertained from electronic databases of medical information departments. The registry also receives information annually from multidisciplinary team meetings of the entire Midi-Pyrénées region and uses the national hospital database to improve completeness. Insufficient information is completed in collaboration with general practitioners. Paediatric cases are also linked annually with the database of the French National Childhood Cancer Registries.

Active follow-up for vital status is conducted by consulting the national identification registry of physical persons or by writing to the town of birth every 5 years for all relevant survival studies.

The Tarn Cancer Registry conducts several studies, alone or in collaboration with other registries (FRANCIM and ENCR). These include estimates of cancer incidence, time trends, and prevalence and evaluation of diagnostic and therapeutic practices for selected sites.

POPULATION AT RISK

See France, above.

EDITORS' COMMENTS

The small numbers of cases may explain the unexpected age distribution of the cases (Table A.9). The reported proportion of non-malignant CNS tumours is high (Table A.9) because of systematic registration of all types of CNS tumours over the entire reporting period. Laterality was complete for retinoblastoma and gonadal tumours. See also France, above.

FRANCE, 13 registries (1993-2012)

	Age group (years)	Males	Females
Person-years	0	1 039 125	989 269
	1-4	4 216 929	4 014 207
	5-9	5 354 538	5 090 479
	10-14	5 433 345	5 178 088
	15-19	5 616 077	5 441 799
	0-14	16 043 937	15 272 043
	0-19	21 660 014	20 713 842

Please consult the quality indicators for this pool and its constituent registries

FRANCE, 13 registries (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	84	603	390	265	316	1342	1658	27.8	100.0	23.0	100.0	41.4	73.3	37.3	25.0	28.6	45.2	41.5	646	789	99.6	0.0
	a. Lymphoid	32	488	320	182	154	1022	1176	21.2	76.2	16.3	70.9	15.8	59.3	30.6	17.2	13.9	34.5	29.9	492	562	99.7	0.0
	b. Acute myeloid	36	79	40	50	101	205	306	4.3	15.3	4.2	18.5	17.7	9.6	3.8	4.7	9.1	6.9	7.4	99	144	99.7	0.0
	c. CMD	0	5	10	17	41	32	73	0.7	2.4	1.0	4.4	-	0.6	1.0	1.6	3.7	1.0	1.6	15	34	98.6	0.0
	d. MDS & other	13	20	10	3	14	46	60	1.0	3.4	0.8	3.6	6.4	2.4	1.0	0.3	1.3	1.6	1.6	22	29	100.0	0.0
	e. Unspecified	3	11	10	13	6	37	43	0.8	2.8	0.6	2.6	1.5	1.3	1.0	1.2	0.5	1.2	1.0	18	20	97.7	0.0
II	LYMPHOMA & RELATED	21	95	191	354	611	661	1272	13.7	100.0	17.7	100.0	10.4	11.5	18.3	33.4	55.3	20.0	27.9	315	591	100.0	0.0
	a. Hodgkin	0	9	44	197	434	250	684	5.2	37.8	9.5	53.8	-	1.1	4.2	18.6	39.2	7.1	14.3	118	315	100.0	0.0
	b. Non-Hodgkin except BL	4	34	69	97	146	204	350	4.2	30.9	4.9	27.5	2.0	4.1	6.6	9.1	13.2	6.2	7.8	97	163	100.0	0.0
	c. Burkitt (BL)	0	34	73	51	24	158	182	3.3	23.9	2.5	14.3	-	4.1	7.0	4.8	2.2	4.9	4.3	76	86	100.0	0.0
	d. Lymphoreticular	17	18	2	5	5	42	47	0.9	6.4	0.7	3.7	8.4	2.2	0.2	0.5	0.5	1.5	1.3	20	23	100.0	0.0
	e. Unspecified	0	0	3	4	2	7	9	0.1	1.1	0.1	0.7	-	-	0.3	0.4	0.2	0.2	0.2	3	4	100.0	0.0
III	CNS NEOPLASMS †	52	333	364	322	245	1071	1316	22.2	100.0	18.3	100.0	25.6	40.5	34.8	30.3	22.2	34.6	31.8	514	624	86.9	0.0
	a. Ependymoma	12	41	27	14	19	94	113	1.9	8.8	1.6	8.6	5.9	5.0	2.6	1.3	1.7	3.2	2.9	45	54	100.0	0.0
	b. Astrocytoma	16	121	124	125	80	386	466	8.0	36.0	6.5	35.4	7.9	14.7	11.9	11.8	7.2	12.4	11.3	185	221	90.3	0.0
	c. CNS embryonal	15	86	89	45	27	235	262	4.9	21.9	3.6	19.9	7.4	10.4	8.5	4.2	2.4	7.8	6.6	113	125	100.0	0.0
	d. Other gliomas	1	43	63	56	41	163	204	3.4	15.2	2.8	15.5	0.5	5.2	6.0	5.3	3.7	5.1	4.8	78	97	69.6	0.0
	e. Other specified	7	32	43	62	71	144	215	3.0	13.4	3.0	16.3	3.5	3.9	4.1	5.8	6.4	4.5	4.9	69	101	94.4	0.0
	f. Unspecified CNS	1	10	18	20	7	49	56	1.0	4.6	0.8	4.3	0.5	1.2	1.7	1.9	0.6	1.5	1.3	23	27	3.6	0.0
IV	NEUROBLASTOMA	151	187	35	20	10	393	403	8.2	100.0	5.6	100.0	74.4	22.7	3.4	1.9	0.9	14.4	11.3	191	195	98.8	0.0
	a. (Ganglio)neuroblastoma	150	186	33	19	6	388	394	8.0	98.7	5.5	97.8	74.0	22.6	3.2	1.8	0.5	14.2	11.1	188	191	98.7	0.0
	b. Peripheral nervous	1	1	2	1	4	5	9	0.1	1.3	0.1	2.2	0.5	0.1	0.2	0.1	0.4	0.2	0.2	2	4	100.0	0.0
V	RETINOBLASTOMA	53	71	1	1	0	126	126	2.6	100.0	1.7	100.0	26.1	8.6	0.1	0.1	-	4.7	3.7	61	61	70.6	0.0
VI	RENAL TUMOURS	54	158	56	10	21	278	299	5.8	100.0	4.2	100.0	26.6	19.2	5.4	0.9	1.9	10.0	8.2	135	144	97.7	0.0
	a. Nephroblastoma	54	158	56	7	7	275	282	5.7	98.9	3.9	94.3	26.6	19.2	5.4	0.7	0.6	9.9	7.8	133	137	97.5	0.0
	b. Renal carcinoma	0	0	0	3	14	3	17	0.1	1.1	0.2	5.7	-	-	-	0.3	1.3	0.1	0.3	1	8	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	12	28	7	6	17	53	70	1.1	100.0	1.0	100.0	5.9	3.4	0.7	0.6	1.5	1.9	1.8	26	33	97.1	0.0
	a. Hepatoblastoma	12	25	6	4	2	47	49	1.0	88.7	0.7	70.0	5.9	3.0	0.6	0.4	0.2	1.7	1.4	23	24	100.0	0.0
	b. Hepatic carcinoma	0	2	1	2	14	5	19	0.1	9.4	0.3	27.1	-	0.2	0.1	0.2	1.3	0.2	0.4	2	9	100.0	0.0
	c. Unspecified	0	1	0	0	1	1	2	0.0	1.9	0.0	2.9	-	0.1	-	-	0.1	0.0	0.0	0	1	0.0	0.0
VIII	BONE TUMOURS	0	11	56	161	221	228	449	4.7	100.0	6.2	100.0	-	1.3	5.4	15.2	20.0	6.5	9.6	108	208	99.8	0.0
	a. Osteosarcoma	0	1	26	78	111	105	216	2.2	46.1	3.0	48.1	-	0.1	2.5	7.4	10.0	3.0	4.6	50	100	100.0	0.0
	b. Chondrosarcoma	0	0	0	9	21	9	30	0.2	3.9	0.4	6.7	-	-	-	0.8	1.9	0.2	0.6	4	14	100.0	0.0
	c. Ewing & related	0	10	30	64	73	104	177	2.2	45.6	2.5	39.4	-	1.2	2.9	6.0	6.6	3.1	3.9	49	82	100.0	0.0
	d. Other specified	0	0	0	6	11	6	17	0.1	2.6	0.2	3.8	-	-	-	0.6	1.0	0.2	0.4	3	8	100.0	0.0
	e. Unspecified	0	0	0	4	5	4	9	0.1	1.8	0.1	2.0	-	-	-	0.4	0.5	0.1	0.2	2	4	88.9	0.0
IX	SOFT TISSUE SARCOMA	20	100	76	91	139	287	426	6.0	100.0	5.9	100.0	9.9	12.1	7.3	8.6	12.6	9.4	10.1	138	201	100.0	0.0
	a. Rhabdomyosarcoma	10	74	45	33	23	162	185	3.4	56.4	2.6	43.4	4.9	9.0	4.3	3.1	2.1	5.5	4.7	78	88	100.0	0.0
	b. Fibrosarcoma	5	3	3	6	16	17	33	0.4	5.9	0.5	7.7	2.5	0.4	0.3	0.6	1.4	0.6	0.8	8	15	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	2	1	3	0.0	0.3	0.0	0.7	-	-	-	0.1	0.2	0.0	0.1	0	1	100.0	0.0
	d. Other specified	4	18	23	43	83	88	171	1.8	30.7	2.4	40.1	2.0	2.2	2.2	4.1	7.5	2.7	3.8	42	80	100.0	0.0
	e. Unspecified	1	5	5	8	15	19	34	0.4	6.6	0.5	8.0	0.5	0.6	0.5	0.8	1.4	0.6	0.8	9	16	100.0	0.0
X	GERM CELL TUMOURS	35	32	22	59	272	148	420	3.1	100.0	5.8	100.0	17.3	3.9	2.1	5.6	24.6	4.8	9.3	71	194	97.9	0.0
	a. CNS germ cell ‡	6	5	10	20	25	41	66	0.9	27.7	0.9	15.7	3.0	0.6	1.0	1.9	2.3	1.3	1.5	20	31	90.9	0.0
	b. Other extragonadal	21	14	2	2	16	39	55	0.8	26.4	0.8	13.1	10.4	1.7	0.2	0.2	1.4	1.4	1.4	19	26	98.2	0.0
	c. Gonadal germ cell	8	13	10	31	213	62	275	1.3	41.9	3.8	65.5	3.9	1.6	1.0	2.9	19.3	1.9	5.8	30	126	99.3	0.0
	d. Gonadal carcinoma	0	0	0	5	16	5	21	0.1	3.4	0.3	5.0	-	-	-	0.5	1.4	0.1	0.4	2	10	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	2	1	3	0.0	0.7	0.0	0.7	-	-	-	0.1	0.2	0.0	0.1	0	1	100.0	0.0
XI	CARCINOMA & MELANOMA	2	16	45	163	515	226	741	4.7	100.0	10.3	100.0	1.0	1.9	4.3	15.4	46.6	6.5	15.5	107	340	99.9	0.0
	a. Adrenocortical	1	2	2	3	2	8	10	0.2	3.5	0.1	1.3	0.5	0.2	0.2	0.3	0.2	0.3	0.2	4	5	100.0	0.0
	b. Thyroid	0	7	17	62	198	86	284	1.8	38.1	3.9	38.3	-	0.9	1.6	5.8	17.9	2.5	6.0	41	130	100.0	0.0
	c. Nasopharyngeal	0	0	2	6	11	8	19	0.2	3.5	0.3	2.6	-	-	0.2	0.6	1.0	0.2	0.4	4	9	100.0	0.0
	d. Melanoma	1	3	13	43	179	60	239	1.2	26.5	3.3	32.3	0.5	0.4	1.2	4.1	16.2	1.7	5.0	28	109	99.6	0.0
	e. Skin carcinoma	0	2	2	3	13	7	20	0.1	3.1	0.3	2.7	-	0.2	0.2	0.3	1.2	0.2	0.4	3	9	100.0	0.0
	f. Other & unspecified	0	2	9	46	112	57	169	1.2	25.2	2.3	22.8	-	0.2	0.9	4.3	10.1	1.6	3.5	27	78	100.0	0.0
XII	OTHER & UNSPECIFIED	3	4	2	0	15	9	24	0.2	100.0	0.3	100.0	1.5	0.5	0.2	-	1.4	0.3	0.6	4	11	87.5	0.0
	a. Other specified	3	4	1	0	8	8	16	0.2	88.9	0.2	66.7	1.5	0.5	0.1	-	0.7	0.3	0.4	4	8	100.0	0.0
	b. Other unspecified	0	0	1	0	7	1	8	0.0	11.1	0.1	33.3	-	-	0.1	-	0.6	0.0	0.2	0	4	62.5	0.0
	TOTAL	487	1638	1245	1452	2382	4822	7204	100.0	100.0	100.0	100.0	240.1	199.0	119.2	136.8	215.4	158.4	171.2	2316	3393	96.6	0.0

† includes 530 non-malignant ‡ includes 11 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Germany

Germany is located in central Europe. It is bordered by Poland and the Czech Republic to the east, Austria and Switzerland to the south, France, Luxembourg, Belgium, and the Netherlands to the west, and the North Sea, Denmark, and the Baltic Sea to the north. It covers an area of 357 386 km^2, which slowly declines from the high peaks of Alps in the south to a massive lowland plain in the north and is traversed by major rivers: the Rhine, Danube, and Elbe. The climate is temperate. Significant natural resources include iron ore, coal, potash, timber, lignite, uranium, copper, natural gas, salt, nickel, arable land, and water.

Germany was divided into eastern and western parts after the Second World War and was reunified on 3 October 1990. Currently, the country has a strong social market economy with a highly skilled labour force, a very high standard of living, a social security system with universal health care, and comprehensive environmental protection. The service sector (including information technology) contributes 71% of the GDP, industry 28%, and agriculture 1%. The unemployment rate is relatively low, and labour productivity is high. Exports include vehicles, machinery, chemical goods, electronic products, electrical equipment, pharmaceuticals, transport equipment, basic metals, food products, and rubber and plastics.

In 2010, the population was 80.4 million (Table A.7), and 19% of the population was younger than 20 years (Table A.6). The population density is 227 per km^2, and 75% of the population lives in urban areas. The overall life expectancy at birth is 80.19 years, and the fertility rate is low, at 1.41 children per woman. The death rate has exceeded the birth rate since the early 1970s. Immigration has been considerable over the past few decades. The immigrants are often well educated and tend to settle in urban areas in the west of the country. The largest national groups are from Turkey, Poland, the Russian Federation, Italy, and African countries. About two thirds of the total population are Christian, and one third does not claim any religious affiliation. Germany is made up of 16 federal states (Bundesländer). Each state has its own constitution and is largely autonomous in its internal organization. Three of the states are city-states, which consist of just one city: Berlin, Bremen, and Hamburg.

In Germany all residents have access to health care; health insurance is almost universal. Specialized paediatric and adolescent oncology services are centralized in about 80 facilities. No other facilities can collect payment from health insurance for the treatment of paediatric oncology patients. Therapy is thus standardized nationwide and clinical trials are optimized centrally for each major disease entity.

Although cancer registration in Germany dates back to 1927, when registration started in Hamburg, most of the modern cancer registries were established relatively recently (Table A.10). In 1996, the Working Group of Population-Based Cancer Registries in Germany was founded by all population-based cancer registries and the federal cancer surveillance unit of the Robert Koch Institute, in response to the Agenda for Cancer Control of the Federal Ministry of Health. In April 2004, this working group engendered the Association of Population-Based Cancer Registries in Germany (GEKID) (https://www.gekid.de/). The main task of GEKID is to achieve nationwide methodological uniformity of cancer registration standards despite different registration laws in the federal states. GEKID also responds to interstate questions related to data generated from population-based cancer registration. GEKID comprises 10 statewide cancer registries operating in the states of western Germany, one cancer registry operating in the six states of eastern Germany, and one nationwide cancer registry: the German Childhood Cancer Registry (GCCR). In addition, the operations of large clinical cancer registries are also regulated on a federal level. Data from clinical cancer registries are not included in IICC-3; however, their existence may explain why the term "epidemiological" is included in the names of some population-based cancer registries in Germany. In 2008, a national cancer control plan was initiated, one goal of which was to foster collaboration between clinical and epidemiological cancer registries. A law passed in 2013 mandated the implementation of clinical cancer registration in all federal states.

The Federal Cancer Registry Act of 1993 mandated a double-unit model for each registry, composed of a trust unit and a registry unit. The trust unit maintains close connection with the data providers: physicians and dentists, tumour centres and the health authorities that report on their behalf, and autopsy reports. Cancer is reported using a registration form or by providing an electronic record. These registrations are checked for completeness and plausibility, and disagreements are clarified with the reporting physician or tumour centre. After validation, the personal identifying data are encrypted and control numbers are generated. The anonymized data records are provided to the registrar. The trust unit holds data for only a 6-month processing period, after which all notifications in the trust unit are deleted or destroyed.

The registrar uses the control numbers to compare the anonymized data with the existing database. Using a probabilistic matching procedure, records of people or tumours are combined. The data are subsequently subjected to comprehensive plausibility checks, and staff at the trust office clarify any discrepancies with the reporting physician or tumour centre. The anonymous cancer database is permanently kept in the registry unit. The data are used for scientific studies, regular reports, and responding to relevant inquiries.

PUBLICATIONS

Haberland J, Bertz J, Wolf U, Ziese T, Kurth BM (2010). German cancer statistics 2004. BMC Cancer. 10(1):52. https://doi.org/10.1186/1471-2407-10-52 PMID:20175882

POPULATION AT RISK

The most recent separate censuses were conducted in 1981 in eastern Germany and in 1987 in western Germany (Table A.7). A census to be conducted in both western Germany and eastern Germany had been planned for 1991, but it was replaced by a micro census population sample of 1% of households. The 2011 census for the whole country was based on data stored in the registers of the administrative authorities, in municipal population registers, and in the Federal Employment Agency registers; this census was conducted by the Federal Statistical Office (https://www.destatis.de/EN/Home/_node.html). Population data were provided by the registries in the requested detail, unless otherwise specified below; some data were provided by federal or state statistical offices.



EDITORS' COMMENTS

The cancer data from Germany are included in the IICC-3 book in three standard incidence tables: one table for GCCR, a pooled table for the common registry of the six eastern states supplied in a single dataset (Berlin, Brandenburg, Mecklenburg-Vorpommern, Saxony-Anhalt, Saxony, and Thuringia), and a table for the combined data of five western registries (Bavaria, Rhineland-Palatinate, Saarland, Lower Saxony, and Schleswig-Holstein). The standard incidence tables for the individual western registries are available online (Table A.12). Of the included registries, only the registry of the six eastern states contributed to all three IICC volumes; GCCR contributed to IICC-2, and the Saarland Cancer Registry contributed to IICC-1 (Table A.1).

The strict system of privacy preservation is described above for the general cancer registries. Informed consent is required for registration in GCCR; thus, the completeness of registration can be ensured up to the level of compliance with the registration request. Most German registries were unable to provide full dates of birth and incidence (Table A.8).

German Childhood Cancer Registry, 1996–2012

Peter Kaatsch, Desiree Grabow, Claudia Spix

The German Childhood Cancer Registry (GCCR) was founded in 1980 by the Society for Paediatric Oncology and Haematology. The registry is located in the Institute of Medical Biostatistics, Epidemiology, and Informatics at the University Medical Centre in Mainz. In 1980–2008, information on all patients younger than 15 years was systematically collected; in 2009, the registry was expanded to cover patients aged up to 18 years.

GCCR initially covered only western Germany, including West Berlin, but since 1991 it has covered the entire national childhood population. The records of cases registered in eastern Germany (including East Berlin) before 1991 are not included in GCCR. Therefore, a subsequent tumour of a patient first diagnosed before age 15 years before 1991 in eastern Germany (or elsewhere outside of western Germany) would count as the first primary in GCCR.

GCCR is funded jointly by the Federal Ministry of Health and the 16 state ministries of health. The data sources include 80 specialized treatment centres, centralized therapy trials, and centralized reference laboratories for cytology.

Diagnoses are coded using ICD-O-3 (Table A.10), with additional codes for CNS tumours from ICD-O-3.1. Registration is more than 95% complete from 1987.

Follow-up information is provided soon after treatment by the treatment centres, after which GCCR performs active follow-up through population registries to ascertain the vital status of registered patients and through direct access to patients.

Registration is slightly incomplete for benign CNS tumours and adult-type carcinomas, because some of these patients are treated outside of paediatric oncology facilities. Thyroid carcinoma reporting was incomplete before 1997. The data are used for reporting and scientific studies (https://www.kinderkrebsregister.de/dkkr/ueber-uns/uebersicht.html).

POPULATION AT RISK

The source of the population data is the Federal Statistical Office (Statistisches Bundesamt, Wiesbaden). See also Germany, above.

EDITORS' COMMENTS

The years 1996–2012 selected for IICC-3 follow on from the period published for this registry in IICC-2 (Table A.1). Because registration during the reporting period focused on the age range 0–14 years, data for the age groups 15–19 years and 0–19 years are not shown in the tables. The rate of parental or patient consent to registration at diagnosis is more than 99%. The underestimation of cancer incidence may be the result of older patients receiving treatment outside of paediatric oncology units. The diagnoses affected by underregistration are mostly benign CNS tumours (treated in neurosurgery units), skin carcinoma, malignant melanoma, and germ cell carcinoma.

Although full dates are recorded in the registry, day of birth was not provided (Table A.8) because of data protection requirements. Death certificates were not available for ascertainment of cancer cases, because the registry does not have access to identified death certificates. Thus, a proportion of new cases may be missed. The MV% decreased during the reporting period, from almost 100% to about 95%, and the proportion of clinically diagnosed cases increased accordingly, which attests to the inclusion of a larger number of data sources for ascertainment of cancer cases. This trend was accompanied by an increase in the proportion of non-malignant CNS tumours registered.

Despite the possible underreporting suggested by the registry, the reported proportion of non-malignant CNS tumours is high (Table A.9) because of strong links with neurology clinics throughout the country and the systematic registration of all types of CNS tumours. Pilocytic astrocytoma was mostly coded with uncertain behaviour, although a few cases were coded with malignant behaviour. Skin carcinomas are systematically recorded in the age group 0–14 years, and no skin carcinomas are excluded; however, underregistration is possible if cases were treated outside the paediatric oncology network. Laterality was sufficiently complete for all diagnoses of interest to be included in the laterality tables. See also Germany, above.

GERMANY, paediatric (1996-2012)

	Age group (years)	Males	Females
Person-years	0	6 286 065	5 963 105
	1-4	25 945 271	24 616 512
	5-9	34 958 094	33 170 732
	10-14	37 661 887	35 725 756
	0-14	104 851 317	99 476 105
Average annual population	0-14	6 167 725	5 851 536

Please consult the quality indicators for this registry

GERMANY, paediatric (1996-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	505	4647	2945	2239	**10336**	33.6	100.0	41.2	91.9	43.2	30.5	**54.6**	779	100.0	0.0
	a. Lymphoid	202	3981	2425	1516	**8124**	26.4	78.6	16.5	78.7	35.6	20.7	**43.3**	614	100.0	0.0
	b. Acute myeloid	212	460	296	431	**1399**	4.5	13.5	17.3	9.1	4.3	5.9	**7.2**	105	100.0	0.0
	c. CMD	4	14	46	74	**138**	0.4	1.3	0.3	0.3	0.7	1.0	**0.6**	10	100.0	0.0
	d. MDS & other	69	180	154	191	**594**	1.9	5.7	5.6	3.6	2.3	2.6	**3.0**	44	100.0	0.0
	e. Unspecified	18	12	24	27	**81**	0.3	0.8	1.5	0.2	0.4	0.4	**0.4**	6	100.0	0.0
II	LYMPHOMA & RELATED	25	399	1134	1884	**3442**	11.2	100.0	2.0	7.9	16.6	25.7	**15.4**	245	100.0	0.0
	a. Hodgkin	0	66	332	1075	**1473**	4.8	42.8	-	1.3	4.9	14.6	**6.2**	103	100.0	0.0
	b. Non-Hodgkin except BL	16	197	486	584	**1283**	4.2	37.3	1.3	3.9	7.1	8.0	**5.9**	92	100.0	0.0
	c. Burkitt (BL)	1	132	312	221	**666**	2.2	19.3	0.1	2.6	4.6	3.0	**3.2**	49	100.0	0.0
	d. Lymphoreticular	8	3	3	3	**17**	0.1	0.5	0.7	0.1	0.0	0.0	**0.1**	1	100.0	0.0
	e. Unspecified	0	1	1	1	**3**	0.0	0.1	-	0.0	0.0	0.0	**0.0**	0	100.0	0.0
III	CNS NEOPLASMS †	512	2073	2478	2136	**7199**	23.4	100.0	41.8	41.0	36.4	29.1	**36.1**	533	85.9	0.0
	a. Ependymoma	116	307	136	146	**705**	2.3	9.8	9.5	6.1	2.0	2.0	**3.8**	54	100.0	0.0
	b. Astrocytoma	168	941	1198	1060	**3367**	10.9	46.8	13.7	18.6	17.6	14.4	**16.7**	248	88.5	0.0
	c. CNS embryonal	152	493	559	278	**1482**	4.8	20.6	12.4	9.8	8.2	3.8	**7.7**	111	100.0	0.0
	d. Other gliomas	25	120	235	180	**560**	1.8	7.8	2.0	2.4	3.4	2.5	**2.7**	41	25.9	0.0
	e. Other specified	35	184	315	435	**969**	3.1	13.5	2.9	3.6	4.6	5.9	**4.6**	70	87.7	0.0
	f. Unspecified CNS	16	28	35	37	**116**	0.4	1.6	1.3	0.6	0.5	0.5	**0.6**	9	20.7	0.0
IV	NEUROBLASTOMA	999	1074	193	64	**2330**	7.6	100.0	81.6	21.2	2.8	0.9	**13.9**	184	99.6	0.0
	a. (Ganglio)neuroblastoma	999	1068	190	57	**2314**	7.5	99.3	81.6	21.1	2.8	0.8	**13.9**	182	99.6	0.0
	b. Peripheral nervous	0	6	3	7	**16**	0.1	0.7	-	0.1	0.0	0.1	**0.1**	1	100.0	0.0
V	RETINOBLASTOMA	309	331	27	4	**671**	2.2	100.0	25.2	6.5	0.4	0.1	**4.1**	53	48.9	0.0
VI	RENAL TUMOURS	261	1004	370	83	**1718**	5.6	100.0	21.3	19.9	5.4	1.1	**9.9**	134	98.8	0.0
	a. Nephroblastoma	261	1001	360	55	**1677**	5.5	97.6	21.3	19.8	5.3	0.7	**9.7**	131	98.7	0.0
	b. Renal carcinoma	0	3	10	27	**40**	0.1	2.3	-	0.1	0.1	0.4	**0.2**	3	100.0	0.0
	c. Unspecified	0	0	0	1	**1**	0.0	0.1	-	-	-	0.0	**0.0**	0	100.0	0.0
VII	HEPATIC TUMOURS	100	173	38	50	**361**	1.2	100.0	8.2	3.4	0.6	0.7	**2.1**	28	100.0	0.0
	a. Hepatoblastoma	100	170	14	14	**298**	1.0	82.5	8.2	3.4	0.2	0.2	**1.8**	23	100.0	0.0
	b. Hepatic carcinoma	0	3	24	35	**62**	0.2	17.2	-	0.1	0.4	0.5	**0.3**	4	100.0	0.0
	c. Unspecified	0	0	0	1	**1**	0.0	0.3	-	-	-	0.0	**0.0**	0	100.0	0.0
VIII	BONE TUMOURS	8	84	354	906	**1352**	4.4	100.0	0.7	1.7	5.2	12.3	**5.8**	95	100.0	0.0
	a. Osteosarcoma	0	17	162	505	**684**	2.2	50.6	-	0.3	2.4	6.9	**2.9**	48	100.0	0.0
	b. Chondrosarcoma	0	1	4	17	**22**	0.1	1.6	-	0.0	0.1	0.2	**0.1**	2	100.0	0.0
	c. Ewing & related	8	63	181	367	**619**	2.0	45.8	0.7	1.2	2.7	5.0	**2.7**	44	100.0	0.0
	d. Other specified	0	3	6	11	**20**	0.1	1.5	-	0.1	0.1	0.1	**0.1**	1	100.0	0.0
	e. Unspecified	0	0	1	6	**7**	0.0	0.5	-	-	0.0	0.1	**0.0**	0	100.0	0.0
IX	SOFT TISSUE SARCOMA	195	545	492	592	**1824**	5.9	100.0	15.9	10.8	7.2	8.1	**9.2**	135	100.0	0.0
	a. Rhabdomyosarcoma	84	422	305	202	**1013**	3.3	55.5	6.9	8.3	4.5	2.8	**5.4**	76	100.0	0.0
	b. Fibrosarcoma	49	24	33	71	**177**	0.6	9.7	4.0	0.5	0.5	1.0	**0.9**	13	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	**1**	0.0	0.1	-	-	-	0.0	**0.0**	0	100.0	0.0
	d. Other specified	43	74	125	261	**503**	1.6	27.6	3.5	1.5	1.8	3.6	**2.3**	36	100.0	0.0
	e. Unspecified	19	25	29	57	**130**	0.4	7.1	1.6	0.5	0.4	0.8	**0.6**	10	100.0	0.0
X	GERM CELL TUMOURS	242	165	155	417	**979**	3.2	100.0	19.8	3.3	2.3	5.7	**4.9**	72	100.0	0.0
	a. CNS germ cell ‡	13	10	74	170	**267**	0.9	27.3	1.1	0.2	1.1	2.3	**1.2**	19	100.0	0.0
	b. Other extragonadal	174	83	5	21	**283**	0.9	28.9	14.2	1.6	0.1	0.3	**1.7**	22	100.0	0.0
	c. Gonadal germ cell	55	70	73	216	**414**	1.3	42.3	4.5	1.4	1.1	2.9	**2.0**	30	100.0	0.0
	d. Gonadal carcinoma	0	0	3	9	**12**	0.0	1.2	-	-	0.0	0.1	**0.0**	1	100.0	0.0
	e. Unspecified gonadal	0	2	0	1	**3**	0.0	0.3	-	0.0	-	0.0	**0.0**	0	100.0	0.0
XI	CARCINOMA & MELANOMA	11	46	114	350	**521**	1.7	100.0	0.9	0.9	1.7	4.8	**2.3**	37	99.2	0.0
	a. Adrenocortical	5	19	12	9	**45**	0.1	8.6	0.4	0.4	0.2	0.1	**0.2**	3	100.0	0.0
	b. Thyroid	2	9	54	172	**237**	0.8	45.5	0.2	0.2	0.8	2.3	**1.0**	17	100.0	0.0
	c. Nasopharyngeal	0	1	0	40	**41**	0.1	7.9	-	0.0	-	0.5	**0.2**	3	100.0	0.0
	d. Melanoma	4	15	20	32	**71**	0.2	13.6	0.3	0.3	0.3	0.4	**0.3**	5	94.4	0.0
	e. Skin carcinoma	0	0	5	7	**12**	0.0	2.3	-	-	0.1	0.1	**0.1**	1	100.0	0.0
	f. Other & unspecified	0	2	23	90	**115**	0.4	22.1	-	0.0	0.3	1.2	**0.5**	8	100.0	0.0
XII	OTHER & UNSPECIFIED	2	16	10	9	**37**	0.1	100.0	0.2	0.3	0.1	0.1	**0.2**	3	97.3	0.0
	a. Other specified	2	15	9	6	**32**	0.1	86.5	0.2	0.3	0.1	0.1	**0.2**	2	100.0	0.0
	b. Other unspecified	0	1	1	3	**5**	0.0	13.5	-	0.0	0.0	0.0	**0.0**	0	80.0	0.0
	TOTAL	3169	10557	8310	8734	**30770**	100.0	100.0	258.7	208.8	122.0	119.0	**158.5**	2298	95.5	0.0

† includes 2973 non-malignant ‡ includes 28 non-malignant

Please consult the quality indicators for this registry

Common Cancer Registry of the Federal States Berlin, Brandenburg, Mecklenburg-Vorpommern, Saxony-Anhalt and the Free States Saxony and Thuringia (6 eastern states), 2001–2007

Roland Stabenow

The combined territory covered by the federal states Berlin, Brandenburg, Mecklenburg-Vorpommern, Saxony-Anhalt, and the Free States Saxony and Thuringia corresponds to that of the former German Democratic Republic, which ceased to exist in 1990 upon the reunification of Germany. The region covers an area of 108 000 km^2 and is bordered by the Baltic Sea to the north, Poland to the east, and the Czech Republic to the south-east. Compared with the rest of Germany, the combined six states lag behind in terms of industry, average income, and productivity, with only education keeping the pace. In 2010, the population was 16.3 million, and 17% of the population was younger than 20 years (Table A.6). The proportion of immigrants (<10%) is lower than in some other regions, where it may be more than 20%.

Until 1989, the former German Democratic Republic was covered by a national cancer registry, which was established in 1953 (Table A.10) and was sustained by mandatory notification of cancer. The registry was an integral part of a network of medical and social services for patients with cancer provided or coordinated by the Cancer Control Agency. After the reunification of Germany in 1990, the six states were constituted on the territory of the former German Democratic Republic. Concurrently, the statutory reporting requirement was waived, which resulted in a significant drop in reporting. To alleviate this situation, the six states decided to continue registration as a Joint Cancer Registry (GKR) and to include the western part of Berlin in the covered area. A treaty was validated in 1999 between the federal states participating in GKR, and cancer registration was enforced as state law. Thus, the activities of GKR have been secured for the long term since 2000, and the registry became the largest epidemiological cancer registry in Germany.

In concordance with the cancer registration law, new cases can be reported to GKR directly or through a clinical centre. Such channelling of notifications helps to reduce strain on the reporting physicians and to avoid multiple notifications of a case. Cancer cases are reported by 30 regional tumour centres (> 90% of reports), clinical cancer registries, aftercare centres, and oncological surveillance units.

GKR was based in Berlin until its dissolution at the end of 2022. It was a non-statutory institution under public law and was administered by the Senate Department for Health, Care, and Equality in Berlin. Each state had a representative on the management committee, which ensured their participation in the operation of the registry. GKR periodically published reports on cancer incidence and mortality and participated in national and international research.

POPULATION AT RISK

Population data were provided by sex and 5-year age groups by the Federal Statistical Office. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The data used in IICC-3 were extracted at IARC from the submission to CI5 Volume X, in agreement with the registry. The registry was unable to supply data for other years (because of the data protection law) or to assist with data validation. The low proportion of children aged 0–14 years within the age group 0–19 years (Table A.9) probably reflects the low proportion of children in the underlying population (Table A.6). Day of birth and day of incidence were not provided (Table A.8); this may have affected the age-specific rates. Non-malignant CNS tumours were not provided (Table A.9), and there are no cases of pilocytic astrocytoma in the dataset; thus, the incidence rates for the relevant tumour groups and overall are lower than those for registries in which these cases are included. Laterality was complete for 80% of the cases of interest. See also Germany, above.

GERMANY, 6 Eastern states (2001-2007)

	Age group (years)	Males	Females
Person-years	0	430 961	409 543
	1-4	1 821 165	1 732 011
	5-9	2 056 697	1 950 762
	10-14	2 620 011	2 480 665
	15-19	3 889 902	3 648 310
	0-14	6 928 834	6 572 981
	0-19	10 818 736	10 221 291
Average annual population	0-14	989 833	938 997
	0-19	1 545 534	1 460 184

Please consult the quality indicators for this registry

GERMANY, 6 Eastern states (2001-2007)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	45	291	151	145	184	632	816	34.4	100.0	25.3	100.0	53.5	81.9	37.7	28.4	24.4	50.0	44.3	713	835	96.3	3.2
	a. Lymphoid	24	253	121	102	110	500	610	27.2	79.1	18.9	74.8	28.6	71.2	30.2	20.0	14.6	40.0	34.2	566	639	97.4	2.1
	b. Acute myeloid	20	30	21	36	49	107	156	5.8	16.9	4.8	19.1	23.8	8.4	5.2	7.1	6.5	8.1	7.8	118	151	96.2	3.2
	c. CMD	0	0	3	4	13	7	20	0.4	1.1	0.6	2.5	-	-	0.7	0.8	1.7	0.5	0.8	8	16	95.0	5.0
	d. MDS & other	0	4	2	0	0	6	6	0.3	0.9	0.2	0.7	-	1.1	0.5	-	-	0.5	0.4	7	7	100.0	0.0
	e. Unspecified	1	4	4	3	12	12	24	0.7	1.9	0.7	2.9	1.2	1.1	1.0	0.6	1.6	0.9	1.1	14	22	70.8	29.2
II	LYMPHOMA & RELATED	7	30	59	119	370	215	585	11.7	100.0	18.1	100.0	8.3	8.4	14.7	23.3	49.1	14.8	22.5	232	478	97.9	1.2
	a. Hodgkin	0	4	15	81	258	100	358	5.4	46.5	11.1	61.2	-	1.1	3.7	15.9	34.2	6.2	12.5	103	274	99.2	0.0
	b. Non-Hodgkin except BL	4	13	29	30	98	76	174	4.1	35.3	5.4	29.7	4.8	3.7	7.2	5.9	13.0	5.5	7.2	85	150	98.3	0.6
	c. Burkitt (BL)	0	9	12	6	5	27	32	1.5	12.6	1.0	5.5	-	2.5	3.0	1.2	0.7	2.1	1.8	31	34	100.0	0.0
	d. Lymphoreticular	2	0	0	0	5	2	7	0.1	0.9	0.2	1.2	2.4	-	-	-	0.7	0.2	0.3	2	6	100.0	0.0
	e. Unspecified	1	4	3	2	4	10	14	0.5	4.7	0.4	2.4	1.2	1.1	0.7	0.4	0.5	0.8	0.7	11	14	57.1	42.9
III	CNS NEOPLASMS	30	79	99	87	111	295	406	16.0	100.0	12.6	100.0	35.7	22.2	24.7	17.1	14.7	22.5	20.8	333	406	90.1	4.9
	a. Ependymoma	4	19	3	11	14	37	51	2.0	12.5	1.6	12.6	4.8	5.3	0.7	2.2	1.9	2.9	2.7	41	50	100.0	0.0
	b. Astrocytoma	9	16	36	28	47	89	136	4.8	30.2	4.2	33.5	10.7	4.5	9.0	5.5	6.2	6.7	6.6	101	132	98.5	0.0
	c. CNS embryonal	9	23	38	17	21	87	108	4.7	29.5	3.3	26.6	10.7	6.5	9.5	3.3	2.8	6.8	5.9	100	114	100.0	0.0
	d. Other gliomas	2	9	13	15	14	39	53	2.1	13.2	1.6	13.1	2.4	2.5	3.2	2.9	1.9	2.9	2.6	43	53	96.2	0.0
	e. Other specified	0	3	2	2	8	7	15	0.4	2.4	0.5	3.7	-	0.8	0.5	0.4	1.1	0.5	0.7	8	13	100.0	0.0
	f. Unspecified CNS	6	9	7	14	7	36	43	2.0	12.2	1.3	10.6	7.1	2.5	1.7	2.7	0.9	2.7	2.3	40	44	16.3	46.5
IV	NEUROBLASTOMA	50	69	10	3	6	132	138	7.2	100.0	4.3	100.0	59.5	19.4	2.5	0.6	0.8	11.5	9.1	151	155	97.1	0.0
	a. (Ganglio)neuroblastoma	50	67	9	3	2	129	131	7.0	97.7	4.1	94.9	59.5	18.9	2.2	0.6	0.3	11.2	8.7	147	149	96.9	0.0
	b. Peripheral nervous	0	2	1	0	4	3	7	0.2	2.3	0.2	5.1	-	0.6	0.2	-	0.5	0.3	0.3	4	6	100.0	0.0
V	RETINOBLASTOMA	16	21	1	2	1	40	41	2.2	100.0	1.3	100.0	19.0	5.9	0.2	0.4	0.1	3.5	2.7	45	46	85.4	0.0
VI	RENAL TUMOURS	19	64	33	7	13	123	136	6.7	100.0	4.2	100.0	22.6	18.0	8.2	1.4	1.7	10.4	8.4	142	151	80.1	1.5
	a. Nephroblastoma	18	63	32	5	4	118	122	6.4	95.9	3.8	89.7	21.4	17.7	8.0	1.0	0.5	10.0	7.9	137	140	80.3	0.0
	b. Renal carcinoma	1	0	1	1	8	3	11	0.2	2.4	0.3	8.1	1.2	-	0.2	0.2	1.1	0.2	0.4	3	9	100.0	0.0
	c. Unspecified	0	1	0	1	1	2	3	0.1	1.6	0.1	2.2	-	0.3	-	0.2	0.1	0.1	0.1	2	3	0.0	66.7
VII	HEPATIC TUMOURS	9	8	3	2	6	22	28	1.2	100.0	0.9	100.0	10.7	2.3	0.7	0.4	0.8	1.9	1.6	25	29	82.1	10.7
	a. Hepatoblastoma	8	7	2	0	1	17	18	0.9	77.3	0.6	64.3	9.5	2.0	0.5	-	0.1	1.5	1.2	20	20	88.9	5.6
	b. Hepatic carcinoma	0	1	1	2	4	4	8	0.2	18.2	0.2	28.6	-	0.3	0.2	0.4	0.5	0.3	0.3	4	7	87.5	12.5
	c. Unspecified	1	0	0	0	1	1	2	0.1	4.5	0.1	7.1	1.2	-	-	-	0.1	0.1	0.1	1	2	0.0	50.0
VIII	BONE TUMOURS	1	11	26	85	112	123	235	6.7	100.0	7.3	100.0	1.2	3.1	6.5	16.7	14.9	8.0	9.5	129	204	97.9	1.7
	a. Osteosarcoma	0	2	11	44	57	57	114	3.1	46.3	3.5	48.5	-	0.6	2.7	8.6	7.6	3.6	4.5	59	97	100.0	0.0
	b. Chondrosarcoma	0	1	0	6	5	7	12	0.4	5.7	0.4	5.1	-	0.3	-	1.2	0.7	0.4	0.5	7	10	100.0	0.0
	c. Ewing & related	1	6	13	31	44	51	95	2.8	41.5	2.9	40.4	1.2	1.7	3.2	6.1	5.8	3.4	4.0	55	84	100.0	0.0
	d. Other specified	0	2	0	1	2	3	5	0.2	2.4	0.2	2.1	-	0.6	-	0.2	0.3	0.2	0.2	3	5	100.0	0.0
	e. Unspecified	0	0	2	3	4	5	9	0.3	4.1	0.3	3.8	-	-	0.5	0.6	0.5	0.3	0.4	5	8	44.4	44.4
IX	SOFT TISSUE SARCOMA	16	32	25	37	88	110	198	6.0	100.0	6.1	100.0	19.0	9.0	6.2	7.3	11.7	8.3	9.1	122	180	99.5	0.0
	a. Rhabdomyosarcoma	4	24	16	18	24	62	86	3.4	56.4	2.7	43.4	4.8	6.8	4.0	3.5	3.2	4.8	4.4	69	85	100.0	0.0
	b. Fibrosarcoma	3	1	3	4	8	11	19	0.6	10.0	0.6	9.6	3.6	0.3	0.7	0.8	1.1	0.8	0.9	12	18	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	6	4	5	12	51	27	78	1.5	24.5	2.4	39.4	7.1	1.1	1.2	2.4	6.8	2.0	3.0	29	63	98.7	0.0
	e. Unspecified	3	3	1	3	5	10	15	0.5	9.1	0.5	7.6	3.6	0.8	0.2	0.6	0.7	0.8	0.8	11	14	100.0	0.0
X	GERM CELL TUMOURS	16	8	2	19	216	45	261	2.4	100.0	8.1	100.0	19.0	2.3	0.5	3.7	28.7	3.4	9.0	48	192	97.7	0.8
	a. CNS germ cell	0	0	2	9	11	11	22	0.6	24.4	0.7	8.4	-	-	0.5	1.8	1.5	0.7	0.9	11	19	95.5	0.0
	b. Other extragonadal	10	4	0	0	5	14	19	0.8	31.1	0.6	7.3	11.9	1.1	-	-	0.7	1.2	1.1	16	19	100.0	0.0
	c. Gonadal germ cell	6	4	0	10	179	20	199	1.1	44.4	6.2	76.2	7.1	1.1	-	2.0	23.7	1.5	6.5	21	140	99.0	0.0
	d. Gonadal carcinoma	0	0	0	0	12	0	12	-	-	0.4	4.6	-	-	-	-	1.6	-	0.4	-	8	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	9	0	9	-	-	0.3	3.4	-	-	-	-	1.2	-	0.3	-	6	66.7	22.2
XI	CARCINOMA & MELANOMA	3	4	13	53	269	73	342	4.0	100.0	10.6	100.0	3.6	1.1	3.2	10.4	35.7	4.7	11.7	76	255	99.7	0.0
	a. Adrenocortical	1	2	2	1	1	6	7	0.3	8.2	0.2	2.0	1.2	0.6	0.5	0.2	0.1	0.5	0.4	7	8	100.0	0.0
	b. Thyroid	0	2	4	25	85	31	116	1.7	42.5	3.6	33.9	-	0.6	1.0	4.9	11.3	1.9	4.0	32	88	100.0	0.0
	c. Nasopharyngeal	0	0	0	3	4	3	7	0.2	4.1	0.2	2.0	-	-	-	0.6	0.5	0.2	0.3	3	6	100.0	0.0
	d. Melanoma	2	0	4	4	71	10	81	0.5	13.7	2.5	23.7	2.4	-	1.0	0.8	9.4	0.7	2.7	11	58	100.0	0.0
	e. Skin carcinoma	0	0	2	1	25	3	28	0.2	4.1	0.9	8.2	-	-	0.5	0.2	3.3	0.2	0.9	3	20	100.0	0.0
	f. Other & unspecified	0	0	1	19	83	20	103	1.1	27.4	3.2	30.1	-	-	0.2	3.7	11.0	1.2	3.4	20	75	99.0	0.0
XII	OTHER & UNSPECIFIED	14	5	5	5	15	29	44	1.6	100.0	1.4	100.0	16.7	1.4	1.2	1.0	2.0	2.4	2.3	33	43	34.1	47.7
	a. Other specified	0	0	2	1	6	3	9	0.2	10.3	0.3	20.5	-	-	0.5	0.2	0.8	0.2	0.3	3	7	100.0	0.0
	b. Other unspecified	14	5	3	4	9	26	35	1.4	89.7	1.1	79.5	16.7	1.4	0.7	0.8	1.2	2.1	1.9	29	35	17.1	60.0
	TOTAL	226	622	427	564	1391	1839	3230	100.0	100.0	100.0	100.0	268.9	175.1	106.6	110.6	184.5	141.2	150.9	2051	2973	94.9	2.6

Please consult the quality indicators for this registry

GERMANY, 6 Eastern states (2001-2007)

Registry	Period	Cases	%	Person-years	%
Berlin	2001-2007	704	21.8	4 196 909	19.9
Brandenburg	2001-2007	566	17.5	3 335 147	15.9
Mecklenburg	2001-2007	312	9.7	2 279 737	10.8
Saxony	2001-2007	802	24.8	5 203 200	24.7
Saxony-Anhalt	2001-2007	478	14.8	3 096 658	14.7
Thüringen	2001-2007	368	11.4	2 928 376	13.9
GERMANY	**2001-2007**	**3230**	**100.0**	**21 040 027**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

GERMANY, 5 Western registries (1994-2012)

Registry	Period	Cases	%	Person-years	%
Bavaria	2002-2012	4695	40.9	27 913 471	40.9
Lower Saxony	2003-2012	2726	23.7	16 444 446	24.1
Rhineland-Palatinate	1998-2012	2079	18.1	12 555 083	18.4
Saarland	1994-2012	659	5.7	3 846 375	5.6
Schleswig-Holstein	2000-2012	1321	11.5	7 470 147	10.9
GERMANY	**1994-2012**	**11480**	**100.0**	**68 229 522**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Bavarian Cancer Registry, 2002–2012

Martin Meyer

Bavaria is one of the 16 federal states of Germany. It is located in south-eastern Germany and is bordered by the Czech Republic to the east and Austria to the south. Bavaria has both rural areas and urban environments and has several big cities, including the capital city of Munich. The population was 12.5 million, and 20% of the population was younger than 20 years (Table A.6). Five university hospitals and more than 300 other hospitals provide high-level health care for the entire population. There are 17 hospitals with facilities for specialist paediatric and adolescent oncology diagnostic and treatment services.

The population-based Bavarian Cancer Registry is funded by the Bavarian State Ministry of Health and Care.

Cancer is notified by all physicians and hospitals in Bavaria, and death certificates are also ascertained for new cancer cases. Information on childhood cancer cases is collected from these same sources and from GCCR.

Staff members at six regional cancer registry sites in Bavaria collect the individual data on cancer cases reported by physicians, check the data for completeness and consistency, and evaluate therapy progress and long-term outcomes to facilitate quality assurance of the reporting sites. The epidemiological portion of the collected data is submitted at regular intervals to the central Bavarian Cancer Registry.

Cancers are coded to ICD-10 and ICD-O-3 topography for all cases in the registry, but only histologically verified cancer cases are coded to ICD-O-3 morphology (Table A.10). TNM is also recorded.

The completeness of registration is at least 94% since 2003; this is checked annually by the Robert Koch Institute. The completeness is estimated by applying the incidence-to-mortality ratio to each of the federal states.

The collected data are used for epidemiological studies and public health surveillance. Registry tasks include monitoring trends over time, analysing the regional distribution of cancers, and providing information for health services planning and epidemiological research.

The registry helps to monitor and assess the effectiveness of preventive and treatment measures.

POPULATION AT RISK

The population data are provided by the Statistical Office of the Federal State of Bavaria and are updated annually with information on births, deaths, and migration. The decimal portions of the estimated counts provided for some sex and age categories were rounded to the nearest integer at IARC (Table A.8). See also Germany, above.

EDITORS' COMMENTS

Although the registry started in 1998 (Table A.10), only the data for 2002–2012 were deemed to be of sufficient quality for submission to IICC-3. For data protection reasons, the registry is not permitted to collect exact dates of birth and diagnosis (Table A.8); as a result, age is calculated based on month and year, with day of diagnosis coded to 15. Thus, age-specific rates may be affected.

The registry collects CNS tumours with uncertain behaviour, and pilocytic astrocytoma was coded with uncertain behaviour. Registration of benign CNS tumours started in 2017. Skin carcinomas are registered, although they may have been underreported in the early years of the reporting period. Laterality was complete for 91% of the cases of interest. See also Germany, above.

Epidemiological Cancer Registry of Lower Saxony, 2003–2012

Joachim Kieschke, Eunice Sirri

Lower Saxony is located in north-western Germany. It is the second largest federal state and covers an area of 47 641 km^2. It is bordered by nine other German states, as well as the Netherlands to the west and the North Sea to the north. The population is 7.9 million, and 20% of the population is younger than 20 years (Table A.6). Most of the population is of northern European descent, with about 5.7% foreign nationals.

Cancer care facilities are incorporated into the general health-care system. Private practitioners and hospitals provide health care. In 2012, there were 198 hospitals with more than 42 000 beds, 91 certified oncology centres with about 130 oncologists, and six cancer aftercare facilities in the registration area. Childhood and adult cancer care are all integrated within the same oncological facilities. The entire population is covered by either public or private health insurance.

Since 2000, the Epidemiological Cancer Registry of Lower Saxony has operated under the law funded by the State Ministry of Social Affairs, Health, and Equality. Complete coverage of the registration area was achieved in 2003. Cancer cases in patients of all ages were voluntarily notified by physicians, based on an informed consent model, until the end of 2012. In 2013, notification became compulsory. Notification from pathologists has always been compulsory. Cancer registration is based on multiple data sources, to ensure completeness and quality. These sources include hospital departments (especially pathology departments), general practitioners, and death certificates. After the initial notification, clinical information is abstracted from case notes and anonymized in the trust unit of the registry. Data are further processed and stored in the registry database for statistical analysis and cancer research.

Follow-up of patients is largely passive. The registry database is routinely linked with all death certificates from the regional governmental health departments, with mortality and migration data from the regional population registry, and with cause-of-death information from the regional statistical office. Cases initially identified by a death certificate are traced back to document additional relevant clinical data.

The registry regularly prepares reports of cancer incidence, mortality, and survival, and has an interactive database (https://www.krebsregister-niedersachsen.de/). It provides information to assist public health officials in planning for cancer prevention and care. Staff engage in evaluating breast cancer screening, perform cancer care research, and participate in national and international projects.

POPULATION AT RISK

The source of the population data is the State Office for Statistics of Lower Saxony (https://www.statistik.niedersachsen.de/), making allowances for births, deaths, and migration. See also Germany, above.

EDITORS' COMMENTS

Although the registry started in 2000 (Table A.10), only the data for 2003–2012 were deemed to be sufficiently complete for submission to IICC-3. For data protection reasons, the registry is not permitted to collect exact dates of birth and diagnosis (Table A.8), and age is calculated using imprecise dates. Thus, age-specific rates may be affected. Non-malignant CNS tumours and pilocytic astrocytoma were not registered during the reporting period. Therefore, reported incidence rates are underestimated for diagnostic categories III and Xa and the total. Skin carcinomas are reportable, but according to the registry their registration may represent less than 90% of the true incidence. Laterality was complete. See also Germany, above.

Rhineland-Palatinate Cancer Registry, 1998–2012

Sylke Zeißig, Katharina Emrich

The federal state of Rhineland-Palatinate is located in south-western Germany and covers an area of 19 847 km^2. It has a population density of 204 per km^2. In 2010, the population was 4 million, and 19% of the population was younger than 20 years (Table A.6). Most of the population (75%) lives in primarily rural areas. The population is predominantly White and Christian. Foreign nationals constitute 7.7% of the population.

Cancer diagnosis and treatment are conducted by resident physicians in about 100 hospitals, one of which is the University Medical Centre in Mainz. An increasing number of tumour centres that specialize in diagnosis, research, and treatment of certain cancer types (Organtumorzentren) offer highly specialized medical care to patients with cancer. There are five centres for children with cancer in Rhineland-Palatinate. However, because of strong centralization of treatment by cancer type, a proportion of children with cancer living in Rhineland-Palatinate are treated in other federal states.

The Rhineland-Palatinate Cancer Registry was officially established 1998. The legal framework was set by federal law in 1999, and notification has been compulsory since 2000. Patients must be informed about the registry, and they have the right to withhold the notification of their disease or to withdraw from the registry. The registry is funded by the Federal Ministry of Health. The registry has 4.5 full-time equivalent scientist positions and 6.5 full-time equivalent data manager positions.

GCCR is an important source of data on childhood cancer cases. Other data sources are hospitals, resident physicians, and pathologists. Data collection is passive, through paper or electronic notification, and follow-up for vital status and migration is passive, through the population registry. Cases are coded to ICD-10, ICD-O-3, and TNM-7.

The estimated completeness of registration for all cancers was 93% in 2008.

POPULATION AT RISK

Data were provided by sex and 5-year age groups for each calendar year. These are intercensal estimates generated by the Federal Statistical Office. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Germany, above.

EDITORS' COMMENTS

For data protection reasons, the registry is not permitted to store exact dates of birth and diagnosis (Table A.8), and age is calculated based on only month and year. Thus, age-specific rates may be affected. Sex was unknown in 0.1% of all cases (Table A.8).

The registry was unable to supply information on basis of diagnosis for 4.7% of cases (Table A.9). In many instances, information on these cases was obtained by data exchange with other cancer registries, and the basis of diagnosis could not be retrieved. The reported proportion of non-malignant CNS tumours was high, presumably because of systematic registration of all types of CNS tumours. Pilocytic astrocytoma was coded with behaviour according to the ICD-O edition in use (Table A.10) and converted to uncertain behaviour during the implementation of ICD-O-3. Registration of skin carcinomas is considered complete. Laterality was complete for nephroblastoma. See also Germany, above.

Saarland Cancer Registry, 1994–2012

Bernd Holleczek

The federal state of Saarland is located in south-western Germany and is bordered by France and Luxembourg. Saarland is the second smallest state in Germany. The administrative structure consists of five counties and one metropolitan area, comprising 52 communities. In 2010, the population of Saarland was 1 million, and 18% of the population was younger than 20 years (Table A.6). The economically active population (47.8% of the total) is employed in production industries (29%), distribution, transportation and communications (25%), and other sectors (46%).

Cancer treatment is conducted by both state hospitals and physicians in private practice. In 2009, there were 21 hospitals with a capacity of 6689 beds, including one university hospital in Homburg. Regional hospitals dedicate considerable personnel and funds to cancer treatment. A small number of private oncology practices provide diagnostic and aftercare facilities. There are a total of 201 hospital beds for paediatric care. The university hospital provides facilities for paediatric oncology and haematology. In addition, there are four radiotherapy units and eight pathology departments, one of which specializes in neuropathology. Recently, several specialized units for cancer care have opened.

The Saarland Cancer Registry started in 1968 (Table A.10) and covers the population of the federal state of Saarland. All invasive malignant and in situ cancers and neoplasms of uncertain or unknown behaviour are registered. Cancer reporting by all physicians is mandated by state law. Data sources are pathology laboratories, hospitals, radiotherapy departments, outpatient clinics, and general practitioners. The completeness of case ascertainment is regularly estimated to be at least 95%. Other data sources are death certificates from local health authorities and the state statistical office. Trace-back activities are conducted for cases first notified from death certificates. The IACR/IARC rules for multiple primary tumours are used. The registry also uses data from the centralized population registry for follow up of cancer cases. The registry conducts descriptive and analytical epidemiological studies, independently and in national and international collaborative projects.

POPULATION AT RISK

Data were provided by sex and 5-year age groups for each calendar year. The estimates, which are based on the census and annual information on births, deaths, and migration, are provided by the State Statistical Office. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also Germany, above.

EDITORS' COMMENTS

Although the registry provided data for 1990–2012, the first 4 years were not included because they had a high proportion of NOS and MV cases, which suggested underreporting and suboptimal accuracy. For the included period, day of incidence was considered imprecise in 21% of the cases (Table A.8). In the age group 15–19 years, 40% more cancers were reported for males than for females. Historically, non-malignant CNS tumours were not routinely registered, although some were reported and are included in the database (Table A.9). Pilocytic astrocytoma was coded with malignant behaviour until 2002 and with uncertain behaviour thereafter, according to the ICD-O edition in use (Table A.10). Skin carcinomas are registered, but they were not included in the submitted data. Laterality was complete for 39% of the cases of interest. See also Germany, above.

Schleswig-Holstein Cancer Registry, 2000–2012

Alexander Katalinic, Miriam Holzmann

Schleswig-Holstein is the northernmost federal state of Germany; it is bordered by the North Sea, the Baltic Sea, and Denmark to the north. It covers an area of 15 799 km^2 (4.4% of the whole country). Schleswig-Holstein has a temperate, seasonal maritime climate in which humid westerly winds predominate. It is located in the North German lowlands. The population is almost 2.8 million (3.5% of the national population), and 19% of the population is younger than 20 years (Table A.6). The predominant ethnic group is White. The population density is 179 per km^2, which is less than the national average. About 35% of the population lives in rural areas. Tourism and agriculture are the main sectors of the economy.

Medical care is provided by a tertiary health-care system (private practice, regional and statewide hospitals) embedded in a statutory health insurance system. About 3000 physicians, 280 hospital departments, and 15 pathologists are involved in cancer care. About 90% of citizens have national health insurance, and 10% have private health insurance. Children with cancer are treated mainly in two university hospitals, located in Kiel and Lübeck. Some children receive treatment at the University Hospital of Hamburg.

Cancer registration started in 1997 and is regulated by a federal law that requires mandatory notification by all physicians. The registry is funded by the state government. The registry has access to all death certificates in electronic format. Registration and quality control are performed according to IACR/ENCR guidelines.

Tumours are coded according to ICD-O-3 and ICD-10 (Table A.10). Completeness is more than 90%, as estimated by the National Centre for Cancer Registry Data located at the Robert Koch Institute. Patients are followed up by record linkage to death certificates from the health offices. Currently, other clinical data (relapse, progression) are not followed up. The data are used for health reporting, health monitoring, and health-care research. Reports, results, data, and an interactive cancer atlas are available online (https://www.krebsregister-sh.de/).

POPULATION AT RISK

The data are population projections provided by the Federal Statistical Office based on the census conducted in 1987. See also Germany, above.

EDITORS' COMMENTS

Although the registry started in 1998 (Table A.10), data for 1998 and 1999 were excluded at the suggestion of the registry because of low incidence rates and a high DCO%. Day of incidence is not collected (Table A.8) because of the data protection law, and the unknown month of incidence is coded to July. Age was calculated as the difference between date of diagnosis and date of birth, with day of diagnosis coded to 15; this may have affected the reported age-specific incidence rates.

The registry was unable to supply information on basis of diagnosis for 2.2% of cases (Table A.9), because most of these cases were notified from other German cancer registries and their original records were unavailable. Non-malignant CNS tumours have been systematically registered since 2006, and some earlier cases were registered retrospectively. Therefore, reported incidence rates are likely to be underestimated for diagnostic categories III and Xa and the total. Pilocytic astrocytoma was originally coded with malignant behaviour. In 2004, pilocytic astrocytoma was recoded with uncertain behaviour in accordance with the implementation of ICD-O-3. Laterality was complete only for testicular tumours; all were unilateral. Malignant carcinoid tumours of the appendix constituted 1.3% of the total dataset (Table A.11). See also Germany, above.

GERMANY, 5 Western registries (1994-2012)

	Age group (years)	Males	Females
Person-years	0	1 461 834	1 386 271
	1-4	6 160 257	5 842 178
	5-9	8 501 326	8 072 856
	10-14	9 295 544	8 818 752
	15-19	9 586 973	9 103 531
	0-14	25 418 961	24 120 057
	0-19	35 005 934	33 223 588

Please consult the quality indicators for this pool and its constituent registries

GERMANY, 5 Western registries (1994-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	122	1033	684	589	553	**2428**	**2981**	32.5	100.0	26.0	100.0	42.8	86.1	41.3	32.5	29.6	**52.9**	**47.6**	758	906	91.8	2.5
	a. Lymphoid	49	873	562	382	291	**1866**	**2157**	25.0	76.9	18.8	72.4	17.2	72.7	33.9	21.1	15.6	**41.1**	**35.4**	585	663	92.2	1.6
	b. Acute myeloid	47	107	69	99	132	**322**	**454**	4.3	13.3	4.0	15.2	16.5	8.9	4.2	5.5	7.1	**6.9**	**7.0**	100	135	92.1	3.3
	c. CMD	2	3	11	23	66	**39**	**105**	0.5	1.6	0.9	3.5	0.7	0.2	0.7	1.3	3.5	**0.7**	**1.3**	11	29	93.3	3.8
	d. MDS & other	18	40	32	70	47	**160**	**207**	2.1	6.6	1.8	6.9	6.3	3.3	1.9	3.9	2.5	**3.3**	**3.1**	49	61	94.7	1.9
	e. Unspecified	6	10	10	15	17	**41**	**58**	0.5	1.7	0.5	1.9	2.1	0.8	0.6	0.8	0.9	**0.9**	**0.9**	13	17	65.5	27.6
II	**LYMPHOMA & RELATED**	16	102	298	496	942	**912**	**1854**	12.2	100.0	16.1	100.0	5.6	8.5	18.0	27.4	50.4	**16.8**	**24.4**	267	519	97.1	0.9
	a. Hodgkin	0	14	82	270	645	**366**	**1011**	4.9	40.1	8.8	54.5	-	1.2	4.9	14.9	34.5	**6.3**	**12.6**	104	277	98.7	0.0
	b. Non-Hodgkin except BL	4	48	127	141	228	**320**	**548**	4.3	35.1	4.8	29.6	1.4	4.0	7.7	7.8	12.2	**6.1**	**7.5**	95	156	95.4	2.4
	c. Burkitt (BL)	1	23	71	61	42	**156**	**198**	2.1	17.1	1.7	10.7	0.4	1.9	4.3	3.4	2.2	**3.0**	**2.8**	46	58	96.5	0.5
	d. Lymphoreticular	10	16	15	16	17	**57**	**74**	0.8	6.3	0.6	4.0	3.5	1.3	0.9	0.9	0.9	**1.2**	**1.2**	18	22	95.9	0.0
	e. Unspecified	1	1	3	8	10	**13**	**23**	0.2	1.4	0.2	1.2	0.4	0.1	0.2	0.4	0.5	**0.2**	**0.3**	4	6	73.9	8.7
III	**CNS NEOPLASMS** †	102	473	495	483	421	**1553**	**1974**	20.8	100.0	17.2	100.0	35.8	39.4	29.9	26.7	22.5	**32.4**	**30.1**	476	589	83.7	3.1
	a. Ependymoma	18	88	39	35	27	**180**	**207**	2.4	11.6	1.8	10.5	6.3	7.3	2.4	1.9	1.4	**4.1**	**3.5**	57	64	98.1	0.0
	b. Astrocytoma	20	178	195	252	213	**645**	**858**	8.6	41.5	7.5	43.5	7.0	14.8	11.8	13.9	11.4	**13.0**	**12.6**	195	252	89.0	1.7
	c. CNS embryonal	35	112	126	60	40	**333**	**373**	4.5	21.4	3.2	18.9	12.3	9.3	7.6	3.3	2.1	**7.2**	**6.1**	104	115	95.4	0.8
	d. Other gliomas	11	37	73	49	32	**170**	**202**	2.3	10.9	1.8	10.2	3.9	3.1	4.4	2.7	1.7	**3.5**	**3.1**	52	60	56.9	1.0
	e. Other specified	5	34	37	58	87	**134**	**221**	1.8	8.6	1.9	11.2	1.8	2.8	2.2	3.2	4.7	**2.7**	**3.1**	40	64	89.6	0.0
	f. Unspecified CNS	13	24	25	29	22	**91**	**113**	1.2	5.9	1.0	5.7	4.6	2.0	1.5	1.6	1.2	**1.9**	**1.7**	28	34	14.2	36.3
IV	**NEUROBLASTOMA**	213	213	50	22	14	**498**	**512**	6.7	100.0	4.5	100.0	74.8	17.7	3.0	1.2	0.7	**12.4**	**9.8**	165	168	88.7	1.8
	a. (Ganglio)neuroblastoma	213	209	48	18	3	**488**	**491**	6.5	98.0	4.3	95.9	74.8	17.4	2.9	1.0	0.2	**12.2**	**9.5**	162	162	88.4	1.8
	b. Peripheral nervous	0	4	2	4	11	**10**	**21**	0.1	2.0	0.2	4.1	-	0.3	0.1	0.2	0.6	**0.2**	**0.3**	3	6	95.2	0.0
V	**RETINOBLASTOMA**	54	83	9	1	0	**147**	**147**	2.0	100.0	1.3	100.0	19.0	6.9	0.5	0.1	-	**3.8**	**2.9**	49	49	63.9	0.0
VI	**RENAL TUMOURS**	59	219	80	22	17	**380**	**397**	5.1	100.0	3.5	100.0	20.7	18.2	4.8	1.2	0.9	**9.2**	**7.3**	124	128	79.6	1.3
	a. Nephroblastoma	58	216	75	15	3	**364**	**367**	4.9	95.8	3.2	92.4	20.4	18.0	4.5	0.8	0.2	**8.8**	**6.9**	119	120	79.0	1.1
	b. Renal carcinoma	0	1	4	7	14	**12**	**26**	0.2	3.2	0.2	6.5	-	0.1	0.2	0.4	0.7	**0.2**	**0.3**	3	7	100.0	0.0
	c. Unspecified	1	2	1	0	0	**4**	**4**	0.1	1.1	0.0	1.0	0.4	0.2	0.1	-	-	**0.1**	**0.1**	1	1	0.0	25.0
VII	**HEPATIC TUMOURS**	26	49	8	16	17	**99**	**116**	1.3	100.0	1.0	100.0	9.1	4.1	0.5	0.9	0.9	**2.4**	**2.0**	32	37	90.5	0.9
	a. Hepatoblastoma	26	46	3	7	2	**82**	**84**	1.1	82.8	0.7	72.4	9.1	3.8	0.2	0.4	0.1	**2.0**	**1.6**	27	28	90.5	0.0
	b. Hepatic carcinoma	0	3	5	9	15	**17**	**32**	0.2	17.2	0.3	27.6	-	0.2	0.3	0.5	0.8	**0.3**	**0.4**	5	9	90.6	3.1
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	0	28	87	266	292	**381**	**673**	5.1	100.0	5.9	100.0	-	2.3	5.2	14.7	15.6	**6.7**	**8.7**	109	187	95.8	0.9
	a. Osteosarcoma	0	6	37	138	151	**181**	**332**	2.4	47.5	2.9	49.3	-	0.5	2.2	7.6	8.1	**3.1**	**4.2**	51	92	97.9	0.0
	b. Chondrosarcoma	0	1	0	7	17	**8**	**25**	0.1	2.1	0.2	3.7	-	0.1	-	0.4	0.9	**0.1**	**0.3**	2	7	100.0	0.0
	c. Ewing & related	0	21	46	104	110	**171**	**281**	2.3	44.9	2.4	41.8	-	1.7	2.8	5.7	5.9	**3.1**	**3.7**	50	79	96.1	0.4
	d. Other specified	0	0	4	9	8	**13**	**21**	0.2	3.4	0.2	3.1	-	-	0.2	0.5	0.4	**0.2**	**0.3**	4	6	100.0	0.0
	e. Unspecified	0	0	0	8	6	**8**	**14**	0.1	2.1	0.1	2.1	-	-	-	0.4	0.3	**0.1**	**0.2**	2	4	28.6	35.7
IX	**SOFT TISSUE SARCOMA**	43	130	128	150	230	**451**	**681**	6.0	100.0	5.9	100.0	15.1	10.8	7.7	8.3	12.3	**9.4**	**10.1**	138	200	94.7	1.3
	a. Rhabdomyosarcoma	16	100	79	55	59	**250**	**309**	3.3	55.4	2.7	45.4	5.6	8.3	4.8	3.0	3.2	**5.4**	**4.9**	78	94	95.1	1.3
	b. Fibrosarcoma	13	6	12	16	34	**47**	**81**	0.6	10.4	0.7	11.9	4.6	0.5	0.7	0.9	1.8	**1.0**	**1.2**	14	24	97.5	1.2
	c. Kaposi sarcoma	0	0	0	0	1	**0**	**1**	-	-	0.0	0.1	-	-	-	-	0.1	**-**	**0.0**	-	0	0.0	0.0
	d. Other specified	5	12	27	61	104	**105**	**209**	1.4	23.3	1.8	30.7	1.8	1.0	1.6	3.4	5.6	**1.9**	**2.8**	31	59	96.7	0.0
	e. Unspecified	9	12	10	18	32	**49**	**81**	0.7	10.9	0.7	11.9	3.2	1.0	0.6	1.0	1.7	**1.0**	**1.2**	15	24	86.4	4.9
X	**GERM CELL TUMOURS**	43	40	38	106	567	**227**	**794**	3.0	100.0	6.9	100.0	15.1	3.3	2.3	5.9	30.3	**4.6**	**10.4**	69	220	95.1	0.6
	a. CNS germ cell ‡	2	0	10	38	35	**50**	**85**	0.7	22.0	0.7	10.7	0.7	-	0.6	2.1	1.9	**0.9**	**1.1**	14	24	87.1	3.5
	b. Other extragonadal	27	17	3	6	7	**53**	**60**	0.7	23.3	0.5	7.6	9.5	1.4	0.2	0.3	0.4	**1.3**	**1.1**	17	19	93.3	1.7
	c. Gonadal germ cell	13	23	24	54	462	**114**	**576**	1.5	50.2	5.0	72.5	4.6	1.9	1.4	3.0	24.7	**2.3**	**7.3**	34	158	99.1	0.0
	d. Gonadal carcinoma	0	0	0	4	41	**4**	**45**	0.1	1.8	0.4	5.7	-	-	-	0.2	2.2	**0.1**	**0.5**	1	12	95.6	0.0
	e. Unspecified gonadal	1	0	1	4	22	**6**	**28**	0.1	2.6	0.2	3.5	0.4	-	0.1	0.2	1.2	**0.1**	**0.3**	2	8	39.3	3.6
XI	**CARCINOMA & MELANOMA**	6	20	61	264	936	**351**	**1287**	4.7	100.0	11.2	100.0	2.1	1.7	3.7	14.6	50.1	**6.1**	**16.0**	100	350	97.4	0.3
	a. Adrenocortical	0	4	3	1	5	**8**	**13**	0.1	2.3	0.1	1.0	-	0.3	0.2	0.1	0.3	**0.2**	**0.2**	3	4	84.6	0.0
	b. Thyroid	0	1	19	84	263	**104**	**367**	1.4	29.6	3.2	28.5	-	0.1	1.1	4.6	14.1	**1.7**	**4.5**	29	100	97.0	0.3
	c. Nasopharyngeal	0	0	1	3	12	**4**	**16**	0.1	1.1	0.1	1.2	-	-	0.1	0.2	0.6	**0.1**	**0.2**	1	4	87.5	0.0
	d. Melanoma	3	11	23	76	340	**113**	**453**	1.5	32.2	3.9	35.2	1.1	0.9	1.4	4.2	18.2	**2.0**	**5.7**	33	124	99.1	0.0
	e. Skin carcinoma	2	3	5	24	90	**34**	**124**	0.5	9.7	1.1	9.6	0.7	0.2	0.3	1.3	4.8	**0.6**	**1.6**	10	34	93.5	0.0
	f. Other & unspecified	1	1	10	76	226	**88**	**314**	1.2	25.1	2.7	24.4	0.4	0.1	0.6	4.2	12.1	**1.5**	**3.9**	25	85	97.8	1.0
XII	**OTHER & UNSPECIFIED**	11	14	8	11	20	**44**	**64**	0.6	100.0	0.6	100.0	3.9	1.2	0.5	0.6	1.1	**1.0**	**1.0**	14	19	45.3	26.6
	a. Other specified	2	5	3	1	7	**11**	**18**	0.1	25.0	0.2	28.1	0.7	0.4	0.2	0.1	0.4	**0.3**	**0.3**	4	5	100.0	0.0
	b. Other unspecified	9	9	5	10	13	**33**	**46**	0.4	75.0	0.4	71.9	3.2	0.7	0.3	0.6	0.7	**0.7**	**0.7**	10	14	23.9	37.0
	TOTAL §	695	2404	1946	2426	4009	**7471**	**11480**	100.0	100.0	100.0	100.0	244.0	200.3	117.4	133.9	214.5	**157.5**	**170.4**	2300	3373	91.3	1.8

† includes 587 non-malignant ‡ includes 1 non-malignant
§ includes 3 with sex unknown

Please consult the quality indicators for this pool and its constituent registries

Greece

Greek Nationwide Registry of Childhood Hematological Malignancies and Solid Tumors, 1996–2014

E. Petridou, E. Ntzani, M. Kantzanou, N. Dessypris, P. Bouka, E. Bouka, M. Baka, M. Moschovi, S. Polychronopoulou, E. Hatzipantelis, M. Kourti, E. Stiakaki, S. Sgouros, K. Stefanaki, M. Themistokleous

Greece is located on the Balkan Peninsula in southern Europe and is bordered by Albania, North Macedonia, Bulgaria, and Turkey. The country is surrounded by the Aegean Sea, Ionian Sea, Cretan Sea, and Mediterranean Sea. Greece is a high-income country with a very high HDI. In 2010, the estimated population was 11.2 million, and 15% of the population was younger than 15 years (Table A.6, Table A.7).

Health care is provided through universal national health insurance and private health care. Children with cancer are treated in seven paediatric haematology and oncology departments across the country.

The population-based Nationwide Registry for Childhood Hematological Malignancies was established in 1996; in 2010, it was expanded to include CNS tumours. Since 2017, cases of neuroblastoma and nephroblastoma are also registered, and the registry is called the Nationwide Registry of Childhood Hematological Malignancies and Solid Tumors (NARECHEM-ST). Only the data on haematological malignancies and CNS tumours are included in IICC-3. NARECHEM-ST is located in the Medical School of the National and Kapodistrian University of Athens (NKUA), which also funds the part-time work of a tenured professor and a statistician. The registrar position depends on fundraising. Collaborating clinicians contribute their time for data recording and diagnosis confirmation, and facilitate access to medical records for information on follow-up. Doctoral students contribute their time for data collection and cleaning.

Data are collected in collaboration with all six public and one private paediatric haematology and oncology units in Greece, and the respective paediatric pathology and radiology units. Only patients of Greek nationality and immigrants who have resided in the country for more than 2 years are eligible for registration. The same criteria are applied to define the population at risk.

Sociodemographic, disease-related, and clinical variables for about 2600 incident cases of childhood leukaemia and lymphoma had been recorded until December 2014. Biological samples, including DNA, are also available, and collection of parental DNA was initiated in 2016. For every case, one control (matched on age and sex) is identified among children hospitalized for minor ailments. All information is maintained electronically in a FileMaker database. The study protocol was approved by the NKUA Bioethics Committee.

Quality control is ensured by performing annual checks of types of diagnoses and of numbers of cases provided by treating physicians, and by assessing medical records. Multiple automated checks in the database are planned according to the routine quality control procedures recommended for cancer registries.

Linkage with national death registration data is not possible in Greece. Therefore, active follow-up by the treating physician to whom the family reports is used to determine survival estimates. Comparisons with tabulated death data by age group, sex, and cancer type, which are confidentially provided by the Hellenic Statistical Authority (ELSTAT) to NARECHEM-ST for the respective time periods, show almost identical figures.

Aggregate figures based on the raw data from NARECHEM-ST are uploaded annually to the registry website. NARECHEM-ST has also initiated collaborations with 13 other registries in southern and eastern Europe. Case–control studies were conducted partly in collaboration with researchers in Sweden and with the Childhood Cancer and Leukemia International Consortium.

PUBLICATIONS

Papathoma P, Thomopoulos TP, Karalexi MA, Ryzhov A, Zborovskaya A, Dimitrova N, et al. (2015). Childhood central nervous system tumours: incidence and time trends in 13 Southern and Eastern European cancer registries. Eur J Cancer. 51(11):1444–55. https://doi.org/10.1016/j.ejca.2015.04.014 PMID:25971531

Petridou ET, Pourtsidis A, Dessypris N, Katsiardanis K, Baka M, Moschovi M, et al. (2008). Childhood leukaemias and lymphomas in Greece (1996–2006): a nationwide registration study. Arch Dis Child. 93(12):1027–32. https://doi.org/10.1136/adc.2007.133249 PMID:18676433

POPULATION AT RISK

Population data were provided by ELSTAT (https://www.statistics.gr/) and are based on censuses conducted in 1991, 2001, and 2011 (Table A.7). Data were provided in the requested detail for the age range 0–14 years.

EDITORS' COMMENTS

In this paediatric cancer registry, registration focused on the age range 0–14 years during the reporting period. Therefore, data for the age groups 15–19 years and 0–19 years are not shown in the tables. The incidence rate and the proportion of infants among children highlighted in Table A.9 appear to be low; however, these values are not unexpected, because only selected tumour types were included in this dataset. The registry does not have access to information on cause of death, but according to the registry, the comparison of incidence data produced by the registry with tabulated mortality data indicates little or no potential effect of DCO cases on incidence rates, assuming a high quality of death certification. The MV% is very high for the types of neoplasms included (Table A.9); this suggests that cases diagnosed clinically

may be missed by the registry, which may, in turn, affect the resulting incidence rates. Non-malignant CNS tumours were included, and pilocytic astrocytoma was coded with uncertain behaviour. The data provided by this specialized registry are included only in the relevant tumour-specific comparative tables relating to haematopoietic malignancies and CNS tumours for the respective reporting periods over which they were complete.

GREECE, paediatric specialized

	Age group (years)	Males	Females
	(1996-2014)		
Person-years	0	1 026 336	978 475
	1-4	4 165 736	3 981 512
	5-9	5 368 060	5 127 187
	10-14	5 701 014	5 418 124
	0-14	16 261 146	15 505 298
Average annual population	0-14	855 850	816 068
	(2010-2014)		
Person-years	0	269 478	255 878
	1-4	1 133 685	1 083 233
	5-9	1 373 057	1 311 328
	10-14	1 372 814	1 315 807
	0-14	4 149 034	3 966 246
Average annual population	0-14	829 807	793 249

Please consult the quality indicators for this registry

GREECE, paediatric, haematological neoplasms (1996-2014) and CNS tumours (2010-2014)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	67	798	435	309	**1609**	66.9	100.0	33.4	97.9	41.4	27.8	**54.4**	772	100.0	0.0
	a. Lymphoid	38	728	378	245	**1389**	57.8	86.3	19.0	89.4	36.0	22.0	**47.2**	668	100.0	0.0
	b. Acute myeloid	25	61	44	52	**182**	7.6	11.3	12.5	7.5	4.2	4.7	**6.0**	87	100.0	0.0
	c. CMD	0	3	8	6	**17**	0.7	1.1	-	0.4	0.8	0.5	**0.5**	8	100.0	0.0
	d. MDS & other	2	2	0	0	**4**	0.2	0.2	1.0	0.2	-	-	**0.2**	2	100.0	0.0
	e. Unspecified	2	4	5	6	**17**	0.7	1.1	1.0	0.5	0.5	0.5	**0.5**	8	100.0	0.0
II	LYMPHOMA & RELATED	0	83	181	268	**532**	22.1	100.0	-	10.2	17.2	24.1	**15.7**	248	100.0	0.0
	a. Hodgkin	0	14	57	147	**218**	9.1	41.0	-	1.7	5.4	13.2	**6.1**	100	100.0	0.0
	b. Non-Hodgkin except BL	0	20	75	80	**175**	7.3	32.9	-	2.5	7.1	7.2	**5.2**	82	100.0	0.0
	c. Burkitt (BL)	0	49	49	41	**139**	5.8	26.1	-	6.0	4.7	3.7	**4.4**	66	100.0	0.0
	d. Lymphoreticular	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
III	CNS NEOPLASMS †	12	103	89	47	**251**	10.4	100.0	22.8	46.5	33.2	17.5	**32.0**	463	88.0	0.0
	a. Ependymoma	2	17	3	3	**25**	1.0	10.0	3.8	7.7	1.1	1.1	**3.4**	46	100.0	0.0
	b. Astrocytoma	2	31	31	18	**82**	3.4	32.7	3.8	14.0	11.5	6.7	**10.3**	151	89.0	0.0
	c. CNS embryonal	7	39	26	13	**85**	3.5	33.9	13.3	17.6	9.7	4.8	**11.0**	156	100.0	0.0
	d. Other gliomas	1	4	14	6	**25**	1.0	10.0	1.9	1.8	5.2	2.2	**3.0**	46	28.0	0.0
	e. Other specified	0	12	13	6	**31**	1.3	12.4	-	5.4	4.8	2.2	**3.9**	57	100.0	0.0
	f. Unspecified CNS	0	0	2	1	**3**	0.1	1.2	-	-	0.7	0.4	**0.3**	6	0.0	0.0
IV	NEUROBLASTOMA	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	a. (Ganglio)neuroblastoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	b. Peripheral nervous	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
V	RETINOBLASTOMA	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
VI	RENAL TUMOURS	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	a. Nephroblastoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	b. Renal carcinoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	c. Unspecified	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	a. Hepatoblastoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	b. Hepatic carcinoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	c. Unspecified	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	a. Osteosarcoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	b. Chondrosarcoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	c. Ewing & related	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
IX	SOFT TISSUE SARCOMA	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	a. Rhabdomyosarcoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	b. Fibrosarcoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	c. Kaposi sarcoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
X	GERM CELL TUMOURS	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	a. CNS germ cell ‡	2	1	2	8	**13**	0.5	100.0	3.8	0.5	0.7	3.0	**1.5**	24	46.2	0.0
	b. Other extragonadal	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	c. Gonadal germ cell	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	d. Gonadal carcinoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	a. Adrenocortical	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	b. Thyroid	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	c. Nasopharyngeal	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	d. Melanoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	e. Skin carcinoma	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	f. Other & unspecified	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
XII	OTHER & UNSPECIFIED	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	a. Other specified	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	b. Other unspecified	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-
	TOTAL	-	-	-	-	**-**	-	-	-	-	-	-	**-**	-	-	-

† includes 77 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this registry

Hungary

Hungarian Childhood Cancer Registry, 1991–2014

Zsuzsanna Jakab, Dezső Schuler, Miklós Garami

Hungary is a democratic parliamentary republic located in central Europe. It is bordered by Slovakia to the north, Ukraine to the north-east, Romania to the east, Serbia to the south, Croatia to the south-west, Slovenia to the west, and Austria to the north-west. It covers an area of 93 030 km^2 and has a continental climate with hot summers and cold, snowy winters. Hungary has a high-income market economy and a very high standard of living, with a social security system, universal health-care coverage, and tuition-free university education. Major industries include food processing, pharmaceuticals, motor vehicle manufacturing, information technology, chemicals, metallurgy, machinery, electrical goods, and tourism. In 2010, the population was 10.0 million (Table A.7); the population size is decreasing, and 15% of the population is younger than 15 years (Table A.6). The population is mostly urban (70%), and more than 25% of people live in the Budapest metropolitan area.

Children with cancer are treated in 10 specialized paediatric haematology and oncology departments. The Hungarian Childhood Leukaemia Study Group was established in 1971, with the goal of standardizing diagnostic and therapeutic practices and improving survival of children with leukaemia. In 1973, centralization of treatment was extended to children with solid tumours.

The Hungarian Childhood Cancer Registry (HCCR) was established in 1971 (Table A.10) by the Hungarian Paediatric Haemato-Oncology Network (HPON). HCCR is a national, population-based childhood cancer registry with complete coverage of the population younger than 15 years. Details collected on new cancer diagnoses, specific treatments, and long-term follow-up are defined in cooperation with HPON, and HCCR provides administrative support and serves as a source of data for clinical studies. The goal of the registry is to contribute to understanding the causes of childhood cancer and help to continuously improve treatments while minimizing early and late toxicities. HCCR is located at the 2nd Department of Paediatrics of Semmelweis University in Budapest.

All hospitals in Hungary notify the registry of newly diagnosed cancer cases and send annual updates on follow-up thereafter. HCCR performs active case finding for retinoblastoma and CNS tumours, including non-malignant cases, by regularly matching against the National Institute of Clinical Neurosciences and ophthalmology departments, which has resulted in nearly complete registration for CNS tumours since 1984. Vital status after childhood is collected by regularly matching the files against the National Population Registry. Death certificates were not available for ascertainment of cancer cases, because it is the policy of the Central Statistics Agency not to release death certificates, which are destroyed soon after the basic statistics are produced.

The registry data are almost complete for leukaemia from 1973 and for solid tumours from 1978. Data are coded according to ENCR recommendations. Validity is checked by the Child-Check Program and international comparisons.

In 1999, cancer registration was mandated by law; this has facilitated access to data sources. HCCR was audited by an ENCR committee in 2002. Since 2011, cases are registered electronically. Since 2012, HPON has been financially supported by the Ministry of Human Capacities. HCCR is a member of IACR and ENCR, and has participated in several international studies investigating epidemiological, prognostic, and etiological factors of childhood cancer (e.g. IICC, European Childhood Leukaemia–Lymphoma Incidence Study [ECLIS], Automated Childhood Cancer Information System [ACCIS], European Cancer Registry-Based Study on Survival and Care of Cancer Patients [EUROCARE], PanCare Childhood and Adolescent Cancer Survivor Care and Follow-Up Studies [PanCareSurFup]).

POPULATION AT RISK

The source of the data is the Hungarian Central Statistical Office (https://www.ksh.hu). The national census was conducted in 1990, 2001, and 2011 (Table A.7). Data were provided by sex and age groups (0, 1–4, 5–9, 10–14, 15–19 years) for each calendar year of the reporting period. The data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The registry contributed to all three IICC volumes (Table A.1). In this paediatric cancer registry, registration focused on the age range 0–14 years during the reporting period. Therefore, data for the age groups 15–19 years and 0–19 years are not shown in the tables. Lack of access to death certificates may result in a small number of missed cases. Information was provided on non-malignant CNS tumours, skin carcinomas, and laterality. Pilocytic astrocytoma was originally coded with malignant behaviour and was recoded with uncertain behaviour for submission to IICC-3.

HUNGARY, paediatric (1991-2014)

	Age group (years)	Males	Females
Person-years	0	1 246 538	1 181 390
	1-4	5 143 039	4 887 224
	5-9	6 773 879	6 451 044
	10-14	7 414 792	7 074 793
	0-14	20 578 248	19 594 451
Average annual population	0-14	857 427	816 435

Please consult the quality indicators for this registry

HUNGARY, paediatric (1991-2014)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	69	734	492	330	**1625**	28.5	100.0	28.4	73.2	37.2	22.8	**43.6**	622	100.0	0.0
	a. Lymphoid	41	641	422	220	**1324**	23.2	81.5	16.9	63.9	31.9	15.2	**35.9**	509	100.0	0.0
	b. Acute myeloid	17	77	55	76	**225**	3.9	13.8	7.0	7.7	4.2	5.2	**5.8**	85	100.0	0.0
	c. CMD	4	6	8	21	**39**	0.7	2.4	1.6	0.6	0.6	1.4	**0.9**	14	100.0	0.0
	d. MDS & other	7	8	7	13	**35**	0.6	2.2	2.9	0.8	0.5	0.9	**0.9**	13	100.0	0.0
	e. Unspecified	0	2	0	0	**2**	0.0	0.1	-	0.2	-	-	**0.1**	1	100.0	0.0
II	LYMPHOMA & RELATED	3	97	209	339	**648**	11.4	100.0	1.2	9.7	15.8	23.4	**15.0**	236	100.0	0.0
	a. Hodgkin	0	23	85	183	**291**	5.1	44.9	-	2.3	6.4	12.6	**6.5**	105	100.0	0.0
	b. Non-Hodgkin except BL	3	46	67	120	**236**	4.1	36.4	1.2	4.6	5.1	8.3	**5.6**	86	100.0	0.0
	c. Burkitt (BL)	0	24	53	32	**109**	1.9	16.8	-	2.4	4.0	2.2	**2.7**	41	100.0	0.0
	d. Lymphoreticular	0	2	2	3	**7**	0.1	1.1	-	0.2	0.2	0.2	**0.2**	3	100.0	0.0
	e. Unspecified	0	2	2	1	**5**	0.1	0.8	-	0.2	0.2	0.1	**0.1**	2	100.0	0.0
III	CNS NEOPLASMS †	101	424	481	454	**1460**	25.6	100.0	41.6	42.3	36.4	31.3	**37.1**	549	91.8	0.0
	a. Ependymoma	26	66	32	32	**156**	2.7	10.7	10.7	6.6	2.4	2.2	**4.3**	60	100.0	0.0
	b. Astrocytoma	24	170	208	212	**614**	10.8	42.1	9.9	16.9	15.7	14.6	**15.3**	230	98.2	0.0
	c. CNS embryonal	30	115	124	83	**352**	6.2	24.1	12.4	11.5	9.4	5.7	**9.2**	134	99.7	0.0
	d. Other gliomas	14	33	71	63	**181**	3.2	12.4	5.8	3.3	5.4	4.3	**4.5**	67	45.3	0.0
	e. Other specified	7	40	45	63	**155**	2.7	10.6	2.9	4.0	3.4	4.3	**3.8**	58	94.8	0.0
	f. Unspecified CNS	0	0	1	1	**2**	0.0	0.1	-	-	0.1	0.1	**0.0**	1	100.0	0.0
IV	NEUROBLASTOMA	238	260	52	20	**570**	10.0	100.0	98.0	25.9	3.9	1.4	**17.1**	226	98.4	0.0
	a. (Ganglio)neuroblastoma	238	258	50	17	**563**	9.9	98.8	98.0	25.7	3.8	1.2	**17.0**	224	98.4	0.0
	b. Peripheral nervous	0	2	2	3	**7**	0.1	1.2	-	0.2	0.2	0.2	**0.2**	3	100.0	0.0
V	RETINOBLASTOMA	53	69	7	0	**129**	2.3	100.0	21.8	6.9	0.5	-	**4.0**	52	82.9	0.0
VI	RENAL TUMOURS	48	179	59	16	**302**	5.3	100.0	19.8	17.8	4.5	1.1	**8.8**	119	99.7	0.0
	a. Nephroblastoma	48	179	56	9	**292**	5.1	96.7	19.8	17.8	4.2	0.6	**8.6**	115	99.7	0.0
	b. Renal carcinoma	0	0	3	7	**10**	0.2	3.3	-	-	0.2	0.5	**0.2**	4	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	32	37	8	7	**84**	1.5	100.0	13.2	3.7	0.6	0.5	**2.5**	33	100.0	0.0
	a. Hepatoblastoma	31	36	6	3	**76**	1.3	90.5	12.8	3.6	0.5	0.2	**2.3**	30	100.0	0.0
	b. Hepatic carcinoma	1	1	2	4	**8**	0.1	9.5	0.4	0.1	0.2	0.3	**0.2**	3	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	1	20	91	176	**288**	5.0	100.0	0.4	2.0	6.9	12.1	**6.4**	104	100.0	0.0
	a. Osteosarcoma	0	0	38	96	**134**	2.3	46.5	-	-	2.9	6.6	**2.9**	47	100.0	0.0
	b. Chondrosarcoma	0	0	1	6	**7**	0.1	2.4	-	-	0.1	0.4	**0.1**	2	100.0	0.0
	c. Ewing & related	1	18	47	68	**134**	2.3	46.5	0.4	1.8	3.6	4.7	**3.1**	49	100.0	0.0
	d. Other specified	0	2	5	5	**12**	0.2	4.2	-	0.2	0.4	0.3	**0.3**	4	100.0	0.0
	e. Unspecified	0	0	0	1	**1**	0.0	0.3	-	-	-	0.1	**0.0**	0	100.0	0.0
IX	SOFT TISSUE SARCOMA	38	109	77	91	**315**	5.5	100.0	15.7	10.9	5.8	6.3	**8.3**	120	100.0	0.0
	a. Rhabdomyosarcoma	11	68	46	28	**153**	2.7	48.6	4.5	6.8	3.5	1.9	**4.1**	59	100.0	0.0
	b. Fibrosarcoma	14	12	5	13	**44**	0.8	14.0	5.8	1.2	0.4	0.9	**1.2**	17	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	12	23	22	44	**101**	1.8	32.1	4.9	2.3	1.7	3.0	**2.5**	38	100.0	0.0
	e. Unspecified	1	6	4	6	**17**	0.3	5.4	0.4	0.6	0.3	0.4	**0.4**	6	100.0	0.0
X	GERM CELL TUMOURS	24	33	22	60	**139**	2.4	100.0	9.9	3.3	1.7	4.1	**3.5**	52	99.3	0.0
	a. CNS germ cell ‡	4	1	10	15	**30**	0.5	21.6	1.6	0.1	0.8	1.0	**0.7**	11	96.7	0.0
	b. Other extragonadal	17	20	1	6	**44**	0.8	31.7	7.0	2.0	0.1	0.4	**1.3**	17	100.0	0.0
	c. Gonadal germ cell	2	12	9	35	**58**	1.0	41.7	0.8	1.2	0.7	2.4	**1.4**	21	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	1	0	2	4	**7**	0.1	5.0	0.4	-	0.2	0.3	**0.2**	3	100.0	0.0
XI	CARCINOMA & MELANOMA	9	10	28	87	**134**	2.3	100.0	3.7	1.0	2.1	6.0	**3.0**	48	100.0	0.0
	a. Adrenocortical	6	1	0	1	**8**	0.1	6.0	2.5	0.1	-	0.1	**0.2**	3	100.0	0.0
	b. Thyroid	0	1	10	37	**48**	0.8	35.8	-	0.1	0.8	2.6	**1.0**	17	100.0	0.0
	c. Nasopharyngeal	0	0	0	8	**8**	0.1	6.0	-	-	-	0.6	**0.2**	3	100.0	0.0
	d. Melanoma	2	3	7	16	**28**	0.5	20.9	0.8	0.3	0.5	1.1	**0.6**	10	100.0	0.0
	e. Skin carcinoma	1	0	3	6	**10**	0.2	7.5	0.4	-	0.2	0.4	**0.2**	4	100.0	0.0
	f. Other & unspecified	0	5	8	19	**32**	0.6	23.9	-	0.5	0.6	1.3	**0.7**	12	100.0	0.0
XII	OTHER & UNSPECIFIED	1	4	0	6	**11**	0.2	100.0	0.4	0.4	-	0.4	**0.3**	4	100.0	0.0
	a. Other specified	1	4	0	5	**10**	0.2	90.9	0.4	0.4	-	0.3	**0.3**	4	100.0	0.0
	b. Other unspecified	0	0	0	1	**1**	0.0	9.1	-	-	-	0.1	**0.0**	0	100.0	0.0
	TOTAL §	617	1976	1526	1586	**5705**	100.0	100.0	254.1	197.0	115.4	109.5	**149.6**	2165	97.3	0.0

† includes 467 non-malignant ‡ includes 5 non-malignant
§ includes 2 with sex unknown

Please consult the quality indicators for this registry

Iceland

Icelandic Cancer Registry, 1990–2014

Laufey Tryggvadóttir, Helgi Birgisson

Iceland is an island country located in the North Atlantic Ocean. It covers an area of 103 000 km^2. The island is geologically active, with a temperate subarctic climate on the coasts and a tundra climate in the inland areas. This democratic republic has a market economy and universal health care, and it ranks ninth worldwide in the HDI (2016). About 75% of the population of 0.3 million lives in the capital city of Reykjavik and the surrounding area. About 28% of the population is younger than 20 years (Table A.6). Most of the population is Christian (Protestant) and of northern European descent.

Patients in Iceland have easy and equal access to the health-care system. Cancer surgery is mainly limited to two hospitals, and specialized cancer treatment is provided at Landspítali University Hospital in Reykjavik, which is equipped with highly sophisticated imaging facilities.

The Icelandic Cancer Registry was established in 1954 and contains information on all cancers and their precursors in Iceland from 1955 (Table A.10). The registry was legally mandated in 2007 according to a new Directorate of Health Act. The Icelandic Cancer Society has run the cancer registry since it was established and continues to do so under a contract with the Directorate of Health; half of the registry's funding is provided by the Ministry of Welfare. Registration is compulsory, and informed consent is not required.

The core staff consists of a medical director, a managing director, two registrars, a data manager, and a statistician. There are also student and part-time researcher positions.

All three pathology laboratories in Iceland constitute the principal data sources, from which the registry receives data on all malignant and selected non-malignant neoplasms; the MV% is 95%. Other data sources are haematology laboratories, hospital departments, health-care facilities, consultants in private practice, and death certificates from Statistics Iceland in which malignant diseases are mentioned. Additional information is requested from the abovementioned sources if needed. The registration principles are defined according to European guidelines, and data are checked using the IARC/IACR CHECK Program.

Figures on incidence, prevalence, and survival are published electronically each year on the Icelandic Cancer Registry homepage and on the NORDCAN website. The registry conducts epidemiological research and provides data for such research. The registry also provides information for the planning of cancer prevention and treatment strategies.

PUBLICATIONS

Engholm G, Ferlay J, Christensen N, Bray F, Gjerstorff ML, Klint A, et al. (2010). NORDCAN – a Nordic tool for cancer information, planning, quality control and research. Acta Oncol. 49(5):725–36. https://doi.org/10.3109/02841861003782017 PMID:20491528

POPULATION AT RISK

The data were provided by the Icelandic National Roster, which has been in operation since 1952 and is regularly updated with information on births, deaths, and migration. Data were provided in the requested detail. The decimal portions of the estimated counts provided for some sex and age categories were rounded to the nearest integer at IARC (Table A.8).

EDITORS' COMMENTS

The registry also contributed to IICC-2 (Table A.1). Exact dates are recorded and are used to calculate age; however, day of birth and day of incidence were not provided because of data protection rules (Table A.8). The large proportion of cases aged 19 years in the age group 15–19 years results from a high incidence in diagnostic groups XI, II, and X. The reported proportion of non-malignant CNS tumours is high (Table A.9) because of strong links with neurology clinics throughout the country and systematic registration of all types of CNS tumours. Pilocytic astrocytoma was coded with uncertain behaviour. Information on skin carcinomas and laterality is complete.

ICELAND (1990-2014)

	Age group (years)	Males	Females
Person-years	0	56 793	54 420
	1-4	226 870	216 596
	5-9	276 566	265 021
	10-14	277 101	265 481
	15-19	279 822	267 589
	0-14	837 330	801 518
	0-19	1 117 152	1 069 107
Average annual population	0-14	33 493	32 061
	0-19	44 686	42 764

Please consult the quality indicators for this registry

ICELAND (1990-2014)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	6	33	15	12	14	66	80	28.9	100.0	21.3	100.0	54.0	74.4	27.7	22.1	25.6	42.6	38.7	601	728	100.0	0.0
	a. Lymphoid	3	28	14	7	3	52	55	22.8	78.8	14.6	68.8	27.0	63.1	25.8	12.9	5.5	33.7	27.4	473	501	100.0	0.0
	b. Acute myeloid	1	3	1	2	6	7	13	3.1	10.6	3.5	16.3	9.0	6.8	1.8	3.7	11.0	4.5	5.9	64	119	100.0	0.0
	c. CMD	0	1	0	2	4	3	7	1.3	4.5	1.9	8.8	-	2.3	-	3.7	7.3	1.8	3.0	27	64	100.0	0.0
	d. MDS & other	1	1	0	1	1	3	4	1.3	4.5	1.1	5.0	9.0	2.3	-	1.8	1.8	1.9	1.9	27	36	100.0	0.0
	e. Unspecified	1	0	0	0	0	1	1	0.4	1.5	0.3	1.3	9.0	-	-	-	-	0.7	0.5	9	9	100.0	0.0
II	LYMPHOMA & RELATED	0	4	10	7	37	21	58	9.2	100.0	15.4	100.0	-	9.0	18.5	12.9	67.6	12.5	24.9	193	531	100.0	0.0
	a. Hodgkin	0	0	5	3	28	8	36	3.5	38.1	9.6	62.1	-	-	9.2	5.5	51.1	4.6	15.1	74	330	100.0	0.0
	b. Non-Hodgkin except BL	0	2	0	3	8	5	13	2.2	23.8	3.5	22.4	-	4.5	-	5.5	14.6	3.0	5.6	46	119	100.0	0.0
	c. Burkitt (BL)	0	2	5	1	1	8	9	3.5	38.1	2.4	15.5	-	4.5	9.2	1.8	1.8	4.9	4.2	73	83	100.0	0.0
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
III	CNS NEOPLASMS †	3	19	19	29	18	70	88	30.7	100.0	23.4	100.0	27.0	42.8	35.1	53.4	32.9	42.2	40.1	641	805	83.0	0.0
	a. Ependymoma	0	0	1	2	1	3	4	1.3	4.3	1.1	4.5	-	-	1.8	3.7	1.8	1.7	1.7	28	37	100.0	0.0
	b. Astrocytoma	2	12	11	9	12	34	46	14.9	48.6	12.2	52.3	18.0	27.1	20.3	16.6	21.9	21.1	21.3	311	420	97.8	0.0
	c. CNS embryonal	1	2	3	3	0	9	9	3.9	12.9	2.4	10.2	9.0	4.5	5.5	5.5	-	5.5	4.3	82	82	100.0	0.0
	d. Other gliomas	0	2	0	2	0	4	4	1.8	5.7	1.1	4.5	-	4.5	-	3.7	-	2.5	1.9	36	36	75.0	0.0
	e. Other specified	0	0	1	7	3	8	11	3.5	11.4	2.9	12.5	-	-	1.8	12.9	5.5	4.3	4.6	74	101	100.0	0.0
	f. Unspecified CNS	0	3	3	6	2	12	14	5.3	17.1	3.7	15.9	-	6.8	5.5	11.1	3.7	7.1	6.3	110	128	7.1	0.0
IV	NEUROBLASTOMA	3	5	1	0	0	9	9	3.9	100.0	2.4	100.0	27.0	11.3	1.8	-	-	6.2	4.8	81	81	100.0	0.0
	a. (Ganglio)neuroblastoma	3	5	1	0	0	9	9	3.9	100.0	2.4	100.0	27.0	11.3	1.8	-	-	6.2	4.8	81	81	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	1	3	0	0	0	4	4	1.8	100.0	1.1	100.0	9.0	6.8	-	-	-	2.8	2.2	36	36	100.0	0.0
VI	RENAL TUMOURS	2	6	1	0	0	9	9	3.9	100.0	2.4	100.0	18.0	13.5	1.8	-	-	6.2	4.8	81	81	100.0	0.0
	a. Nephroblastoma	2	6	1	0	0	9	9	3.9	100.0	2.4	100.0	18.0	13.5	1.8	-	-	6.2	4.8	81	81	100.0	0.0
	b. Renal carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	0	1	0	2	1	3	4	1.3	100.0	1.1	100.0	-	2.3	-	3.7	1.8	1.8	1.8	27	37	100.0	0.0
	a. Hepatoblastoma	0	1	0	0	0	1	1	0.4	33.3	0.3	25.0	-	2.3	-	-	-	0.7	0.5	9	9	100.0	0.0
	b. Hepatic carcinoma	0	0	0	2	1	2	3	0.9	66.7	0.8	75.0	-	-	-	3.7	1.8	1.1	1.2	18	28	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	0	3	6	15	9	24	3.9	100.0	6.4	100.0	-	-	5.5	11.1	27.4	5.0	10.0	83	220	100.0	0.0
	a. Osteosarcoma	0	0	3	5	10	8	18	3.5	88.9	4.8	75.0	-	-	5.5	9.2	18.3	4.5	7.6	74	165	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	1	0	1	-	-	0.3	4.2	-	-	-	-	1.8	-	0.4	-	9	100.0	0.0
	c. Ewing & related	0	0	0	1	3	1	4	0.4	11.1	1.1	16.7	-	-	-	1.8	5.5	0.5	1.6	9	37	100.0	0.0
	d. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	0	0	0	1	0	1	-	-	0.3	4.2	-	-	-	-	1.8	-	0.4	-	9	100.0	0.0
IX	SOFT TISSUE SARCOMA	2	4	2	7	7	15	22	6.6	100.0	5.9	100.0	18.0	9.0	3.7	12.9	12.8	9.1	9.9	137	201	100.0	0.0
	a. Rhabdomyosarcoma	1	4	0	2	1	7	8	3.1	46.7	2.1	36.4	9.0	9.0	-	3.7	1.8	4.6	3.9	64	73	100.0	0.0
	b. Fibrosarcoma	1	0	1	1	2	3	5	1.3	20.0	1.3	22.7	9.0	-	1.8	1.8	3.7	1.8	2.2	27	46	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	0	0	3	4	3	7	1.3	20.0	1.9	31.8	-	-	-	5.5	7.3	1.6	2.9	28	64	100.0	0.0
	e. Unspecified	0	0	1	1	0	2	2	0.9	13.3	0.5	9.1	-	-	1.8	1.8	-	1.1	0.9	18	18	100.0	0.0
X	GERM CELL TUMOURS	2	1	2	1	16	6	22	2.6	100.0	5.9	100.0	18.0	2.3	3.7	1.8	29.2	3.8	9.5	55	201	100.0	0.0
	a. CNS germ cell ‡	0	0	2	0	1	2	3	0.9	33.3	0.8	13.6	-	-	3.7	-	1.8	1.2	1.3	18	28	100.0	0.0
	b. Other extragonadal	1	0	0	0	0	1	1	0.4	16.7	0.3	4.5	9.0	-	-	-	-	0.7	0.5	9	9	100.0	0.0
	c. Gonadal germ cell	1	1	0	1	14	3	17	1.3	50.0	4.5	77.3	9.0	2.3	-	1.8	25.6	1.9	7.3	27	155	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	1	0	1	-	-	0.3	4.5	-	-	-	-	1.8	-	0.4	-	9	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XI	CARCINOMA & MELANOMA	1	2	2	11	40	16	56	7.0	100.0	14.9	100.0	9.0	4.5	3.7	20.3	73.1	9.2	23.5	147	512	100.0	0.0
	a. Adrenocortical	1	1	0	1	0	3	3	1.3	18.8	0.8	5.4	9.0	2.3	-	1.8	-	1.9	1.5	27	27	100.0	0.0
	b. Thyroid	0	0	0	1	11	1	12	0.4	6.3	3.2	21.4	-	-	-	1.8	20.1	0.5	4.9	9	110	100.0	0.0
	c. Nasopharyngeal	0	0	1	1	3	2	5	0.9	12.5	1.3	8.9	-	-	1.8	1.8	5.5	1.1	2.1	18	46	100.0	0.0
	d. Melanoma	0	1	0	4	20	5	25	2.2	31.3	6.6	44.6	-	2.3	-	7.4	36.5	2.8	10.4	46	229	100.0	0.0
	e. Skin carcinoma	0	0	0	2	0	2	2	0.9	12.5	0.5	3.6	-	-	-	3.7	-	1.1	0.8	18	18	100.0	0.0
	f. Other & unspecified	0	0	1	2	6	3	9	1.3	18.8	2.4	16.1	-	-	1.8	3.7	11.0	1.7	3.8	28	82	100.0	0.0
XII	OTHER & UNSPECIFIED	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	a. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	20	78	55	75	148	228	376	100.0	100.0	100.0	100.0	179.8	175.9	101.6	138.2	270.4	141.3	170.3	2082	3434	96.0	0.0

† includes 36 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this registry

Ireland

National Cancer Registry Ireland, 1994–2012

Harry Comber, Fiona Dwane, Tracy Kelleher

Ireland is an island off the west coast of Europe. The Republic of Ireland covers an area of 70 273 km^2, 83% of the area of the island. The climate is temperate and moist. In 2013, the GDP was €41 billion. About 40% of the population has private health insurance. All public costs of health care are funded by general taxation. At the most recent census (2011), the population was 4.6 million, and 27% of the population was younger than 20 years (Table A.6).

Access to primary care and medication is free for 25% of the population (those in the lowest income quartile). All residents have access to free hospital care in public hospitals. There are about 11 000 public beds in public hospitals, 2500 private beds in public hospitals, and 2000 beds in private hospitals. There is a charge for outpatient and inpatient care in public hospitals (capped at €750 in a year); those with free general practitioner care do not have to pay. Those with private health insurance have access to private beds and private practice; this often reduces waiting times. In 2006–2010, 40 hospitals treated at least one child with cancer. A large proportion (56%) of solid tumours and 99% of haematological cancers in children were treated in the national paediatric oncology centre. CNS cancers were treated in two paediatric hospitals (including the national centre) and the two national neuro-oncology centres.

The registry is fully funded by the Irish Department of Health. It is not attached to a hospital or university. The entire resident population is covered by the registry. There are no significant ethnic or regional differences in the country. The coverage area has been the same since 1994.

Cancer notification is not mandatory in Ireland; most information is obtained from hospital medical records, through active case finding and data abstraction. The primary source is histopathology reports (85%), with about 5% from other hospital sources, mainly electronic discharge summaries from public hospitals. The registry has access to death certificates for all deaths in the country.

The registry staff includes 20 hospital-based members; they collect copies of histopathology reports and electronic discharge summaries and create a new case, and then provide this record to the main registry offices. This information is accessible to all registry staff, who over time can add information from the medical record, such as stage and treatment.

The ICD-O-3 coding system is used for site and morphology; TNM-5 is used for staging. Completeness of registration at 1 year is 96% and at 5 years is 99% (flow method). Follow-up is passive through linkage of registrations with death certificates; this is done quarterly. There is no system of active follow-up. Completeness of follow-up is high for the reporting period.

The registry data are used to produce annual reports, peer-reviewed articles, fact sheets available online (https://www.ncri.ie/publications), submissions to international collaborations (European Cancer Organisation [ECO], CI5, EUROCARE, CONCORD, ACCIS), and responses to queries from researchers and the public. Reports for the Department of Health and the National Cancer Control Programme are used in the planning and evaluation of health services. Registry data are also used in many research studies.

POPULATION AT RISK

Intercensal estimates are provided each year by the Central Statistics Office (https://www.cso.ie/en/census). The estimates are based on projections from the most recent census, allowing for gross migration flows reported by the Quarterly National Survey. The national census was conducted in 1991, 1996, 2002, 2006, and 2011 (Table A.7). Data were provided in the requested detail.

EDITORS' COMMENTS

Age is calculated at the registry using complete dates; however, day of birth was not provided with the data (Table A.8), as per the registry's policy. Non-malignant CNS tumours are included. Pilocytic astrocytoma was coded according to the ICD-O edition in use at the time of incidence (Table A.10) and recoded with uncertain behaviour for all calendar years in the dataset submitted to IICC-3. All skin carcinomas are recorded. Information on laterality is almost complete.

IRELAND (1994-2012)

	Age group (years)	Males	Females
Person-years	0	586 238	555 538
	1-4	2 249 233	2 138 278
	5-9	2 798 411	2 662 606
	10-14	2 904 306	2 755 180
	15-19	3 035 097	2 899 888
	0-14	8 538 188	8 111 602
	0-19	11 573 285	11 011 490
Average annual population	0-14	449 378	426 926
	0-19	609 120	579 552

Please consult the quality indicators for this registry

IRELAND (1994-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	44	359	198	159	157	760	917	30.7	100.0	24.3	100.0	38.5	81.8	36.3	28.1	26.5	48.1	43.2	686	818	99.3	0.2
	a. Lymphoid	23	300	161	112	77	596	673	24.1	78.4	17.8	73.4	20.1	68.4	29.5	19.8	13.0	37.9	32.3	538	603	99.9	0.0
	b. Acute myeloid	16	45	31	30	45	122	167	4.9	16.1	4.4	18.2	14.0	10.3	5.7	5.3	7.6	7.6	7.6	110	148	100.0	0.0
	c. CMD	0	6	2	6	20	14	34	0.6	1.8	0.9	3.7	-	1.4	0.4	1.1	3.4	0.8	1.4	13	29	100.0	0.0
	d. MDS & other	2	3	1	5	8	11	19	0.4	1.4	0.5	2.1	1.8	0.7	0.2	0.9	1.3	0.7	0.8	10	17	89.5	0.0
	e. Unspecified	3	5	3	6	7	17	24	0.7	2.2	0.6	2.6	2.6	1.1	0.5	1.1	1.2	1.0	1.1	15	21	87.5	8.3
II	LYMPHOMA & RELATED	6	37	73	143	316	259	575	10.5	100.0	15.2	100.0	5.3	8.4	13.4	25.3	53.2	14.7	23.3	232	498	99.3	0.2
	a. Hodgkin	0	3	25	82	220	110	330	4.4	42.5	8.7	57.4	-	0.7	4.6	14.5	37.1	5.9	12.9	98	283	99.7	0.0
	b. Non-Hodgkin except BL	2	18	30	43	75	93	168	3.8	35.9	4.4	29.2	1.8	4.1	5.5	7.6	12.6	5.4	7.0	84	147	98.8	0.6
	c. Burkitt (BL)	0	5	10	6	7	21	28	0.8	8.1	0.7	4.9	-	1.1	1.8	1.1	1.2	1.2	1.2	19	25	100.0	0.0
	d. Lymphoreticular	3	5	3	3	3	14	17	0.6	5.4	0.4	3.0	2.6	1.1	0.5	0.5	0.5	0.9	0.8	13	15	94.1	0.0
	e. Unspecified	1	6	5	9	11	21	32	0.8	8.1	0.8	5.6	0.9	1.4	0.9	1.6	1.9	1.2	1.4	19	28	100.0	0.0
III	CNS NEOPLASMS †	54	180	209	200	232	643	875	26.0	100.0	23.1	100.0	47.3	41.0	38.3	35.3	39.1	39.0	39.0	580	775	82.6	0.1
	a. Ependymoma	7	19	12	11	14	49	63	2.0	7.6	1.7	7.2	6.1	4.3	2.2	1.9	2.4	3.1	2.9	44	56	98.4	0.0
	b. Astrocytoma	23	89	94	101	106	307	413	12.4	47.7	10.9	47.2	20.1	20.3	17.2	17.8	17.9	18.6	18.4	277	366	89.1	0.0
	c. CNS embryonal	14	43	47	19	21	123	144	5.0	19.1	3.8	16.5	12.3	9.8	8.6	3.4	3.5	7.7	6.8	111	129	97.9	0.0
	d. Other gliomas	3	10	26	27	22	66	88	2.7	10.3	2.3	10.1	2.6	2.3	4.8	4.8	3.7	3.8	3.8	59	78	51.1	0.0
	e. Other specified	2	12	24	33	51	71	122	2.9	11.0	3.2	13.9	1.8	2.7	4.4	5.8	8.6	4.1	5.1	64	107	86.1	0.0
	f. Unspecified CNS	5	7	6	9	18	27	45	1.1	4.2	1.2	5.1	4.4	1.6	1.1	1.6	3.0	1.7	2.0	24	39	4.4	2.2
IV	NEUROBLASTOMA	53	85	21	5	6	164	170	6.6	100.0	4.5	100.0	46.4	19.4	3.8	0.9	1.0	11.2	8.9	148	153	92.9	0.0
	a. (Ganglio)neuroblastoma	53	84	20	2	2	159	161	6.4	97.0	4.3	94.7	46.4	19.1	3.7	0.4	0.3	10.9	8.5	144	146	92.5	0.0
	b. Peripheral nervous	0	1	1	3	4	5	9	0.2	3.0	0.2	5.3	-	0.2	0.2	0.5	0.7	0.3	0.4	4	8	100.0	0.0
V	RETINOBLASTOMA	15	48	1	0	0	64	64	2.6	100.0	1.7	100.0	13.1	10.9	0.2	-	-	4.5	3.5	58	58	81.3	0.0
VI	RENAL TUMOURS	17	83	26	4	3	130	133	5.3	100.0	3.5	100.0	14.9	18.9	4.8	0.7	0.5	8.7	6.9	118	120	98.5	0.0
	a. Nephroblastoma	17	79	25	3	0	124	124	5.0	95.4	3.3	93.2	14.9	18.0	4.6	0.5	-	8.4	6.5	112	112	98.4	0.0
	b. Renal carcinoma	0	4	1	1	3	6	9	0.2	4.6	0.2	6.8	-	0.9	0.2	0.2	0.5	0.4	0.4	5	8	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	9	17	3	2	8	31	39	1.3	100.0	1.0	100.0	7.9	3.9	0.5	0.4	1.3	2.1	1.9	28	35	94.9	2.6
	a. Hepatoblastoma	8	17	3	0	0	28	28	1.1	90.3	0.7	71.8	7.0	3.9	0.5	-	-	1.9	1.5	25	25	96.4	0.0
	b. Hepatic carcinoma	0	0	0	2	8	2	10	0.1	6.5	0.3	25.6	-	-	-	0.4	1.3	0.1	0.4	2	9	100.0	0.0
	c. Unspecified	1	0	0	0	0	1	1	0.0	3.2	0.0	2.6	0.9	-	-	-	-	0.1	0.1	1	1	0.0	100.0
VIII	BONE TUMOURS	0	7	28	69	82	104	186	4.2	100.0	4.9	100.0	-	1.6	5.1	12.2	13.8	5.7	7.5	93	162	97.8	0.5
	a. Osteosarcoma	0	0	11	39	45	50	95	2.0	48.1	2.5	51.1	-	-	2.0	6.9	7.6	2.7	3.8	45	82	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	4	1	5	0.0	1.0	0.1	2.7	-	-	-	0.2	0.7	0.1	0.2	1	4	100.0	0.0
	c. Ewing & related	0	5	17	26	27	48	75	1.9	46.2	2.0	40.3	-	1.1	3.1	4.6	4.5	2.7	3.1	43	66	98.7	0.0
	d. Other specified	0	1	0	1	4	2	6	0.1	1.9	0.2	3.2	-	0.2	-	0.2	0.7	0.1	0.2	2	5	100.0	0.0
	e. Unspecified	0	1	0	2	2	3	5	0.1	2.9	0.1	2.7	-	0.2	-	0.4	0.3	0.2	0.2	3	4	40.0	20.0
IX	SOFT TISSUE SARCOMA	14	51	46	47	74	158	232	6.4	100.0	6.1	100.0	12.3	11.6	8.4	8.3	12.5	9.7	10.3	142	205	99.1	0.0
	a. Rhabdomyosarcoma	3	44	29	19	15	95	110	3.8	60.1	2.9	47.4	2.6	10.0	5.3	3.4	2.5	6.0	5.2	86	98	98.2	0.0
	b. Fibrosarcoma	6	1	5	6	8	18	26	0.7	11.4	0.7	11.2	5.3	0.2	0.9	1.1	1.3	1.1	1.2	16	23	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	3	6	9	18	45	36	81	1.5	22.8	2.1	34.9	2.6	1.4	1.6	3.2	7.6	2.1	3.3	32	70	100.0	0.0
	e. Unspecified	2	0	3	4	6	9	15	0.4	5.7	0.4	6.5	1.8	-	0.5	0.7	1.0	0.5	0.6	8	13	100.0	0.0
X	GERM CELL TUMOURS	21	12	14	28	145	75	220	3.0	100.0	5.8	100.0	18.4	2.7	2.6	4.9	24.4	4.6	9.0	67	190	98.2	0.0
	a. CNS germ cell ‡	2	1	5	12	9	20	29	0.8	26.7	0.8	13.2	1.8	0.2	0.9	2.1	1.5	1.1	1.2	18	25	96.6	0.0
	b. Other extragonadal	14	4	2	1	5	21	26	0.8	28.0	0.7	11.8	12.3	0.9	0.4	0.2	0.8	1.4	1.3	19	23	96.2	0.0
	c. Gonadal germ cell	5	7	6	14	122	32	154	1.3	42.7	4.1	70.0	4.4	1.6	1.1	2.5	20.6	1.9	6.1	29	131	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	7	1	8	0.0	1.3	0.2	3.6	-	-	-	0.2	1.2	0.1	0.3	1	7	100.0	0.0
	e. Unspecified gonadal	0	0	1	0	2	1	3	0.0	1.3	0.1	1.4	-	-	0.2	-	0.3	0.1	0.1	1	3	33.3	0.0
XI	CARCINOMA & MELANOMA	1	2	10	52	281	65	346	2.6	100.0	9.2	100.0	0.9	0.5	1.8	9.2	47.3	3.5	13.3	58	295	98.8	0.0
	a. Adrenocortical	0	1	1	2	1	4	5	0.2	6.2	0.1	1.4	-	0.2	0.2	0.4	0.2	0.2	0.2	4	4	80.0	0.0
	b. Thyroid	0	0	1	9	52	10	62	0.4	15.4	1.6	17.9	-	-	0.2	1.6	8.8	0.5	2.4	9	53	100.0	0.0
	c. Nasopharyngeal	0	0	0	6	12	6	18	0.2	9.2	0.5	5.2	-	-	-	1.1	2.0	0.3	0.7	5	15	100.0	0.0
	d. Melanoma	0	1	4	10	99	15	114	0.6	23.1	3.0	32.9	-	0.2	0.7	1.8	16.7	0.8	4.4	13	97	99.1	0.0
	e. Skin carcinoma	0	0	1	6	55	7	62	0.3	10.8	1.6	17.9	-	-	0.2	1.1	9.3	0.4	2.4	6	53	98.4	0.0
	f. Other & unspecified	1	0	3	19	62	23	85	0.9	35.4	2.2	24.6	0.9	-	0.5	3.4	10.4	1.2	3.3	20	73	98.8	0.0
XII	OTHER & UNSPECIFIED	3	8	3	6	4	20	24	0.8	100.0	0.6	100.0	2.6	1.8	0.5	1.1	0.7	1.3	1.1	18	21	70.8	0.0
	a. Other specified	1	5	2	0	2	8	10	0.3	40.0	0.3	41.7	0.9	1.1	0.4	-	0.3	0.5	0.5	7	9	100.0	0.0
	b. Other unspecified	2	3	1	6	2	12	14	0.5	60.0	0.4	58.3	1.8	0.7	0.2	1.1	0.3	0.7	0.6	11	12	50.0	0.0
	TOTAL	237	889	632	715	1308	2473	3781	100.0	100.0	100.0	100.0	207.6	202.6	115.7	126.3	220.4	152.8	168.0	2229	3330	94.4	0.2

† includes 341 non-malignant ‡ includes 3 non-malignant

Please consult the quality indicators for this registry

Italy

Italy is located in southern Europe. It covers an area of 301 340 km^2, which includes the large islands of Sardinia and Sicily and many smaller islands. The mainland is bordered to the north by, from west to east, France, Switzerland, Austria, and Slovenia; the remainder of the country has a long Mediterranean coastline. The terrain is mostly mountainous, and the north includes part of the Southern Alps. The climate ranges from humid subtropical to humid, continental, and oceanic.

Italy is an industrialized, high-income country with a very high HDI and high quality of life. The economy is driven by creative and innovative businesses, a large and competitive agricultural sector, and influential automobile, machinery, food, design, and fashion industries. The tertiary sector is the largest (65%), followed by industry (16%), construction (9%), and agriculture (3%).

Administratively, Italy is divided into 20 regions, which are further subdivided into 14 metropolitan cities and 96 provinces. In 2010, the estimated total population was 59.6 million (Table A.7), and 19% of the population was younger than 20 years (Table A.6). The average population density is 200 per km^2. The past 15 years have been characterized by the ageing of the Italian population and an influx of immigrants, who make up almost 10% of the total population. Large numbers of immigrants come from Romania, Albania, Morocco, and other countries in Europe, northern Asia, and Latin America. Immigrants settle mostly in the most economically developed areas of the northern and central parts of the country and contribute one third of new births. The life expectancy is 80 years for males and 85 years for females. About 10% of adults have obesity.

Since 1978, Italy has had a publicly financed health-care system that ensures equal access to health care, which is provided free of charge to all citizens and legally registered foreign residents. Medical care is organized at the regional level and provided by a system of public and private services. High-quality cancer care may be distributed unequally across the country. The Italian Association of Pediatric Hematology and Oncology (Associazione Italiana di Ematologia e Oncologia Pediatrica; AIEOP) (http://www.aieop.org/web) coordinates national and international clinical trials throughout the country. Cancer notification is not mandatory, and cancer registration is delegated to subnational government structures. Therefore, cancer registration is voluntary and is based on active case finding.

The Italian contributors to IICC-3 are all members of the Italian Association of Cancer Registries (AIRTUM) and contribute anonymized data to the AIRTUM database. National guidelines, which are available online (https://www.registri-tumori.it/cms/pagine/i-manuali-airtum), help standardize registration procedures. Several cancer registries have implemented an automated cancer registration system, called Open Registry, using EpiLink software, developed by the National Cancer Institute of Milan and based on the Linux operating system and Oracle Database. The registries have access to death certificates of residents at the regional level. Data are pooled to provide national estimates of cancer incidence, mortality, survival, and prevalence, for inclusion in collaborative publications, and for submission to international studies. AIRTUM has published analyses of cancer in children and adolescents, using the combined data from all registries.

PUBLICATIONS

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AIRTUM Working Group; CCM; AIEOP Working Group (2013). Italian cancer figures, report 2012: cancer in children and adolescents. Epidemiol Prev. 37(Suppl 1):1–225. PMID:23585445

Contiero P, Tittarelli A, Tagliabue G, Maghini A, Fabiano S, Crosignani P, et al. (2005). The EpiLink record linkage software: presentation and results of linkage test on cancer registry files. Methods Inf Med. 44(1):66–71. https://doi.org/10.1055/s-0038-1633924 PMID:15778796

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POPULATION AT RISK

The source of the data for all registries except the Reggio Emilia Cancer Registry and the Romagna Cancer Registry is the Italian National Institute of Statistics (ISTAT; https://www.istat.it/). The data are based on national censuses conducted in 1991, 2001, and 2011 (Table A.7). The census data are updated annually using information collected from the Population Register Offices. Unless otherwise specified for individual registries, population data were provided by AIRTUM. Data were provided in the requested detail for all participating registries.

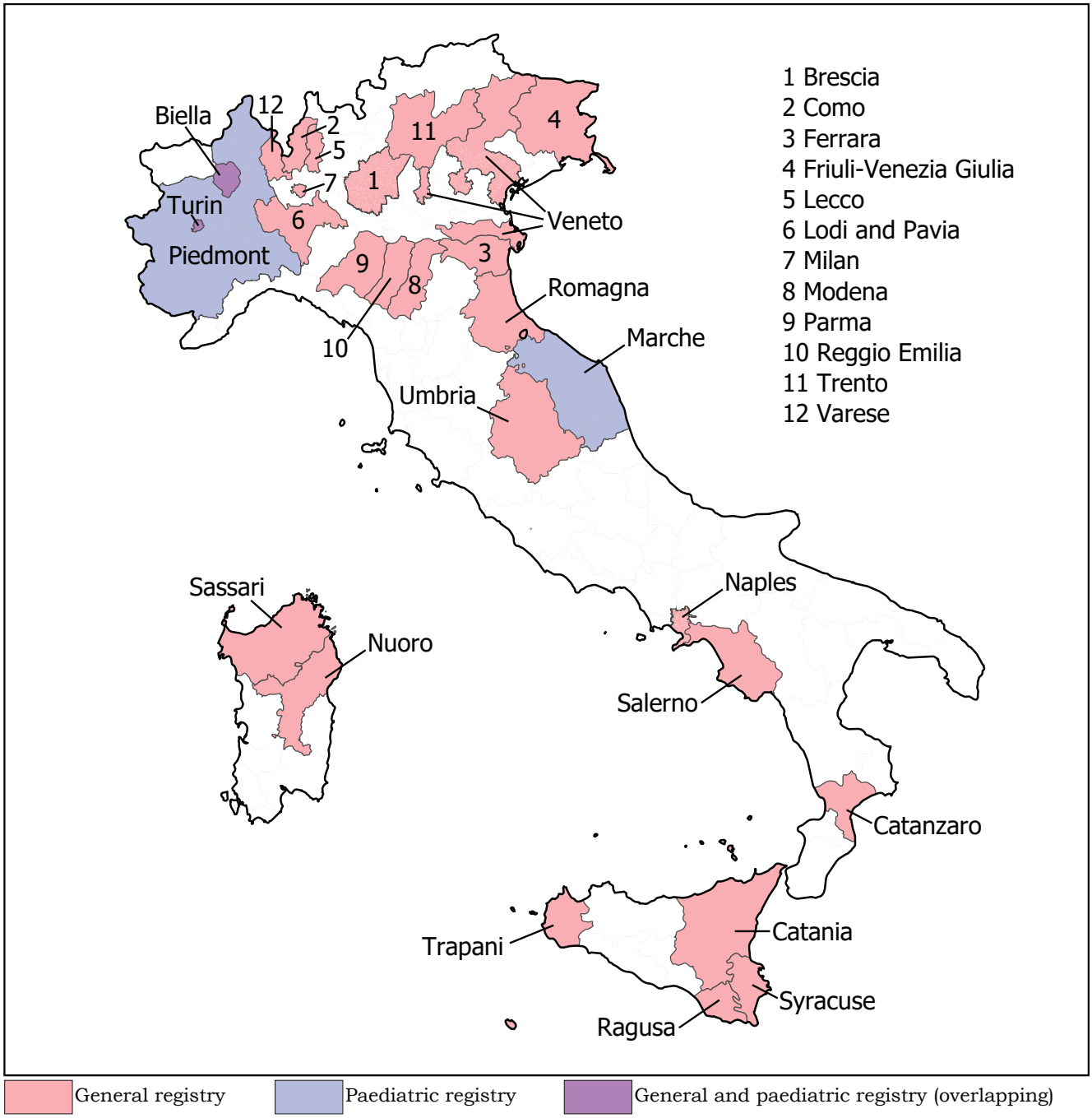
EDITORS' COMMENTS

AIRTUM provided a combined dataset and participated in coordination of the Italian contribution to IICC-3. The included data are presented in the IICC-3 book in the three tables (Table A.12): a combined dataset from two paediatric registries for the Marche and Piedmont regions, which include the age group 0–19 years for 1998–2011; the data from the Childhood Cancer Registry of Piedmont (CCRP) for the age group 0–14 years for 1990–2011; and the data pooled from 26 subnational areas covered by general cancer registries. In addition, the full incidence

tables are available online for 16 individual general cancer registries, and abbreviated tables are available for five smaller registries: Como, Ferrara, Lodi and Pavia, Trento, and Syracuse (Table A.12). The participating registries cover about 44% of the total target population younger than 20 years. Four of these registries contributed to IICC-2 (Parma, Ragusa, Varese, and Veneto), and CCRP participated in all three IICC volumes (Table A.1).

The paediatric population covered by the registries of Biella and the Piedmont Cancer Registry located in Turin is also covered by CCRP.

Despite efforts to standardize practices at the national level, considerable variation exists in registration practices and data quality. The registries (with the exception of Marche) have access to regional databases of death certificates. Not all registries record non-malignant CNS tumours; however, the 16 registries that systematically record them provided the relevant data to IICC-3. Reporting of non-melanoma skin cancer also varies. It is complete in some registries, whereas other registries include only some types of skin carcinoma, and still other registries do not record skin carcinoma. These variations in registration practices contribute to differences in incidence between the registries. Most of the included registries report very high incidence rates for children and adolescents compared with other European countries (Table A.9). The MV% varies between 80.3% and 96.8%. Nine registries have a high proportion of tumours with unspecified morphology (Table A.9). Information on laterality is complete in only two registries (CCRP and Biella). Laterality is also complete for one or two diagnoses of interest in four registries, is incomplete in 15 registries, and is not provided by seven registries.



Childhood Cancer Registry of the Marche Region, 1998–2007

Cristiana Pascucci, Mario Cocchioni

The registry covers the Marche Region, an area of 9694 km^2 in central Italy bordered by the Adriatic Sea to the east and the Apennine Mountains to the west. The region is divided into five provinces. The climate is Mediterranean along the coastal zone and oceanic in the mountainous zone. In 2010, the total population was 1.5 million, and 18% of the population was younger than 20 years (Table A.6). The economy is based on thriving small and medium-sized, highly specialized industries, which are located throughout the country but are concentrated mostly in the coastal areas. Regional manufacturers produce footwear, furniture, household equipment, and paper products.

The Marche Region has only one paediatric hospital, in the city of Ancona, which provides paediatric oncology services in a specialized unit. The neurosurgery units of the regional hospitals treat both children and adolescents with cancer.

The registry has collected data on children (aged 0–14 years) since 1990 (Table A.10) and on adolescents (aged 15–19 years) since 1998. All malignant tumours and all intracranial tumours (malignant, benign, and uncertain behaviour) are included, as defined in ICCC. Data for 1990–1995 were collected retrospectively; since 1996, active prospective collection has been accompanied by periodic follow-up of registered patients through official municipal population registries. The data are used for surveillance of cancer incidence in children and adolescents, including time trends and geographical variation, and to study survival and occurrence of second primary tumours.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The registry does not have access to identified death certificates; thus, a proportion of new cases may have been missed. The incidence rates are high (Table A.9). Non-malignant CNS tumours (except pituitary adenomas) were registered. Pilocytic astrocytoma was coded with malignant behaviour. Skin carcinomas were registered. Laterality was complete for 69% of the cases of interest. See also Italy, above.

Childhood Cancer Registry of Piedmont, 1990–2011

Daniela Alessi, Vanda Macerata, Corrado Magnani, Milena Maule, Franco Merletti, Maria Luisa Mosso, Carlotta Sacerdote, Benedetto Terracini

The region of Piedmont is located in north-western Italy and is bordered by the Italian regions of Liguria, Lombardy, Emilia-Romagna, and Aosta Valley, and by France and Switzerland. It covers an area of 25 402 km^2 and has a population of 4.4 million; 13% of the population is younger than 15 years, and 17% is younger than 20 years (Table A.6). The regional capital is Turin.

A regional network for childhood cancer care includes a regional referral centre and eight satellite units. Most care for children with cancer is supplied by either the regional referral centre or the satellite units; the satellite units provide low-complexity care in strict collaboration with the regional referral centre. General oncology centres within the covered area provide cancer care for some adolescent patients.

The Childhood Cancer Registry of Piedmont (CCRP) was established in 1965 (Table A.10) and has provided incidence data since 1967 for children diagnosed with cancer who reside in the Piedmont Region. The registry has recorded demographic and clinical data on children (aged 0–14 years) since 1965 and on adolescents (aged 15–19 years) since 2000.

Until 2008, cases were actively collected by trained personnel at 2–3-year intervals from hospital records and other relevant files. Cases were ascertained from records of all paediatric wards of the hospitals in the region and of other wards to which Piedmont residents may have been referred for diagnosis or treatment. This active case finding was supplemented from pathology reports, hospital admissions records, reimbursement records (for patients treated in other countries), mortality records, and the AIEOP database.

Since 2008, CCRP ascertains cases mainly from electronic archives of Italian hospital discharge records, electronic archives of pathology laboratories, archives of radiotherapy departments, and archives of hospital-based cancer registries, even if these do not cover the entire target population. For all identified cases, CCRP attempts to obtain all available clinical documentation.

The registry collects information on all newly diagnosed malignant and in situ neoplasms and non-malignant CNS tumours other than teratomas and neurofibromas. All cases in the registry are verified using IARCcrgTools checks.

Cases are actively followed up at regular intervals to ascertain vital status and cause of death. For each child, the current vital status is checked at the municipality where they were last known to have lived. For the deceased cases, the death certificate is obtained from the hospital or municipality where they last lived or where they died. Follow-up for multiple primary tumours is conducted routinely.

Data collected from CCRP have been used to describe incidence and survival for childhood cancer in the Piedmont Region and to investigate late effects in survivors. CCRP contributes data to AIRTUM and to international studies, such as EUROCARE and PanCareSurFup (https://www.pancaresurfup.eu/).

PUBLICATIONS

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POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

Two overlapping datasets are tabulated in IICC-3. The first covers the full period 1990–2011 for ages 0–14 years. The second covers 2000–2011 for ages 0–19 years. The overall incidence rates are high in both datasets (Table A.9). Data were provided on non-malignant CNS tumours (except teratomas) as defined in ICCC-3. The behaviour of pilocytic astrocytoma was originally coded according to the ICD-O edition in use (Table A.10), and all cases were later recoded with the conversion to ICD-O-3. Information on laterality was complete. See also Italy, above.

ITALY, 2 paediatric registries (1998-2011)

	Age group (years)	Males	Females
Person-years	0	294 278	277 470
	1-4	1 168 436	1 103 695
	5-9	1 436 321	1 356 645
	10-14	1 436 739	1 357 047
	15-19	1 481 311	1 396 614
	0-14	4 335 774	4 094 857
	0-19	5 817 085	5 491 471

Please consult the quality indicators for this pool and its constituent registries

ITALY, Piedmont, paediatric (1990-2011)

	Age group (years)	Males	Females
Person-years	0	399 924	377 602
	1-4	1 598 098	1 509 640
	5-9	1 986 757	1 877 661
	10-14	2 060 943	1 949 677
	0-14	6 045 722	5 714 580
Average annual population	0-14	274 806	259 754

Please consult the quality indicators for this registry

ITALY, 2 paediatric registries (1998-2011)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	15	232	125	104	102	**476**	**578**	29.6	100.0	23.9	100.0	26.2	102.1	44.8	37.2	35.4	**58.9**	**53.6**	844	1021	99.8	0.0
	a. Lymphoid	10	209	105	64	57	**388**	**445**	24.1	81.5	18.4	77.0	17.5	92.0	37.6	22.9	19.8	**48.6**	**42.1**	688	787	99.8	0.0
	b. Acute myeloid	2	16	13	26	32	**57**	**89**	3.5	12.0	3.7	15.4	3.5	7.0	4.7	9.3	11.1	**6.7**	**7.7**	101	157	100.0	0.0
	c. CMD	0	2	4	11	9	**17**	**26**	1.1	3.6	1.1	4.5	-	0.9	1.4	3.9	3.1	**1.9**	**2.2**	30	46	100.0	0.0
	d. MDS & other	3	5	2	3	3	**13**	**16**	0.8	2.7	0.7	2.8	5.2	2.2	0.7	1.1	1.0	**1.6**	**1.5**	23	28	100.0	0.0
	e. Unspecified	0	0	1	0	1	**1**	**2**	0.1	0.2	0.1	0.3	-	-	0.4	-	0.3	**0.1**	**0.2**	2	4	100.0	0.0
II	**LYMPHOMA & RELATED**	1	27	52	117	263	**197**	**460**	12.2	100.0	19.1	100.0	1.7	11.9	18.6	41.9	91.4	**22.0**	**37.6**	352	809	99.8	0.0
	a. Hodgkin	0	5	21	67	202	**93**	**295**	5.8	47.2	12.2	64.1	-	2.2	7.5	24.0	70.2	**10.1**	**23.6**	166	517	99.7	0.0
	b. Non-Hodgkin except BL	0	13	14	27	48	**54**	**102**	3.4	27.4	4.2	22.2	-	5.7	5.0	9.7	16.7	**6.2**	**8.6**	96	180	100.0	0.0
	c. Burkitt (BL)	0	8	17	22	11	**47**	**58**	2.9	23.9	2.4	12.6	-	3.5	6.1	7.9	3.8	**5.3**	**5.0**	84	103	100.0	0.0
	d. Lymphoreticular	1	1	0	1	2	**3**	**5**	0.2	1.5	0.2	1.1	1.7	0.4	-	0.4	0.7	**0.4**	**0.4**	5	9	100.0	0.0
	e. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
III	**CNS NEOPLASMS** †	30	135	121	123	100	**409**	**509**	25.4	100.0	21.1	100.0	52.5	59.4	43.3	44.0	34.7	**49.2**	**46.0**	727	901	86.2	0.0
	a. Ependymoma	5	27	9	9	11	**50**	**61**	3.1	12.2	2.5	12.0	8.7	11.9	3.2	3.2	3.8	**6.3**	**5.8**	88	108	96.7	0.0
	b. Astrocytoma	12	47	54	49	35	**162**	**197**	10.1	39.6	8.2	38.7	21.0	20.7	19.3	17.5	12.2	**19.4**	**17.7**	288	349	92.9	0.0
	c. CNS embryonal	8	25	23	14	12	**70**	**82**	4.3	17.1	3.4	16.1	14.0	11.0	8.2	5.0	4.2	**8.6**	**7.6**	124	145	100.0	0.0
	d. Other gliomas	1	5	8	7	11	**21**	**32**	1.3	5.1	1.3	6.3	1.7	2.2	2.9	2.5	3.8	**2.5**	**2.8**	37	57	62.5	0.0
	e. Other specified	3	28	18	36	30	**85**	**115**	5.3	20.8	4.8	22.6	5.2	12.3	6.4	12.9	10.4	**10.0**	**10.1**	151	203	81.7	0.0
	f. Unspecified CNS	1	3	9	8	1	**21**	**22**	1.3	5.1	0.9	4.3	1.7	1.3	3.2	2.9	0.3	**2.4**	**2.0**	37	39	4.5	0.0
IV	**NEUROBLASTOMA**	65	58	18	2	6	**143**	**149**	8.9	100.0	6.2	100.0	113.7	25.5	6.4	0.7	2.1	**19.0**	**15.2**	252	262	99.3	0.0
	a. (Ganglio)neuroblastoma	65	58	18	1	4	**142**	**146**	8.8	99.3	6.0	98.0	113.7	25.5	6.4	0.4	1.4	**18.9**	**15.0**	250	257	99.3	0.0
	b. Peripheral nervous	0	0	0	1	2	**1**	**3**	0.1	0.7	0.1	2.0	-	-	-	0.4	0.7	**0.1**	**0.2**	2	5	100.0	0.0
V	**RETINOBLASTOMA**	13	21	0	0	0	**34**	**34**	2.1	100.0	1.4	100.0	22.7	9.2	-	-	-	**4.6**	**3.6**	60	60	70.6	0.0
VI	**RENAL TUMOURS**	12	48	11	2	3	**73**	**76**	4.5	100.0	3.1	100.0	21.0	21.1	3.9	0.7	1.0	**9.6**	**7.7**	129	134	100.0	0.0
	a. Nephroblastoma	12	48	10	1	0	**71**	**71**	4.4	97.3	2.9	93.4	21.0	21.1	3.6	0.4	-	**9.4**	**7.3**	125	125	100.0	0.0
	b. Renal carcinoma	0	0	1	1	3	**2**	**5**	0.1	2.7	0.2	6.6	-	-	0.4	0.4	1.0	**0.2**	**0.4**	4	9	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	**HEPATIC TUMOURS**	8	7	4	5	2	**24**	**26**	1.5	100.0	1.1	100.0	14.0	3.1	1.4	1.8	0.7	**3.0**	**2.5**	42	46	100.0	0.0
	a. Hepatoblastoma	8	7	2	1	0	**18**	**18**	1.1	75.0	0.7	69.2	14.0	3.1	0.7	0.4	-	**2.4**	**1.8**	32	32	100.0	0.0
	b. Hepatic carcinoma	0	0	2	4	2	**6**	**8**	0.4	25.0	0.3	30.8	-	-	0.7	1.4	0.7	**0.6**	**0.7**	11	14	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	0	2	14	48	46	**64**	**110**	4.0	100.0	4.6	100.0	-	0.9	5.0	17.2	16.0	**6.9**	**8.9**	114	194	100.0	0.0
	a. Osteosarcoma	0	0	9	33	29	**42**	**71**	2.6	65.6	2.9	64.5	-	-	3.2	11.8	10.1	**4.5**	**5.7**	75	126	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	3	**0**	**3**	-	-	0.1	2.7	-	-	-	-	1.0	**-**	**0.2**	-	5	100.0	0.0
	c. Ewing & related	0	2	5	15	14	**22**	**36**	1.4	34.4	1.5	32.7	-	0.9	1.8	5.4	4.9	**2.4**	**3.0**	39	64	100.0	0.0
	d. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
IX	**SOFT TISSUE SARCOMA**	7	24	18	29	51	**78**	**129**	4.8	100.0	5.3	100.0	12.2	10.6	6.4	10.4	17.7	**9.3**	**11.2**	139	227	100.0	0.0
	a. Rhabdomyosarcoma	2	22	9	6	14	**39**	**53**	2.4	50.0	2.2	41.1	3.5	9.7	3.2	2.1	4.9	**4.9**	**4.9**	69	93	100.0	0.0
	b. Fibrosarcoma	4	1	1	6	9	**12**	**21**	0.7	15.4	0.9	16.3	7.0	0.4	0.4	2.1	3.1	**1.4**	**1.8**	21	37	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	0	1	8	14	23	**23**	**46**	1.4	29.5	1.9	35.7	-	0.4	2.9	5.0	8.0	**2.5**	**3.7**	41	81	100.0	0.0
	e. Unspecified	1	0	0	3	5	**4**	**9**	0.2	5.1	0.4	7.0	1.7	-	-	1.1	1.7	**0.4**	**0.7**	7	16	100.0	0.0
X	**GERM CELL TUMOURS**	14	13	6	17	77	**50**	**127**	3.1	100.0	5.3	100.0	24.5	5.7	2.1	6.1	26.8	**6.1**	**10.8**	89	222	95.3	0.0
	a. CNS germ cell ‡	6	1	4	10	2	**21**	**23**	1.3	42.0	1.0	18.1	10.5	0.4	1.4	3.6	0.7	**2.5**	**2.1**	37	41	73.9	0.0
	b. Other extragonadal	4	8	0	0	2	**12**	**14**	0.7	24.0	0.6	11.0	7.0	3.5	-	-	0.7	**1.6**	**1.4**	21	25	100.0	0.0
	c. Gonadal germ cell	4	4	2	7	65	**17**	**82**	1.1	34.0	3.4	64.6	7.0	1.8	0.7	2.5	22.6	**2.0**	**6.7**	30	143	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	7	**0**	**7**	-	-	0.3	5.5	-	-	-	-	2.4	**-**	**0.5**	-	12	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	1	**0**	**1**	-	-	0.0	0.8	-	-	-	-	0.3	**-**	**0.1**	-	2	100.0	0.0
XI	**CARCINOMA & MELANOMA**	0	3	10	47	151	**60**	**211**	3.7	100.0	8.7	100.0	-	1.3	3.6	16.8	52.5	**6.4**	**16.8**	107	370	99.5	0.0
	a. Adrenocortical	0	0	2	1	0	**3**	**3**	0.2	5.0	0.1	1.4	-	-	0.7	0.4	-	**0.3**	**0.3**	5	5	100.0	0.0
	b. Thyroid	0	1	4	19	69	**24**	**93**	1.5	40.0	3.9	44.1	-	0.4	1.4	6.8	24.0	**2.6**	**7.4**	43	163	100.0	0.0
	c. Nasopharyngeal	0	0	0	2	4	**2**	**6**	0.1	3.3	0.2	2.8	-	-	-	0.7	1.4	**0.2**	**0.5**	4	11	100.0	0.0
	d. Melanoma	0	2	1	10	43	**13**	**56**	0.8	21.7	2.3	26.5	-	0.9	0.4	3.6	14.9	**1.4**	**4.5**	23	98	98.2	0.0
	e. Skin carcinoma	0	0	2	1	6	**3**	**9**	0.2	5.0	0.4	4.3	-	-	0.7	0.4	2.1	**0.3**	**0.7**	5	16	100.0	0.0
	f. Other & unspecified	0	0	1	14	29	**15**	**44**	0.9	25.0	1.8	20.9	-	-	0.4	5.0	10.1	**1.6**	**3.5**	27	77	100.0	0.0
XII	**OTHER & UNSPECIFIED**	0	2	0	0	3	**2**	**5**	0.1	100.0	0.2	100.0	-	0.9	-	-	1.0	**0.3**	**0.4**	4	9	100.0	0.0
	a. Other specified	0	2	0	0	2	**2**	**4**	0.1	100.0	0.2	80.0	-	0.9	-	-	0.7	**0.3**	**0.4**	4	7	100.0	0.0
	b. Other unspecified	0	0	0	0	1	**0**	**1**	-	-	0.0	20.0	-	-	-	-	0.3	**-**	**0.1**	-	2	100.0	0.0
	TOTAL	165	572	379	494	804	**1610**	**2414**	100.0	100.0	100.0	100.0	288.6	251.7	135.7	176.8	279.4	**195.4**	**214.3**	2858	4255	96.3	0.0

† includes 236 non-malignant ‡ includes 2 non-malignant

Please consult the quality indicators for this pool and its constituent registries

ITALY, Piedmont, paediatric (1990-2011)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	22	324	186	151	**683**	31.4	100.0	28.3	104.3	48.1	37.7	**60.9**	874	100.0	0.0
	a. Lymphoid	10	293	153	90	**546**	25.1	79.9	12.9	94.3	39.6	22.4	**49.5**	700	100.0	0.0
	b. Acute myeloid	9	23	20	46	**98**	4.5	14.3	11.6	7.4	5.2	11.5	**8.2**	124	100.0	0.0
	c. CMD	0	2	7	11	**20**	0.9	2.9	-	0.6	1.8	2.7	**1.6**	25	100.0	0.0
	d. MDS & other	2	4	3	2	**11**	0.5	1.6	2.6	1.3	0.8	0.5	**1.0**	14	100.0	0.0
	e. Unspecified	1	2	3	2	**8**	0.4	1.2	1.3	0.6	0.8	0.5	**0.7**	10	100.0	0.0
II	LYMPHOMA & RELATED	1	40	67	155	**263**	12.1	100.0	1.3	12.9	17.3	38.6	**20.9**	333	99.6	0.0
	a. Hodgkin	0	6	27	78	**111**	5.1	42.2	-	1.9	7.0	19.4	**8.5**	140	100.0	0.0
	b. Non-Hodgkin except BL	0	15	20	42	**77**	3.5	29.3	-	4.8	5.2	10.5	**6.2**	98	100.0	0.0
	c. Burkitt (BL)	0	17	19	34	**70**	3.2	26.6	-	5.5	4.9	8.5	**5.7**	89	100.0	0.0
	d. Lymphoreticular	1	2	0	1	**4**	0.2	1.5	1.3	0.6	-	0.2	**0.4**	5	100.0	0.0
	e. Unspecified	0	0	1	0	**1**	0.0	0.4	-	-	0.3	-	**0.1**	1	0.0	0.0
III	CNS NEOPLASMS †	29	164	180	170	**543**	24.9	100.0	37.3	52.8	46.6	42.4	**46.6**	693	87.1	0.0
	a. Ependymoma	4	38	19	13	**74**	3.4	13.6	5.1	12.2	4.9	3.2	**6.7**	95	98.6	0.0
	b. Astrocytoma	12	58	71	75	**216**	9.9	39.8	15.4	18.7	18.4	18.7	**18.3**	275	95.8	0.0
	c. CNS embryonal	7	30	37	22	**96**	4.4	17.7	9.0	9.7	9.6	5.5	**8.4**	123	99.0	0.0
	d. Other gliomas	0	5	10	6	**21**	1.0	3.9	-	1.6	2.6	1.5	**1.8**	27	47.6	0.0
	e. Other specified	5	22	27	42	**96**	4.4	17.7	6.4	7.1	7.0	10.5	**8.0**	122	89.6	0.0
	f. Unspecified CNS	1	11	16	12	**40**	1.8	7.4	1.3	3.5	4.1	3.0	**3.4**	51	5.0	0.0
IV	NEUROBLASTOMA	78	74	21	6	**179**	8.2	100.0	100.3	23.8	5.4	1.5	**17.3**	230	99.4	0.0
	a. (Ganglio)neuroblastoma	78	74	21	2	**175**	8.0	97.8	100.3	23.8	5.4	0.5	**17.0**	225	99.4	0.0
	b. Peripheral nervous	0	0	0	4	**4**	0.2	2.2	-	-	-	1.0	**0.3**	5	100.0	0.0
V	RETINOBLASTOMA	25	28	1	0	**54**	2.5	100.0	32.2	9.0	0.3	-	**5.4**	70	79.6	0.0
VI	RENAL TUMOURS	14	58	19	5	**96**	4.4	100.0	18.0	18.7	4.9	1.2	**9.1**	123	100.0	0.0
	a. Nephroblastoma	14	58	19	4	**95**	4.4	99.0	18.0	18.7	4.9	1.0	**9.0**	122	100.0	0.0
	b. Renal carcinoma	0	0	0	1	**1**	0.0	1.0	-	-	-	0.2	**0.1**	1	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	11	10	2	4	**27**	1.2	100.0	14.1	3.2	0.5	1.0	**2.5**	35	100.0	0.0
	a. Hepatoblastoma	11	9	0	1	**21**	1.0	77.8	14.1	2.9	-	0.2	**2.1**	27	100.0	0.0
	b. Hepatic carcinoma	0	1	2	3	**6**	0.3	22.2	-	0.3	0.5	0.7	**0.5**	8	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	0	4	21	66	**91**	4.2	100.0	-	1.3	5.4	16.5	**6.9**	115	100.0	0.0
	a. Osteosarcoma	0	0	10	39	**49**	2.2	53.8	-	-	2.6	9.7	**3.7**	62	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Ewing & related	0	4	11	25	**40**	1.8	44.0	-	1.3	2.8	6.2	**3.1**	51	100.0	0.0
	d. Other specified	0	0	0	2	**2**	0.1	2.2	-	-	-	0.5	**0.1**	2	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
IX	SOFT TISSUE SARCOMA	10	40	24	43	**117**	5.4	100.0	12.9	12.9	6.2	10.7	**10.1**	149	100.0	0.0
	a. Rhabdomyosarcoma	5	32	12	10	**59**	2.7	50.4	6.4	10.3	3.1	2.5	**5.4**	76	100.0	0.0
	b. Fibrosarcoma	5	2	3	6	**16**	0.7	13.7	6.4	0.6	0.8	1.5	**1.4**	20	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	0	6	9	20	**35**	1.6	29.9	-	1.9	2.3	5.0	**2.8**	44	100.0	0.0
	e. Unspecified	0	0	0	7	**7**	0.3	6.0	-	-	-	1.7	**0.5**	9	100.0	0.0
X	GERM CELL TUMOURS	16	16	7	23	**62**	2.8	100.0	20.6	5.1	1.8	5.7	**5.4**	79	93.5	1.6
	a. CNS germ cell	4	0	5	9	**18**	0.8	29.0	5.1	-	1.3	2.2	**1.5**	23	83.3	0.0
	b. Other extragonadal	6	11	0	0	**17**	0.8	27.4	7.7	3.5	-	-	**1.7**	22	94.1	5.9
	c. Gonadal germ cell	6	5	2	13	**26**	1.2	41.9	7.7	1.6	0.5	3.2	**2.2**	33	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	**1**	0.0	1.6	-	-	-	0.2	**0.1**	1	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	1	1	11	48	**61**	2.8	100.0	1.3	0.3	2.8	12.0	**4.6**	77	100.0	0.0
	a. Adrenocortical	1	0	2	0	**3**	0.1	4.9	1.3	-	0.5	-	**0.3**	4	100.0	0.0
	b. Thyroid	0	1	5	22	**28**	1.3	45.9	-	0.3	1.3	5.5	**2.1**	35	100.0	0.0
	c. Nasopharyngeal	0	0	0	4	**4**	0.2	6.6	-	-	-	1.0	**0.3**	5	100.0	0.0
	d. Melanoma	0	0	1	8	**9**	0.4	14.8	-	-	0.3	2.0	**0.7**	11	100.0	0.0
	e. Skin carcinoma	0	0	2	1	**3**	0.1	4.9	-	-	0.5	0.2	**0.2**	4	100.0	0.0
	f. Other & unspecified	0	0	1	13	**14**	0.6	23.0	-	-	0.3	3.2	**1.0**	18	100.0	0.0
XII	OTHER & UNSPECIFIED	0	2	0	0	**2**	0.1	100.0	-	0.6	-	-	**0.2**	3	100.0	0.0
	a. Other specified	0	2	0	0	**2**	0.1	100.0	-	0.6	-	-	**0.2**	3	100.0	0.0
	b. Other unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	TOTAL	207	761	539	671	**2178**	100.0	100.0	266.2	244.9	139.5	167.3	**190.0**	2780	96.0	0.0

† includes 266 non-malignant

Please consult the quality indicators for this registry

ITALY, 26 registries (1992-2013)

Registry	Period	Cases	%	Person-years	%
Biella	1995-2010	137	1.2	588 324	1.0
Brescia	1999-2012	559	4.8	2 923 390	5.2
Catania, Messina and Enna	2003-2013	1044	9.0	4 530 969	8.1
Catanzaro	2003-2009	85	0.7	459 923	0.8
Como	2003-2011	229	2.0	952 520	1.7
Ferrara	1992-2011	227	1.9	974 075	1.7
Friuli Venezia Giulia	1995-2010	620	5.3	3 040 691	5.4
Lecco	2003-2010	92	0.8	493 225	0.9
Lodi and Pavia	2003-2009	187	1.6	871 351	1.6
Milan	1999-2007	356	3.1	1 686 328	3.0
Modena	1992-2012	465	4.0	2 351 139	4.2
Naples South	1996-2012	727	6.2	3 233 449	5.8
Nuoro	2003-2012	99	0.8	417 795	0.7
Parma	1992-2013	325	2.8	1 452 583	2.6
Ragusa and Caltanissetta	1992-2012	364	3.1	1 844 943	3.3
Reggio Emilia	1996-2012	313	2.7	1 514 558	2.7
Romagna	1992-2011	782	6.7	3 726 779	6.6
Salerno	1997-2009	698	6.0	3 265 591	5.8
Sassari	1992-2011	381	3.3	1 879 736	3.3
Syracuse	1999-2012	213	1.8	1 210 439	2.2
Trapani	2002-2009	137	1.2	743 243	1.3
Trento	2001-2010	172	1.5	996 225	1.8
Turin	1992-2012	540	4.6	2 970 190	5.3
Umbria	1994-2011	610	5.2	2 608 763	4.6
Varese	1992-2012	672	5.8	3 245 012	5.8
Veneto	1992-2009	1629	14.0	8 190 092	14.6
ITALY	**1992-2013**	**11663**	**100.0**	**56 171 333**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Biella, Piedmont Cancer Registry, 1995–2010

Adriano Giacomin, Simona Andreone, Piercarlo Vercellino

The Province of Biella, which was created in 1992, is located in the northern part of the Piedmont Region. It covers an area of 913 km^2 and has a total population of 0.2 million; most of the population lives in urban areas. In 2007, the registration area was extended to include the Province of Vercelli, which covers an area of 2081 km^2. This approximately doubled the population at risk. In 2010, the total population was 0.4 million, and 16% of the population was younger than 20 years (Table A.6). The population of the two provinces includes migrants who arrived from north-east Italy in the 1950s and 1960s, from southern Italy in the 1970s, and from other countries (Albania, Romania, and Morocco) more recently. The birth rate is low, and the proportion of elderly people (65 years and older) in the population is high.

The textile industry has long been the main activity in Biella, but it has declined recently. Vercelli Province is known for the cultivation of rice. No unusual environmental or occupational exposures were observed in the area, but the prevalence of smoking, alcohol consumption, and drug use is high.

There is one hospital with 450 beds that provides standard surgical specialized services, and there are two private clinics. Patients must travel to the larger medical centres of Milan, Turin, Novara, and Pavia for thoracic surgery, neurosurgery, paediatric oncology, and haematology services.

The registry has collected data on cancer cases since 1995 (Table A.10). It is funded and equipped by the Local Health Authority with the support of the Tempia Foundation. The registry works in collaboration with the Piedmont Reference Center for Epidemiology and Cancer Prevention (CPO) in Turin. The staff consists of one full-time medical officer, one nurse registrar, and one part-time medical officer. The registry uses a custom database structure, complete with clinical and pathological variables, and the coding system is based on search strings. The registry includes benign intracranial and intraspinal tumours and all tumours with malignant, in situ, or uncertain behaviour, except basal and squamous cell skin carcinomas. Non-melanoma skin cancers are included only if the diagnosed case is of specific clinical interest, for example presenting local invasivity as ulcus terebrans, intracranial invasivity, metastatic lesions, or atypical age of incidence.

Data are actively collected using hospital discharge records, pathology reports, and clinical reports, and from imaging archives, laboratory test results, and records from oncological, haematological, and palliative care, radiotherapy, and screening. Once a year the registry verifies all mortality data in the population registry of the province to identify DCO cases and to verify vital status and current place of residence of registered patients. Data are also validated using the IARCcrgTools and CheckAIRTUM rules. Completeness and accuracy are evaluated regularly. The registry reports incidence, mortality, trends, and changes in hospital admissions and survival to local authorities and contributes to evaluation of health services and development of guidelines. The registry is involved in experimental and epidemiological research.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The number of incident cases during the reporting period was not sufficiently large for presentation of the data in a table, but the registry contributed to the national pool (Table A.12). The childhood population covered by this registry is also covered by CCRP. Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Non-melanoma skin cancers are included selectively, as specified above. Laterality is complete. See also Italy, above.

Brescia Cancer Registry, 1999–2012

Michele Magoni, Cinzia Gasparotti, Claudio Sileo

The Province of Brescia is located in the east part of the Lombardy region in northern Italy, and its capital is the city of Brescia. It is bordered by the provinces of Sondrio, Bergamo, Cremona, Mantua, Verona (Veneto Region), and Trentino. The province is known for its three lakes, three rivers, and three valleys. The terrain varies, with mountains in the north, hills in the central region, and a wide plain in the south. Brescia is highly industrialized and has intensive agriculture.

The Brescia Cancer Registry covers a part of the province of 3465 km^2, which corresponds to the Brescia Local Health Authority (ASL Brescia). In 2010, the covered population was 1.1 million, and 20% of the population was younger than 20 years (Table A.6).

The registry is part of the Brescia Local Health Authority, which has access to all the databases of health services provided by the regional health-care system, as part of the national system. This includes civil registry, mortality by cause, hospitalization, drug, diagnostic, and specialist services. Good collaboration with local hospitals and a strict respect for national privacy legislation facilitate access by registry staff members to histology reports and medical files.

POPULATION AT RISK

Population data were provided in the requested detail. See also Italy, above.

EDITORS' COMMENTS

The MV% is rather low (80%), and the proportion of cases based on clinical findings is correspondingly low; however, cases are recorded as MV only if the pathology reports are available for review by a registry staff member. The proportion of cases with unspecified morphology is high (17.5%) (Table A.9), because of difficulties with obtaining pathology reports from data providers in the past. Thus,

the resulting rates may be lower for specific and higher for unspecified cancer types. Non-malignant CNS tumours were not systematically registered; thus, they are not provided. Pilocytic astrocytoma has been coded with malignant behaviour since 2010 and is included. Therefore, the reported incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. Non-melanoma skin cancers are not systematically collected by the registry. Laterality was not provided. See also Italy, above.

Catania, Messina, and Enna, Catania-Messina-Syracuse-Enna Integrated Cancer Registry, 2003–2013

Andrea Benedetto, Marine Castaing, Andrea Di Cataldo, Alessia Anna Di Prima, Paolo Fidelbo, Antonella Ippolito, Eleonora Irato, Anna Leone, Paola Nunzia Rita Pesce, Alessandra Savasta, Carlo Sciacchitano, Antonietta Torrisi, Antonina Torrisi, Massimo Varvarà, Carmelo Viscosi

Catania, Messina, and Enna are provinces on the eastern and northern coasts of Sicily that are next to the Ionian Sea and experience mild winters and long, dry, hot summers. Rolling green hills dotted with olive groves and wineries dominate the more rural landscape, and in the cities ancient structures are juxtaposed with more modern buildings. A prominent landmark is Mount Etna, which at a height of 3320 m above sea level is the highest active volcano in Europe. Mount Etna plagues the Catania area with black ash with its frequent eruptions. The cities of Catania and Messina are the second and third largest economic and industrial hubs of Sicily, after Palermo. The main economic resources of this area are related to the ports, agriculture, tourism, and several electronic, chemical, and pharmaceutical businesses. The three provinces have a population of about 1.9 million, and 21% of the population is younger than 20 years (Table A.6). Because specialized paediatric health care is lacking in the area, the patients migrate for treatment, mostly to the north of the mainland.

The cancer registry of Catania and Messina was established in 2000, after the establishment in 1999 of the cancer registry of Syracuse, with which it was combined in 2005. Population data are available from 2003 (Table A.10). Data for Syracuse (described below) are provided separately because of the separate initial development of the Sicilian registries and their different registration periods. In 2009, the province of Enna was annexed to the Catania-Messina-Syracuse registry, based on a regional decree. The resulting registry was then called the Catania-Messina-Syracuse-Enna Integrated Cancer Registry (https://registrotumori-ct-me-en.it/).

The registry ensures a strong collaboration with the Sicilian Epidemiological Observatory and the other registries in the region, in an effort to achieve a regional surveillance network. In addition, a specific collaboration has been established with the local unit of the AIEOP network to ensure complete registration of childhood cancers. The primary sources of case finding are Italian hospital discharge records, histopathology reports, and death certificates. The registry's archives are digital but mostly not coded; thus, automatic processing of information on cancer cases is not feasible. Therefore, cases are abstracted semi-automatically and completed manually.

The procedures for data processing, coding, and staging were prepared in accordance with IARC, ENCR, and AIRTUM rules. Since it was established, the registry has stimulated the improvement of the quality of local cancer data, such as the coding of histopathology reports.

PUBLICATIONS

Torrisi A, Castaing M, Giurato E, Pesce P, Sciacchitano C, Calabretta L, et al. (2011). Preliminary data on the incidence of paediatric and adolescent tumours in the provinces of Catania and Messina. [in Italian] AIRTUM Conference, Palermo.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The overall incidence rates are high. The proportion of cases with unspecified morphology is rather high, including among the MV cases (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. The proportion of cases aged 19 years in the age group 15–19 years was slightly lower than expected (Table A.9). Sex was unknown for one case (Table A.8). Age did not correspond with dates of birth and incidence in 4% of cases (Table A.8). Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Information on laterality was incomplete, and there were no cases of bilateral tumours in the dataset. See also Italy, above.

Catanzaro Cancer Registry, 2003–2009

Antonella Sutera Sardo, Adriana Mazzei, Maria Antonia Sia, Emilia Caligiuri, Rocco Micò, Santo Scalzi, Stefania Del Duca, Raimondo De Nardo, Filomena Mancusi

The province of Catanzaro is one of the five provinces in the Calabria region, which is located in southern Italy. The province covers an area of 5200 km^2, located on both sides of the Calabrian Apennines. The capital city of Catanzaro is located in the centre of the province, on the narrowest part of Italy, where only 30 km separate the Ionian Sea from the Tyrrhenian Sea. Other parts of the province are mostly mountainous, with steep-sided valleys formed by short rivers. The eastern part of the province forms part of the high plateau of La Sila, about 1200 m above sea level. The climate is typically Mediterranean. The economy relies heavily on maritime tourism; the major tertiary economic activities are trade in Lamezia Terme and tourism in Soverato.

Health insurance coverage is guaranteed by the national health system, which also provides facilities for paediatric oncology. In 2010, the population was 0.4 million, and 21% of the population was younger than 20 years (Table A.6). There are 80 municipalities in the province of Catanzaro. Since the Catanzaro Cancer Registry started, the coverage has expanded from 58 to all 80 municipalities in the province.

The registry collects key information from hospital discharge records, pathology reports, and the ISTAT death certificates. Other data sources include medical records, radiotherapy records, records of disability or other health exemptions, and radiology archives. Data completeness is verified using the CheckAIRTUM program, which comprises several indicators (including the mortality-to-incidence ratio), by comparison with the records of the neighbouring areas and with previous years.

Vital status of registered patients is verified through linkage of registry information with mortality registries, consultation of archives of hospital discharge records, the municipality's records of the assisted people, and other means, including active verification of vital status by direct contact with the patients. The data are provided to the public and to clinicians by request through a dedicated website (www.registrotumoricatanzaro.it).

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The number of incident cases during the reporting period was not sufficiently large for presentation of the data in a table, but the registry contributed to the national pool (Table A.12). From 2005 to 2006, the covered population increased by about 55% because of the expansion of the registration area. Non-malignant CNS tumours are registered, and pilocytic astrocytoma is coded with uncertain behaviour. Laterality was not provided. See also Italy, above.

Cancer Registry of Como Province, 2003–2011

Gemma Gola, Mariangela Corti, Mariacarmela Caparelli, Luigi Grandi

The province of Como covers an area of 1198 km^2 and is located in the Lombardy Region in northern Italy. The area extends around Lake Como. About 67% of the province is mountainous, and 26% is hilly. Its shared border with Switzerland gives the province an international character. The province is divided into 160 municipalities.

Economic activity is dominated by small and medium-sized businesses, many of an artisanal nature. Also prominent are manufacturing, particularly of textiles and clothing, and metalworking and woodworking (including furniture making). Much of the working population lives in the southern part of the province; the average age is higher in the northern part of the province. The population has increased considerably since the 1960s, mainly because of immigration from eastern and southern Italy. About 19% of the population is younger than 20 years (Table A.6).

The province of Como is served by eight general hospitals, which offer all major specialties of medical and surgical care, including paediatrics, oncology, and radiotherapy; there are three pathology departments. Children with haematological or rare cancer types also receive care in specialized hospitals located in large towns and cities (Monza, Milan, and Pavia) in nearby provinces.

The population-based Cancer Registry of Como Province was established in 2008. The registry is supported by the Lombardy Regional Health Authority and is run by the Cancer Registry and Oncological Screening Unit. Professional registry staff consist of one epidemiologist (who is also the director of the registry), two case ascertainers, and one computer programmer, who specializes in record linkage and data checking. The registry uses the Open Registry system. All cases diagnosed before age 20 years are also scrutinized manually.

The main electronic information sources for cancer registration are the hospital discharge records routinely generated by all hospitals in Italy, pathology reports from pathology units within the province (and also from some units outside the province), and mortality data. The accuracy of the automated system was tested by comparison with manual registration, and the site code concordance between the two systems (automated and manual) was 98.4%. The completeness of registration is monitored annually using capture–recapture methods. Clinical consistency is also checked routinely. Death certificates and the municipal register are used to update the vital status.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The overall incidence rates were high, and the proportion of children younger than 15 years in the dataset was slightly lower than expected (Table A.9). Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Laterality was not provided. See also Italy, above.

Ferrara Province Cancer Registry, 1991–2011

Stefano Ferretti, Laura Marzola, Elena Migliari, Nada Carletti, Chiara Petrucci, Patrizia Biavati

The province of Ferrara is located in the north-eastern part of the Emilia-Romagna region, close to the Adriatic Sea. It is also bordered by the Po River to the north, the provinces of Bologna and Ravenna to the south, and the provinces of Modena and Mantova to the west. The average temperature is 14.4 °C, and the average rainfall is 706 mm per year. In 2010, the population was 0.5 million, with a slightly increasing trend after the decrease in the previous decades because of changes in birth rates and migration. About 14% of the population is younger than 20 years (Table A.6). Employed people (44% of the total population) work in industry (28%), agriculture (6%), and trade and services (66%). For several decades, mechanical and chemical industries have been the main sources of air and water pollution.

Foreign residents made up 7.6% of the overall population in 2011, compared with 3.2% in 2005. Most of the immigrants were from Ukraine (16%), Morocco, Albania, Pakistan, and Romania.

Health care is delivered through three care districts, which manage a network of four general hospitals equipped with haematology, pathology, radiotherapy, and paediatric oncology units.

The Ferrara Province Cancer Registry has covered the entire province since 1991 and is managed by the provincial health service. Data are collected actively and passively. The main data sources are the discharge records from all public hospitals, pathology laboratories, and mortality and clinical archives (radiology, laboratory services). The registry follows IARC and ENCR standards. Completeness of registration is more than 95%, based on evaluation of mortality-to-incidence ratio, DCO%, and comparisons with other registries and over time. In addition to descriptive epidemiology, the registry is involved in evaluating the impact of cancer environmental risks and in prevention programmes (screening) and clinical research.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The overall incidence rates are very high. Cases are recorded as MV only if the pathology reports are available for review by a registry staff member, and access is sometimes denied for reasons of privacy. This may explain the high proportion of cases with unspecified morphology (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. Non-malignant CNS tumours are registered and are likely to be complete because of close collaboration with a pathologist. Pilocytic astrocytoma is coded with uncertain behaviour. All skin carcinomas are registered and are believed to be complete. Laterality was complete for retinoblastoma. See also Italy, above.

Friuli-Venezia Giulia Cancer Registry, 1995–2010

Diego Serraino, Loris Zanier, Tiziana Angelin, Ettore Bidoli, Luigino Dal Maso, Emilia De Santis, Ornella Forgiarini, Federica Toffolutti, Stefania Del Zotto

Friuli-Venezia Giulia is the easternmost region in northern Italy. The regional capital city is Trieste. (The city of Venice is not included in this region.) The region covers an area of 7924 km^2 and has a population of about 1.2 million; 17% of the population is younger than 20 years (Table A.6). The economy is based on small and medium-sized businesses, which focus on specialized farming and high-quality tourism. The port of Trieste has a strategic role in trade with northern and eastern Europe.

The Friuli-Venezia Giulia Cancer Registry covers the whole population of the region. The registry has collected population-based data since 1998, with retrospective data collection since 1995.

The registry conducts epidemiological studies on the main local risk factors for cancer and helps to identify prevention opportunities and to guide preventive actions. In addition, the registry has promoted the EUROMED collaboration among some Mediterranean cancer registries, particularly with the Sétif Cancer Registry in Algeria.

PUBLICATIONS

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Zucchetto A, Serraino D, Dal Maso L, Birri S, Francisci S, Zigon G, et al. (2013). Cancer estimates up to 2015 in Friuli Venezia Giulia. Tumori. 99(3):318–26. https://doi.org/10.1177/030089161309900306 PMID:24158060

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The overall incidence rates were high in the age group 0–19 years, and the proportion of cases aged 19 years in the age group 15–19 years was high (Table A.9), because of a gradual increase in incidence rates with age. Non-malignant CNS tumours were not registered during the

reporting period. Pilocytic astrocytoma was coded with uncertain behaviour, but there were no cases in the dataset. Therefore, the reported incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. Laterality was not provided. See also Italy, above.

Lecco, Brianza Cancer Registry, 2003–2010

Luca Cavalieri d'Oro, Magda Rognoni, Leonardo Le Rose, Elisabetta Merlo, Lina Negrino, Lucia Pezzuto, Franco Tortorella, Silvana Mileto, Antonella Bracchi, Giovanna Tagliabue, Paolo Contiero

The province of Lecco is located in the northern part of the Lombardy region. The province covers an area of 814 km^2, more than 70% of which consists of lakes (e.g. Como, Annone) and pre-Alpine mountains (Valsassina). The remaining southern area has a high population density, with a prevalence of manufacturing activity in small and medium-sized industries (of which 26% are metalworking) and heavy traffic in the Brianza area. The city of Lecco is the capital of the province.

The population is 0.3 million, and 19% of the population is younger than 20 years (Table A.6). The population is mostly White, and 5.7% of residents are foreign-born.

The public health service department provides general paediatric health care through the Maternal and Child Department of the Hospital of Lecco Province, which is organized in two public hospitals and a network of primary health centres. An integrated home-care system was established in 1992. Local health services provide care to about 20% of paediatric cancer cases that require hospitalization. Most children with cancer are treated in the major national paediatric oncology referral centres in the relatively nearby cities of Milan, Monza, and Pavia, the specialized centres of the Lombardy Oncology Network.

The Lecco Cancer Registry is located within the Lecco Local Health Authority (ASL Lecco), in the Preventive and Community Medicine Department and the Research and Health Development Service. The registry is staffed by two part-time physicians (hygiene specialists) and a full-time nurse. Since its founding in 2008, the registry has received continuous technical and scientific support from the National Institute for Treatment of Tumours in Milan (Istituto Nazionale per la Cura dei Tumori di Milano). Cancer data are available from 2003 (Table A.10).

The registry uses the Open Registry system. It collects data on the residents of the province from hospital discharge records throughout Italy. Cancer cases are identified through record linkage to other available sources and types of data, including autopsy reports, histology of primary tumour, histology of metastases, cytology, medical records, diagnostic imaging, laboratory analyses, therapy, hospital discharge records, and death records.

Registry data are used to analyse cancer incidence and survival and to evaluate and propose health services in consideration of needs, such as palliative care, migration of patients, and cancer screening programmes.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The number of incident cases during the reporting period was not sufficiently large for presentation of the data in a table, but the registry contributed to the national pool (Table A.12). Non-malignant CNS tumours were not registered, except for pilocytic astrocytoma, which was coded with uncertain behaviour. Therefore, the incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. All skin carcinomas are registered and are believed to be complete. Laterality was complete for retinoblastoma and gonadal tumours. See also Italy, above.

Lodi and Pavia, South Lombardy Cancer Registry, 2003–2009

Giovanni Marazza, Cesare Fratti, Lorenza Boschetti, Annalisa Lanino, Isabella Martinelli, Sonia Brè, Ilaria Marzani, Anna Merli, Simona Migliazza, Elena Reggiani, Loredana Sgariboldi, Margherita Tisacchi, Maria Teresa Vighi

The provinces of Lodi and Pavia are located in the southern part of the Lombardy region of northern Italy and together cover an area of 3747 km^2. Most of the area is the flat Po Plain, but 20% is hilly or mountainous. Unlike the rest of Lombardy, the two provinces are mainly agricultural, similar to the neighbouring regions of Piedmont and Emilia-Romagna. The total population is 0.8 million (235 000 in Lodi and 548 000 in Pavia), and 17% of the population is younger than 20 years (Table A.6). The mean population density is 209 per km^2 (280 per km^2 in Lodi and 174 per km^2 in Pavia). Immigrants make up 10% of the population. Most residents (87.3%) live in communities with a population of less than 5000. The elderly index (the ratio of the population 65 years and older to the population younger than 15 years, multiplied by 100) is high: 133 in Lodi and 189 in Pavia.

The registration area has 23 hospitals: 4 in Lodi and 19 in Pavia. There are 33 paediatricians in Lodi and 59 in Pavia, and there are 152 general practitioners in Lodi and 407 in Pavia.

The South Lombardy Cancer Registry covers the provinces of Lodi and Pavia. The registry staff consists of three physicians, four other health professionals, an information technologist, and a statistician, all employed part-time. The registry also receives support from the Varese province branch of the Lombardy Cancer Registry. The registry uses the Open Registry system. The main electronic information sources are hospital discharge

reports (routinely generated by all Italian hospitals), pathology reports from all laboratories within the two provinces and the major laboratories outside the provinces that often examine specimens from residents of Lodi and Pavia, and mortality data from local health authorities.

The registry reports incidence, mortality, and survival statistics. Registry data are also used for planning and evaluation of health services.

POPULATION AT RISK

Population data were provided in the requested detail. See also Italy, above.

EDITORS' COMMENTS

The overall incidence rates are high (Table A.9), but they are comparable to those of some other Italian registries. The proportion of cases with unspecified morphology is rather high (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. The MV% decreased after 2007. The registry attributes both these observations to difficulty obtaining information from some hospitals. Non-malignant CNS tumours were not registered, except for pilocytic astrocytoma, which was coded with uncertain behaviour. Therefore, the reported incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. The records of skin carcinomas are believed to be complete, because they are based on pathology records. Information on laterality was complete for the registered cases of retinoblastoma, although their number may have been underestimated because some patients may have sought treatment abroad. See also Italy, above.

Milan Cancer Registry, 1999–2007

Antonio Giampiero Russo, Anita Andreano, Simona Ghilardi, Rosalba Distefano, Maria Quattrocchi, Mariateresa Vighi

Milan is the capital city of the Lombardy region. It is located in northern Italy. The climate is hot in summer and moderately cold and wet in winter. The city of Milan covers an area of 182 km^2 and has a population of 1.3 million. The population density is 7000 per km^2. The province of Milan covers an area of 1575 km^2 and has an average population density of 2000 per km^2. The wider Milan metropolitan area includes central Lombardy and eastern Piedmont, with a population of about 7.5 million. Milan is a leading centre in the fields of art, commerce, design, education, entertainment, fashion, finance, health care, media, services, research, and tourism.

The Milan Cancer Registry was established in May 2002 in agreement with the Regional Health Plan. It is funded by the regional health system and started registering cancers in 1999. During the reporting period, the registry covered the city of Milan; in 2010, the total population was 1.2 million, and 17% of the population was younger than 20 years (Table A.6). In 2007, the registry began collecting data for the entire province. In January 2016, in accordance with the new regional health law, the registries of the city of Milan and the provinces of Milan and Lodi were merged to form the Cancer Registry of the Agency for Health Protection of Milan (ATS Milano – Città Metropolitana).

The registry is semi-automated and uses a custom database and management software. The registry is based on the registered resident population of the regional health system, death certificates, hospital discharge records, records of outpatient visits and examinations, oncology drug prescriptions, and pathology records archives, which are linked using a unique key with deterministic record linkage and subjected to a pre-defined selection algorithm. Records are then reviewed and completed by the registrars. Full hospital records are obtained from the hospitals if needed. Most paediatric cases are verified in this way, because of the relatively small numbers and the need for additional information. Registered patients are followed up for vital status through record linkage between the cancer registry database and the regional health system database of the registered resident population.

Registry data are used by health policy-makers to evaluate health-care and treatment policies and to plan prevention activities. Currently, the registry is working to implement a specific registration procedure for paediatric tumours, with the goal of integrating clinical data with population registry data. This is facilitated by the presence of paediatric national cancer centres within the registration area (National Cancer Institute of Milan) and nearby (San Gerardo Hospital, Monza), and by the links with the Medical School of the University of Bicocca. The links between population-based and clinical registries enable follow-up status to be updated, particularly for off-therapy patients.

PUBLICATIONS

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Autelitano M, Bisanti L (2013). Secondo Rapporto sui tumori a Milano [Second report on cancer in Milan].

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The incidence rates are very high, similar to those of some other Italian cancer registries. There is also an unexpected predominance of cases in boys in the age group 0–14 years (Table A.9); this is most marked in the diagnostic group II (lymphomas). Non-malignant CNS tumours were not recorded systematically until 2007, which may explain the relatively low proportion of these tumours (Table A.9). Pilocytic astrocytoma was coded with uncertain behaviour. Information on laterality was provided for 54% of the cases of interest. See also Italy, above.

Modena Cancer Registry, 1990–2012

Claudia Cirilli, Katia Valla, Vincenzo Amendola

The province of Modena is one of the nine provinces of the Emilia-Romagna region, located in northern Italy. It is bordered by the provinces of Bologna to the east, Reggio Emilia to the west, Lucca and Pistoia to the south, and Mantova to the north.

The population of the province is 0.7 million; 12% of the population are immigrants, and 19% of the population is younger than 20 years (Table A.6). The province is divided into 47 municipalities. The city of Modena, the capital of the province, is the only large city. Modena is an ancient town and is also known for its automotive industry. The province is served by nine public hospitals, one cancer centre, and five private clinics.

The Modena Cancer Registry covers the population of the entire province. It was established in 1988 and is located in the Local Health Authority of Modena. The registry staff comprises a medical director and coordinator, a research manager, and two registrars.

The principal data sources are reports from three pathology laboratories, hospital discharge records, and death certificates. These files are submitted to the registry periodically and are processed using specialized software. All cases are identified and pre-coded by the computer system and validated by trained registry staff. The registry uses IARC rules for classifying multiple primary tumours and complies with the procedures of the IARCcrgTools software.

Vital status of registered patients is verified by matching registrations against death notifications and public health database records. The proportion of records that could not be matched is less than 1%.

The registry produces annual reports of cancer incidence, mortality, and survival.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The proportion of cases aged 19 years in the age group 15–19 years was 29.2% (Table A.9); the largest excess of patients aged 19 years was seen in the diagnostic groups II (lymphomas) and XI (epithelial neoplasms). Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were not provided. Information on laterality was known for 60% of the cases of interest. See also Italy, above.

Naples South, Campania Region Cancer Registry, 1996–2012

Mario Fusco, Maria Francesca Vitale, Caterina Bellatalla, Maria Fusco, Carmela Perrotta, Margherita Panico, Valerio Ciullo

Campania is a populous region in southern Italy with almost 6 million people; it covers an area of 13 590 km^2. The region is located on the Italian Peninsula, with the Mediterranean Sea to the west, and includes the small Phlegraean Islands and Capri. The cultural and historical heritage of the region makes it a tourist destination. The region is divided administratively into four provinces and the Metropolitan City of Naples, which is the capital of Campania. In 2010, the population of the city was about 0.9 million, and the population of the province of Naples was 3 million. The area is economically depressed and is characterized by high rates of unemployment and temporary employment. The territory has clearly delimited regions: a highly urbanized and industrialized area around Naples, a rural area, and a coastal region.

There are eight public general hospitals, three pathology laboratories, and two private radiotherapy centres operating within the framework of the national health service. About 70% of the resident patients with cancer receive care from the National Cancer Institute, the two University Faculties of Medicine, or the oncology departments of other hospitals in Naples, and 10% of patients travel to hospitals in central and northern Italy for treatment. Most children with cancer are treated in the Campania Region Children's Hospital and in the paediatric clinics of the two university hospitals in Naples; about 30% travel to hospitals in northern and central Italy for treatment.

The Campania Region Cancer Registry is located in ASL Napoli 3 Sud and was established in January 1996. Until December 2007, the registration area included 35 municipalities covering an area of 499 km^2 in the north-eastern part of the province of Naples. In January 2008, the registration area increased to 770 km^2, and it now covers 59 municipalities. The covered population doubled between 2007 and 2008; in 2010, the covered population was 1.2 million.

The registry actively collects data from all hospital discharge records of patients residing in the region, including from hospitals outside the region, through record linkage with the Regional Health Agency. The registry performs active case finding annually, using the records of municipal registers, regional pathology and haematology laboratories, and regional radiotherapy departments. The regional mortality registry is checked for DCO cases and for follow-up for vital status. DCO cases are traced back to general practitioners and paediatricians. Incomplete medical records are also traced back.

All registered cases are followed up for vital status at 3-year intervals using the municipal population registries and the regional mortality registry.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The overall incidence rates are very high (Table A.9), although they are comparable to those of some other Italian registries. Non-malignant CNS tumours are registered, and pilocytic astrocytoma is coded with uncertain behaviour. Skin carcinomas are registered. Laterality was complete for nephroblastoma. See also Italy, above.

Nuoro Cancer Registry, 2003–2012

Mario Usala, Filomena Pala, Giovanna Maria Sini, Nicolina Pintori, Luisa Canu, Giuliana Demurtas, Nina Doa

The province of Nuoro is located in the east-central part of the autonomous region of Sardinia in Italy. The economy of the province is based on farming, trade, the construction industry, and tourism.

Cancer care is provided by five hospitals (including the Hospital of Nuoro), with about 500 beds. All of the main surgical and medical specialties are available, including haematology and oncology and radiotherapy services. Many clinics are located throughout the districts of the province. Cancer service providers are part of the regional cancer network.

The Nuoro Cancer Registry covers the population of 0.2 million of the province of Nuoro from 2003 (Table A.10). The registry is funded by the Nuoro Local Health Authority (ASL Nuoro), and it also has a partnership with the Local Health Authority of Lanusei, another town in the province of Nuoro.

The registry has full access to all hospital records of patients residing in the province and to hospitals' pathology reports. It also receives records from the local mortality registry. Each registry case file is completed manually if needed. All data are stored digitally in compliance with Italian privacy law. Data are checked for duplicate records and for quality. Completeness and accuracy are evaluated periodically.

The registry publishes reports on incidence, mortality, and survival, and it participates in clinical and analytical epidemiological studies.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The number of incident cases during the reporting period was not sufficiently large for presentation of the data in a table, but the registry contributed to the national pool (Table A.12). Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas are recorded. Laterality is not recorded. See also Italy, above.

Parma Cancer Registry, 1992–2013

Maria Michiara, Francesco Bozzani, Paolo Sgargi

The province of Parma is located in the north-western part of the Emilia-Romagna region in northern Italy. The province covers an area of 34 449 km^2, and it is divided into 47 municipalities. The city of Parma is the largest municipality and the provincial capital.

In 2010, the population of the province was 0.4 million, and 17% of the population was younger than 20 years (Table A.6). The population has grown mainly by immigration from Albania, the Republic of Moldova, Romania, Morocco, Tunisia, and other countries. The provincial employment rate is 69%. Of employed residents, about 63% work in the service sector, 33% in the industrial sector, and 4% in agriculture.

The province has one large general university hospital, two small public hospitals, and three private hospitals. The university hospital has oncology, radiotherapy, haematology, paediatric oncology, and pathology departments.

The Parma Cancer Registry was founded in 1976; in 1978, it started registering cancers (Table A.10) of all residents of the province. It is located within the medical oncology division of the general university hospital of the province. The staff consists of an oncologist (the registry director), a statistician, and a full-time biologist. The registry has direct access to public pathology records, and private hospitals submit electronic data annually. For hospital discharges that occur outside the province, diagnostic data are obtained through an official request to the director of the relevant department. The registered patients are followed up for vital status through direct access to the electronic database of the local health authority. Data are collected actively and passively. Identifiable information is protected in compliance with Italian law.

After the data were provided to IICC-3, ISTAT revised its estimates of the population of Parma province for 2002–2010 downwards, by 3–4%. Using the revised population data would have resulted in slightly higher reported incidence rates.

The registry collaborates with AIRTUM and local health authorities on various research projects and epidemiological studies.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

Incidence is high, similarly to some other Italian registries. The proportion of cases aged 19 years in the age group 15–19 years was high. Non-malignant CNS tumours were registered (Table A.9), and pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete for nephroblastoma. See also Italy, above.

Ragusa and Caltanissetta, Ragusa Cancer Registry extended to Caltanissetta province, 1992–2012

Rosario Tumino, Giuseppe Cascone, Graziella Frasca, Maria Concetta Giurdanella, Caterina Martorana, Gabriele Morana, Carmela Nicita, Concetta Patrizia Rollo, Maria Grazia Ruggeri, Eugenia Spata, Stefania Vacirca

Ragusa and Caltanissetta are two neighbouring provinces in southern Sicily. The area is characterized by the typical Mediterranean climate and lifestyle. Ragusa province is a small, rural, unpolluted area, whereas the province of Caltanissetta hosts a contaminated site related to the large Mediterranean refinery at Gela, which was linked to a high number of congenital malformations in this municipality. Agriculture and related activities are the main occupations for the local population in both of the covered provinces.

The two provinces cover a total area of 3738 km^2. In 2010, the population was 0.6 million, and 22% of the total population was younger than 20 years (Table A.6). Almost all of them were White and Christian (Catholic).

Oncology facilities are available in five district general hospitals. These facilities consist of one oncology department, two clinical oncology units, one haematology department, three public surgical pathology laboratories, two public radiotherapy units, six public computed tomography units, one public magnetic resonance imaging unit, and five surgical departments. There are also three private hospitals. Because there are no facilities for specialized treatment of children and adolescents with cancer, many of these patients are diagnosed and treated in university hospitals in other provinces of Sicily or in paediatric centres in northern Italy.

The Ragusa Cancer Registry was established in 1981 (Table A.10) in the surgical pathology unit of Ragusa Hospital; in 2010, it became part of the Department of Preventive Medicine of the Ragusa Local Health Authority (Azienda Sanitaria Provinciale Ragusa). The registry initially covered the 12 municipalities of Ragusa province in central south-eastern Sicily. In 2007, the registration area was expanded to include the 22 municipalities of the neighbouring Caltanissetta province, thereby doubling the covered population. The registry is funded by the Government of Sicily and the non-profit organization of social utility Association for Epidemiological Research of Ragusa Ibla (Associazione Iblea Per La Ricerca Epidemiologica – Organizzazione Non Lucrativa Di Utilità Sociale).

Data are collected actively from surgical pathology laboratories, public health insurance offices, radiotherapy units, and oncology departments and units. In addition, AIEOP annually provides data on patients younger than 20 years who have been diagnosed or treated in any of the Italian paediatric referral centres. The registry makes efforts to obtain information on these cases using capture–recapture procedures and verifies the completeness of registration. Copies of death certificates for all residents of the region whose death certificates mention cancer are routinely received from local vital statistics offices. The registry also receives hospital discharge files from the regional government for residents treated outside the registration area. The registry follows ENCR recommendations. Registered patients are actively followed up for vital status through the official municipal registers. Data from the registry have been included in a monograph of Italian cancer registries.

PUBLICATIONS

Bianchi F, Bianca S, Dardanoni G, Linzalone N, Pierini A (2006). Congenital malformations in newborns residing in the municipality of Gela (Sicily, Italy). [in Italian] Epidemiol Prev. 30(1):19–26. PMID:16826695

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The overall incidence rate was high in children (ages 0–14 years). The proportion of cases with unspecified morphology is rather high (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. Non-malignant CNS tumours were included. The behaviour of pilocytic astrocytoma was originally coded according to the ICD-O edition in use (Table A.10) and was recoded with uncertain behaviour with the implementation of ICD-O-3. Information on laterality was provided for 65% of the cases of interest. See also Italy, above.

Reggio Emilia Cancer Registry, 1996–2012

Lucia Mangone, Enza Di Felice, Massimo Vicentini, Annamaria Pezzarossi, Francesca Ferrari, Francesca Roncaglia, Paolo Giorgi Rossi

The province of Reggio Emilia is one of the nine provinces in the Emilia-Romagna region. It covers an area of 2292 km^2 and has a population of 0.5 million; 20% of the population is younger than 20 years (Table A.6). There is an influx of foreign citizens, especially among children and adolescents; this might have contributed to the increase of the population by 42% between the minimum in 1996 and the maximum in 2012. The province of Reggio Emilia is divided into 45 municipalities, and the capital city is Reggio Emilia.

The province has an efficient and active regional system of health policies. The regional health service includes 109 oncology centres, 50 haematology centres, 10 radiotherapy centres, and six specialized paediatric oncology centres.

The Reggio Emilia Cancer Registry was established in 2001 and was accredited by AIRTUM in 2004, with retrospective data collection for 1996–2000. The main data sources are pathology reports, hospital discharge records, and mortality records. Other sources include records from pharmacists, outpatient specialists, forensic medical practitioners, and general practitioners, and prescription

charge exemptions. The registered cases are followed up for vital status every 6 months. Data are validated using IARCcrgTools and CheckAIRTUM.

The data are published annually and made available to physicians, citizens, and health policy-makers. The registry is involved in many national and international studies of clinical and environmental epidemiology and in studies evaluating the impact of screening programmes. The registry benefits from a strong network of collaborators, high-quality digitized data and data exchange, and a qualified and competent staff. There is a very low percentage of hospitalizations outside the province and outside the region. The staff continuously strive to improve cancer registry operations, data quality, and expertise in registration of paediatric cancer.

PUBLICATIONS

Mangone L, Vicentini M, Piana S, Caroli S, Cassetti T, Di Felice E, et al. (2014). Tumours in the province of Reggio Emilia – years 2009–2010. [in Italian] AUSL Reggio Emilia.

Mangone L, Rashid I, Vicentini M, Bonelli LA, Borciani E, Casella C, et al. (2015). Evaluation of the cancer co-pay fee exemption data source (048 code) to estimate cancer incidence. [in Italian] Epidemiol Prev. 39(4):226–33. PMID:26499235

POPULATION AT RISK

The data on the resident population have been provided annually since 1987 by the Emilia-Romagna Regional Statistical Service (https://statistica.regione.emilia-romagna.it/), in collaboration with the statistical offices of the provinces. The population data are based on data collected by the municipal population registries. The reference date for population data is 31 December of each year, which for statistical purposes coincides with 1 January of the following year. See also Italy, above.

EDITORS' COMMENTS

The overall incidence rates were high in children and adolescents (Table A.9). Non-malignant CNS tumours were registered (Table A.9), and pilocytic astrocytoma was coded with uncertain behaviour. Information on laterality was complete for 82% of the cases of interest. See also Italy, above.

Romagna Cancer Registry, 1990–2012

Fabio Falcini, Lauro Bucchi, Americo Colamartini, Orietta Giuliani, Stefania Giorgetti, Monica Palumbo, Rosa Vattiato, Alessandra Ravaioli, Silvia Mancini, Chiara Balducci, Benedetta Vitali, Carlo Cordaro, Licia Caprara, Mila Ravegnani, Chiara Tonelli

Romagna is a historical region corresponding with a south-eastern portion of the Emilia-Romagna region in northern Italy. The major cities are Cesena, Faenza, Forlì, Imola, Ravenna, and Rimini. The covered area of 4769 km^2 has a temperate and continental climate with harsh, foggy winters and warm, sultry summers. The southern part (48% of the total area) is hilly and sparsely populated.

The region is wealthy and socioeconomically homogeneous, with high consumption of goods and services per inhabitant. The economy is based mainly on an efficient agricultural system and numerous small, family-owned industrial firms.

There are 15 public hospitals and 12 certified private hospitals in the registration area. Cancer care is provided by three medical oncology departments, seven day hospitals, one oncology and haematology department of the national health service, and the Romagna Cancer Institute (IRCCS Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori) (IRST) at Meldola in Forlì. The public hospitals have seven general paediatrics departments and no specialist paediatric oncology services. Typically, children with cancer travel to the neighbouring city of Bologna to receive care at the department of paediatric oncology and haematology in the university hospital there.

When it was established in 1985, the Romagna Cancer Registry covered about half the area that it covered in 2012. The coverage was expanded gradually in 1989, 1991, and 1993. The registry was further expanded in 2003 to include the neighbouring district of Imola and in 2010 to include some small municipalities in the Marecchia valley. The resulting registration area has a population of 1.3 million, and 17% of the population is younger than 20 years (Table A.6).

In 2007, the Romagna Cancer Registry became a department of IRST. The main information sources are pathology reports, hospital discharge records, records from private clinics, and death certificates accessed in public health departments and local health authorities. The registry's information system is entirely web-based. The data are processed using an automated matching procedure. Registered cases are followed up for vital status based on computerized linkage with death certificate registries and with regional and municipal population registries.

The registry contributes to the planning and evaluation of cancer control programmes at the local and national levels. It also contributes to national and international statistical publications, research studies, and AIRTUM epidemiological projects.

POPULATION AT RISK

The population data are provided by the Emilia-Romagna Regional Statistical Service (https://statistica.regione.emilia-romagna.it). The population estimates are based on the data collected by the population registries of the 348 municipalities of the region and are updated every year. See also Italy, above.

EDITORS' COMMENTS

The overall incidence rates and the proportion of cases with unspecified morphology are high (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. The proportion of cases aged 19 years in the age group 15–19 years was slightly higher than expected (Table A.9). Non-malignant CNS tumours were registered (Table A.9), and pilocytic astrocytoma was coded with uncertain behaviour. The high proportion of non-malignant CNS tumours may be explained by efficient linkage with an electronic database of hospital discharge records since 2001. Skin carcinomas are registered and are believed to be complete. Information on laterality was provided for 85% of the cases of interest. Malignant carcinoid tumours of the appendix constituted 1.1% of the total dataset (Table A.11). See also Italy, above.

Salerno Cancer Registry, 1997–2009

Anna Luisa Caiazzo, Rossella Cavallo

The province of Salerno is one of the five administrative units of the Campania region, located in the south-western part of the Italian peninsula. The economy is based mainly on services, tourism, pottery, and agriculture. The city of Salerno, the capital of the province, has an active port.

The Salerno Cancer Registry was established in 1996. It covers the whole province of Salerno. The population is about 1.1 million, and 21% of the population is younger than 20 years (Table A.6).

The main data sources are hospital registries, outpatient clinics, pathology laboratories, haematology laboratories, regional population and mortality registries, and death certificates. The registered cases are followed up for vital status using death certificates, national population and mortality registries, and relevant records from hospital registries.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The overall incidence rates and the proportion of cases with unspecified morphology are high (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. CNS tumours of uncertain behaviour were registered, but benign CNS tumours were not registered. Pilocytic astrocytoma was coded with uncertain behaviour. Registration of skin carcinomas is believed to be complete. Information on laterality was not provided. See also Italy, above.

Sassari, North Sardinia Tumour Registry, 1992–2011

Rosaria Cesaraccio, Daniela Pirino, Giannalisa Carmela Pitzus, Ornelia Sechi, Antonio Cossu, Giuseppe Palmieri, Francesco Tanda

The province of Sassari is located in the northern part of the autonomous region of Sardinia. The province covers an area of 7520 km^2 and has a population density of 65 per km^2. In 2010, the population was 0.5 million, and 17% of the population was younger than 20 years (Table A.6). The population is homogeneous ethnically and culturally. It is not evenly distributed geographically; 51% live in urban areas. The main economic activities are agriculture and tourism. The province has two ports and two airports. A petrochemical industry has ceased operations. The capital of the province is the city of Sassari.

The national health service provides general health care through one regional and four district hospitals and primary health centres. The oncology department is located in the regional hospital in Sassari, and it provides diagnostic, surgical oncology, chemotherapy, and radiotherapy services. Most children receive care from paediatricians in the private sector.

The North Sardinia Tumour Registry (formerly the Sassari Cancer Registry) has covered the population of Sassari province since 1992 (Table A.10). All malignant tumours with ICD-O-3 codes are registered, as are all non-malignant intracranial and spinal neoplasms. In situ carcinomas are also recorded, but typically they are excluded from incidence, except for urinary bladder carcinoma. Cases with insufficient detail are registered only when the evidence is clear or when a cancer diagnosis is found on the death certificate.

The registry staff reviews hospital discharge records, biopsy reports, and death certificates. The staff registrars also review the medical records of outpatient departments involved in the diagnosis and treatment of cancer. The number and distribution of hospitals and diagnostic facilities in the area are adequate, so that missed cases are unlikely.

The registry prepares annual reports of cancer incidence and survival, highlighting changes and noteworthy patterns. Registry data have also been used by the regional government in the development of cancer control plans.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology is rather high (16%) (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. Pathology reports are not obtained for patients treated outside the registration area. The proportion of cases aged 0–14 years in the total dataset is low (Table A.9), which may be explained by a low proportion of residents younger than 15 years in the general population (Table A.6). Non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Information on laterality was provided for 82% of the cases of interest. See also Italy, above.

Syracuse Cancer Registry, 1999–2012

Anselmo Madeddu, Francesca Bella, Ylenia Dinaro, Antonino Colanino Ziino, Rossitto Luisella, Muni Angela, Francesco Tisano

The province of Syracuse is located in the south-eastern part of the autonomous island region of Sicily in the south of Italy. Geographically, the area consists of a western highland region, with altitudes ranging from 450 m to 865 m above sea level, and an eastern coastal plain facing the Mediterranean Sea. The province of Syracuse extends from the borders of the province of Catania in the north to the borders of the province of Ragusa in the south. The population density is 193 per km^2. The principal town is Syracuse. The population of the province is 0.4 million, and 21% of the population is younger than 20 years (Table A.6).

The main sources of water and air pollution in the province are chemical industries and agricultural chemical treatments. The area is socioeconomically heterogeneous; the economy is based mainly on industry in the cities of Augusta, Priolo Gargallo, and Melilli and on agriculture in the north (District of Lentini) and the south (District of Noto). Most of the population is employed in services and industry, especially tourism. The population is relatively homogeneous ethnically and culturally.

The Syracuse Cancer Registry (SCR) covers all 21 municipalities of the province. The registry is located within the Health Care District of Syracuse. The registry was established in 1997 by the Government of Sicily in partnership with the Department of Hygiene of the University of Catania; it is funded by the Local Health Authority of Syracuse. In 2005, the SCR joined the new Integrated Cancer Registry of the provinces of Catania, Messina, and Syracuse, to which the province of Enna was added in 2009, so that the SCR is now a part of the Catania-Messina-Syracuse-Enna Integrated Cancer Registry. The data from the SCR are presented separately because they are available for a longer registration period.

The registry is staffed by two full-time epidemiologists, one part-time epidemiologist, two full-time health nurses, and one full-time registrar (a health worker). A variable number of physicians and undergraduates (epidemiologists and pathologists) from the University of Catania are also involved in the activities of the SCR.

The SCR began collecting data on 1 January 1999 (Table A.10), after a pilot phase in which the feasibility of registration was evaluated. The registry has collected information on malignant cancers for all topographic sites, on in situ bladder tumours since 1999, and on tumours of the cervix uteri, breast, and colorectum since 2007. Since 2012, the SCR has also registered other non-malignant tumours of the bladder, CNS, pituitary gland, craniopharyngeal duct, pineal gland, and carotid body.

The main information sources are histology and cytology laboratories, regional hospitals' discharge records and clinical records, private clinics, local health-care districts (health insurance, compensation funds, or exemptions from payment), and death certificates from the department of public health. The registry has access to municipal rosters to check personal data and to update the vital status of registered patients.

PUBLICATIONS

Madeddu A, Contrino L, Tisano F, Sciacca S (2007). I tumori in provincia di Siracusa dal 1999 al 2002. Università degli Studi di Catania, Dipartimento di Igiene e Registro Tumori Integrato Me-Ct-Sr.

Madeddu A, Contrino L, Tisano F, Sciacca S (2009). I tumori in provincia di Siracusa dal 2002 al 2005: incidenza, mortalità, sopravvivenza, trend. Università degli Studi di Catania, Dipartimento di Igiene e Registro Tumori Integrato Me-Ct-Sr.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The proportion of cases aged 19 years in the age group 15–19 years was almost one third (Table A.9), probably because of random variation, which is typical for datasets with small numbers of cases. The sex ratio was low in the age group 0–14 years (Table A.9), possibly because of the small number of cases in the dataset. Non-malignant CNS tumours were not registered routinely until 2012; none were included in the dataset. There were no cases of pilocytic astrocytoma in the dataset. Therefore, the reported incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. Information on laterality was not provided. See also Italy, above.

Trapani Cancer Registry, 2002–2009

Giuseppa Candela, Tiziana Scuderi, Antonio Fazzino

Trapani province is located on the western tip of the autonomous island region of Sicily. The Egadi Islands and the volcanic Pantelleria Island are also included in the province, which covers an area of 2470 km^2. The topography is half hilly and half plain, which is conducive to viticulture. The province is one of the most urbanized of Sicily, with a population density of 167 per km^2. The province has a total population of 0.4 million; 21% of the total population is younger than 20 years (Table A.6), and 19% is aged 65 years and older. The province is divided into 24 municipalities, and Trapani is the capital city.

Because there are no specialist facilities for paediatric and adolescent oncology, pathology, or neuro-oncology in the province, patients must travel elsewhere to receive treatment. About 60% of all paediatric hospital admissions in the registration area take place in the city of Palermo. Rapid access to Palermo via a good road network limits the discomfort of travel for treatment. Among the remaining paediatric hospital admissions, 35% are outside Sicily, with 15% in Liguria, where the leading Gaslini Institute is located.

The Trapani Cancer Registry was established in February 2003, with retrospective data collection since

2002 (Table A.10). The registry covers the population of the entire province. By law, the registration area will be expanded to cover the province of Agrigento, which will double the covered population.

Although the registration area is mainly rural, it has a few industrial sites, which are known for their high environmental risk. The registry applies georeferencing to study the distribution of tumours in the population.

PUBLICATIONS

Candela P, Scuderi T, Putaggio A (2013). Incidenza, mortalità, sopravvivenza e prevalenza dei tumori in provincia di Trapani nel periodo 2002–2006. Trapani, Italy: Registro Tumori di Trapani.

Candela P, Putaggio A, Scuderi T, Pirrello S (2013). Tecniche di georeferenziazione ed analisi spaziale dei tumori in Provincia di Trapani (2002–2006). Trapani, Italy: Registro Tumori di Trapani.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The number of incident cases during the reporting period was not sufficiently large for presentation of the data in a table, but the registry contributed to the national pool (Table A.12). Non-malignant CNS tumours are registered, although no benign CNS tumours were recorded during the reporting period. Pilocytic astrocytoma is coded with uncertain behaviour or malignant behaviour. Laterality is known in two thirds of the cases of interest. See also Italy, above.

Trento Cancer Registry, 2001–2010

Silvano Piffer, Roberto Rizzello, Lucia Bombarda, Mariangela Pedron, Maria Gentilini

The autonomous province of Trento is located in northern Italy, between Bolzano province and the Veneto and Lombardy regions. The province covers an area of 6207 km^2 and is almost entirely mountainous; 70% of the area is more than 1000 m above sea level. Half the area is covered by forests. The province is in a transition zone between continental and alpine climates.

In 2010, employment by sector was as follows: agriculture, 4%; industry, 27%; trade, 13%; and services, 56%. Summer and winter tourism is an important income source. In 2010, the unemployment rate was 4.3%, compared with the Italian average of 8.4%.

Foreign-born residents make up 9% of the resident population; most of them (40%) come from central and eastern Europe. About 2% of the population speaks minority languages, particularly Ladin and German.

In 2010, the population was 0.5 million, and 21% of the population was younger than 20 years (Table A.6). Among foreign residents, 27.6% are younger than 20 years.

Paediatric care is provided by a network of community paediatricians and the paediatrics department of a hospital. Cancer care is provided by a medical oncology department and a radiation oncology department. A department of neurosurgery was established in mid-2006. About 30% of children with cancer receive their first diagnostic assessment or treatment at clinical centres of excellence outside the province of Trento.

The Trento Cancer Registry is located in the epidemiological unit of the local health authority and covers the entire province from 1999 (Table A.10). Cases are found in electronic databases of pathology departments, hospital discharge records, and mortality records, linked together.

The registration procedures ensure almost complete coverage. All cases are systematically followed up for vital status through linkage between the registry database and the provincial mortality database. Data quality is checked and validated using IARCcrgTools and CheckAIRTUM.

PUBLICATIONS

Piffer S, Gentilini M, Rizzello R, Mazzoleni G, Bellù F, Rossi S (2013). Estimates of cancer burden in Trentino-Alto Adige. Tumori. 99(3):296–307. https://doi.org/10.1177/030089161309900304 PMID:24158058

Piffer S, Gentilini M, De Nisi M, Rizzello R, Bombarda L, Pancheri S, et al. (2018). L'incidenza dei tumori in provincia di Trento. Anni 2011–2012. Trento, Italy: Azienda Provinciale per i Servizi Sanitari.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The number of incident cases during the reporting period was not sufficiently large for presentation of the data in a table, but the registry contributed to the national pool (Table A.12). Registration of non-malignant CNS tumours may be incomplete before 2009, but they are included in the dataset. The behaviour of pilocytic astrocytoma was originally coded according to the ICD-O in use (Table A.10) and was recoded with uncertain behaviour in 2009, when ICD-O-3 was implemented. Laterality was provided for 62% of the cases of interest. See also Italy, above.

Turin, Piedmont Cancer Registry, 1992–2012

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The city of Turin is an important business and cultural centre in north-western Italy. It is the capital city of the Metropolitan City of Turin and of the Piedmont Region. The city is located mainly on the western bank of the Po River, in the Susa Valley, and is surrounded by the western Alpine arch and the Superga hill.

The demographics of the population of 0.9 million (17% younger than 20 years) (Table A.6) have been influenced by important migrations from other regions in Italy, especially during the 1960s. More recently, 13% of residents (mainly young adults) migrated from other countries, particularly from Romania and countries in northern Africa.

Turin has 14 public hospitals and 12 private clinics that offer cancer treatment. A paediatric teaching hospital provides all required care to children with cancer from the entire population of the Piedmont region and provides specialized care to patients from regions outside Piedmont.

The Piedmont Cancer Registry began collecting information on new cancer cases resident in the city of Turin in 1985 (Table A.10). The registry is part of the Piedmont Reference Center for Epidemiology and Cancer Prevention (CPO). It is staffed by a director, two epidemiologists, four registrars, and a research assistant.

The principal sources of information are records from hospitals, pathology laboratories, radiotherapy services, and death certificates. Registration is almost completely active and is largely electronic. Follow-up procedures to update vital status of registered patients include periodic record linkages with the mortality registry and active follow-up in municipal rosters. The registry collaborates with the specialized CCRP, which also records clinical information on cancers treated in the AIEOP network.

In Turin, leukaemia and CNS neoplasms are the most common malignancies in the age group 0–19 years, but lymphomas are the most common in adolescent boys and girls.

The registry periodically publishes and updates reports online (https://www.cpo.it/). The data are used by the local health authority to plan regional cancer services. The registry collaborates with several national and international scientific consortia and databases.

PUBLICATIONS

Alessi D, Pastore G, Bagnati R, Baussano I, Dalmasso P, Dama E, et al. (2006). Frequenza e prognosi dei tumori infantili in Piemonte. Il Registro dei Tumori Infantili del Piemonte 1967–2004.

Maule MM, Dama E, Mosso ML, Magnani C, Pastore G, Merletti F; Childhood Cancer Registry of Piedmont (2008). High incidence of acute promyelocytic leukemia in children in northwest Italy, 1980–2003: a report from the Childhood Cancer Registry of Piedmont. Leukemia. 22(2):439–41. https://doi.org/10.1038/sj.leu.2404916 PMID:17851559

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The childhood population covered by this registry is also covered by CCRP. The high sex ratio in the age group 15–19 years (Table A.9) is mainly the result of germ cell tumours occurring predominantly in males. Because the rules for registration of non-malignant CNS tumours, including pilocytic astrocytoma, changed during the reporting period, data on these tumours were not provided by the registry. Thus, the reported incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. Skin carcinomas have not been registered since 2002. Information on laterality was not provided. See also Italy, above.

Umbria Cancer Registry, 1994–2011

Giuseppe Masanotti, Fortunato Bianconi, Fabrizio Stracci

The Umbria region is located in central Italy. It is characterized by hills, mountains, valleys, and historical towns. The region covers an area of 8456 km^2 and has a population of 0.9 million; 7% of the population is younger than 20 years (Table A.6). The population density is 107 per km^2. The region is divided into two provinces; 74% of the population resides in the province of Perugia and 26% in the province of Terni. The two main eponymous cities are home to 30.7% of the population. The city of Perugia is the regional capital. The 7.1% increase in the population since 2001 is due exclusively to immigration. The largest groups of foreign-born residents come from Romania (25%), Albania (17.2%), and Morocco (10.6%). Between 2001 and 2011, the population of Italian-born residents decreased by 0.3%, whereas the population of foreign-born residents increased by 222%.

Regional health care is provided mostly in public hospitals and health districts of the two local health agencies (one in each province). There are two large hospitals and 18 smaller public hospitals (with a total of 3603 beds) and five private clinics. Two specialized oncology centres are located in the two main cities in the departments of clinical oncology, surgical oncology, paediatric oncology, radiotherapy, and haematology.

The Umbria Cancer Registry covers the population of the whole region. The registry is managed by the Department of Experimental Medicine in the Section of Public Health of the University of Perugia and is funded by the regional health authority. The registry uses the Web 2.0 management system S.G.RTUP based on AMPAX technology and object-oriented programming. The ISO/IEC 27001:2005 standard is followed to ensure data security. The S.G.RTUP system is linked to the oncology

network. Cases are identified from medical records of public and private clinics and hospitals, pathology reports, radiotherapy records, and death certificates. Other data sources are regional cytology centres, personal case histories and independent studies, reimbursement requests (for patients treated outside the region), and other cancer registries. Trace-back is performed for cases of unspecified behaviour, cases of unknown primary site, cases with outpatient records as the only source, or DCO cases, and these procedures include contacting the family physician. IACR rules are used to define multiple primary tumours. Data integrity and consistency are checked using IARCcrgTools and specific checks established for studies that require data beyond the basic set of variables.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

Of all the Italian cancer registries, the Umbria Cancer Registry recorded the highest overall incidence rates for children and adolescents (Table A.9). Non-malignant CNS tumours were recorded, and pilocytic astrocytoma was coded with uncertain behaviour. Information on laterality was provided for 75% of the cases of interest. See also Italy, above.

Varese, Lombardy Cancer Registry, 1992–2012

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The province of Varese is one of 12 administrative units of the Lombardy region, located in northern Italy. The Varese province is located in the western part of the region and is bordered by Switzerland to the north, the region of Piedmont to the west, and two other provinces of the Lombardy region to the south and east. The northern part of the province is mountainous, and the southern part encompasses part of the Lombardy plain and is flat. The province covers an area of 1198 km^2.

The population increased by 50% between 1961 and 2016 due to migration of large numbers of people from eastern and southern Italy. Those who settled tended to retain the distinctive dietary and cultural habits of their origins, which differ considerably from those of the native population. These differences have made it possible to conduct descriptive studies on differences in cancer risk by place of birth and to conduct studies on diet and cancer.

The population density is 742.9 per km^2; 18% of the total population of 0.9 million is younger than 20 years (Table A.6). About 40% of the working population is employed in industry – a considerable decrease compared with 1971 – and less than 2% is employed in agriculture. It is not possible to partition the province into urban and rural areas.

The province has 11 general hospitals, including one university hospital with modern diagnostic and treatment facilities for cancer care. There are also five private clinics. About 70% of all paediatric hospital discharges are for patients from outside the province of Varese.

The Lombardy Cancer Registry, which covers the province of Varese, was established in 1974 and has provided population-based data since 1976 (Table A.10). The registry is supported by the Lombardy Regional Health Authority and is run by the Cancer Registry and Environmental Epidemiology Unit of the National Cancer Institute of Milan.

The Lombardy Cancer Registry uses the Open Registry system. The main electronic information sources are hospital discharge records, surgical pathology reports from pathology units in the province and, since 1998, from major pathology units outside the province (which often examine specimens from residents in the province), and mortality data from local health units. Use of the Open Registry software and translation tables enables automatic application of coding systems and correct identification and automatic acceptance of 60% of cases. The clinical records of the remaining cases are checked manually. Comparison of the automated system with manual registration showed a site code concordance between the two systems (automated and manual) of 98.4%. The completeness of registration is monitored annually using capture–recapture methods. Clinical consistency is also checked routinely by re-abstraction and manual recoding of a random sample of cases.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

The overall incidence rates were high, as for some other Italian registries. The large proportion of cases aged 19 years in the age group 15–19 years probably reflects a natural increase in incidence rates with age. Non-malignant CNS tumours were not registered, except pilocytic astrocytoma, which was coded with uncertain behaviour. Therefore, the reported incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. Skin carcinomas were registered and are believed to be complete. Information on laterality was provided for 87% of the cases of interest. See also Italy, above.

Veneto Tumour Registry, 1992–2009

Massimo Rugge, Maddalena Baracco, Susanna Baracco, Emanuela Bovo, Antonella Dal Cin, Anna Rita Fiore, Alessandra Greco, Stefano Guzzinati, Daniele Monetti, Silvia Rizzato, Alberto Rosano, Carmen Fiorella Stocco, Manuel Zorzi

The Veneto Region is located in north-eastern Italy and is bordered by the regions of Friuli-Venezia Giulia, Emilia-Romagna, Lombardy, and Trentino-Alto Adige/Südtirol. It is bordered by Austria at its northernmost corner and by the Adriatic Sea to the east. The region is one of the richest in Italy and is home to many of the nation's leading economic districts. The unemployment rate in 2006 was 4.0%, compared with a national average of 6.8%. The region's capital and most populous city is Venice.

The Veneto Region has long been a land of mass emigration. Recently, the region has received large numbers of immigrants, mostly from Romania (25.2%), Morocco, China, the Republic of Moldova, and Albania. Almost 10% of the population of 5 million is foreign-born.

Health care is provided by 21 local health units, two autonomous hospitals, and an oncology centre. Most of the local health units provide comprehensive services for cancer diagnosis, surgery, and chemotherapy. Radiotherapy and a few expensive diagnostic tools are available at the national level. There are five paediatric oncology centres, affiliated with AIEOP. Most children with cancer are treated in the two major hospitals of Padua and Verona.

The Veneto Tumour Registry covers about half of the population of the Veneto Region, including all the major urban centres and almost all of the mountainous part of the region. Until 1997, the registry covered 11 of 21 local health units, and since 1998, it has covered 12 local health units. The registration area has a total covered population of 2.6 million, and 18% of the population is younger than 20 years (Table A.6). The registry is funded by the regional government. The staff consists of two physicians (a director and an epidemiologist), three operators, four statisticians, a data manager, three programmers, and one clerk.

The registry electronically collects data annually from hospital discharge records from all hospitals in the region, death certificates for Veneto residents, and pathology records from the region's 15 pathology laboratories. All of the region's local health units submit a copy of the population files, which are used as a reference in linking source records. All cases are evaluated using a case-resolution programme and checked manually.

There are no differences in incidence between Veneto and the pooled dataset of Italian cancer registries. There are no temporal trends in incidence. The registry staff is not aware of any unusual environmental or occupational exposures that could affect cancer incidence. Incidence, survival, and prevalence data are reported online (https://www.registrotumoriveneto.it/it). The registry collaborates with other Italian registries on research projects and is involved in international epidemiological studies.

POPULATION AT RISK

See Italy, above.

EDITORS' COMMENTS

Non-malignant CNS tumours were registered (Table A.9). Pilocytic astrocytoma was originally coded according to the ICD-O edition in use (Table A.10) and recoded with uncertain behaviour in the IICC-3 dataset. Information on laterality was provided for 71% of the cases of interest, and there were no cases of bilateral retinoblastoma in the dataset. See also Italy, above.

ITALY, 26 registries (1992-2013)

	Age group (years)	Males	Females
Person-years	0	1 413 907	1 335 690
	1-4	5 634 445	5 322 443
	5-9	6 960 781	6 581 229
	10-14	7 124 998	6 743 765
	15-19	7 731 970	7 322 105
	0-14	21 134 131	19 983 127
	0-19	28 866 101	27 305 232

Please consult the quality indicators for this pool and its constituent registries

ITALY, 26 registries (1992-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	103	1012	686	503	499	**2304**	**2803**	30.7	100.0	24.0	100.0	37.5	92.4	50.7	36.3	33.1	**58.4**	**52.7**	841	1007	97.9	0.3
	a. Lymphoid	48	883	571	343	252	**1845**	**2097**	24.5	80.1	18.0	74.8	17.5	80.6	42.2	24.7	16.7	**47.1**	**40.2**	674	758	98.6	0.1
	b. Acute myeloid	30	85	85	115	136	**315**	**451**	4.2	13.7	3.9	16.1	10.9	7.8	6.3	8.3	9.0	**7.7**	**8.0**	115	160	98.0	0.4
	c. CMD	9	13	14	33	75	**69**	**144**	0.9	3.0	1.2	5.1	3.3	1.2	1.0	2.4	5.0	**1.6**	**2.4**	25	50	99.3	0.0
	d. MDS & other	7	13	4	4	9	**28**	**37**	0.4	1.2	0.3	1.3	2.5	1.2	0.3	0.3	0.6	**0.7**	**0.7**	10	13	97.3	0.0
	e. Unspecified	9	18	12	8	27	**47**	**74**	0.6	2.0	0.6	2.6	3.3	1.6	0.9	0.6	1.8	**1.2**	**1.3**	17	26	74.3	6.8
II	**LYMPHOMA & RELATED**	28	151	315	629	1223	**1123**	**2346**	14.9	100.0	20.1	100.0	10.2	13.8	23.3	45.4	81.2	**25.7**	**38.2**	408	815	98.7	0.1
	a. Hodgkin	0	20	84	371	888	**475**	**1363**	6.3	42.3	11.7	58.1	-	1.8	6.2	26.8	59.0	**10.3**	**21.3**	172	467	99.6	0.0
	b. Non-Hodgkin except BL	6	46	111	157	272	**320**	**592**	4.3	28.5	5.1	25.2	2.2	4.2	8.2	11.3	18.1	**7.4**	**9.8**	117	207	99.5	0.2
	c. Burkitt (BL)	1	39	87	69	28	**196**	**224**	2.6	17.5	1.9	9.5	0.4	3.6	6.4	5.0	1.9	**4.6**	**4.0**	72	81	100.0	0.0
	d. Lymphoreticular	21	38	26	14	9	**99**	**108**	1.3	8.8	0.9	4.6	7.6	3.5	1.9	1.0	0.6	**2.6**	**2.1**	36	39	97.2	0.0
	e. Unspecified	0	8	7	18	26	**33**	**59**	0.4	2.9	0.5	2.5	-	0.7	0.5	1.3	1.7	**0.8**	**1.0**	12	21	67.8	3.4
III	**CNS NEOPLASMS** †	87	491	525	451	488	**1554**	**2042**	20.7	100.0	17.5	100.0	31.6	44.8	38.8	32.5	32.4	**38.3**	**37.0**	567	729	73.3	0.5
	a. Ependymoma	15	68	40	33	29	**156**	**185**	2.1	10.0	1.6	9.1	5.5	6.2	3.0	2.4	1.9	**4.0**	**3.5**	57	67	97.3	0.0
	b. Astrocytoma	23	165	193	149	135	**530**	**665**	7.1	34.1	5.7	32.6	8.4	15.1	14.3	10.7	9.0	**13.0**	**12.1**	194	238	97.1	0.0
	c. CNS embryonal	15	92	103	55	47	**265**	**312**	3.5	17.1	2.7	15.3	5.5	8.4	7.6	4.0	3.1	**6.6**	**5.8**	97	113	99.0	0.0
	d. Other gliomas	4	45	31	50	40	**130**	**170**	1.7	8.4	1.5	8.3	1.5	4.1	2.3	3.6	2.7	**3.2**	**3.1**	47	61	68.8	0.0
	e. Other specified	7	33	39	56	90	**135**	**225**	1.8	8.7	1.9	11.0	2.5	3.0	2.9	4.0	6.0	**3.2**	**3.8**	49	79	83.6	0.0
	f. Unspecified CNS	23	88	119	108	147	**338**	**485**	4.5	21.8	4.2	23.8	8.4	8.0	8.8	7.8	9.8	**8.2**	**8.6**	123	172	11.8	2.3
IV	**NEUROBLASTOMA**	200	248	76	21	11	**545**	**556**	7.3	100.0	4.8	100.0	72.7	22.6	5.6	1.5	0.7	**14.9**	**11.7**	199	203	96.8	0.0
	a. (Ganglio)neuroblastoma	198	242	70	13	4	**523**	**527**	7.0	96.0	4.5	94.8	72.0	22.1	5.2	0.9	0.3	**14.4**	**11.2**	191	192	96.8	0.0
	b. Peripheral nervous	2	6	6	8	7	**22**	**29**	0.3	4.0	0.2	5.2	0.7	0.5	0.4	0.6	0.5	**0.5**	**0.5**	8	10	96.6	0.0
V	**RETINOBLASTOMA**	75	78	2	1	1	**156**	**157**	2.1	100.0	1.3	100.0	27.3	7.1	0.1	0.1	0.1	**4.4**	**3.4**	57	57	73.2	0.0
VI	**RENAL TUMOURS**	51	188	80	18	15	**337**	**352**	4.5	100.0	3.0	100.0	18.5	17.2	5.9	1.3	1.0	**9.0**	**7.2**	123	128	93.8	0.0
	a. Nephroblastoma	48	180	67	8	1	**303**	**304**	4.0	89.9	2.6	86.4	17.5	16.4	4.9	0.6	0.1	**8.2**	**6.4**	111	111	98.0	0.0
	b. Renal carcinoma	0	3	7	9	12	**19**	**31**	0.3	5.6	0.3	8.8	-	0.3	0.5	0.6	0.8	**0.4**	**0.5**	7	11	100.0	0.0
	c. Unspecified	3	5	6	1	2	**15**	**17**	0.2	4.5	0.1	4.8	1.1	0.5	0.4	0.1	0.1	**0.4**	**0.3**	5	6	5.9	0.0
VII	**HEPATIC TUMOURS**	29	36	9	8	13	**82**	**95**	1.1	100.0	0.8	100.0	10.5	3.3	0.7	0.6	0.9	**2.2**	**1.9**	30	34	90.5	1.1
	a. Hepatoblastoma	25	29	6	3	1	**63**	**64**	0.8	76.8	0.5	67.4	9.1	2.6	0.4	0.2	0.1	**1.7**	**1.4**	23	23	100.0	0.0
	b. Hepatic carcinoma	1	3	3	4	12	**11**	**23**	0.1	13.4	0.2	24.2	0.4	0.3	0.2	0.3	0.8	**0.3**	**0.4**	4	8	87.0	0.0
	c. Unspecified	3	4	0	1	0	**8**	**8**	0.1	9.8	0.1	8.4	1.1	0.4	-	0.1	-	**0.2**	**0.2**	3	3	25.0	12.5
VIII	**BONE TUMOURS**	4	25	94	230	215	**353**	**568**	4.7	100.0	4.9	100.0	1.5	2.3	6.9	16.6	14.3	**7.9**	**9.3**	128	200	94.4	0.2
	a. Osteosarcoma	1	4	33	100	100	**138**	**238**	1.8	39.1	2.0	41.9	0.4	0.4	2.4	7.2	6.6	**3.0**	**3.8**	50	83	99.6	0.0
	b. Chondrosarcoma	0	0	2	7	11	**9**	**20**	0.1	2.5	0.2	3.5	-	-	0.1	0.5	0.7	**0.2**	**0.3**	3	7	100.0	0.0
	c. Ewing & related	1	18	48	99	78	**166**	**244**	2.2	47.0	2.1	43.0	0.4	1.6	3.5	7.1	5.2	**3.8**	**4.1**	60	86	98.4	0.0
	d. Other specified	0	1	4	4	9	**9**	**18**	0.1	2.5	0.2	3.2	-	0.1	0.3	0.3	0.6	**0.2**	**0.3**	3	6	100.0	0.0
	e. Unspecified	2	2	7	20	17	**31**	**48**	0.4	8.8	0.4	8.5	0.7	0.2	0.5	1.4	1.1	**0.7**	**0.8**	11	17	43.8	2.1
IX	**SOFT TISSUE SARCOMA**	49	105	110	138	224	**402**	**626**	5.3	100.0	5.4	100.0	17.8	9.6	8.1	10.0	14.9	**9.9**	**11.0**	147	221	99.5	0.0
	a. Rhabdomyosarcoma	19	69	56	51	57	**195**	**252**	2.6	48.5	2.2	40.3	6.9	6.3	4.1	3.7	3.8	**4.9**	**4.6**	71	90	100.0	0.0
	b. Fibrosarcoma	10	5	11	17	22	**43**	**65**	0.6	10.7	0.6	10.4	3.6	0.5	0.8	1.2	1.5	**1.0**	**1.1**	16	23	100.0	0.0
	c. Kaposi sarcoma	0	1	0	0	2	**1**	**3**	0.0	0.2	0.0	0.5	-	0.1	-	-	0.1	**0.0**	**0.1**	0	1	100.0	0.0
	d. Other specified	13	20	29	51	124	**113**	**237**	1.5	28.1	2.0	37.9	4.7	1.8	2.1	3.7	8.2	**2.7**	**3.9**	41	82	99.2	0.0
	e. Unspecified	7	10	14	19	19	**50**	**69**	0.7	12.4	0.6	11.0	2.5	0.9	1.0	1.4	1.3	**1.2**	**1.2**	18	25	98.6	0.0
X	**GERM CELL TUMOURS**	33	46	28	90	422	**197**	**619**	2.6	100.0	5.3	100.0	12.0	4.2	2.1	6.5	28.0	**4.8**	**10.0**	72	212	97.1	0.0
	a. CNS germ cell ‡	6	8	12	30	22	**56**	**78**	0.7	28.4	0.7	12.6	2.2	0.7	0.9	2.2	1.5	**1.3**	**1.3**	20	28	93.6	0.0
	b. Other extragonadal	19	24	1	3	11	**47**	**58**	0.6	23.9	0.5	9.4	6.9	2.2	0.1	0.2	0.7	**1.3**	**1.2**	17	21	98.3	0.0
	c. Gonadal germ cell	7	14	12	48	350	**81**	**431**	1.1	41.1	3.7	69.6	2.5	1.3	0.9	3.5	23.2	**1.9**	**6.7**	29	146	100.0	0.0
	d. Gonadal carcinoma	0	0	0	2	22	**2**	**24**	0.0	1.0	0.2	3.9	-	-	-	0.1	1.5	**0.0**	**0.4**	1	8	100.0	0.0
	e. Unspecified gonadal	1	0	3	7	17	**11**	**28**	0.1	5.6	0.2	4.5	0.4	-	0.2	0.5	1.1	**0.2**	**0.4**	4	10	57.1	0.0
XI	**CARCINOMA & MELANOMA**	7	16	65	240	949	**328**	**1277**	4.4	100.0	10.9	100.0	2.5	1.5	4.8	17.3	63.0	**7.2**	**19.8**	119	434	99.5	0.0
	a. Adrenocortical	5	3	0	1	7	**9**	**16**	0.1	2.7	0.1	1.3	1.8	0.3	-	0.1	0.5	**0.2**	**0.3**	3	6	100.0	0.0
	b. Thyroid	0	3	22	92	420	**117**	**537**	1.6	35.7	4.6	42.1	-	0.3	1.6	6.6	27.9	**2.5**	**8.2**	42	182	99.4	0.0
	c. Nasopharyngeal	0	0	1	9	25	**10**	**35**	0.1	3.0	0.3	2.7	-	-	0.1	0.6	1.7	**0.2**	**0.5**	4	12	100.0	0.0
	d. Melanoma	0	4	14	57	220	**75**	**295**	1.0	22.9	2.5	23.1	-	0.4	1.0	4.1	14.6	**1.6**	**4.6**	27	100	98.6	0.0
	e. Skin carcinoma	1	4	16	32	114	**53**	**167**	0.7	16.2	1.4	13.1	0.4	0.4	1.2	2.3	7.6	**1.2**	**2.6**	19	57	100.0	0.0
	f. Other & unspecified	1	2	12	49	163	**64**	**227**	0.9	19.5	1.9	17.8	0.4	0.2	0.9	3.5	10.8	**1.4**	**3.5**	23	77	100.0	0.0
XII	**OTHER & UNSPECIFIED**	33	39	25	39	86	**136**	**222**	1.8	100.0	1.9	100.0	12.0	3.6	1.8	2.8	5.7	**3.4**	**4.0**	50	78	29.3	1.8
	a. Other specified	3	12	0	1	12	**16**	**28**	0.2	11.8	0.2	12.6	1.1	1.1	-	0.1	0.8	**0.4**	**0.5**	6	10	100.0	0.0
	b. Other unspecified	30	27	25	38	74	**120**	**194**	1.6	88.2	1.7	87.4	10.9	2.5	1.8	2.7	4.9	**3.0**	**3.4**	44	68	19.1	2.1
	TOTAL §	699	2435	2015	2368	4146	**7517**	**11663**	100.0	100.0	100.0	100.0	254.2	222.2	148.8	170.7	275.4	**186.1**	**206.2**	2741	4118	91.9	0.2

† includes 772 non-malignant ‡ includes 6 non-malignant
§ includes 1 with sex unknown

Please consult the quality indicators for this pool and its constituent registries

Lithuania

Lithuanian Cancer Registry, 2000–2012

Nadezda Lipunova, Giedre Smailyte, Ieva Vincerzevskiene, Auguste Kaceniene, Jevgenij Obzigailov

Lithuania is located along the south-eastern shore of the Baltic Sea, to the east of Sweden and Denmark. It is bordered by Latvia to the north, Belarus to the east and south, Poland to the south, and the Kaliningrad region of the Russian Federation to the south-west. The climate varies between maritime and continental. The country has a fast-growing economy and a very high HDI. In 2010, the estimated population was 3.1 million (Table A.7), and 22% of the population was younger than 20 years (Table A.6). Vilnius is the capital and the most populous city.

Paediatric oncology services are provided in the Children's Oncohaematology Department of the Vilnius University Children's Hospital and in the Paediatric Oncology and Haematology Division of the Hospital of Lithuanian University of Health Sciences Kaunas Clinics.

The Lithuanian Cancer Registry is a population-based registry. Cancer registration started in 1957 (Table A.10). Population-based data are available from 1964 and were included in international studies as from 1988. The Epidemiology Department of the Institute of Oncology was responsible for the collection and analysis of cancer incidence data until 1984, when the Lithuanian Cancer Registry was founded as a separate body. The registry became a member of IACR in 1993.

The main sources of information on cancer cases are primary, secondary, and tertiary health-care institutions. All physicians must complete a notification form when a new case of cancer is diagnosed, and the registry staff conduct extensive quality control and data analysis. The standard notification form includes personal identification number, names, sex, date of birth, place of residence, date of diagnosis, cancer site according to ICD-10 (since 1998), and topography and morphology codes according to ICD-O-2 (1998–2002) or ICD-O-3 (since 2003) (Table A.10). The notifications are supplemented by information from death certificates from the Causes of Death Registry, and the data are entered into an electronic database suitable for research purposes.

The registry routinely publishes data. One example, the most recent publication, is available at https://www.nvi.lt/uploads/pdf/Vezio%20registras/Vezys_lietuvoje_2012.pdf.

POPULATION AT RISK

The source of the population data is Statistics Lithuania (https://osp.stat.gov.lt); the data are based on the 2001 and 2011 censuses (Table A.7). Data were provided in the requested detail.

EDITORS' COMMENTS

The proportion of non-malignant CNS tumours is low (Table A.9). The registry could not rule out some level of underreporting of the overall incidence; however, this was thought unlikely to be different between cancer types (malignant or non-malignant). Pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas are reportable. Laterality was not reported.

LITHUANIA (2000-2012)

	Age group (years)	Males	Females
Person-years	0	203 806	193 427
	1-4	831 328	788 422
	5-9	1 171 227	1 111 370
	10-14	1 446 889	1 380 556
	15-19	1 617 345	1 555 673
	0-14	3 653 250	3 473 775
	0-19	5 270 595	5 029 448
Average annual population	0-14	281 019	267 213
	0-19	405 430	386 881

Please consult the quality indicators for this registry

LITHUANIA (2000-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	16	145	98	63	88	322	410	36.6	100.0	29.3	100.0	40.3	89.5	42.9	22.3	27.7	51.2	45.9	725	864	99.3	0.0
	a. Lymphoid	5	124	85	42	44	256	300	29.1	79.5	21.4	73.2	12.6	76.6	37.2	14.9	13.9	41.1	35.0	580	650	100.0	0.0
	b. Acute myeloid	6	17	10	15	24	48	72	5.5	14.9	5.1	17.6	15.1	10.5	4.4	5.3	7.6	7.4	7.4	105	143	100.0	0.0
	c. CMD	0	0	3	3	15	6	21	0.7	1.9	1.5	5.1	-	-	1.3	1.1	4.7	0.7	1.6	12	36	100.0	0.0
	d. MDS & other	3	2	0	3	2	8	10	0.9	2.5	0.7	2.4	7.6	1.2	-	1.1	0.6	1.3	1.1	18	21	100.0	0.0
	e. Unspecified	2	2	0	0	3	4	7	0.5	1.2	0.5	1.7	5.0	1.2	-	-	0.9	0.8	0.8	10	15	57.1	0.0
II	LYMPHOMA & RELATED	1	22	23	63	141	109	250	12.4	100.0	17.9	100.0	2.5	13.6	10.1	22.3	44.4	14.1	21.0	219	441	99.6	0.0
	a. Hodgkin	0	8	10	28	99	46	145	5.2	42.2	10.4	58.0	-	4.9	4.4	9.9	31.2	5.8	11.5	91	247	99.3	0.0
	b. Non-Hodgkin except BL	1	6	6	22	31	35	66	4.0	32.1	4.7	26.4	2.5	3.7	2.6	7.8	9.8	4.5	5.6	69	118	100.0	0.0
	c. Burkitt (BL)	0	7	4	12	8	23	31	2.6	21.1	2.2	12.4	-	4.3	1.8	4.2	2.5	3.1	3.0	47	60	100.0	0.0
	d. Lymphoreticular	0	1	2	1	2	4	6	0.5	3.7	0.4	2.4	-	0.6	0.9	0.4	0.6	0.6	0.6	9	12	100.0	0.0
	e. Unspecified	0	0	1	0	1	1	2	0.1	0.9	0.1	0.8	-	-	0.4	-	0.3	0.1	0.2	2	4	100.0	0.0
III	CNS NEOPLASMS †	12	43	43	53	68	151	219	17.2	100.0	15.6	100.0	30.2	26.5	18.8	18.7	21.4	22.1	21.9	324	431	76.7	4.6
	a. Ependymoma	0	3	7	4	5	14	19	1.6	9.3	1.4	8.7	-	1.9	3.1	1.4	1.6	2.0	1.9	30	38	100.0	0.0
	b. Astrocytoma	5	14	14	19	29	52	81	5.9	34.4	5.8	37.0	12.6	8.6	6.1	6.7	9.1	7.6	7.9	111	157	100.0	0.0
	c. CNS embryonal	1	10	10	11	9	32	41	3.6	21.2	2.9	18.7	2.5	6.2	4.4	3.9	2.8	4.7	4.2	69	83	100.0	0.0
	d. Other gliomas	0	3	3	6	6	12	18	1.4	7.9	1.3	8.2	-	1.9	1.3	2.1	1.9	1.6	1.7	25	34	100.0	0.0
	e. Other specified	2	0	2	2	2	6	8	0.7	4.0	0.6	3.7	5.0	-	0.9	0.7	0.6	0.9	0.8	13	16	100.0	0.0
	f. Unspecified CNS	4	13	7	11	17	35	52	4.0	23.2	3.7	23.7	10.1	8.0	3.1	3.9	5.4	5.4	5.4	77	104	1.9	19.2
IV	NEUROBLASTOMA	19	24	7	6	3	56	59	6.4	100.0	4.2	100.0	47.8	14.8	3.1	2.1	0.9	9.9	7.9	133	137	100.0	0.0
	a. (Ganglio)neuroblastoma	19	24	7	5	1	55	56	6.3	98.2	4.0	94.9	47.8	14.8	3.1	1.8	0.3	9.8	7.6	131	132	100.0	0.0
	b. Peripheral nervous	0	0	0	1	2	1	3	0.1	1.8	0.2	5.1	-	-	-	0.4	0.6	0.1	0.2	2	5	100.0	0.0
V	RETINOBLASTOMA	5	7	1	0	0	13	13	1.5	100.0	0.9	100.0	12.6	4.3	0.4	-	-	2.4	1.9	32	32	100.0	0.0
VI	RENAL TUMOURS	8	36	10	6	10	60	70	6.8	100.0	5.0	100.0	20.1	22.2	4.4	2.1	3.2	10.5	8.8	142	157	91.4	1.4
	a. Nephroblastoma	7	34	10	3	3	54	57	6.1	90.0	4.1	81.4	17.6	21.0	4.4	1.1	0.9	9.6	7.6	129	134	94.7	0.0
	b. Renal carcinoma	0	0	0	3	7	3	10	0.3	5.0	0.7	14.3	-	-	-	1.1	2.2	0.3	0.7	5	16	100.0	0.0
	c. Unspecified	1	2	0	0	0	3	3	0.3	5.0	0.2	4.3	2.5	1.2	-	-	-	0.6	0.4	7	7	0.0	33.3
VII	HEPATIC TUMOURS	2	1	1	5	2	9	11	1.0	100.0	0.8	100.0	5.0	0.6	0.4	1.8	0.6	1.2	1.1	18	22	90.9	9.1
	a. Hepatoblastoma	2	1	1	0	0	4	4	0.5	44.4	0.3	36.4	5.0	0.6	0.4	-	-	0.7	0.6	10	10	100.0	0.0
	b. Hepatic carcinoma	0	0	0	5	1	5	6	0.6	55.6	0.4	54.5	-	-	-	1.8	0.3	0.5	0.5	9	10	100.0	0.0
	c. Unspecified	0	0	0	0	1	0	1	-	-	0.1	9.1	-	-	-	-	0.3	-	0.1	-	2	0.0	100.0
VIII	BONE TUMOURS	1	3	9	31	44	44	88	5.0	100.0	6.3	100.0	2.5	1.9	3.9	11.0	13.9	5.2	7.2	84	154	97.7	0.0
	a. Osteosarcoma	0	0	1	15	21	16	37	1.8	36.4	2.6	42.0	-	-	0.4	5.3	6.6	1.7	2.8	29	62	100.0	0.0
	b. Chondrosarcoma	0	0	1	2	5	3	8	0.3	6.8	0.6	9.1	-	-	0.4	0.7	1.6	0.3	0.6	6	14	100.0	0.0
	c. Ewing & related	1	3	6	12	14	22	36	2.5	50.0	2.6	40.9	2.5	1.9	2.6	4.2	4.4	2.8	3.2	44	66	100.0	0.0
	d. Other specified	0	0	0	1	0	1	1	0.1	2.3	0.1	1.1	-	-	-	0.4	-	0.1	0.1	2	2	100.0	0.0
	e. Unspecified	0	0	1	1	4	2	6	0.2	4.5	0.4	6.8	-	-	0.4	0.4	1.3	0.2	0.5	4	10	66.7	0.0
IX	SOFT TISSUE SARCOMA	8	20	8	19	29	55	84	6.3	100.0	6.0	100.0	20.1	12.3	3.5	6.7	9.1	8.5	8.6	121	166	100.0	0.0
	a. Rhabdomyosarcoma	4	13	3	12	7	32	39	3.6	58.2	2.8	46.4	10.1	8.0	1.3	4.2	2.2	4.9	4.3	70	81	100.0	0.0
	b. Fibrosarcoma	1	0	3	1	5	5	10	0.6	9.1	0.7	11.9	2.5	-	1.3	0.4	1.6	0.7	0.9	11	19	100.0	0.0
	c. Kaposi sarcoma	0	1	0	0	0	1	1	0.1	1.8	0.1	1.2	-	0.6	-	-	-	0.2	0.1	2	2	100.0	0.0
	d. Other specified	3	6	2	6	13	17	30	1.9	30.9	2.1	35.7	7.6	3.7	0.9	2.1	4.1	2.6	3.0	37	58	100.0	0.0
	e. Unspecified	0	0	0	0	4	0	4	-	-	0.3	4.8	-	-	-	-	1.3	-	0.3	-	6	100.0	0.0
X	GERM CELL TUMOURS	5	6	4	11	41	26	67	3.0	100.0	4.8	100.0	12.6	3.7	1.8	3.9	12.9	3.8	5.9	55	120	97.0	0.0
	a. CNS germ cell	0	0	1	5	2	6	8	0.7	23.1	0.6	11.9	-	-	0.4	1.8	0.6	0.7	0.6	11	14	100.0	0.0
	b. Other extragonadal	3	5	0	0	4	8	12	0.9	30.8	0.9	17.9	7.6	3.1	-	-	1.3	1.5	1.5	20	26	100.0	0.0
	c. Gonadal germ cell	1	1	3	5	26	10	36	1.1	38.5	2.6	53.7	2.5	0.6	1.3	1.8	8.2	1.3	2.9	20	61	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	4	1	5	0.1	3.8	0.4	7.5	-	-	-	0.4	1.3	0.1	0.4	2	8	100.0	0.0
	e. Unspecified gonadal	1	0	0	0	5	1	6	0.1	3.8	0.4	9.0	2.5	-	-	-	1.6	0.2	0.5	2	10	66.7	0.0
XI	CARCINOMA & MELANOMA	1	1	3	20	87	25	112	2.8	100.0	8.0	100.0	2.5	0.6	1.3	7.1	27.4	2.9	8.4	47	184	99.1	0.0
	a. Adrenocortical	1	0	1	1	2	3	5	0.3	12.0	0.4	4.5	2.5	-	0.4	0.4	0.6	0.4	0.5	6	10	80.0	0.0
	b. Thyroid	0	0	1	9	44	10	54	1.1	40.0	3.9	48.2	-	-	0.4	3.2	13.9	1.1	3.9	18	87	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	4	0	4	-	-	0.3	3.6	-	-	-	-	1.3	-	0.3	-	6	100.0	0.0
	d. Melanoma	0	0	0	1	11	1	12	0.1	4.0	0.9	10.7	-	-	-	0.4	3.5	0.1	0.9	2	19	100.0	0.0
	e. Skin carcinoma	0	0	1	6	10	7	17	0.8	28.0	1.2	15.2	-	-	0.4	2.1	3.2	0.8	1.3	13	29	100.0	0.0
	f. Other & unspecified	0	1	0	3	16	4	20	0.5	16.0	1.4	17.9	-	0.6	-	1.1	5.0	0.5	1.5	8	33	100.0	0.0
XII	OTHER & UNSPECIFIED	3	4	2	1	7	10	17	1.1	100.0	1.2	100.0	7.6	2.5	0.9	0.4	2.2	1.7	1.8	24	35	11.8	35.3
	a. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other unspecified	3	4	2	1	7	10	17	1.1	100.0	1.2	100.0	7.6	2.5	0.9	0.4	2.2	1.7	1.8	24	35	11.8	35.3
	TOTAL	81	312	209	278	520	880	1400	100.0	100.0	100.0	100.0	203.9	192.6	91.6	98.3	163.9	133.5	140.3	1924	2743	94.1	1.3

† includes 15 non-malignant

Please consult the quality indicators for this registry

Malta

Malta National Cancer Registry, 1994–2013

Dominic Agius

The Malta National Cancer Registry covers the population of the Maltese Islands, a small archipelago (316 km^2) in the Mediterranean Sea. The total resident population is 0.4 million, and 23% of the population is younger than 20 years (Table A.6). No clear distinction exists between urban and rural populations. Most of the population is Roman Catholic. There are no distinct ethnic minority groups. The number of foreign nationals has increased over the years, and they make up about 5% of the total population.

The Malta National Health Service provides free care for all at the point of delivery, funded by federal taxes. All residents have access to preventive, diagnostic, therapeutic, and rehabilitative services in government hospitals and health centres. There is an acute care hospital in Msida, which is in the centre of the largest island, and a smaller general hospital on the island of Gozo. Less than 20% of residents are covered by private health insurance. There is one private hospital. Cancer surgery is provided in all Maltese hospitals, along with paediatric and adolescent oncology, pathology, and other services. Radiotherapy and chemotherapy services are provided at the new, state-of-the-art Sir Anthony Mamo Oncology Centre.

The registry is part of the Department of Health Information and Research and is fully funded by the Government of Malta. It is staffed by a full-time medical officer and two registrars.

Data are collected mainly through active extraction from pathology laboratories' databases, hospital records, and the National Mortality Registry. The National Mortality Registry is also part of the Department of Health Information and Research, and linkage between the cancer registry and mortality databases is performed regularly. The mortality registry is the national source of death statistics.

Almost all cancers diagnosed in Maltese residents are registered. The registered patients are followed up using death certificates, and the date last known alive is extracted from hospital admissions and consultation records as possible.

Some Maltese residents receive treatment abroad, especially in the United Kingdom and Italy. These patients are first assessed and diagnosed locally, and specialized treatment is sought abroad if it is not available in Malta. The records of such patients are centrally accessible to the registry and are handled similarly to the records of patients who are treated locally.

The Malta National Cancer Registry collaborates with other cancer registries in the Southern and Eastern European Group of Cancer Registries. To date, case records have not been exchanged, but registry data and staff expertise are shared when writing research articles.

Registry data were included in CI5 Volumes VII–XI and in the EUROCARE and CONCORD studies. The registry is the recognized national source of information on cancer incidence. It responds to requests for information from both local and international sources.

POPULATION AT RISK

Population data are provided by the National Statistics Office (https://nso.gov.mt/en/Pages/NSO-Home.aspx) and are based on the 1985, 1995, 2005, and 2011 censuses (Table A.7). Data were provided in the requested detail.

EDITORS' COMMENTS

Pilocytic astrocytoma was coded with malignant behaviour in 1994–2003 and with non-malignant behaviour in 2004–2013, which might have contributed to the relatively low proportion of non-malignant CNS tumours in the dataset (Table A.9). Other non-malignant CNS tumours were registered throughout the reporting period. Skin carcinomas are registered. Laterality is complete.

MALTA (1994-2013)

	Age group (years)	Males	Females
Person-years	0	43 639	41 177
	1-4	180 727	171 200
	5-9	244 863	232 347
	10-14	269 567	255 126
	15-19	289 092	272 451
	0-14	738 796	699 850
	0-19	1 027 888	972 301
Average annual population	0-14	36 940	34 993
	0-19	51 394	48 615

Please consult the quality indicators for this registry

MALTA (1994-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	2	32	28	21	18	83	101	33.6	100.0	28.7	100.0	23.6	90.9	58.7	40.0	32.1	60.7	54.2	883	1043	100.0	0.0
	a. Lymphoid	0	28	20	14	8	62	70	25.1	74.7	19.9	69.3	-	79.6	41.9	26.7	14.2	46.1	38.9	664	735	100.0	0.0
	b. Acute myeloid	1	1	6	3	8	11	19	4.5	13.3	5.4	18.8	11.8	2.8	12.6	5.7	14.2	7.5	9.0	114	186	100.0	0.0
	c. CMD	1	2	0	2	1	5	6	2.0	6.0	1.7	5.9	11.8	5.7	-	3.8	1.8	3.8	3.3	53	62	100.0	0.0
	d. MDS & other	0	1	1	2	1	4	5	1.6	4.8	1.4	5.0	-	2.8	2.1	3.8	1.8	2.7	2.5	41	50	100.0	0.0
	e. Unspecified	0	0	1	0	0	1	1	0.4	1.2	0.3	1.0	-	-	2.1	-	-	0.7	0.5	10	10	100.0	0.0
II	LYMPHOMA & RELATED	2	8	6	16	31	32	63	13.0	100.0	17.9	100.0	23.6	22.7	12.6	30.5	55.2	21.8	29.3	330	606	100.0	0.0
	a. Hodgkin	0	2	0	9	19	11	30	4.5	34.4	8.5	47.6	-	5.7	-	17.2	33.8	6.8	12.8	109	278	100.0	0.0
	b. Non-Hodgkin except BL	0	2	3	4	11	9	20	3.6	28.1	5.7	31.7	-	5.7	6.3	7.6	19.6	6.0	9.1	92	190	100.0	0.0
	c. Burkitt (BL)	0	1	2	3	0	6	6	2.4	18.8	1.7	9.5	-	2.8	4.2	5.7	-	3.9	3.0	61	61	100.0	0.0
	d. Lymphoreticular	2	3	1	0	1	6	7	2.4	18.8	2.0	11.1	23.6	8.5	2.1	-	1.8	5.1	4.4	68	77	100.0	0.0
	e. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
III	CNS NEOPLASMS †	1	13	15	16	8	45	53	18.2	100.0	15.1	100.0	11.8	36.9	31.4	30.5	14.2	31.4	27.5	470	541	88.7	0.0
	a. Ependymoma	1	1	0	0	0	2	2	0.8	4.4	0.6	3.8	11.8	2.8	-	-	-	1.8	1.4	23	23	100.0	0.0
	b. Astrocytoma	0	8	4	11	4	23	27	9.3	51.1	7.7	50.9	-	22.7	8.4	21.0	7.1	15.9	13.9	238	274	96.3	0.0
	c. CNS embryonal	0	3	6	2	3	11	14	4.5	24.4	4.0	26.4	-	8.5	12.6	3.8	5.3	7.8	7.3	116	143	100.0	0.0
	d. Other gliomas	0	0	1	2	1	3	4	1.2	6.7	1.1	7.5	-	-	2.1	3.8	1.8	1.8	1.8	30	38	25.0	0.0
	e. Other specified	0	0	3	1	0	4	4	1.6	8.9	1.1	7.5	-	-	6.3	1.9	-	2.6	2.0	41	41	100.0	0.0
	f. Unspecified CNS	0	1	1	0	0	2	2	0.8	4.4	0.6	3.8	-	2.8	2.1	-	-	1.6	1.2	22	22	0.0	0.0
IV	NEUROBLASTOMA	7	6	4	0	0	17	17	6.9	100.0	4.8	100.0	82.5	17.0	8.4	-	-	14.2	11.0	191	191	100.0	0.0
	a. (Ganglio)neuroblastoma	7	6	4	0	0	17	17	6.9	100.0	4.8	100.0	82.5	17.0	8.4	-	-	14.2	11.0	191	191	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	3	4	1	0	0	8	8	3.2	100.0	2.3	100.0	35.4	11.4	2.1	-	-	6.9	5.3	91	91	75.0	0.0
VI	RENAL TUMOURS	0	12	4	2	1	18	19	7.3	100.0	5.4	100.0	-	34.1	8.4	3.8	1.8	14.4	11.6	198	207	100.0	0.0
	a. Nephroblastoma	0	12	4	1	0	17	17	6.9	94.4	4.8	89.5	-	34.1	8.4	1.9	-	13.9	10.8	189	189	100.0	0.0
	b. Renal carcinoma	0	0	0	1	1	1	2	0.4	5.6	0.6	10.5	-	-	-	1.9	1.8	0.6	0.8	10	18	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	0	3	0	0	0	3	3	1.2	100.0	0.9	100.0	-	8.5	-	-	-	2.7	2.1	34	34	66.7	0.0
	a. Hepatoblastoma	0	2	0	0	0	2	2	0.8	66.7	0.6	66.7	-	5.7	-	-	-	1.8	1.4	23	23	100.0	0.0
	b. Hepatic carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	0	1	0	0	0	1	1	0.4	33.3	0.3	33.3	-	2.8	-	-	-	0.9	0.7	11	11	0.0	0.0
VIII	BONE TUMOURS	0	0	6	6	8	12	20	4.9	100.0	5.7	100.0	-	-	12.6	11.4	14.2	7.4	8.9	120	191	100.0	0.0
	a. Osteosarcoma	0	0	2	2	3	4	7	1.6	33.3	2.0	35.0	-	-	4.2	3.8	5.3	2.5	3.1	40	67	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	2	1	3	0.4	8.3	0.9	15.0	-	-	-	1.9	3.6	0.6	1.2	10	27	100.0	0.0
	c. Ewing & related	0	0	4	2	3	6	9	2.4	50.0	2.6	45.0	-	-	8.4	3.8	5.3	3.8	4.2	61	88	100.0	0.0
	d. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	0	0	1	0	1	1	0.4	8.3	0.3	5.0	-	-	-	1.9	-	0.6	0.4	10	10	100.0	0.0
IX	SOFT TISSUE SARCOMA	0	3	4	5	12	12	24	4.9	100.0	6.8	100.0	-	8.5	8.4	9.5	21.4	8.1	11.1	124	231	100.0	0.0
	a. Rhabdomyosarcoma	0	3	2	2	6	7	13	2.8	58.3	3.7	54.2	-	8.5	4.2	3.8	10.7	5.1	6.4	74	128	100.0	0.0
	b. Fibrosarcoma	0	0	0	0	2	0	2	-	-	0.6	8.3	-	-	-	-	3.6	-	0.8	-	18	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	0	2	3	4	5	9	2.0	41.7	2.6	37.5	-	-	4.2	5.7	7.1	3.0	3.9	50	85	100.0	0.0
	e. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
X	GERM CELL TUMOURS	1	0	1	2	7	4	11	1.6	100.0	3.1	100.0	11.8	-	2.1	3.8	12.5	2.7	4.9	41	103	100.0	0.0
	a. CNS germ cell	0	0	0	0	1	0	1	-	-	0.3	9.1	-	-	-	-	1.8	-	0.4	-	9	100.0	0.0
	b. Other extragonadal	1	0	0	0	0	1	1	0.4	25.0	0.3	9.1	11.8	-	-	-	-	0.9	0.7	11	11	100.0	0.0
	c. Gonadal germ cell	0	0	1	2	6	3	9	1.2	75.0	2.6	81.8	-	-	2.1	3.8	10.7	1.8	3.8	30	83	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified gonadal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XI	CARCINOMA & MELANOMA	0	0	2	10	20	12	32	4.9	100.0	9.1	100.0	-	-	4.2	19.1	35.6	6.9	13.3	116	294	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	0	0	3	7	3	10	1.2	25.0	2.8	31.3	-	-	-	5.7	12.5	1.7	4.1	29	91	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	1	0	1	-	-	0.3	3.1	-	-	-	-	1.8	-	0.4	-	9	100.0	0.0
	d. Melanoma	0	0	2	5	9	7	16	2.8	58.3	4.5	50.0	-	-	4.2	9.5	16.0	4.1	6.8	69	149	100.0	0.0
	e. Skin carcinoma	0	0	0	0	1	0	1	-	-	0.3	3.1	-	-	-	-	1.8	-	0.4	-	9	100.0	0.0
	f. Other & unspecified	0	0	0	2	2	2	4	0.8	16.7	1.1	12.5	-	-	-	3.8	3.6	1.1	1.7	19	37	100.0	0.0
XII	OTHER & UNSPECIFIED	0	0	0	1	0	1	1	0.4	100.0	0.3	100.0	-	-	-	1.9	-	0.6	0.4	10	10	100.0	0.0
	a. Other specified	0	0	0	1	0	1	1	0.4	100.0	0.3	100.0	-	-	-	1.9	-	0.6	0.4	10	10	100.0	0.0
	b. Other unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	16	81	71	79	105	247	352	100.0	100.0	100.0	100.0	188.6	230.2	148.8	150.6	187.0	177.7	179.8	2607	3542	97.4	0.0

† includes 7 non-malignant

Please consult the quality indicators for this registry

The Netherlands

Netherlands Cancer Registry, 1993–2013

Otto Visser, Henrike Karim-Kos, Brendy Wauben-Spaetgens, Karin Timmermans

The Netherlands is located in western Europe. It is bordered by Germany to the east, Belgium to the south, and the North Sea to the north-west. Half of the mainland area is 1 m above sea level or lower. The mild climate is favourable to highly developed intensive agriculture. The standard of living is high, with universal health care, public education, and a wide range of social benefits. The country is very densely populated, with a population of 16.6 million in an area of 41 543 km^2. About 23% of the population is younger than 20 years (Table A.6).

Cancer care is provided by all hospitals in the Netherlands (eight university hospitals, one specialized cancer hospital, and more than 70 general hospitals). However, cancer care is increasingly centralized in a limited number of institutions. Because of these mergers, the number of general hospitals has decreased in recent decades. On average, 1000–1500 new cancer cases per year are diagnosed in each general hospital (up to 2500 in the largest hospitals), compared with fewer than 500 new cases per year in each general hospital 25 years ago. Radiotherapy is available in all university hospitals and several general hospitals. The Netherlands Comprehensive Cancer Organisation (IKNL) is a partnership between health-care professionals and cancer and palliative care institutions. IKNL facilitates access to comprehensive, high-quality cancer care (e.g. by coordinating specialist consultation and support networks and by assembling tumour-specific working groups to develop, implement, and evaluate cancer guidelines); it is funded by the Ministry of Health, Welfare, and Sport.

The Netherlands Cancer Registry covers all 17 million residents. It is maintained by IKNL. The main source of information is the national pathology archive, which sends weekly notifications of all cancer cases. Once a year, the registry is linked with the national hospital discharge register (which provides 5–10% of the registry's registered cases). Hospital records are reviewed by specially trained registration clerks for additional cases. Death certificates are not available, because of privacy regulations. The registry has been population-based since 1989 (Table A.10), and the data are more than 95% complete. However, cases diagnosed only at the time of death are missed, as are cases with no associated pathology records.

The registry publishes national and regional data on annual cancer incidence, prevalence, and survival online (https://iknl.nl/). It also receives more than 400 requests per year for more detailed information. Registry data are used to support numerous projects in collaboration with hospitals and universities, such as evaluations of guidelines and the national cancer control plan.

POPULATION AT RISK

The source of the population data is Statistics Netherlands (https://opendata.cbs.nl/statline/#/CBS/en). The census in the Netherlands has been register-based since 1971 and was complemented by a survey in 2011 (Table A.7). Data were provided in the requested detail.

EDITORS' COMMENTS

The registry participated in IICC-2 (Table A.1). Although non-malignant CNS tumours were included only from 1999 onwards, they made up 42.5% of the CNS tumours (Table A.9). The absence of DCO cases may indicate that a small proportion of new cases are missed by the registry. Pilocytic astrocytoma was coded with uncertain behaviour. Because of privacy regulations the registry could not provide day of birth or day of incidence (Table A.8). The first occurrence of squamous skin carcinoma, melanoma, and other skin carcinoma in a patient is registered. Laterality data are complete. Carcinoid tumours of the appendix were coded with malignant behaviour and made up 2.5% of all cases (Table A.11).

THE NETHERLANDS (1993-2013)

	Age group (years)	Males	Females
Person-years	0	2 057 545	1 960 207
	1-4	8 365 968	7 985 734
	5-9	10 535 909	10 065 512
	10-14	10 413 205	9 950 681
	15-19	10 364 100	9 897 131
	0-14	31 372 627	29 962 134
	0-19	41 736 727	39 859 265
Average annual population	0-14	1 493 935	1 426 768
	0-19	1 987 463	1 898 060

Please consult the quality indicators for this registry

THE NETHERLANDS (1993-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)					0-14	0-19	0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19			All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	167	1334	772	574	508	**2847**	**3355**	30.9	100.0	24.3	100.0	41.6	81.6	37.5	28.2	25.1	**48.8**	**43.5**	697	822	100.0	0.0
	a. Lymphoid	77	1109	650	393	283	**2229**	**2512**	24.2	78.3	18.2	74.9	19.2	67.8	31.6	19.3	14.0	**38.3**	**32.8**	545	615	100.0	0.0
	b. Acute myeloid	62	180	80	130	148	**452**	**600**	4.9	15.9	4.3	17.9	15.4	11.0	3.9	6.4	7.3	**7.7**	**7.6**	111	147	100.0	0.0
	c. CMD	3	4	17	19	46	**43**	**89**	0.5	1.5	0.6	2.7	0.7	0.2	0.8	0.9	2.3	**0.7**	**1.0**	11	22	100.0	0.0
	d. MDS & other	24	38	23	26	27	**111**	**138**	1.2	3.9	1.0	4.1	6.0	2.3	1.1	1.3	1.3	**1.9**	**1.8**	27	34	100.0	0.0
	e. Unspecified	1	3	2	6	4	**12**	**16**	0.1	0.4	0.1	0.5	0.2	0.2	0.1	0.3	0.2	**0.2**	**0.2**	3	4	100.0	0.0
II	LYMPHOMA & RELATED	33	191	326	519	1098	**1069**	**2167**	11.6	100.0	15.7	100.0	8.2	11.7	15.8	25.5	54.2	**16.8**	**25.2**	262	532	100.0	0.0
	a. Hodgkin	0	16	77	268	761	**361**	**1122**	3.9	33.8	8.1	51.8	-	1.0	3.7	13.2	37.6	**5.3**	**12.6**	88	276	100.0	0.0
	b. Non-Hodgkin except BL	9	75	124	162	283	**370**	**653**	4.0	34.6	4.7	30.1	2.2	4.6	6.0	8.0	14.0	**5.8**	**7.7**	90	160	100.0	0.0
	c. Burkitt (BL)	1	64	114	82	43	**261**	**304**	2.8	24.4	2.2	14.0	0.2	3.9	5.5	4.0	2.1	**4.2**	**3.7**	64	74	100.0	0.0
	d. Lymphoreticular	23	36	10	6	8	**75**	**83**	0.8	7.0	0.6	3.8	5.7	2.2	0.5	0.3	0.4	**1.4**	**1.1**	18	20	100.0	0.0
	e. Unspecified	0	0	1	1	3	**2**	**5**	0.0	0.2	0.0	0.2	-	-	0.0	0.0	0.1	**0.0**	**0.1**	0	1	100.0	0.0
III	CNS NEOPLASMS †	124	624	706	609	618	**2063**	**2681**	22.4	100.0	19.4	100.0	30.9	38.2	34.3	29.9	30.5	**34.0**	**33.2**	504	657	82.7	0.0
	a. Ependymoma	23	106	53	52	51	**234**	**285**	2.5	11.3	2.1	10.6	5.7	6.5	2.6	2.6	2.5	**4.0**	**3.7**	57	70	99.6	0.0
	b. Astrocytoma	42	215	287	241	227	**785**	**1012**	8.5	38.1	7.3	37.7	10.5	13.1	13.9	11.8	11.2	**12.8**	**12.5**	192	248	90.2	0.0
	c. CNS embryonal	32	164	153	81	43	**430**	**473**	4.7	20.8	3.4	17.6	8.0	10.0	7.4	4.0	2.1	**7.3**	**6.1**	105	116	100.0	0.0
	d. Other gliomas	6	52	86	61	40	**205**	**245**	2.2	9.9	1.8	9.1	1.5	3.2	4.2	3.0	2.0	**3.3**	**3.0**	50	60	51.4	0.0
	e. Other specified	13	56	88	139	228	**296**	**524**	3.2	14.3	3.8	19.5	3.2	3.4	4.3	6.8	11.3	**4.7**	**6.2**	72	129	80.3	0.0
	f. Unspecified CNS	8	31	39	35	29	**113**	**142**	1.2	5.5	1.0	5.3	2.0	1.9	1.9	1.7	1.4	**1.9**	**1.8**	28	35	0.7	0.0
IV	NEUROBLASTOMA	167	224	40	14	9	**445**	**454**	4.8	100.0	3.3	100.0	41.6	13.7	1.9	0.7	0.4	**8.3**	**6.5**	109	111	98.5	0.0
	a. (Ganglio)neuroblastoma	167	222	36	10	4	**435**	**439**	4.7	97.8	3.2	96.7	41.6	13.6	1.7	0.5	0.2	**8.1**	**6.3**	107	108	98.4	0.0
	b. Peripheral nervous	0	2	4	4	5	**10**	**15**	0.1	2.2	0.1	3.3	-	0.1	0.2	0.2	0.2	**0.2**	**0.2**	2	4	100.0	0.0
V	RETINOBLASTOMA	109	133	18	1	0	**261**	**261**	2.8	100.0	1.9	100.0	27.1	8.1	0.9	0.0	-	**4.9**	**3.8**	64	64	80.8	0.0
VI	RENAL TUMOURS	69	347	109	19	20	**544**	**564**	5.9	100.0	4.1	100.0	17.2	21.2	5.3	0.9	1.0	**9.9**	**7.9**	133	138	96.5	0.0
	a. Nephroblastoma	69	346	104	16	6	**535**	**541**	5.8	98.3	3.9	95.9	17.2	21.2	5.0	0.8	0.3	**9.7**	**7.6**	131	133	96.3	0.0
	b. Renal carcinoma	0	1	5	3	14	**9**	**23**	0.1	1.7	0.2	4.1	-	0.1	0.2	0.1	0.7	**0.1**	**0.3**	2	6	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	HEPATIC TUMOURS	39	56	26	13	22	**134**	**156**	1.5	100.0	1.1	100.0	9.7	3.4	1.3	0.6	1.1	**2.4**	**2.1**	33	38	98.7	0.0
	a. Hepatoblastoma	38	53	19	3	2	**113**	**115**	1.2	84.3	0.8	73.7	9.5	3.2	0.9	0.1	0.1	**2.1**	**1.6**	28	28	98.3	0.0
	b. Hepatic carcinoma	1	3	7	10	20	**21**	**41**	0.2	15.7	0.3	26.3	0.2	0.2	0.3	0.5	1.0	**0.3**	**0.5**	5	10	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	BONE TUMOURS	3	33	144	292	340	**472**	**812**	5.1	100.0	5.9	100.0	0.7	2.0	7.0	14.3	16.8	**7.1**	**9.3**	115	199	100.0	0.0
	a. Osteosarcoma	0	3	59	153	191	**215**	**406**	2.3	45.6	2.9	50.0	-	0.2	2.9	7.5	9.4	**3.2**	**4.6**	53	100	100.0	0.0
	b. Chondrosarcoma	0	0	1	4	21	**5**	**26**	0.1	1.1	0.2	3.2	-	-	0.0	0.2	1.0	**0.1**	**0.3**	1	6	100.0	0.0
	c. Ewing & related	3	26	66	101	100	**196**	**296**	2.1	41.5	2.1	36.5	0.7	1.6	3.2	5.0	4.9	**3.0**	**3.5**	48	73	100.0	0.0
	d. Other specified	0	4	17	31	26	**52**	**78**	0.6	11.0	0.6	9.6	-	0.2	0.8	1.5	1.3	**0.8**	**0.9**	13	19	100.0	0.0
	e. Unspecified	0	0	1	3	2	**4**	**6**	0.0	0.8	0.0	0.7	-	-	0.0	0.1	0.1	**0.1**	**0.1**	1	1	100.0	0.0
IX	SOFT TISSUE SARCOMA	51	190	154	154	315	**549**	**864**	5.9	100.0	6.3	100.0	12.7	11.6	7.5	7.6	15.5	**9.2**	**10.6**	134	212	100.0	0.0
	a. Rhabdomyosarcoma	22	151	102	55	69	**330**	**399**	3.6	60.1	2.9	46.2	5.5	9.2	5.0	2.7	3.4	**5.7**	**5.2**	81	98	100.0	0.0
	b. Fibrosarcoma	10	3	3	12	11	**28**	**39**	0.3	5.1	0.3	4.5	2.5	0.2	0.1	0.6	0.5	**0.5**	**0.5**	7	10	100.0	0.0
	c. Kaposi sarcoma	0	0	1	0	5	**1**	**6**	0.0	0.2	0.0	0.7	-	-	0.0	-	0.2	**0.0**	**0.1**	0	1	100.0	0.0
	d. Other specified	14	28	42	75	203	**159**	**362**	1.7	29.0	2.6	41.9	3.5	1.7	2.0	3.7	10.0	**2.5**	**4.2**	39	89	100.0	0.0
	e. Unspecified	5	8	6	12	27	**31**	**58**	0.3	5.6	0.4	6.7	1.2	0.5	0.3	0.6	1.3	**0.5**	**0.7**	8	14	100.0	0.0
X	GERM CELL TUMOURS	80	58	45	130	630	**313**	**943**	3.4	100.0	6.8	100.0	19.9	3.5	2.2	6.4	31.1	**5.2**	**11.0**	77	232	98.6	0.0
	a. CNS germ cell ‡	14	7	25	43	47	**89**	**136**	1.0	28.4	1.0	14.4	3.5	0.4	1.2	2.1	2.3	**1.4**	**1.6**	22	33	95.6	0.0
	b. Other extragonadal	50	34	0	4	21	**88**	**109**	1.0	28.1	0.8	11.6	12.4	2.1	-	0.2	1.0	**1.7**	**1.5**	22	27	100.0	0.0
	c. Gonadal germ cell	16	16	18	79	537	**129**	**666**	1.4	41.2	4.8	70.6	4.0	1.0	0.9	3.9	26.5	**2.0**	**7.5**	32	164	99.4	0.0
	d. Gonadal carcinoma	0	0	0	4	18	**4**	**22**	0.0	1.3	0.2	2.3	-	-	-	0.2	0.9	**0.1**	**0.2**	1	5	100.0	0.0
	e. Unspecified gonadal	0	1	2	0	7	**3**	**10**	0.0	1.0	0.1	1.1	-	0.1	0.1	-	0.3	**0.1**	**0.1**	1	2	70.0	0.0
XI	CARCINOMA & MELANOMA	8	50	97	353	1013	**508**	**1521**	5.5	100.0	11.0	100.0	2.0	3.1	4.7	17.3	50.0	**7.7**	**17.2**	124	374	99.8	0.0
	a. Adrenocortical	0	8	1	1	4	**10**	**14**	0.1	2.0	0.1	0.9	-	0.5	0.0	0.0	0.2	**0.2**	**0.2**	2	3	100.0	0.0
	b. Thyroid	1	14	32	58	182	**105**	**287**	1.1	20.7	2.1	18.9	0.2	0.9	1.6	2.8	9.0	**1.6**	**3.3**	26	71	100.0	0.0
	c. Nasopharyngeal	0	0	4	16	22	**20**	**42**	0.2	3.9	0.3	2.8	-	-	0.2	0.8	1.1	**0.3**	**0.5**	5	10	100.0	0.0
	d. Melanoma	5	23	36	91	407	**155**	**562**	1.7	30.5	4.1	36.9	1.2	1.4	1.7	4.5	20.1	**2.4**	**6.4**	38	138	99.5	0.0
	e. Skin carcinoma	1	1	5	11	17	**18**	**35**	0.2	3.5	0.3	2.3	0.2	0.1	0.2	0.5	0.8	**0.3**	**0.4**	4	9	100.0	0.0
	f. Other & unspecified	1	4	19	176	381	**200**	**581**	2.2	39.4	4.2	38.2	0.2	0.2	0.9	8.6	18.8	**2.9**	**6.5**	49	143	100.0	0.0
XII	OTHER & UNSPECIFIED	5	11	3	3	16	**22**	**38**	0.2	100.0	0.3	100.0	1.2	0.7	0.1	0.1	0.8	**0.4**	**0.5**	5	9	63.2	0.0
	a. Other specified	2	7	2	3	9	**14**	**23**	0.2	63.6	0.2	60.5	0.5	0.4	0.1	0.1	0.4	**0.2**	**0.3**	3	6	100.0	0.0
	b. Other unspecified	3	4	1	0	7	**8**	**15**	0.1	36.4	0.1	39.5	0.7	0.2	0.0	-	0.3	**0.1**	**0.2**	2	4	6.7	0.0
	TOTAL	855	3251	2440	2681	4589	**9227**	**13816**	100.0	100.0	100.0	100.0	212.8	198.8	118.4	131.7	226.5	**154.5**	**170.7**	2258	3391	95.9	0.0

† includes 1177 non-malignant ‡ includes 17 non-malignant

Please consult the quality indicators for this registry

Norway

Cancer Registry of Norway, 1990–2013

Inger Kristin Larsen, Tom Børge Johannesen, Giske Ursin, Aina Helen Dahlen

Norway covers an area of 324 000 km² and is one of the northernmost countries in the world. Large areas are dominated by the Scandinavian Mountains. The average elevation is 460 m, and 32% of the mainland is located above the tree line. The climate is relatively temperate, mainly because the North Atlantic Current increases the air temperature.

In 2010, the total population was 4.9 million (Table A.7), and about 25% of the population was younger than 20 years (Table A.6). Most of the population is White. First-generation immigrants make up 13.7% of the population (6.5% from industrialized countries and 7.3% from other countries). Norway has a developed mixed economy with heavy state-ownership. The economic growth has been fuelled by an abundance of natural resources, including petroleum exploration and production, hydroelectric power, and fisheries. The country has a very high standard of living compared with other European countries and has a strongly integrated welfare system.

The financing and provision of hospital services is mainly the responsibility of the national government. Norway has a national health service, financed by income and wealth taxation. Out-of-pocket payment is required only for outpatient hospital services and for medication costs above €240 per year. Inpatient hospital services are provided free of charge. Norway has an excellent standard of state-funded health care. Medical personnel are extremely well trained, and health care is available to all citizens and registered long-term residents. Private health care is also available, but its use is limited. The National Insurance Administration is responsible for the state insurance scheme, which guarantees a basic level of welfare for all.

Four regional health authorities in Norway are responsible for specialist health care. Surgical treatment of cancer is provided in both general hospitals and oncology centres, and radiotherapy is available in 10 separate departments. In 2014, there were about 3.8 hospital beds and 4.4 physicians per 1000 inhabitants.

All hospitals, laboratories, and general practitioners are required to report new cases of cancer. The Ministry of Health and Social Affairs is financially responsible for the Cancer Registry of Norway. The registry has about 150 employees, organized into four departments and three screening units. The staff consists of physicians, researchers, statisticians, research assistants, information and technology staff, and administrative personnel.

The registry receives about 300 000 notifications per year, all of which are coded and registered manually by staff members. The registry also records additional information on all patients treated for cancer, obtained from the Norwegian Patient Register. These data are a key source in ascertaining unreported cases. The estimated completeness for all cases combined is 98.8%, and the MV% is about 95%.

The *Cancer in Norway* report is published annually, with updated numbers on incidence, mortality, survival, and prevalence. The registry receives about 250 requests per year for cancer data for inclusion in cancer research projects. The registry provides updated data to the authorities for use in cancer prevention, cancer care planning, and evaluation of health services.

PUBLICATIONS

Larsen IK, Småstuen M, Johannesen TB, Langmark F, Parkin DM, Bray F, et al. (2009). Data quality at the Cancer Registry of Norway: an overview of comparability, completeness, validity and timeliness. Eur J Cancer. 45(7):1218–31. https://doi.org/10.1016/j.ejca.2008.10.037 PMID:19091545

Cancer Registry of Norway (2016). Cancer in Norway 2015 – cancer incidence, mortality, survival and prevalence in Norway. Oslo, Norway: Cancer Registry of Norway.

POPULATION AT RISK

Population data are provided by Statistics Norway (https://www.ssb.no/en). The data are based on the 1990, 2001, and 2011 censuses (Table A.7). Data were provided in the requested detail.

EDITORS' COMMENTS

The registry participated in both previous IICC volumes (Table A.1). Day of birth and day of incidence were not provided (Table A.8). The reported proportion of non-malignant CNS tumours is high (Table A.9), although all of these were tumours with uncertain behaviour, because there were no benign cases in the dataset and the overall incidence in the diagnostic group III was high. Pilocytic astrocytoma was coded with malignant behaviour until 1992 and with uncertain behaviour thereafter. Although the registry records all malignant cases, only seven skin carcinomas were present in the dataset. Information on laterality was not provided.

NORWAY (1990-2013)

	Age group (years)	Males	Females
Person-years	0	730 442	692 187
	1-4	2 944 874	2 799 643
	5-9	3 623 807	3 446 252
	10-14	3 581 233	3 399 809
	15-19	3 597 362	3 417 583
	0-14	10 880 356	10 337 891
	0-19	14 477 718	13 755 474
Average annual population	0-14	453 348	430 745
	0-19	603 238	573 145

Please consult the quality indicators for this registry

NORWAY (1990-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	65	511	256	192	176	**1024**	**1200**	30.0	100.0	23.6	100.0	45.7	89.0	36.2	27.5	25.1	**50.8**	**45.0**	720	846	99.8	0.1
	a. Lymphoid	33	417	218	139	110	**807**	**917**	23.7	78.8	18.0	76.4	23.2	72.6	30.8	19.9	15.7	**40.0**	**34.6**	568	646	99.9	0.0
	b. Acute myeloid	26	71	34	34	37	**165**	**202**	4.8	16.1	4.0	16.8	18.3	12.4	4.8	4.9	5.3	**8.2**	**7.5**	116	142	99.5	0.5
	c. CMD	0	6	1	8	22	**15**	**37**	0.4	1.5	0.7	3.1	-	1.0	0.1	1.1	3.1	**0.7**	**1.2**	11	26	100.0	0.0
	d. MDS & other	6	10	2	8	6	**26**	**32**	0.8	2.5	0.6	2.7	4.2	1.7	0.3	1.1	0.9	**1.3**	**1.2**	18	23	100.0	0.0
	e. Unspecified	0	7	1	3	1	**11**	**12**	0.3	1.1	0.2	1.0	-	1.2	0.1	0.4	0.1	**0.5**	**0.5**	8	8	100.0	0.0
II	LYMPHOMA & RELATED	17	66	97	168	345	**348**	**693**	10.2	100.0	13.6	100.0	11.9	11.5	13.7	24.1	49.2	**15.9**	**23.4**	247	493	99.6	0.0
	a. Hodgkin	2	5	28	83	226	**118**	**344**	3.5	33.9	6.8	49.6	1.4	0.9	4.0	11.9	32.2	**5.1**	**11.2**	84	245	99.7	0.0
	b. Non-Hodgkin except BL	2	27	37	57	83	**123**	**206**	3.6	35.3	4.0	29.7	1.4	4.7	5.2	8.2	11.8	**5.6**	**7.0**	87	146	99.0	0.0
	c. Burkitt (BL)	0	12	21	23	22	**56**	**78**	1.6	16.1	1.5	11.3	-	2.1	3.0	3.3	3.1	**2.6**	**2.7**	40	55	100.0	0.0
	d. Lymphoreticular	13	21	8	5	9	**47**	**56**	1.4	13.5	1.1	8.1	9.1	3.7	1.1	0.7	1.3	**2.4**	**2.2**	33	39	100.0	0.0
	e. Unspecified	0	1	3	0	5	**4**	**9**	0.1	1.1	0.2	1.3	-	0.2	0.4	-	0.7	**0.2**	**0.3**	3	6	100.0	0.0
III	CNS NEOPLASMS †	113	293	319	291	358	**1016**	**1374**	29.8	100.0	27.0	100.0	79.4	51.0	45.1	41.7	51.0	**48.6**	**49.1**	717	972	82.5	0.2
	a. Ependymoma	20	35	16	13	17	**84**	**101**	2.5	8.3	2.0	7.4	14.1	6.1	2.3	1.9	2.4	**4.2**	**3.8**	59	71	97.0	0.0
	b. Astrocytoma	29	116	105	104	103	**354**	**457**	10.4	34.8	9.0	33.3	20.4	20.2	14.9	14.9	14.7	**16.9**	**16.4**	250	323	93.4	0.0
	c. CNS embryonal	24	50	73	32	34	**179**	**213**	5.2	17.6	4.2	15.5	16.9	8.7	10.3	4.6	4.8	**8.7**	**7.8**	126	150	99.5	0.0
	d. Other gliomas	2	17	36	26	44	**81**	**125**	2.4	8.0	2.5	9.1	1.4	3.0	5.1	3.7	6.3	**3.8**	**4.3**	57	89	71.2	0.0
	e. Other specified	5	21	36	64	72	**126**	**198**	3.7	12.4	3.9	14.4	3.5	3.7	5.1	9.2	10.3	**5.7**	**6.7**	89	141	88.4	0.0
	f. Unspecified CNS	33	54	53	52	88	**192**	**280**	5.6	18.9	5.5	20.4	23.2	9.4	7.5	7.4	12.5	**9.3**	**10.0**	135	198	47.5	1.1
IV	NEUROBLASTOMA	65	91	15	4	7	**175**	**182**	5.1	100.0	3.6	100.0	45.7	15.8	2.1	0.6	1.0	**9.3**	**7.4**	122	127	99.5	0.0
	a. (Ganglio)neuroblastoma	65	90	14	4	5	**173**	**178**	5.1	98.9	3.5	97.8	45.7	15.7	2.0	0.6	0.7	**9.2**	**7.3**	121	124	99.4	0.0
	b. Peripheral nervous	0	1	1	0	2	**2**	**4**	0.1	1.1	0.1	2.2	-	0.2	0.1	-	0.3	**0.1**	**0.1**	1	3	100.0	0.0
V	RETINOBLASTOMA	34	48	3	0	0	**85**	**85**	2.5	100.0	1.7	100.0	23.9	8.4	0.4	-	-	**4.6**	**3.5**	59	59	67.1	0.0
VI	RENAL TUMOURS	20	92	36	12	6	**160**	**166**	4.7	100.0	3.3	100.0	14.1	16.0	5.1	1.7	0.9	**8.2**	**6.5**	112	116	99.4	0.0
	a. Nephroblastoma	20	90	34	8	0	**152**	**152**	4.5	95.0	3.0	91.6	14.1	15.7	4.8	1.1	-	**7.8**	**6.1**	107	107	100.0	0.0
	b. Renal carcinoma	0	0	0	2	6	**2**	**8**	0.1	1.3	0.2	4.8	-	-	-	0.3	0.9	**0.1**	**0.3**	1	6	100.0	0.0
	c. Unspecified	0	2	2	2	0	**6**	**6**	0.2	3.8	0.1	3.6	-	0.3	0.3	0.3	-	**0.3**	**0.2**	4	4	83.3	0.0
VII	HEPATIC TUMOURS	15	30	4	7	11	**56**	**67**	1.6	100.0	1.3	100.0	10.5	5.2	0.6	1.0	1.6	**2.9**	**2.6**	39	47	98.5	0.0
	a. Hepatoblastoma	13	27	0	0	1	**40**	**41**	1.2	71.4	0.8	61.2	9.1	4.7	-	-	0.1	**2.2**	**1.7**	28	29	97.6	0.0
	b. Hepatic carcinoma	2	3	4	7	10	**16**	**26**	0.5	28.6	0.5	38.8	1.4	0.5	0.6	1.0	1.4	**0.7**	**0.9**	11	18	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	BONE TUMOURS	1	6	36	97	104	**140**	**244**	4.1	100.0	4.8	100.0	0.7	1.0	5.1	13.9	14.8	**6.1**	**8.0**	100	174	97.5	0.0
	a. Osteosarcoma	0	1	17	55	60	**73**	**133**	2.1	52.1	2.6	54.5	-	0.2	2.4	7.9	8.6	**3.1**	**4.3**	52	95	98.5	0.0
	b. Chondrosarcoma	0	0	0	2	10	**2**	**12**	0.1	1.4	0.2	4.9	-	-	-	0.3	1.4	**0.1**	**0.4**	1	9	100.0	0.0
	c. Ewing & related	0	3	14	32	22	**49**	**71**	1.4	35.0	1.4	29.1	-	0.5	2.0	4.6	3.1	**2.1**	**2.4**	35	51	98.6	0.0
	d. Other specified	0	2	4	7	7	**13**	**20**	0.4	9.3	0.4	8.2	-	0.3	0.6	1.0	1.0	**0.6**	**0.7**	9	14	95.0	0.0
	e. Unspecified	1	0	1	1	5	**3**	**8**	0.1	2.1	0.2	3.3	0.7	-	0.1	0.1	0.7	**0.1**	**0.3**	2	6	75.0	0.0
IX	SOFT TISSUE SARCOMA	24	57	40	66	101	**187**	**288**	5.5	100.0	5.7	100.0	16.9	9.9	5.7	9.5	14.4	**8.9**	**10.2**	132	204	100.0	0.0
	a. Rhabdomyosarcoma	13	44	20	18	17	**95**	**112**	2.8	50.8	2.2	38.9	9.1	7.7	2.8	2.6	2.4	**4.7**	**4.2**	67	79	100.0	0.0
	b. Fibrosarcoma	4	3	4	11	17	**22**	**39**	0.6	11.8	0.8	13.5	2.8	0.5	0.6	1.6	2.4	**1.0**	**1.3**	16	28	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	3	7	13	30	54	**53**	**107**	1.6	28.3	2.1	37.2	2.1	1.2	1.8	4.3	7.7	**2.4**	**3.6**	38	76	100.0	0.0
	e. Unspecified	4	3	3	7	13	**17**	**30**	0.5	9.1	0.6	10.4	2.8	0.5	0.4	1.0	1.9	**0.8**	**1.0**	12	21	100.0	0.0
X	GERM CELL TUMOURS	17	26	15	55	260	**113**	**373**	3.3	100.0	7.3	100.0	11.9	4.5	2.1	7.9	37.1	**5.3**	**12.4**	80	265	98.9	0.0
	a. CNS germ cell ‡	1	3	8	16	17	**28**	**45**	0.8	24.8	0.9	12.1	0.7	0.5	1.1	2.3	2.4	**1.2**	**1.5**	20	32	97.8	0.0
	b. Other extragonadal	8	9	1	1	3	**19**	**22**	0.6	16.8	0.4	5.9	5.6	1.6	0.1	0.1	0.4	**1.0**	**0.9**	13	15	90.9	0.0
	c. Gonadal germ cell	8	13	5	30	220	**56**	**276**	1.6	49.6	5.4	74.0	5.6	2.3	0.7	4.3	31.4	**2.6**	**9.1**	40	196	100.0	0.0
	d. Gonadal carcinoma	0	0	0	6	11	**6**	**17**	0.2	5.3	0.3	4.6	-	-	-	0.9	1.6	**0.2**	**0.5**	4	12	100.0	0.0
	e. Unspecified gonadal	0	1	1	2	9	**4**	**13**	0.1	3.5	0.3	3.5	-	0.2	0.1	0.3	1.3	**0.2**	**0.4**	3	9	92.3	0.0
XI	CARCINOMA & MELANOMA	0	7	15	69	301	**91**	**392**	2.7	100.0	7.7	100.0	-	1.2	2.1	9.9	42.9	**3.9**	**12.7**	65	279	99.0	0.0
	a. Adrenocortical	0	2	1	1	1	**4**	**5**	0.1	4.4	0.1	1.3	-	0.3	0.1	0.1	0.1	**0.2**	**0.2**	3	4	100.0	0.0
	b. Thyroid	0	0	4	17	69	**21**	**90**	0.6	23.1	1.8	23.0	-	-	0.6	2.4	9.8	**0.9**	**2.9**	15	64	98.9	0.0
	c. Nasopharyngeal	0	0	1	0	4	**1**	**5**	0.0	1.1	0.1	1.3	-	-	0.1	-	0.6	**0.0**	**0.2**	1	4	100.0	0.0
	d. Melanoma	0	2	5	15	125	**22**	**147**	0.6	24.2	2.9	37.5	-	0.3	0.7	2.1	17.8	**1.0**	**4.8**	16	105	98.6	0.0
	e. Skin carcinoma	0	0	0	0	7	**0**	**7**	-	-	0.1	1.8	-	-	-	-	1.0	**-**	**0.2**	-	5	100.0	0.0
	f. Other & unspecified	0	3	4	36	95	**43**	**138**	1.3	47.3	2.7	35.2	-	0.5	0.6	5.2	13.5	**1.8**	**4.5**	31	98	99.3	0.0
XII	OTHER & UNSPECIFIED	5	4	4	2	11	**15**	**26**	0.4	100.0	0.5	100.0	3.5	0.7	0.6	0.3	1.6	**0.8**	**0.9**	11	18	65.4	0.0
	a. Other specified	1	1	0	0	3	**2**	**5**	0.1	13.3	0.1	19.2	0.7	0.2	-	-	0.4	**0.1**	**0.2**	1	4	100.0	0.0
	b. Other unspecified	4	3	4	2	8	**13**	**21**	0.4	86.7	0.4	80.8	2.8	0.5	0.6	0.3	1.1	**0.6**	**0.8**	9	15	57.1	0.0
	TOTAL	376	1231	840	963	1680	**3410**	**5090**	100.0	100.0	100.0	100.0	264.3	214.3	118.8	137.9	239.5	**165.2**	**181.9**	2405	3602	94.1	0.1

† includes 709 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this registry

Poland

Poland covers an area of 312 680 km^2 in central Europe. It is bounded by the Baltic Sea to the north and shares borders with the Russian Federation, Lithuania, Belarus, Ukraine, Slovakia, the Czech Republic, and Germany. Poland has a continental climate, affected by westerly winds.

Poland is a developed and democratic country with a high-income economy and very high standards of living, safety, education, and economic freedom. Exports include machinery, furniture, food products, clothing, shoes, and cosmetics. A large number of private farms produce food for the European Union market. Poland's environmental situation has improved since the ouster of the communist regime in 1989, because the emphasis on heavy industry decreased and government awareness of environmental issues increased.

Poland has a state-funded social security system and a universal health-care system for all citizens. The health-care system is based on an all-inclusive insurance system. State-subsidized health care is available to all Polish citizens and includes specialized paediatric and oncological care. Insurance coverage is compulsory for children.

In 2010, the population was 38.6 million (Table A.7), and 21% of the population was younger than 20 years (Table A.6). About 60% of the population lives in urban areas, and the average population density is 122 per km^2. The population is predominantly White Slavonic. In recent years, an increase in emigration and a decrease in the birth rate has produced stagnant population growth. In 2013, the total fertility rate was estimated to be 1.33 children per woman. Polish society is homogeneous; there are no large groups of ethnic minorities. The country is divided into 16 regions (voivodeships); the capital city of Warsaw is located in Masovian Voivodeship.

Cancer registration in Poland has national coverage and includes all age groups. Notification of all cancer cases became mandatory in 1962. A law on public statistics that went into effect on 29 June 1995 and the Personal Data Control Act of 29 August 1997 require all health-care institutions and physicians to report all cancer cases at diagnosis or at follow-up visits using a standard cancer notification form. The form can be completed either on paper or electronically through a personal account in the registry system. Cancer cases are also ascertained from death certificates. All 16 voivodeships have a population-based cancer registry.

All malignancies defined by ICD-10 codes C00–C97 and all in situ neoplasms D00–D09 were always reportable. From 2013, neoplasms of uncertain or unknown behaviour (D37–D48) are also registered. The collected data were coded using ICD-10 on the notification forms and then recoded to ICD-O-3 in the registries (Table A.10). Since 2013, ICD-O-3 is also used as a standard coding system.

In 2010–2013, the Polish National Cancer Registry developed a web-based platform for the exchange of knowledge on the cancer burden. The project was supported by the European Regional Development Fund, and the principal goal was to improve the quality of epidemiological data on malignant tumours and facilitate the conduct of modern epidemiological studies using information technologies. An electronic system was developed through which all 16 regional registries provide data to the central database at the Polish National Cancer Registry in Warsaw (http://onkologia.org.pl), and the regional registries also cooperate among themselves.

POPULATION AT RISK

The source of population data for all registries is the Central Statistical Office of Poland (https://stat.gov.pl/en/topics/population/population). Population estimates are based on national censuses conducted in 1988, 1995 (survey), 2002, and 2011 (Table A.7). All censuses except the 2011 census were based on the traditional method in which census enumerators visit all inhabited units in person. In the 2011 census, a mixed method was used in which data from records and information systems were combined with data obtained through direct statistical surveys. Population data are produced annually as at 31 December. All registries provided data in the requested detail by sex and single year of age for each calendar year of the reporting period.

EDITORS' COMMENTS

Although Poland is included in all three IICC volumes, none of the earlier participating registries provided data to IICC-3 (Table A.1). In IICC-3, datasets from five Polish registries are included. The national dataset is presented in the IICC-3 book, and the standard tables for the regional registries of Greater Poland, Kielce, Lower Silesia, and Lublin are available online (Table A.12).

Date of incidence was incomplete in all Polish datasets (Table A.8). The incomplete dates may have affected the age-specific rates. Non-malignant CNS tumours other than pilocytic astrocytoma were not registered during the reporting period (Table A.9), and the registries used different rules for coding the behaviour of pilocytic astrocytoma. Laterality was recorded, but it was incomplete in all contributing registries. Skin carcinomas were reportable in all of the Polish cancer registries.

Polish National Cancer Registry, 2001–2013

Urszula Wojciechowska, Joanna Didkowska

The Polish National Cancer Registry began registering cancer data in 1956 (Table A.10). In 2013, the structure of the registry was changed by the ordinance of the Minister of Health, making it a unit of the Cancer Centre and Institute of Oncology in Warsaw, which is responsible for the registry. Data on cancer incidence are received electronically via an online connection with the registration offices of the 16 voivodeships and recorded in the central database.

The coding system used on the registration forms is ICD-10; the cancers are recoded to ICD-O-3 in the Polish National Cancer Registry according to conversion tables. The completeness of registration in voivodeships varies between 80% and 96%. The lower rate of completeness is caused by lack of access to data sources (pathology laboratories), lack of cooperation with the childhood cancer centres, and organizational and financial problems related to the cancer registration system. Registered cases are followed up for vital status using data obtained from death certificates collected by the Central Statistical Office. The Polish National Cancer Registry publishes annual reports on cancer statistics (http://onkologia.org.pl, http://onkologia.org.pl/publikacje).

POPULATION AT RISK
See Poland, above.

EDITORS' COMMENTS
Day of incidence was not available for 14% of cases (Table A.8). The proportion of cases with unspecified morphology was relatively high (Table A.9) because of inadequate cooperation between the regional cancer registries and cancer centres. Non-malignant CNS tumours made up 7% of the dataset (Table A.9); they were all cases of pilocytic astrocytoma, which were coded with uncertain behaviour. Laterality information was available for 58% of the cases of interest. See also Poland, above.

POLAND (2001-2013)

	Age group (years)	Males	Females
Person-years	0	2 533 456	2 396 363
	1-4	10 227 312	9 696 809
	5-9	13 208 126	12 564 747
	10-14	15 334 746	14 618 102
	15-19	18 319 818	17 524 738
	0-14	41 303 640	39 276 021
	0-19	59 623 458	56 800 759
Average annual population	0-14	3 177 203	3 021 232
	0-19	4 586 420	4 369 289

Please consult the quality indicators for this registry

Greater Poland Cancer Registry, 1999–2013

Maciej Trojanowski, Anna Kubiak, Wiesława Olenderczyk, Agata Plucińska, Beata Szczęch, Łukasz Taraszkiewicz, Teresa Wosicka

Greater Poland Voivodeship is located in west-central Poland and is the second largest voivodeship, covering an area of 29 825 km^2. Agricultural land accounts for 60% of the area, and 26% of the province is covered by forests. The voivodeship has about 800 lakes and one main river, the Warta River. The climate is mild as a result of the influence of oceanic air masses. The voivodeship has two national parks and 12 landscape parks, which are protected areas. Greater Poland is one of the most developed regions in the country. In 2010, the population was 3.4 million, and 23% of the population was younger than 20 years (Table A.6). Although more than half of the population lives in cities, this percentage is slowly decreasing in favour of rural areas.

Most children with cancer are treated in the Oncology, Haematology and Paediatric Transplant Clinic at the University Hospital of the University of Medical Sciences in Poznań. Radiotherapy services are provided at the Greater Poland Cancer Centre in Poznań.

The Greater Poland Cancer Registry is located in the Greater Poland Cancer Centre and cooperates closely with both units that treat children with cancer. The completeness of cancer registration based on the incidence-to-mortality ratio was 100% in 2013. Follow-up of the patients is based on data from cancer notification forms, hospital admissions records, patient records, and mortality data from the Central Statistical Office of Poland. Data collected by the registry are published annually as the bulletin *Cancer in the Region of Greater Poland*. Registry data are also used in many epidemiological studies at the local and international levels: ENCR, CONCORD, European Registration of Cancer Care (EURECCA) Breast Study Group, European study on breast and colorectal cancer, IICC-3, the Southern and Eastern European Group of Cancer Registries exploring childhood cancers, and others.

PUBLICATIONS
Doganis D, Panagopoulou P, Tragiannidis A, Vichos T, Moschovi M, Polychronopoulou S, et al. (2018). Survival and mortality rates of Wilms tumour in Southern and Eastern European countries: socioeconomic differentials compared with the United States of America. Eur J Cancer. 101:38–46. https://doi.org/10.1016/j.ejca.2018.06.012 PMID:30014973

Georgakis MK, Dessypris N, Baka M, Moschovi M, Papadakis V, Polychronopoulou S, et al. (2018). Neuroblastoma among children in Southern and Eastern European cancer registries: variations in incidence and temporal trends compared to US. Int J Cancer. 142(10):1977–85. https://doi.org/10.1002/ijc.31222 PMID:29250786

POPULATION AT RISK
See Poland, above.

EDITORS' COMMENTS
Day of incidence was not available for more than 50% of cases, and the age calculated at IARC was used in all analyses (Table A.8). Non-malignant CNS tumours were recorded and consisted of a few cases of pilocytic astrocytoma coded with uncertain behaviour and one benign case. Laterality was available for 80% of the cases of interest. See also Poland, above.

Kielce, Holy Cross Cancer Registry, 1990–2013

Stanislaw Góźdź, Paweł Mcek, Anna Giemza, Edyta Pokrzepa, Barbara Moskal, Monika Nogajczyk, Iwona Kasza, Łukasz Fortuna

Holy Cross Voivodeship covers an area of 11 691 km^2 and is located in south-central Poland. The region comprises the Holy Cross Mountains in the north and agricultural land in the south. The Vistula River forms the south-eastern border of the voivodeship. The annual average temperature is 6.9 °C, although the temperature may vary between −30 °C and 30 °C. The average annual rainfall is about 565 mm. The total population is 1.3 million, and 21% of the population is younger than 20 years (Table A.6). More than half the population (55%) lives in rural areas.

The Holy Cross Cancer Centre is located in Kielce, which is the capital city of Holy Cross Voivodeship. This

POLAND (2001-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	144	1453	845	676	743	**3118**	**3861**	30.6	100.0	23.9	100.0	29.2	72.9	32.8	22.6	20.7	**42.0**	**37.2**	598	702	99.6	0.0
	a. Lymphoid	85	1225	716	458	433	**2484**	**2917**	24.3	79.7	18.1	75.6	17.2	61.5	27.8	15.3	12.1	**33.8**	**28.9**	479	539	99.7	0.0
	b. Acute myeloid	45	180	95	152	237	**472**	**709**	4.6	15.1	4.4	18.4	9.1	9.0	3.7	5.1	6.6	**6.2**	**6.3**	89	122	99.6	0.0
	c. CMD	1	8	15	36	46	**60**	**106**	0.6	1.9	0.7	2.7	0.2	0.4	0.6	1.2	1.3	**0.7**	**0.8**	11	17	99.1	0.0
	d. MDS & other	2	4	0	1	0	**7**	**7**	0.1	0.2	0.0	0.2	0.4	0.2	-	0.0	-	**0.1**	**0.1**	1	1	100.0	0.0
	e. Unspecified	11	36	19	29	27	**95**	**122**	0.9	3.0	0.8	3.2	2.2	1.8	0.7	1.0	0.8	**1.3**	**1.1**	18	22	97.5	0.0
II	LYMPHOMA & RELATED	27	192	392	671	1445	**1282**	**2727**	12.6	100.0	16.9	100.0	5.5	9.6	15.2	22.4	40.3	**14.8**	**20.6**	232	434	99.5	0.0
	a. Hodgkin	0	45	120	386	1042	**551**	**1593**	5.4	43.0	9.9	58.4	-	2.3	4.7	12.9	29.1	**5.9**	**11.1**	97	242	99.4	0.0
	b. Non-Hodgkin except BL	6	66	144	171	271	**387**	**658**	3.8	30.2	4.1	24.1	1.2	3.3	5.6	5.7	7.6	**4.6**	**5.3**	71	109	99.7	0.0
	c. Burkitt (BL)	0	32	87	62	49	**181**	**230**	1.8	14.1	1.4	8.4	-	1.6	3.4	2.1	1.4	**2.2**	**2.0**	34	41	100.0	0.0
	d. Lymphoreticular	21	44	25	21	15	**111**	**126**	1.1	8.7	0.8	4.6	4.3	2.2	1.0	0.7	0.4	**1.5**	**1.3**	21	24	100.0	0.0
	e. Unspecified	0	5	16	31	68	**52**	**120**	0.5	4.1	0.7	4.4	-	0.3	0.6	1.0	1.9	**0.6**	**0.9**	9	19	99.2	0.0
III	CNS NEOPLASMS †	133	577	651	623	757	**1984**	**2741**	19.4	100.0	17.0	100.0	27.0	29.0	25.3	20.8	21.1	**25.2**	**24.3**	373	479	77.7	1.1
	a. Ependymoma	24	93	53	56	74	**226**	**300**	2.2	11.4	1.9	10.9	4.9	4.7	2.1	1.9	2.1	**3.0**	**2.8**	43	53	100.0	0.0
	b. Astrocytoma	31	152	187	196	282	**566**	**848**	5.5	28.5	5.2	30.9	6.3	7.6	7.3	6.5	7.9	**7.1**	**7.3**	106	145	100.0	0.0
	c. CNS embryonal	35	166	207	176	98	**584**	**682**	5.7	29.4	4.2	24.9	7.1	8.3	8.0	5.9	2.7	**7.4**	**6.4**	110	124	99.9	0.1
	d. Other gliomas	5	41	35	42	73	**123**	**196**	1.2	6.2	1.2	7.2	1.0	2.1	1.4	1.4	2.0	**1.6**	**1.7**	23	33	100.0	0.0
	e. Other specified	3	8	15	21	38	**47**	**85**	0.5	2.4	0.5	3.1	0.6	0.4	0.6	0.7	1.1	**0.6**	**0.7**	9	14	80.0	0.0
	f. Unspecified CNS	35	117	154	132	192	**438**	**630**	4.3	22.1	3.9	23.0	7.1	5.9	6.0	4.4	5.4	**5.6**	**5.5**	82	109	6.0	4.8
IV	NEUROBLASTOMA	252	299	94	45	25	**690**	**715**	6.8	100.0	4.4	100.0	51.1	15.0	3.6	1.5	0.7	**10.2**	**8.1**	137	140	99.9	0.0
	a. (Ganglio)neuroblastoma	248	295	90	36	16	**669**	**685**	6.6	97.0	4.2	95.8	50.3	14.8	3.5	1.2	0.4	**9.9**	**7.8**	133	135	99.9	0.0
	b. Peripheral nervous	4	4	4	9	9	**21**	**30**	0.2	3.0	0.2	4.2	0.8	0.2	0.2	0.3	0.3	**0.3**	**0.3**	4	5	100.0	0.0
V	RETINOBLASTOMA	90	124	24	1	0	**239**	**239**	2.3	100.0	1.5	100.0	18.3	6.2	0.9	0.0	-	**3.6**	**2.8**	48	48	100.0	0.0
VI	RENAL TUMOURS	96	407	142	42	60	**687**	**747**	6.7	100.0	4.6	100.0	19.5	20.4	5.5	1.4	1.7	**10.0**	**8.1**	136	144	92.0	0.5
	a. Nephroblastoma	85	374	131	34	19	**624**	**643**	6.1	90.8	4.0	86.1	17.2	18.8	5.1	1.1	0.5	**9.1**	**7.2**	123	126	99.8	0.2
	b. Renal carcinoma	3	0	6	4	27	**13**	**40**	0.1	1.9	0.2	5.4	0.6	-	0.2	0.1	0.8	**0.2**	**0.3**	2	6	100.0	0.0
	c. Unspecified	8	33	5	4	14	**50**	**64**	0.5	7.3	0.4	8.6	1.6	1.7	0.2	0.1	0.4	**0.7**	**0.7**	10	12	7.8	4.7
VII	HEPATIC TUMOURS	54	58	16	24	43	**152**	**195**	1.5	100.0	1.2	100.0	11.0	2.9	0.6	0.8	1.2	**2.2**	**2.0**	30	36	92.3	0.5
	a. Hepatoblastoma	45	57	16	8	3	**126**	**129**	1.2	82.9	0.8	66.2	9.1	2.9	0.6	0.3	0.1	**1.9**	**1.5**	25	25	99.2	0.8
	b. Hepatic carcinoma	0	0	0	15	32	**15**	**47**	0.1	9.9	0.3	24.1	-	-	-	0.5	0.9	**0.1**	**0.3**	3	7	100.0	0.0
	c. Unspecified	9	1	0	1	8	**11**	**19**	0.1	7.2	0.1	9.7	1.8	0.1	-	0.0	0.2	**0.2**	**0.2**	2	3	26.3	0.0
VIII	BONE TUMOURS	9	45	120	359	459	**533**	**992**	5.2	100.0	6.1	100.0	1.8	2.3	4.7	12.0	12.8	**5.8**	**7.4**	94	158	91.9	0.6
	a. Osteosarcoma	0	6	45	160	208	**211**	**419**	2.1	39.6	2.6	42.2	-	0.3	1.7	5.3	5.8	**2.2**	**3.0**	37	66	100.0	0.0
	b. Chondrosarcoma	1	1	8	24	53	**34**	**87**	0.3	6.4	0.5	8.8	0.2	0.1	0.3	0.8	1.5	**0.4**	**0.6**	6	13	100.0	0.0
	c. Ewing & related	3	23	50	135	123	**211**	**334**	2.1	39.6	2.1	33.7	0.6	1.2	1.9	4.5	3.4	**2.3**	**2.6**	37	55	100.0	0.0
	d. Other specified	1	4	7	11	29	**23**	**52**	0.2	4.3	0.3	5.2	0.2	0.2	0.3	0.4	0.8	**0.3**	**0.4**	4	8	100.0	0.0
	e. Unspecified	4	11	10	29	46	**54**	**100**	0.5	10.1	0.6	10.1	0.8	0.6	0.4	1.0	1.3	**0.6**	**0.8**	10	16	20.0	6.0
IX	SOFT TISSUE SARCOMA	63	212	161	202	323	**638**	**961**	6.3	100.0	5.9	100.0	12.8	10.6	6.2	6.7	9.0	**8.3**	**8.4**	120	165	99.9	0.1
	a. Rhabdomyosarcoma	26	144	100	82	82	**352**	**434**	3.4	55.2	2.7	45.2	5.3	7.2	3.9	2.7	2.3	**4.7**	**4.2**	67	79	99.8	0.2
	b. Fibrosarcoma	18	21	18	38	49	**95**	**144**	0.9	14.9	0.9	15.0	3.7	1.1	0.7	1.3	1.4	**1.2**	**1.2**	18	25	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	13	41	38	64	148	**156**	**304**	1.5	24.5	1.9	31.6	2.6	2.1	1.5	2.1	4.1	**1.9**	**2.4**	29	50	100.0	0.0
	e. Unspecified	6	6	5	18	44	**35**	**79**	0.3	5.5	0.5	8.2	1.2	0.3	0.2	0.6	1.2	**0.4**	**0.6**	6	13	100.0	0.0
X	GERM CELL TUMOURS	67	70	45	132	971	**314**	**1285**	3.1	100.0	8.0	100.0	13.6	3.5	1.7	4.4	27.1	**4.0**	**9.2**	58	194	93.5	0.2
	a. CNS germ cell	7	4	15	41	44	**67**	**111**	0.7	21.3	0.7	8.6	1.4	0.2	0.6	1.4	1.2	**0.8**	**0.9**	12	18	100.0	0.0
	b. Other extragonadal	30	19	4	0	15	**53**	**68**	0.5	16.9	0.4	5.3	6.1	1.0	0.2	-	0.4	**0.8**	**0.7**	11	13	100.0	0.0
	c. Gonadal germ cell	25	43	19	71	781	**158**	**939**	1.5	50.3	5.8	73.1	5.1	2.2	0.7	2.4	21.8	**2.0**	**6.4**	29	138	100.0	0.0
	d. Gonadal carcinoma	0	0	0	2	46	**2**	**48**	0.0	0.6	0.3	3.7	-	-	-	0.1	1.3	**0.0**	**0.3**	0	7	100.0	0.0
	e. Unspecified gonadal	5	4	7	18	85	**34**	**119**	0.3	10.8	0.7	9.3	1.0	0.2	0.3	0.6	2.4	**0.4**	**0.8**	6	18	29.4	2.5
XI	CARCINOMA & MELANOMA	2	30	51	247	934	**330**	**1264**	3.2	100.0	7.8	100.0	0.4	1.5	2.0	8.2	26.1	**3.5**	**8.6**	58	188	97.0	0.1
	a. Adrenocortical	0	6	3	2	4	**11**	**15**	0.1	3.3	0.1	1.2	-	0.3	0.1	0.1	0.1	**0.2**	**0.1**	2	3	100.0	0.0
	b. Thyroid	0	10	23	134	452	**167**	**619**	1.6	50.6	3.8	49.0	-	0.5	0.9	4.5	12.6	**1.7**	**4.2**	29	92	100.0	0.0
	c. Nasopharyngeal	0	0	0	10	35	**10**	**45**	0.1	3.0	0.3	3.6	-	-	-	0.3	1.0	**0.1**	**0.3**	2	7	100.0	0.0
	d. Melanoma	1	3	10	24	154	**38**	**192**	0.4	11.5	1.2	15.2	0.2	0.2	0.4	0.8	4.3	**0.4**	**1.3**	7	28	99.0	0.0
	e. Skin carcinoma	1	2	3	19	68	**25**	**93**	0.2	7.6	0.6	7.4	0.2	0.1	0.1	0.6	1.9	**0.3**	**0.6**	4	14	74.2	0.0
	f. Other & unspecified	0	9	12	58	221	**79**	**300**	0.8	23.9	1.9	23.7	-	0.5	0.5	1.9	6.2	**0.9**	**2.0**	14	45	96.0	0.3
XII	OTHER & UNSPECIFIED	45	67	46	80	190	**238**	**428**	2.3	100.0	2.6	100.0	9.1	3.4	1.8	2.7	5.3	**3.1**	**3.6**	45	71	25.7	2.6
	a. Other specified	1	8	0	10	26	**19**	**45**	0.2	8.0	0.3	10.5	0.2	0.4	-	0.3	0.7	**0.2**	**0.3**	3	7	100.0	0.0
	b. Other unspecified	44	59	46	70	164	**219**	**383**	2.1	92.0	2.4	89.5	8.9	3.0	1.8	2.3	4.6	**2.9**	**3.2**	41	64	17.0	2.9
	TOTAL	982	3534	2587	3102	5950	**10205**	**16155**	100.0	100.0	100.0	100.0	199.2	177.4	100.4	103.6	166.0	**132.8**	**140.3**	1928	2758	92.3	0.4

† includes 207 non-malignant

Please consult the quality indicators for this registry

cancer centre provides diagnostic and treatment services for adults. The Children's Hospital of Kielce provides care for children and adolescents with cancer.

The Holy Cross Cancer Registry constitutes a department of the Holy Cross Cancer Centre. The registry was established in 1988 (Table A.10) and at that time covered an area of 9200 km^2, with a population of 1.1 million. In 1999, the registration area and the covered population were enlarged, as a result of changes to administrative divisions in Poland. The registry is managed by a physician oncologist, one full-time biologist, and four full-time registrars. The Holy Cross Cancer Centre collects data on all cancer cases in the region. Although cancer reporting is mandatory, it is often neglected; therefore, all received records are completed by the registry staff and checked against data from the Statistical Office in Kielce, local civil departments, and hospitals. In 2002, registration completeness was 100%.

The registry prepares annual reports on cancer incidence and mortality for the local government and sends the incidence data to the Polish National Cancer Registry, which compiles national statistics. The data are published and used in many research projects and international collaborative projects. Policy-makers use the registry data for health services planning and evaluation. Reports are presented at national and international conferences.

The registry is a voting member of ENCR and IACR and participated in international projects such as CI5, Europe against Cancer: Optimisation of the Use of Registries for Scientific Excellence in Research (EUROCOURSE), ACCIS, European Cancer Health Indicator Project (EUROCHIP), Surveillance of Rare Cancers in Europe (RARECANCER), and CONCORD.

POPULATION AT RISK

See Poland, above.

EDITORS' COMMENTS

The registry could not ascertain new cancer cases from death certificates (Table A.9); thus, the reported rates may be slightly underestimated. The proportion of unspecified cases is rather high (Table A.9), probably because of the incomplete records received by the registry. Day of incidence was not available for half of the cases, and month of incidence was missing for 10% of cases (Table A.8); this may have had an impact on the age-specific rates. The age used in the analyses was calculated at IARC from the provided dates (Table A.8). The few tumours coded with uncertain behaviour were all cases of pilocytic astrocytoma, which was the only non-malignant CNS tumour type recorded in the dataset. Laterality was available for 77% of the cases of interest. See also Poland, above.

Lower Silesian Cancer Registry, 2000–2013

Jerzy Błaszczyk, Kamila Kępska, Elżbieta Chwieralska, Elżbieta Lipska, Małgorzata Modrzejewska

The region of Lower Silesia is located in south-western Poland. It is bordered by Germany to the west, the Czech Republic to the south, and two regions of Poland: Upper Silesia to the east and Greater Poland Voivodeship to the north. It covers an area of 19 947 km^2 and covers a plain that extends to the foot of the Karkonosze Mountains, which create the southern border of the region. Lower Silesia is an intensely urbanized region and has many industries. The region has four large cities with populations of more than 100 000, including Wrocław, the capital of the region.

In 2010, the population of Lower Silesia was 2.9 million, and 20% of the population was younger than 20 years (Table A.6). Most of the population (70%) lives in cities, and about 15% are employed in industry.

The Lower Silesian Oncology Centre in Wrocław is a referral hospital with 355 beds. More than 100 oncologists provide surgical oncology, chemotherapy, radiotherapy, brachytherapy, and outpatient palliative care. Radiotherapy services are also provided by Euromedic Onkoterapia in the city of Wałbrzych.

The Lower Silesian Cancer Registry was established in 1962, when cancer reporting was introduced in Poland. It is part of the Cancer Epidemiology Department of the Lower Silesian Oncology Centre in Wrocław. The registry covers the whole region of Lower Silesia and employs six medical administrative staff members who ensure data quality and completeness; the registry also employs a physician, a mathematician, and a computer programmer. Population-based data are available from 1988 (Table A.10).

Data have been registered electronically since 1984. Automatic checks are applied to eliminate duplicate registrations, identify multiple primary tumours, and correct errors of topography and morphology. The completeness of registration is 98%.

After a 2-year period of verification, the collected information is analysed to provide estimates of cancer incidence by site, age-standardized to the world standard population. The registry also analyses the distribution of new cases by age and place and time trends. Mapping is used extensively to visualize the data.

Registry data are published annually in the bulletin *Cancer Cases in the Region of Lower Silesia Poland*.

The registry is a voting member of ENCR and IACR and participates in international projects such as ACCIS, CI5, CONCORD, EUROCARE, EUROCHIP, and RARECANCER.

POPULATION AT RISK

See Poland, above.

EDITORS' COMMENTS

Most children with cancer are treated outside the region; this may result in underascertainment of certain childhood cancers and may explain a slightly lower than expected proportion of cancers diagnosed before age 15 years (Table A.9), whereas patients aged 15–19 years may have been treated in a large comprehensive cancer centre for adult patients located within the region. One quarter of cases had incomplete date of incidence (Table A.8). Non-malignant CNS tumours were not registered. Pilocytic astrocytoma was coded with malignant behaviour. Laterality was available for 90% of the cases of interest, and it was almost complete for nephroblastoma. See also Poland, above.

Lublin Cancer Registry, 1999–2013

Beata Koscianska, Justyna Nieweglowska, Tadeusz Rogalewski, Monika Malec, Dorota Janczarek

Lublin Voivodeship is located in south-eastern Poland, partly on Lublin Highland, and covers an area of 25 155 km^2. It is an agricultural region with a few centres of food production and chemical industry located around major cities and a coal mining centre in the area of Łęczna. The capital city is Lublin.

In 2010, the population of Lublin Voivodeship was 2.2 million (5.7% of the national population), and 22% of the population was younger than 20 years (Table A.6). An average population density of 86 per km^2 is considered low compared with the national average of 122 per km^2; 53.4% of the population lives in rural areas. Specialized paediatric and cancer care is provided by University Children's Hospital, which has a paediatric oncology and haematology unit. The Saint John of Dukla Centre of Oncology of Lublin Region, located in Lublin, provides cancer care for the entire region. It offers a wide range of cancer treatments, including surgery, chemotherapy, radiotherapy, brachytherapy, and diagnostics, supported by radiology, microbiology, and genetics services.

The Lublin Cancer Registry covers the whole voivodeship. It is part of the Saint John of Dukla Centre of Oncology of Lublin Region and has collected data on cancer incidence and mortality since 1974 (Table A.8). It is funded by the Ministry of Health. The staff consists of three full-time employees, who are managed by a physician who is employed part-time.

The data are extracted from cancer notification forms and death registrations. The completeness of registration was estimated to be about 92% in 2004, 100% in 2007, and 100% in 2010, based on the incidence-to-mortality ratios of 1.38, 1.73, and 1.73, respectively. Vital status is followed up using the cancer notification forms. In addition, information on dates of death is provided annually by the Ministry of the Interior.

The registry analyses the data to describe incidence and mortality patterns and trends by sex, age groups, and cancer site. This information is published in annual reports and monographs. The registry data are also used in educational programmes for students, in postgraduate training, and for cancer prevention programmes.

POPULATION AT RISK

See Poland, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology was high (Table A.9), because of inadequate access to pathology reports in the past. The proportion of cases aged 19 years in the age group 15–19 years was 25.8% (Table A.9); this may in part be the result of imprecise date of incidence for some cases (Table A.8). The incidence of leukaemia increased markedly during the reporting period. Pilocytic astrocytoma was registered with both uncertain behaviour and malignant behaviour throughout the reporting period. No other non-malignant CNS tumours were registered. The incidence of CNS tumours decreased over time, largely because of a steep decrease in the diagnostic subgroup IIIf, which may reflect an increasing tendency for unverified tumours to be defined as non-malignant and therefore excluded. Laterality was provided for 51% of the cases of interest. See also Poland, above.

Portugal

Portugal is located mostly on the Iberian Peninsula in south-western Europe. It is bordered by the Atlantic Ocean to the west and south and by Spain to the north and east. The climate is Mediterranean; the annual average temperature varies from 8–12 °C in the mountainous interior in the north to 16–18 °C in the south and in the Guadiana River Basin. The territory of Portugal also includes the Atlantic archipelagos of the Azores and Madeira, each an autonomous region with its own regional government.

Portugal is a developed country with a high-income, advanced economy, a developed market, and a high standard of living. The main sectors of the economy are agriculture, forestry, fishing, copper mining, industry, and tourism. Since the 1990s, the economy has increasingly focused on exports, private investment, and the development of the high-tech sector. Thus, business services have overtaken more traditional industries such as textiles, clothing, footwear, cork, wood products, and beverages.

The population is 10.6 million (Table A.7), and 20% of the population is younger than 20 years (Table A.6). The life expectancy is more than 80 years. The total fertility rate has been below the replacement rate of 2.1 since the 1980s. More than half of births are to unmarried women. A single religion (Roman Catholicism) and a single language have contributed to ethnic homogeneity over most of the country's history. Portuguese society is characterized by increasing socioeconomic inequality.

The Portuguese health-care system is composed of three coexisting systems: the National Health Service, special social health insurance schemes (health subsystems) for certain professions (e.g. police, military, and banking), and voluntary private health insurance. The National Health Service provides most of the universal coverage. In addition, about 25% of the population is covered by the health subsystems, 10% by private insurance schemes, and 7% by mutual funds. A national database of all the patients of the national health-care system (Registo Nacional de Utentes) enables the identification of patients with cancer and the verification of their data by authorized entities, including cancer registries.

In Portugal, population-based cancer registration started in 1976 with the establishment of the population-based cancer registry in Viana do Castelo in 1976, followed by the registry in Vila Nova de Gaia, established in 1980. On 16 January 1988, Law N 35/88 was adopted, which mandated cancer notification and the creation of the regional cancer registries. Four regional registries – Azores, Central Region, North Region, and South Region (the South Region includes the Madeira region) – cover the entire population of Portugal. They routinely exchange information on registered cases, thereby avoiding duplication and ensuring the completeness of registration.

PUBLICATIONS

Amado J, Matos E, Calheiros JM, Ramalho A, Ramalho C, Castro A, et al. (1992). Incidência e mortalidade por tumores malignos no Concelho de Vila Nova de Gala: 1981–1987. Acta Med Port. 5:373–8.

POPULATION AT RISK

The population data were provided by Statistics Portugal (https://www.ine.pt/); they are based on the 1991, 2001, and 2011 censuses (Table A.7), accounting for births, deaths, and migration. All registries provided population data in the required detail.

EDITORS' COMMENTS

Combined data for the four Portuguese registries are presented in the IICC-3 book (Table A.12). Although the registration areas of the mainland registries were redefined in 2010, there is no overlap in the data they provided. Data for the individual registries are available online in standard tables for the three mainland registries of Central Region, North Region, and South Region, and an abbreviated table is shown for the smaller Azores Cancer Registry (Table A.12). A combined dataset for the registries of Central Region, South Region, and Vila Nova de Gaia was also included in IICC-2 (Table A.1).

Date of incidence is incomplete in the Portuguese registries, except for South Region (Table A.8). Unlike the other three Portuguese registries, the Azores Cancer Registry has access to identified death certificates that mention cancer. In all registries, non-malignant CNS tumours were registered, and pilocytic astrocytoma was coded with uncertain behaviour. Skin carcinomas were reportable in all registries, although some cases may be missed.

PORTUGAL (1991-2012)

Registry	Period	Cases	%	Person-years	%
Azores	1997-2011	198	3.1	1 027 305	2.8
Centre	2000-2010	969	15.0	5 406 211	14.5
North	1991-2010	2575	39.9	16 009 471	42.9
South	1998-2012	2706	42.0	14 895 375	39.9
PORTUGAL	**1991-2012**	**6448**	**100.0**	**37 338 362**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Azores Cancer Registry, 1997–2011

Gonçalo Forjaz, José Cabral, Jorge Câmara, Francisco Gomes, Anabela Faria, Marina Soares, Raul Rego, Vitor Rodrigues

The Azores archipelago is an autonomous Portuguese region made up of nine volcanic islands located in the North Atlantic Ocean. The islands are divided into three groups: the Western group (Flores and Corvo), the Central group (Terceira, Faial, Pico, São Jorge, and Graciosa), and the Eastern group (São Miguel and Santa Maria).

The population is 0.2 million, and 25% of the population is younger than 20 years; this proportion is larger than that of the mainland population (Table A.6).

The health-care system in the Azores is separate from that of the mainland and has its own organization, management, funding, and operation. It is nearly free for all residents. There are three important health institutions, located on the islands of São Miguel, Terceira, and Faial. There are also 16 health centres and one oncology centre. In addition to providing health care, the oncology centre is responsible for the Azores Cancer Registry and for organized cancer screening programmes (breast cancer, cervical cancer, and colorectal cancer).

Most cancer cases are diagnosed and treated locally. However, almost all Azorean children and adolescents with cancer are referred to mainland hospitals, mostly to the Portuguese Institute of Oncology. For such cases, comprehensive data collection for the registry is maintained through access to patients' transfer files and their respective clinical pathways. Each regional hospital has its own department of paediatrics, which follows up most paediatric cancer cases, usually under the supervision of the Portuguese Institute of Oncology.

The Azores Cancer Registry was created in 1993 and covers an area of 2346 km^2 (the whole area of the archipelago). Some data were collected retrospectively starting in June 2007; the data are considered complete as from 1997. Data are collected both passively and actively from the three regional public hospitals, several private pathology laboratories, and the three regional population-based cancer registries located on the mainland. Death certificates that specifically mention cancer are received by the registry from the civil register offices located in each of the Azorean cities. On the basis of the information from hospital information systems and death certificates, registry staff members perform active case finding in hospital records and health centre records. Tumours are coded according to ICD-O-3 (Table A.10), which is also used to count multiple primary tumours. CanReg5 software is used for data entry and analysis.

The Azores Cancer Registry is a member of ENCR, IACR, and the Global Initiative for Cancer Registry Development (GICR) and has participated in international studies, such as CI5 Volumes X and XI, ACCIS, EUROCARE-5, and CONCORD-2 and CONCORD-3.

POPULATION AT RISK

See Portugal, above.

EDITORS' COMMENTS

The increased proportion of unexpected frequencies of particular days of birth or days of incidence in the dataset (Table A.8) is probably a reflection of the small size of the dataset, which may also explain the slightly lower proportion of cases diagnosed before age 15 years in the dataset (Table A.9). The proportion of non-malignant CNS tumours is low (Table A.9); the registry believes that a moderate proportion of non-malignant cases may have been missed. This should be borne in mind when interpreting the incidence rates reported for diagnostic categories III and Xa and the total. Unlike the other three Portuguese registries, the Azores Cancer Registry has access to identified death certificates mentioning cancer; however, no DCO cases were identified. Laterality is complete for nephroblastoma and gonadal tumours. See also Portugal, above.

Portugal Central Region Cancer Registry, 2000–2010

Manuel António Silva, Branca Carrito, Cristina Anjinho, Eduarda Cavaleiro, Joana Bastos, José Chelinho, José Paulo Magalhães, Vítor Rodrigues

The Central Region Cancer Registry covers the Central Region of Portugal. Until 2009, the registry covered an area of about 27 000 km^2 and had a population of about 2.4 million (~23% of the national population). The registry covered the districts of Aveiro, Castelo Branco, Coimbra, Guarda, Leiria, and Viseu. About 19% of the covered population was younger than 20 years (Table A.6). In 2010, there were changes to the areas covered by the three regional cancer registries of mainland Portugal. The coverage area of the Central Region Cancer Registry changed to the administrative areas called *concelhos* (municipalities) belonging to the Central Health Administrative Region (ARS-Centro), which in 2011 had about 1.7 million inhabitants (17% of the national population).

Coimbra, the capital city of the Central Region, has three main public hospitals with two radiotherapy departments. The main sources of information for the Central Region Cancer Registry are these institutions, in addition to a network of five smaller hospitals and county health centres, and some private diagnostic facilities. Most children with cancer are treated at the paediatric hospital in Coimbra.

The Central Region Cancer Registry started in 1989 (Table A.10). Data on cancer cases are entered into the electronic registry database directly at the data source locations. This information is checked for consistency between variables (sex, codes, etc.) using IARCcrgTools routines and manual checks.

Vital status of children with cancer is verified either passively, using information recorded by the data sources, or by active consultation of the database of the National Registry of Deaths. This follow-up is considered complete for children with cancer.

Since 1989, the registry has published annual reports of cancer incidence (https://www.ipocoimbra.min-saude.pt/), and registry data are used in descriptive and analytical epidemiological studies.

POPULATION AT RISK
See Portugal, above.

EDITORS' COMMENTS
Day of incidence was imprecise in a proportion of cases (Table A.8). The registry computes age automatically and rounds it with respect to a calendar year, rather than with respect to a birth date. The registry does not have access to death certificates (Table A.9); thus, some new cases may be missed. A large number of thyroid carcinoma cases and Hodgkin lymphoma cases contributed to the high proportion of cases aged 19 years in the age group 15–19 years (Table A.9). Laterality is nearly complete. See also Portugal, above.

Portugal North Region Cancer Registry, 1991–2010

José Laranja Pontes, Maria José Bento, Clara Castro, Luís Antunes, Filipa Gonçalves, Anabela Sousa, Roxanne Garcia, Tatiana Domingues, Vânia Teixeira, Rui Henrique

The North Region Cancer Registry registers all new cancer cases in the North Region of Portugal. The region has five districts: Braga, Bragança, Porto, Viana do Castelo, and Vila Real. The northern and eastern parts of the region are bordered by the Spanish provinces of Galicia and Castilla y Léon, and the western part of the region is bordered by the Atlantic Ocean. The climate is temperate oceanic. In 2011, 62% of the active population worked in services, 35% worked in the secondary sector, and 3% worked in the primary sector.

In 2010, the population of the North Region was 3.3 million, and 21% of the population was younger than 20 years (Table A.6). Almost 60% of the population lived in the district of Porto.

The region has about 20 public general hospitals and one specialized cancer treatment centre. The main treatment centres are located in the district of Porto, but each district capital has at least one central hospital. Porto, Braga, and Vila Real have radiotherapy centres. Paediatric and adolescent cancer care is provided in only two centres, located in the city of Porto. The health-care system is composed of a network of primary health-care centres, which is supplemented by private clinics and laboratories.

The North Region Cancer Registry is located in Porto at the Portuguese Institute of Oncology. It collects data from hospitals, clinics, and pathology laboratories. Since 2014, the registry has been staffed by a medical epidemiologist, four registrars, one biologist, and two statisticians. One medical pathologist and one oncology surgeon serve as consultants.

The data are received mostly by passive notification in coded format. Since June 2005, all hospitals can submit the data using a common website. The vital status of registered patients is checked regularly using updates received from data sources and complemented by active searching performed by registry staff members.

The registry publishes an annual report of cancer incidence in the registration area. Survival data since 2000 are available (https://ipoporto.pt/roreno/). The registry develops research projects in collaboration with the University of Porto and the University of Minho and participates in international projects (e.g. EUROCARE and CONCORD-2) and other collaborative studies involving European cancer registries.

POPULATION AT RISK
See Portugal, above.

EDITORS' COMMENTS
Day of incidence is imprecise for more than half of the cases (Table A.8); this may affect the age-specific incidence rates. Until 2005, only month and year of diagnosis was registered, with day of diagnosis coded to 1 or 15. The registry does not have access to identified death certificates; thus, some new cases may be missed. Information on laterality was provided for 73% of the tumours of interest. See also Portugal, above.

Portugal South Region Cancer Registry, 1998–2012

Ana Da Costa Miranda, Alexandra Mayer-da-Silva, Gabriela Caldas, Luisa Gloria, Cláudia Brito

The South Region includes Lisbon (the national capital) and its metropolitan area, Vale do Tejo, the regions of Alentejo and Algarve, and the Autonomous Region of Madeira. These areas comprise about half of the country, in terms of both area (39 700 km^2) and population.

In 2010, the population was 4.7 million, and 21% of the population was younger than 20 years (Table A.6). Of the economically active population, about 75% are employed in the service sector, 20% in industry, and 6% in agriculture.

General health care is provided by 40 public general hospitals, one university hospital, a network of 147 primary health-care centres, and the cancer institute in Lisbon. There is one general practitioner per 2000 inhabitants. Almost all patients with cancer are diagnosed and treated by medical specialists who work in the hospitals.

The South Region Cancer Registry started in 1989 as part of a programme for nationwide cancer registration financed by public health funds. Since 2000, data have been collected in all hospitals and health centres, using electronic connections to the registry database. Registration forms are received from private hospitals and pathology laboratories. One clinician in each institution is responsible for registration. The registry network server is located in the cancer institute in Lisbon. Since 2007, the registry has integrated data from additional sources, such as pathology reports, surgical reports, hospital admissions records, and chemotherapy and radiotherapy records.

The permanent registry staff consists of two physicians specialized in epidemiology (one of whom leads the registry), two statisticians, and 10 tumour registrars. One pathologist, two oncologists, and one gastroenterologist serve as consultants.

Since 1988, reporting of all new cancer cases has been mandatory. The registration of a case usually starts with a pathology report, which is received from any public or private pathology laboratory. The required information is then retrieved from the medical records in each hospital or health centre by trained tumour registrars or local physicians and entered into the central server. In addition, hospital discharge records of cancer patients and records of hospital pharmacy and radiotherapy services are compared with the registry database and the additional cases are reviewed and entered.

The registry uses ICD-O-3 for coding of tumours and reporting of multiple primary tumours. The TNM classification system is used for staging.

Data are routinely checked for completeness, consistency, and duplicates using IARCcrgTools and additional registry-specific software, and by reviewing samples of cases (internal auditing). Data are exchanged with the other regional cancer registries to obtain information on residents who are diagnosed and treated outside the registration area.

Follow-up of registered patients for vital status is conducted annually by linkage of the South Region Cancer Registry database with the national population registry.

The main purpose of the registry is to estimate cancer incidence and survival in the region. The registry prepares an annual report on childhood cancer incidence and survival. Registry data are used in epidemiological studies at the regional, national, and international levels, including the EUROCARE studies.

POPULATION AT RISK

The decimal portions of the estimated counts provided for some sex and age categories were rounded to the nearest integer at IARC (Table A.8). See also Portugal, above.

EDITORS' COMMENTS

The registry does not have access to identified death certificates. Although some new cases may be missed as a result, registry staff believe that the number is very low because treatment of paediatric cancer is highly centralized. Non-malignant CNS tumours were systematically registered only for the age group 0–14 years; because the collection of these tumours started later in the age group 15–19 years, the rate in adolescents is probably underestimated. Laterality is nearly complete for retinoblastoma and nephroblastoma. Basal cell skin carcinomas were excluded from the data provided by the registry because of suspected incomplete ascertainment. See also Portugal, above.

PORTUGAL (1991-2012)

	Age group (years)	Males	Females
Person-years	0	900 046	849 006
	1-4	3 607 161	3 407 408
	5-9	4 593 972	4 350 762
	10-14	4 801 586	4 575 112
	15-19	5 227 977	5 025 332
	0-14	13 902 765	13 182 288
	0-19	19 130 742	18 207 620

Please consult the quality indicators for this pool and its constituent registries

PORTUGAL (1991-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	51	471	358	278	242	**1158**	**1400**	26.7	100.0	21.7	100.0	29.2	67.1	40.0	29.6	23.6	**44.6**	**39.9**	646	764	98.5	0.0
	a. Lymphoid	34	373	262	159	123	**828**	**951**	19.1	71.5	14.7	67.9	19.4	53.2	29.3	17.0	12.0	**32.3**	**27.8**	463	523	98.6	0.0
	b. Acute myeloid	7	70	59	86	76	**222**	**298**	5.1	19.2	4.6	21.3	4.0	10.0	6.6	9.2	7.4	**8.2**	**8.0**	123	160	98.7	0.0
	c. CMD	2	6	13	17	24	**38**	**62**	0.9	3.3	1.0	4.4	1.1	0.9	1.5	1.8	2.3	**1.3**	**1.6**	21	33	100.0	0.0
	d. MDS & other	4	10	15	11	7	**40**	**47**	0.9	3.5	0.7	3.4	2.3	1.4	1.7	1.2	0.7	**1.5**	**1.3**	22	26	95.7	0.0
	e. Unspecified	4	12	9	5	12	**30**	**42**	0.7	2.6	0.7	3.0	2.3	1.7	1.0	0.5	1.2	**1.2**	**1.2**	17	23	95.2	0.0
II	**LYMPHOMA & RELATED**	14	124	199	309	619	**646**	**1265**	14.9	100.0	19.6	100.0	8.0	17.7	22.2	33.0	60.4	**22.8**	**31.3**	355	657	99.6	0.0
	a. Hodgkin	0	12	68	184	445	**264**	**709**	6.1	40.9	11.0	56.0	-	1.7	7.6	19.6	43.4	**8.7**	**16.5**	143	360	99.7	0.0
	b. Non-Hodgkin except BL	3	46	61	77	124	**187**	**311**	4.3	28.9	4.8	24.6	1.7	6.6	6.8	8.2	12.1	**6.7**	**8.0**	103	164	100.0	0.0
	c. Burkitt (BL)	0	40	51	33	17	**124**	**141**	2.9	19.2	2.2	11.1	-	5.7	5.7	3.5	1.7	**4.6**	**4.0**	69	77	100.0	0.0
	d. Lymphoreticular	11	23	13	4	6	**51**	**57**	1.2	7.9	0.9	4.5	6.3	3.3	1.5	0.4	0.6	**2.1**	**1.8**	29	32	96.5	0.0
	e. Unspecified	0	3	6	11	27	**20**	**47**	0.5	3.1	0.7	3.7	-	0.4	0.7	1.2	2.6	**0.7**	**1.1**	11	24	97.9	0.0
III	**CNS NEOPLASMS** †	69	316	312	281	257	**978**	**1235**	22.5	100.0	19.2	100.0	39.4	45.0	34.9	30.0	25.1	**37.0**	**34.3**	544	669	90.0	0.0
	a. Ependymoma	21	53	19	25	18	**118**	**136**	2.7	12.1	2.1	11.0	12.0	7.6	2.1	2.7	1.8	**4.7**	**4.1**	66	75	100.0	0.0
	b. Astrocytoma	22	127	135	123	109	**407**	**516**	9.4	41.6	8.0	41.8	12.6	18.1	15.1	13.1	10.6	**15.3**	**14.2**	226	279	95.7	0.0
	c. CNS embryonal	15	71	61	55	33	**202**	**235**	4.7	20.7	3.6	19.0	8.6	10.1	6.8	5.9	3.2	**7.7**	**6.7**	112	129	99.6	0.0
	d. Other gliomas	4	30	48	30	40	**112**	**152**	2.6	11.5	2.4	12.3	2.3	4.3	5.4	3.2	3.9	**4.2**	**4.1**	62	82	73.0	0.0
	e. Other specified	4	18	36	33	37	**91**	**128**	2.1	9.3	2.0	10.4	2.3	2.6	4.0	3.5	3.6	**3.3**	**3.4**	50	68	97.7	0.0
	f. Unspecified CNS	3	17	13	15	20	**48**	**68**	1.1	4.9	1.1	5.5	1.7	2.4	1.5	1.6	2.0	**1.8**	**1.8**	27	36	16.2	0.0
IV	**NEUROBLASTOMA**	111	169	37	17	10	**334**	**344**	7.7	100.0	5.3	100.0	63.5	24.1	4.1	1.8	1.0	**14.2**	**11.2**	189	194	95.9	0.0
	a. (Ganglio)neuroblastoma	109	167	31	13	6	**320**	**326**	7.4	95.8	5.1	94.8	62.3	23.8	3.5	1.4	0.6	**13.7**	**10.8**	182	185	95.7	0.0
	b. Peripheral nervous	2	2	6	4	4	**14**	**18**	0.3	4.2	0.3	5.2	1.1	0.3	0.7	0.4	0.4	**0.5**	**0.5**	8	10	100.0	0.0
V	**RETINOBLASTOMA**	34	79	3	0	0	**116**	**116**	2.7	100.0	1.8	100.0	19.4	11.3	0.3	-	-	**5.1**	**4.0**	66	66	77.6	0.0
VI	**RENAL TUMOURS**	32	131	48	17	18	**228**	**246**	5.3	100.0	3.8	100.0	18.3	18.7	5.4	1.8	1.8	**9.5**	**7.7**	129	138	96.7	0.0
	a. Nephroblastoma	32	130	48	10	3	**220**	**223**	5.1	96.5	3.5	90.7	18.3	18.5	5.4	1.1	0.3	**9.2**	**7.2**	125	126	97.3	0.0
	b. Renal carcinoma	0	1	0	7	13	**8**	**21**	0.2	3.5	0.3	8.5	-	0.1	-	0.7	1.3	**0.3**	**0.5**	4	11	100.0	0.0
	c. Unspecified	0	0	0	0	2	**0**	**2**	-	-	0.0	0.8	-	-	-	-	0.2	**-**	**0.0**	-	1	0.0	0.0
VII	**HEPATIC TUMOURS**	14	19	9	6	6	**48**	**54**	1.1	100.0	0.8	100.0	8.0	2.7	1.0	0.6	0.6	**2.0**	**1.7**	27	30	92.6	0.0
	a. Hepatoblastoma	13	19	5	1	0	**38**	**38**	0.9	79.2	0.6	70.4	7.4	2.7	0.6	0.1	-	**1.6**	**1.3**	22	22	97.4	0.0
	b. Hepatic carcinoma	1	0	4	4	5	**9**	**14**	0.2	18.8	0.2	25.9	0.6	-	0.4	0.4	0.5	**0.3**	**0.4**	5	7	92.9	0.0
	c. Unspecified	0	0	0	1	1	**1**	**2**	0.0	2.1	0.0	3.7	-	-	-	0.1	0.1	**0.0**	**0.0**	1	1	0.0	0.0
VIII	**BONE TUMOURS**	2	13	52	122	164	**189**	**353**	4.4	100.0	5.5	100.0	1.1	1.9	5.8	13.0	16.0	**6.3**	**8.5**	103	183	98.0	0.0
	a. Osteosarcoma	0	2	18	67	90	**87**	**177**	2.0	46.0	2.7	50.1	-	0.3	2.0	7.1	8.8	**2.8**	**4.2**	47	91	99.4	0.0
	b. Chondrosarcoma	0	0	0	4	11	**4**	**15**	0.1	2.1	0.2	4.2	-	-	-	0.4	1.1	**0.1**	**0.3**	2	7	100.0	0.0
	c. Ewing & related	1	9	29	44	49	**83**	**132**	1.9	43.9	2.0	37.4	0.6	1.3	3.2	4.7	4.8	**2.8**	**3.3**	45	69	100.0	0.0
	d. Other specified	0	1	1	2	8	**4**	**12**	0.1	2.1	0.2	3.4	-	0.1	0.1	0.2	0.8	**0.1**	**0.3**	2	6	100.0	0.0
	e. Unspecified	1	1	4	5	6	**11**	**17**	0.3	5.8	0.3	4.8	0.6	0.1	0.4	0.5	0.6	**0.4**	**0.4**	6	9	64.7	0.0
IX	**SOFT TISSUE SARCOMA**	28	78	68	85	149	**259**	**408**	6.0	100.0	6.3	100.0	16.0	11.1	7.6	9.1	14.5	**9.8**	**10.8**	144	216	99.8	0.0
	a. Rhabdomyosarcoma	18	56	47	30	36	**151**	**187**	3.5	58.3	2.9	45.8	10.3	8.0	5.3	3.2	3.5	**5.9**	**5.4**	84	102	100.0	0.0
	b. Fibrosarcoma	3	1	1	3	12	**8**	**20**	0.2	3.1	0.3	4.9	1.7	0.1	0.1	0.3	1.2	**0.3**	**0.5**	4	10	100.0	0.0
	c. Kaposi sarcoma	0	0	0	3	4	**3**	**7**	0.1	1.2	0.1	1.7	-	-	-	0.3	0.4	**0.1**	**0.2**	2	4	100.0	0.0
	d. Other specified	4	10	11	39	80	**64**	**144**	1.5	24.7	2.2	35.3	2.3	1.4	1.2	4.2	7.8	**2.2**	**3.5**	35	74	99.3	0.0
	e. Unspecified	3	11	9	10	17	**33**	**50**	0.8	12.7	0.8	12.3	1.7	1.6	1.0	1.1	1.7	**1.3**	**1.3**	18	27	100.0	0.0
X	**GERM CELL TUMOURS**	17	38	24	61	184	**140**	**324**	3.2	100.0	5.0	100.0	9.7	5.4	2.7	6.5	17.9	**5.2**	**8.1**	77	167	97.8	0.0
	a. CNS germ cell	1	2	15	24	21	**42**	**63**	1.0	30.0	1.0	19.4	0.6	0.3	1.7	2.6	2.0	**1.4**	**1.6**	23	33	96.8	0.0
	b. Other extragonadal	8	13	1	6	11	**28**	**39**	0.6	20.0	0.6	12.0	4.6	1.9	0.1	0.6	1.1	**1.1**	**1.1**	16	21	97.4	0.0
	c. Gonadal germ cell	8	22	6	28	132	**64**	**196**	1.5	45.7	3.0	60.5	4.6	3.1	0.7	3.0	12.9	**2.4**	**4.8**	35	100	99.5	0.0
	d. Gonadal carcinoma	0	0	1	1	15	**2**	**17**	0.0	1.4	0.3	5.2	-	-	0.1	0.1	1.5	**0.1**	**0.4**	1	8	100.0	0.0
	e. Unspecified gonadal	0	1	1	2	5	**4**	**9**	0.1	2.9	0.1	2.8	-	0.1	0.1	0.2	0.5	**0.1**	**0.2**	2	5	66.7	0.0
XI	**CARCINOMA & MELANOMA**	6	11	53	150	438	**220**	**658**	5.1	100.0	10.2	100.0	3.4	1.6	5.9	16.0	42.7	**7.3**	**15.3**	119	333	99.5	0.0
	a. Adrenocortical	1	1	1	2	1	**5**	**6**	0.1	2.3	0.1	0.9	0.6	0.1	0.1	0.2	0.1	**0.2**	**0.2**	3	3	100.0	0.0
	b. Thyroid	0	3	13	59	188	**75**	**263**	1.7	34.1	4.1	40.0	-	0.4	1.5	6.3	18.3	**2.4**	**6.0**	40	132	99.6	0.0
	c. Nasopharyngeal	0	0	2	22	26	**24**	**50**	0.6	10.9	0.8	7.6	-	-	0.2	2.3	2.5	**0.8**	**1.2**	13	26	100.0	0.0
	d. Melanoma	0	4	19	27	70	**50**	**120**	1.2	22.7	1.9	18.2	-	0.6	2.1	2.9	6.8	**1.7**	**2.9**	27	61	99.2	0.0
	e. Skin carcinoma	2	2	4	7	23	**15**	**38**	0.3	6.8	0.6	5.8	1.1	0.3	0.4	0.7	2.2	**0.5**	**0.9**	8	19	97.4	0.0
	f. Other & unspecified	3	1	14	33	130	**51**	**181**	1.2	23.2	2.8	27.5	1.7	0.1	1.6	3.5	12.7	**1.7**	**4.2**	28	91	100.0	0.0
XII	**OTHER & UNSPECIFIED**	4	9	2	8	22	**23**	**45**	0.5	100.0	0.7	100.0	2.3	1.3	0.2	0.9	2.1	**0.9**	**1.2**	13	24	53.3	0.0
	a. Other specified	0	4	1	1	7	**6**	**13**	0.1	26.1	0.2	28.9	-	0.6	0.1	0.1	0.7	**0.2**	**0.3**	3	7	100.0	0.0
	b. Other unspecified	4	5	1	7	15	**17**	**32**	0.4	73.9	0.5	71.1	2.3	0.7	0.1	0.7	1.5	**0.7**	**0.8**	9	17	34.4	0.0
	TOTAL	382	1458	1165	1334	2109	**4339**	**6448**	100.0	100.0	100.0	100.0	218.4	207.9	130.2	142.3	205.7	**164.6**	**173.8**	2412	3441	96.3	0.0

† includes 433 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Russian Federation

The Russian Federation is the largest country in the world, extending from eastern Europe to the most easterly point of Asia. The country covers an area of 17 098 246 km^2, of which 23% is in Europe and 77% is in Asia.

In 2010, the estimated total population was 143.2 million (Table A.7), and 21% of the population was younger than 20 years (Table A.6). In 2010, 78% of the population was ethnic Russian, 4% was Tatar, and the remainder consisted of more than 180 officially designated nationalities or ethnic groups, each accounting for less than 1.5% of the total. In 2010, the average population density was 8.4 per km^2, with marked variations across the country. The European part of the Russian Federation is much more densely populated than the Asian part, with 77% of the total population, and Moscow (the capital) and most other major cities are in the European part. Of the total workforce, 66% are employed in services, 27% in industry, and 7% in agriculture. The Russian Federation is an upper-middle-income country with a very high HDI.

Medical care is free of charge for the entire population and is covered by national medical insurance.

A unified registration procedure of patients with cancer was established in the former Soviet Union in 1953. The recording of all cancer cases is mandatory. For each case a registration card is generated and submitted to a regional cancer registry. The records of patients residing in other areas of the country are shared with the relevant registries.

POPULATION AT RISK

The most recent population census in the former Soviet Union was conducted in 1989 by the Central Statistical Committee and counted the resident population. After the dissolution of the Soviet Union in 1991, population censuses were conducted in 2002 and 2010 (Table A.7) by the Russian Federal State Statistics Service (https://rosstat.gov.ru/) and counted all permanent residents in the Russian Federation. Births, deaths, and migration are taken into account to estimate the annual population data. Data were provided in the requested detail by all registries.

EDITORS' COMMENTS

The cancer data for the Russian Federation are presented in the IICC-3 book in two tables: data collected by the Childhood Cancer Registry of Moscow Region, and data from the Chelyabinsk Cancer Registry combined with those from the Samara Cancer Registry. The separate tables of the two general cancer registries are available online (Table A.12). Compared with the general cancer registries, the paediatric registry systematically recorded non-malignant CNS tumours and had an acceptable MV% and proportion of clinically diagnosed cases. The incidence rates were somewhat higher in the general cancer registries, although the rates for individual diagnostic groups were comparable.

Childhood Cancer Registry of Moscow Region, 2000–2009

Svetlana Varfolomeeva, Denis Kachanov, Ruslan Abdullaev, Tatyana Shamanskaya, Konstantin Dobrenkov

The Moscow Region (*oblast*) is one of about 80 federal subjects and is the largest administrative division of the Russian Federation. It is located in the eastern portion of the European part of the Russian Federation and covers an area of 45 900 km^2. The city of Moscow is not a part of the Moscow Region. The climate is temperate continental, with warm summers and cold winters.

The Moscow Region is the second most populous federal subject. In 2010, the population was 7.1 million, and 12% of the population was younger than 15 years (4% of the national paediatric population) (Table A.6). The main industries are machinery and metalworking, and chemical and light industry. There is a substantial service sector. Agriculture has a relatively minor role in the economy.

The Moscow Region is divided into 72 municipal districts (*okrug*), which are clustered into 12 medical districts. The only department that provides specialized care for children and adolescents with cancer within the region is located in Moscow Regional Oncological Hospital, in Balashikha. Some patients undergo cancer treatment in the federal cancer centres in the city of Moscow.

The population-based childhood cancer registry was established in the Moscow Region in 2000 (Table A.10). It was founded by the Ministry of Healthcare and Social Development of the Moscow Region and the Dmitry Rogachev National Research Centre of Paediatric Haematology, Oncology and Immunology, in Moscow. The registry collects information on the burden of cancer in children aged 0–14 years.

Data are collected actively and passively. Multiple sources of information are used, including discharge letters from oncology hospitals, reports from pathology laboratories, and data from the general cancer registry of the Moscow Region. National law requires oncologists to complete a notification form for all newly diagnosed cancer cases. The registry has access to the database of the Ministry of Healthcare and Social Development of the Moscow Region, which has information on patients referred to federal cancer centres. The registry also collaborates closely with primary care paediatricians. A special notification form has been created and is completed for newly diagnosed patients and for patients who have completed cancer treatment. Regional law mandates inclusion of this form as part of the mandatory annual medical report prepared by paediatricians in municipal districts. Follow-up information is collected actively in hospital databases and from notification forms from primary care paediatricians. Special requests for information are sent to primary care paediatricians to trace back additional data on these patients. Identifiable death certificates are not available to the registry, but it does have access to the de-identified cancer mortality database of the Moscow Region.

All CNS tumours are registered. The completeness of registration is estimated to be more than 90%.

The registry prepares annual reports, which are used for planning specialized paediatric cancer care in the region.

POPULATION AT RISK

The annual population estimates in the Moscow Region are based on the Russian Federation population census conducted in 2002 and were provided by the Moscow Regional Committee of the Federal State Statistics Service (https://gks.ru/region/docl1146/Main.htm). See also Russian Federation, above.

EDITORS' COMMENTS

In this paediatric cancer registry, registration focused on the age group 0–14 years during the reporting period. Therefore, data for the age groups 15–19 years and 0–19 years are not shown in the tables. Dates of incidence were imprecise in a proportion of cases (Table A.8). Because the registry does not have access to identified death certificates, a proportion of new cases may be missed. This could also explain the slightly lower overall incidence rate compared with that of the general cancer registries, even though non-malignant CNS tumours were recorded throughout the reporting period (Table A.9). Pilocytic astrocytoma was coded with uncertain behaviour. Laterality was almost complete for the cases of interest and was included in the relevant tables. See also Russian Federation, above.

RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)

	Age group (years)	Males	Females
Person-years	0	292 679	274 519
	1-4	1 084 373	1 021 499
	5-9	1 339 401	1 268 926
	10-14	1 782 917	1 702 640
	0-14	4 499 370	4 267 584
Average annual population	0-14	449 937	426 758

Please consult the quality indicators for this registry

RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	13	183	82	75	**353**	30.0	100.0	22.9	86.9	31.4	21.5	**44.8**	631	100.0	0.0
	a. Lymphoid	7	158	65	51	**281**	23.9	79.6	12.3	75.0	24.9	14.6	**36.2**	506	100.0	0.0
	b. Acute myeloid	3	21	12	20	**56**	4.8	15.9	5.3	10.0	4.6	5.7	**6.6**	97	100.0	0.0
	c. CMD	0	1	2	2	**5**	0.4	1.4	-	0.5	0.8	0.6	**0.6**	9	100.0	0.0
	d. MDS & other	2	2	2	1	**7**	0.6	2.0	3.5	0.9	0.8	0.3	**0.9**	13	100.0	0.0
	e. Unspecified	1	1	1	1	**4**	0.3	1.1	1.8	0.5	0.4	0.3	**0.5**	7	100.0	0.0
II	LYMPHOMA & RELATED	0	14	34	99	**147**	12.5	100.0	-	6.6	13.0	28.4	**14.5**	233	98.6	0.0
	a. Hodgkin	0	5	9	64	**78**	6.6	53.1	-	2.4	3.5	18.4	**7.2**	118	100.0	0.0
	b. Non-Hodgkin except BL	0	4	15	26	**45**	3.8	30.6	-	1.9	5.8	7.5	**4.6**	74	100.0	0.0
	c. Burkitt (BL)	0	3	10	7	**20**	1.7	13.6	-	1.4	3.8	2.0	**2.3**	35	100.0	0.0
	d. Lymphoreticular	0	1	0	1	**2**	0.2	1.4	-	0.5	-	0.3	**0.2**	3	100.0	0.0
	e. Unspecified	0	1	0	1	**2**	0.2	1.4	-	0.5	-	0.3	**0.2**	3	0.0	0.0
III	CNS NEOPLASMS †	10	72	98	90	**270**	23.0	100.0	17.6	34.2	37.6	25.8	**31.5**	470	81.1	0.0
	a. Ependymoma	2	11	10	6	**29**	2.5	10.7	3.5	5.2	3.8	1.7	**3.6**	52	96.6	0.0
	b. Astrocytoma	4	31	39	43	**117**	9.9	43.3	7.1	14.7	15.0	12.3	**13.5**	202	94.0	0.0
	c. CNS embryonal	1	22	20	11	**54**	4.6	20.0	1.8	10.4	7.7	3.2	**6.7**	97	100.0	0.0
	d. Other gliomas	0	2	11	8	**21**	1.8	7.8	-	0.9	4.2	2.3	**2.3**	36	19.0	0.0
	e. Other specified	0	2	8	14	**24**	2.0	8.9	-	0.9	3.1	4.0	**2.4**	39	91.7	0.0
	f. Unspecified CNS	3	4	10	8	**25**	2.1	9.3	5.3	1.9	3.8	2.3	**2.9**	44	4.0	0.0
IV	NEUROBLASTOMA	14	36	18	4	**72**	6.1	100.0	24.7	17.1	6.9	1.1	**9.8**	134	95.8	0.0
	a. (Ganglio)neuroblastoma	14	36	18	4	**72**	6.1	100.0	24.7	17.1	6.9	1.1	**9.8**	134	95.8	0.0
	b. Peripheral nervous	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
V	RETINOBLASTOMA	6	20	3	0	**29**	2.5	100.0	10.6	9.5	1.2	-	**4.1**	54	75.9	0.0
VI	RENAL TUMOURS	13	38	14	5	**70**	6.0	100.0	22.9	18.0	5.4	1.4	**9.5**	129	98.6	0.0
	a. Nephroblastoma	13	37	13	3	**66**	5.6	94.3	22.9	17.6	5.0	0.9	**9.1**	123	98.5	0.0
	b. Renal carcinoma	0	1	1	2	**4**	0.3	5.7	-	0.5	0.4	0.6	**0.4**	7	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	9	6	1	2	**18**	1.5	100.0	15.9	2.8	0.4	0.6	**2.5**	33	77.8	0.0
	a. Hepatoblastoma	9	6	1	0	**16**	1.4	88.9	15.9	2.8	0.4	-	**2.3**	30	75.0	0.0
	b. Hepatic carcinoma	0	0	0	2	**2**	0.2	11.1	-	-	-	0.6	**0.2**	3	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	0	7	14	46	**67**	5.7	100.0	-	3.3	5.4	13.2	**6.6**	106	100.0	0.0
	a. Osteosarcoma	0	1	7	22	**30**	2.6	44.8	-	0.5	2.7	6.3	**2.8**	47	100.0	0.0
	b. Chondrosarcoma	0	0	2	0	**2**	0.2	3.0	-	-	0.8	-	**0.2**	4	100.0	0.0
	c. Ewing & related	0	6	5	23	**34**	2.9	50.7	-	2.8	1.9	6.6	**3.4**	54	100.0	0.0
	d. Other specified	0	0	0	1	**1**	0.1	1.5	-	-	-	0.3	**0.1**	1	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
IX	SOFT TISSUE SARCOMA	10	20	15	22	**67**	5.7	100.0	17.6	9.5	5.8	6.3	**8.0**	116	100.0	0.0
	a. Rhabdomyosarcoma	7	16	8	5	**36**	3.1	53.7	12.3	7.6	3.1	1.4	**4.7**	66	100.0	0.0
	b. Fibrosarcoma	1	1	3	5	**10**	0.9	14.9	1.8	0.5	1.2	1.4	**1.1**	17	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	1	3	4	12	**20**	1.7	29.9	1.8	1.4	1.5	3.4	**2.1**	32	100.0	0.0
	e. Unspecified	1	0	0	0	**1**	0.1	1.5	1.8	-	-	-	**0.1**	2	100.0	0.0
X	GERM CELL TUMOURS	10	8	4	25	**47**	4.0	100.0	17.6	3.8	1.5	7.2	**5.2**	77	91.5	0.0
	a. CNS germ cell ‡	1	1	2	8	**12**	1.0	25.5	1.8	0.5	0.8	2.3	**1.2**	19	83.3	0.0
	b. Other extragonadal	8	7	0	0	**15**	1.3	31.9	14.1	3.3	-	-	**2.2**	28	93.3	0.0
	c. Gonadal germ cell	1	0	2	15	**18**	1.5	38.3	1.8	-	0.8	4.3	**1.6**	27	94.4	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	0	0	2	**2**	0.2	4.3	-	-	-	0.6	**0.2**	3	100.0	0.0
XI	CARCINOMA & MELANOMA	1	1	6	28	**36**	3.1	100.0	1.8	0.5	2.3	8.0	**3.4**	55	100.0	0.0
	a. Adrenocortical	1	0	0	0	**1**	0.1	2.8	1.8	-	-	-	**0.1**	2	100.0	0.0
	b. Thyroid	0	0	3	11	**14**	1.2	38.9	-	-	1.2	3.2	**1.3**	22	100.0	0.0
	c. Nasopharyngeal	0	0	0	3	**3**	0.3	8.3	-	-	-	0.9	**0.2**	4	100.0	0.0
	d. Melanoma	0	1	2	4	**7**	0.6	19.4	-	0.5	0.8	1.1	**0.7**	11	100.0	0.0
	e. Skin carcinoma	0	0	0	3	**3**	0.3	8.3	-	-	-	0.9	**0.2**	4	100.0	0.0
	f. Other & unspecified	0	0	1	7	**8**	0.7	22.2	-	-	0.4	2.0	**0.7**	12	100.0	0.0
XII	OTHER & UNSPECIFIED	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	a. Other specified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	b. Other unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	TOTAL	86	405	289	396	**1176**	100.0	100.0	151.6	192.3	110.8	113.6	**139.8**	2040	93.9	0.0

† includes 100 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this registry

RUSSIAN FEDERATION, 2 registries (1998-2015)

Registry	Period	Cases	%	Person-years	%
Chelyabinsk	2008-2012	539	23.6	3 767 369	22.9
Samara	1998-2015	1746	76.4	12 719 183	77.1
RUSSIAN FEDERATION	**1998-2015**	**2285**	**100.0**	**16 486 552**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Chelyabinsk Cancer Registry, 2008–2012

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The Chelyabinsk Region (*oblast*) is a federal subject located on the border of Europe and Asia, in the southern part of the Ural Mountains. The region covers an area of 88 529 km^2. The administrative centre is the city of Chelyabinsk, which was founded in 1736. The leading industries in this developed agro-industrial region are ferrous metallurgy, mechanical engineering, and nuclear processing. In 1957, part of the territory was subjected to radioactive contamination as a result of an accident at the Mayak nuclear fuel reprocessing plant, and the population in the East-Ural Radioactive Trace zone is still affected.

The population is 3.5 million, and 22% of the population is younger than 20 years (Table A.6). Chelyabinsk *oblast* has one medical university and many clinics and hospitals. Surgical and other treatment of malignant tumours in patients aged 0–17 years is performed in the Chelyabinsk Oblast Children's Teaching Hospital, which has 48 beds. Surgical treatment of brain tumours is provided by two neurosurgical departments, located in Chelyabinsk Regional Teaching Hospital and Regional Teaching Hospital No. 3. Surgical treatment of thyroid tumours is performed in Chelyabinsk City Hospital No. 1, where the surgical endocrinology centre is located. Radiation treatment is administered in radiotherapy departments, mostly in the region's principal oncology institutions – Chelyabinsk Regional Clinical Oncology Dispensary (682 beds), Magnitogorsk Regional Oncology Dispensary No. 2 (208 beds), and Kopeysk Regional Oncology Dispensary No. 3 (90 beds) – and in oncology departments of general hospitals in Chelyabinsk *oblast* (total of 562 beds).

The population-based cancer registry covers the entire territory of Chelyabinsk *oblast*. It is located in the Chelyabinsk Regional Clinical Oncology Centre. The registry collects and analyses information on cancer burden. Cases are followed up throughout their lifetime. Deaths are registered monthly in civil registration offices. The registry includes dates and causes of death in the registry database. Two state reports based on these data are submitted annually: (i) on the number of new cancer cases registered during the year, and (ii) on characteristics of the patients registered according to morphological verification, disease stage, treatment, and mortality rates in the first year of observation. The information is delivered to the Moscow P.A. Herzen Oncology Research Institute, where it is used by the Federal State Statistics Service to generate reports.

POPULATION AT RISK

See Russian Federation, above.

EDITORS' COMMENTS

All cases except DCO cases were coded as MV. The proportion of cases with unspecified morphology among MV cases is high (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. The proportion of cases aged 19 years in the age group 15–19 years was higher than expected (Table A.9); 30% of these cases were Hodgkin lymphoma. Non-malignant CNS tumours were not collected during the reporting period, except pilocytic astrocytoma, which was coded with uncertain behaviour. Laterality was complete for all of the cases of interest. See also Russian Federation, above.

Samara Cancer Registry, 1998–2015

A.G. Egorova, A.E. Orlov, A.S. Frolov, A.N. Somov, T.F. Popova, A.A. Ershov, A.V. Lutkovskiy

The Samara Region is located in the south-western part of the Russian Federation and covers an area of 53 600 km^2. The administrative centre is the city of Samara, which is located at the confluence of the Volga and Samara rivers. The region has deposits of oil, natural gas, oil shale, sulfur, gypsum, limestone, and dolomite tar. The climate is continental and dry. In 2010, the total population was 3.2 million, and 20% of the population was younger than 20 years (Table A.6). The population of the region is 83.4% Russian citizens, 3.6% Chuvash, 3.6% Tatars, 3.6% Mordvinians, and 3.5% Ukrainians; 80% of the population lives in urban areas. The Samara Region is a well-developed industrial region; the industries include mechanical engineering, oil and gas, oil refining, petrochemicals, chemicals, food, light industry, and production of building materials. Agricultural activities include growing wheat, millet, rye, barley, buckwheat, sunflowers, vegetables, and potatoes, breeding cattle and sheep, and fishing. The region has a well-developed transportation infrastructure (rail, road, air, river) and oil pipelines.

The health-care system in the region is financed through the territorial mandatory health insurance fund, supported by taxes paid by local enterprises, and regional and federal budgets. All residents are covered by the compulsory medical insurance system and are allocated to the clinic providing free health care. There are about 40 paediatric clinics, including Regional Hospital No. 1, which has a paediatric oncology department with 50 beds. The department provides surgery and chemotherapy services for children with solid tumours and haematological malignancies. Radiotherapy is performed in the Samara Regional Clinical Oncology Centre. Paediatric neuro-oncological care is provided in the children's neurosurgical department of Regional Hospital No. 1.

The Samara Cancer Registry is based in a division of the Samara Regional Clinical Oncology Centre, which is the main specialized oncological medical institution in the region. The registry is funded by the regional government.

Tumours were coded according to ICD-10 and ICD-O-2 (Table A.10), on the basis of the Russian Ministry of Health Order of 19 April 1999 No. 135 "On improving the state cancer registry system". Children with cancer make up about 1% of all registered cancer cases.

All physicians are required to fill in a notification form for each detected cancer and send it to the Samara Cancer Registry. After a course of treatment conducted by a specialist (surgery, chemotherapy, radiotherapy), patients with cancer are subject to dispensary observation; for children, this is performed by paediatricians. On a quarterly basis, the registry sends a list of patients with cancer (including children) who are subject to dispensary inspection to clinics, which are required to update patients' health status. Data on the returned forms are then entered into the registry. All medical organizations in the region are connected to a single mortality database with information on cause of death of all regional residents, which is updated in real time. Information from this database is sent to the Samara Cancer Registry monthly.

Registry data are regularly used by all medical institutions in the region to analyse the incidence, mortality, survival, and causes of late diagnosis of cancer. Data are used to conduct research and are disseminated through meetings, conferences, and awareness campaigns, and in journals and monographs, published in the Russian Federation and some other countries.

PUBLICATIONS

Egorova A, Orlov A (2014). [Evaluation of morbidity, mortality and survival rates observed in malignant tumours in the Samara region in the years 2003–2012]. Eurasian Union of Scientists. 9(4):30–2.

Orlov A, Egorova A, Starinskiy V (2014). [Analysis of cancer epidemiological trends in the regions of Russia – the basis of the successful implementation of regional programmes for the prevention of cancer]. Samara.

POPULATION AT RISK

The population is monitored annually by the Federal State Statistics Service for the Samara Region, and the results are published in demographic yearbooks and online (http://samarastat.ru/). See also Russian Federation, above.

EDITORS' COMMENTS

The registry provided data for 1990–2015; however, early years were not included in IICC-3, because of inferred underregistration. The MV% is very high (Table A.9). This suggests that some cases diagnosed clinically may be missed and may thus influence the resulting incidence rates overall or in some diagnostic categories. The registry justified the high MV% by the efficiency and completeness of the pathology services, including autopsies of children who died from cancer. Day of incidence is missing for 13% of cases (Table A.8), mostly for cases registered before 2007. The sex ratio was low for children aged 0–14 years (Table A.9). Non-malignant CNS tumours were not systematically registered; they accounted for only 1.5% of CNS tumours (Table A. 9). The one case of pilocytic astrocytoma was coded with uncertain behaviour. Laterality was provided for 78% of the cases of interest, and there were no recorded cases of bilateral tumours; therefore, the data could not be included in the laterality tables. See also Russian Federation, above.

RUSSIAN FEDERATION, 2 registries (1998-2015)

	Age group (years)	Males	Females
Person-years	0	409 062	386 047
	1-4	1 508 387	1 425 364
	5-9	1 837 951	1 744 030
	10-14	2 096 360	1 994 080
	15-19	2 579 398	2 505 873
	0-14	5 851 760	5 549 521
	0-19	8 431 158	8 055 394

Please consult the quality indicators for this pool and its constituent registries

RUSSIAN FEDERATION, 2 registries (1998-2015)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	30	218	144	99	95	**491**	**586**	31.8	100.0	25.6	100.0	37.7	74.3	40.2	24.2	18.7	**45.7**	**39.7**	655	748	98.6	1.4
	a. Lymphoid	17	188	128	68	49	**401**	**450**	26.0	81.7	19.7	76.8	21.4	64.1	35.7	16.6	9.6	**37.6**	**31.3**	537	585	98.9	1.1
	b. Acute myeloid	8	26	16	28	32	**78**	**110**	5.0	15.9	4.8	18.8	10.1	8.9	4.5	6.8	6.3	**7.0**	**6.8**	102	134	98.2	1.8
	c. CMD	1	0	0	2	7	**3**	**10**	0.2	0.6	0.4	1.7	1.3	-	-	0.5	1.4	**0.2**	**0.5**	4	11	100.0	0.0
	d. MDS & other	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	4	4	0	1	7	**9**	**16**	0.6	1.8	0.7	2.7	5.0	1.4	-	0.2	1.4	**0.9**	**1.0**	12	19	93.8	6.3
II	LYMPHOMA & RELATED	10	41	57	112	235	**220**	**455**	14.2	100.0	19.9	100.0	12.6	14.0	15.9	27.4	46.2	**18.4**	**24.6**	285	516	99.1	0.4
	a. Hodgkin	0	11	14	54	185	**79**	**264**	5.1	35.9	11.6	58.0	-	3.7	3.9	13.2	36.4	**6.2**	**13.0**	100	282	100.0	0.0
	b. Non-Hodgkin except BL	2	20	28	45	41	**95**	**136**	6.1	43.2	6.0	29.9	2.5	6.8	7.8	11.0	8.1	**8.0**	**8.0**	124	164	98.5	1.5
	c. Burkitt (BL)	0	0	3	0	0	**3**	**3**	0.2	1.4	0.1	0.7	-	-	0.8	-	-	**0.3**	**0.2**	4	4	100.0	0.0
	d. Lymphoreticular	8	7	9	12	6	**36**	**42**	2.3	16.4	1.8	9.2	10.1	2.4	2.5	2.9	1.2	**3.2**	**2.8**	47	53	95.2	0.0
	e. Unspecified	0	3	3	1	3	**7**	**10**	0.5	3.2	0.4	2.2	-	1.0	0.8	0.2	0.6	**0.7**	**0.6**	9	12	100.0	0.0
III	CNS NEOPLASMS †	24	102	91	77	58	**294**	**352**	19.0	100.0	15.4	100.0	30.2	34.8	25.4	18.8	11.4	**26.7**	**23.3**	390	447	96.6	2.6
	a. Ependymoma	3	16	7	3	5	**29**	**34**	1.9	9.9	1.5	9.7	3.8	5.5	2.0	0.7	1.0	**2.8**	**2.4**	39	44	100.0	0.0
	b. Astrocytoma	9	40	27	31	26	**107**	**133**	6.9	36.4	5.8	37.8	11.3	13.6	7.5	7.6	5.1	**9.7**	**8.7**	141	167	99.2	0.0
	c. CNS embryonal	6	26	32	19	14	**83**	**97**	5.4	28.2	4.2	27.6	7.5	8.9	8.9	4.6	2.8	**7.6**	**6.5**	111	125	99.0	1.0
	d. Other gliomas	3	13	11	10	7	**37**	**44**	2.4	12.6	1.9	12.5	3.8	4.4	3.1	2.4	1.4	**3.4**	**2.9**	49	56	88.6	9.1
	e. Other specified	2	1	5	2	0	**10**	**10**	0.6	3.4	0.4	2.8	2.5	0.3	1.4	0.5	-	**0.9**	**0.7**	13	13	90.0	10.0
	f. Unspecified CNS	1	6	9	12	6	**28**	**34**	1.8	9.5	1.5	9.7	1.3	2.0	2.5	2.9	1.2	**2.4**	**2.1**	37	43	88.2	8.8
IV	NEUROBLASTOMA	51	33	7	4	6	**95**	**101**	6.1	100.0	4.4	100.0	64.1	11.2	2.0	1.0	1.2	**9.6**	**7.7**	127	133	100.0	0.0
	a. (Ganglio)neuroblastoma	51	31	7	2	5	**91**	**96**	5.9	95.8	4.2	95.0	64.1	10.6	2.0	0.5	1.0	**9.3**	**7.4**	122	127	100.0	0.0
	b. Peripheral nervous	0	2	0	2	1	**4**	**5**	0.3	4.2	0.2	5.0	-	0.7	-	0.5	0.2	**0.3**	**0.3**	5	6	100.0	0.0
V	RETINOBLASTOMA	12	29	0	1	1	**42**	**43**	2.7	100.0	1.9	100.0	15.1	9.9	-	0.2	0.2	**4.3**	**3.4**	56	57	100.0	0.0
VI	RENAL TUMOURS	26	50	20	11	8	**107**	**115**	6.9	100.0	5.0	100.0	32.7	17.0	5.6	2.7	1.6	**10.5**	**8.5**	143	151	100.0	0.0
	a. Nephroblastoma	26	50	20	11	4	**107**	**111**	6.9	100.0	4.9	96.5	32.7	17.0	5.6	2.7	0.8	**10.5**	**8.3**	143	147	100.0	0.0
	b. Renal carcinoma	0	0	0	0	4	**0**	**4**	-	-	0.2	3.5	-	-	-	-	0.8	**-**	**0.2**	-	4	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	HEPATIC TUMOURS	6	10	2	0	4	**18**	**22**	1.2	100.0	1.0	100.0	7.5	3.4	0.6	-	0.8	**1.8**	**1.6**	24	28	100.0	0.0
	a. Hepatoblastoma	5	8	2	0	1	**15**	**16**	1.0	83.3	0.7	72.7	6.3	2.7	0.6	-	0.2	**1.5**	**1.2**	20	21	100.0	0.0
	b. Hepatic carcinoma	1	2	0	0	2	**3**	**5**	0.2	16.7	0.2	22.7	1.3	0.7	-	-	0.4	**0.3**	**0.3**	4	6	100.0	0.0
	c. Unspecified	0	0	0	0	1	**0**	**1**	-	-	0.0	4.5	-	-	-	-	0.2	**-**	**0.0**	-	1	100.0	0.0
VIII	BONE TUMOURS	2	2	13	45	53	**62**	**115**	4.0	100.0	5.0	100.0	2.5	0.7	3.6	11.0	10.4	**4.8**	**6.0**	79	131	100.0	0.0
	a. Osteosarcoma	1	2	7	20	26	**30**	**56**	1.9	48.4	2.5	48.7	1.3	0.7	2.0	4.9	5.1	**2.4**	**3.0**	38	64	100.0	0.0
	b. Chondrosarcoma	0	0	1	6	10	**7**	**17**	0.5	11.3	0.7	14.8	-	-	0.3	1.5	2.0	**0.5**	**0.8**	9	19	100.0	0.0
	c. Ewing & related	1	0	1	11	10	**13**	**23**	0.8	21.0	1.0	20.0	1.3	-	0.3	2.7	2.0	**1.0**	**1.2**	16	26	100.0	0.0
	d. Other specified	0	0	1	4	4	**5**	**9**	0.3	8.1	0.4	7.8	-	-	0.3	1.0	0.8	**0.4**	**0.5**	6	10	100.0	0.0
	e. Unspecified	0	0	3	4	3	**7**	**10**	0.5	11.3	0.4	8.7	-	-	0.8	1.0	0.6	**0.6**	**0.6**	9	12	100.0	0.0
IX	SOFT TISSUE SARCOMA	10	34	21	20	55	**85**	**140**	5.5	100.0	6.1	100.0	12.6	11.6	5.9	4.9	10.8	**7.9**	**8.5**	113	167	100.0	0.0
	a. Rhabdomyosarcoma	4	17	9	5	10	**35**	**45**	2.3	41.2	2.0	32.1	5.0	5.8	2.5	1.2	2.0	**3.3**	**3.0**	47	57	100.0	0.0
	b. Fibrosarcoma	2	7	7	4	10	**20**	**30**	1.3	23.5	1.3	21.4	2.5	2.4	2.0	1.0	2.0	**1.8**	**1.9**	27	37	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	2	3	2	7	25	**14**	**39**	0.9	16.5	1.7	27.9	2.5	1.0	0.6	1.7	4.9	**1.2**	**2.0**	18	43	100.0	0.0
	e. Unspecified	2	7	3	4	10	**16**	**26**	1.0	18.8	1.1	18.6	2.5	2.4	0.8	1.0	2.0	**1.5**	**1.6**	21	31	100.0	0.0
X	GERM CELL TUMOURS	6	10	9	19	61	**44**	**105**	2.8	100.0	4.6	100.0	7.5	3.4	2.5	4.6	12.0	**3.8**	**5.7**	57	117	100.0	0.0
	a. CNS germ cell	0	1	1	2	3	**4**	**7**	0.3	9.1	0.3	6.7	-	0.3	0.3	0.5	0.6	**0.3**	**0.4**	5	8	100.0	0.0
	b. Other extragonadal	3	5	2	1	1	**11**	**12**	0.7	25.0	0.5	11.4	3.8	1.7	0.6	0.2	0.2	**1.1**	**0.9**	15	16	100.0	0.0
	c. Gonadal germ cell	2	4	3	13	51	**22**	**73**	1.4	50.0	3.2	69.5	2.5	1.4	0.8	3.2	10.0	**1.8**	**3.7**	28	78	100.0	0.0
	d. Gonadal carcinoma	0	0	2	3	5	**5**	**10**	0.3	11.4	0.4	9.5	-	-	0.6	0.7	1.0	**0.4**	**0.5**	6	11	100.0	0.0
	e. Unspecified gonadal	1	0	1	0	1	**2**	**3**	0.1	4.5	0.1	2.9	1.3	-	0.3	-	0.2	**0.2**	**0.2**	3	4	100.0	0.0
XI	CARCINOMA & MELANOMA	12	13	12	39	161	**76**	**237**	4.9	100.0	10.4	100.0	15.1	4.4	3.4	9.5	31.7	**6.4**	**12.1**	98	256	99.2	0.8
	a. Adrenocortical	10	5	1	0	2	**16**	**18**	1.0	21.1	0.8	7.6	12.6	1.7	0.3	-	0.4	**1.6**	**1.4**	22	23	100.0	0.0
	b. Thyroid	1	0	2	16	47	**19**	**66**	1.2	25.0	2.9	27.8	1.3	-	0.6	3.9	9.2	**1.4**	**3.2**	24	70	100.0	0.0
	c. Nasopharyngeal	0	0	1	0	2	**1**	**3**	0.1	1.3	0.1	1.3	-	-	0.3	-	0.4	**0.1**	**0.2**	1	3	100.0	0.0
	d. Melanoma	1	4	1	5	28	**11**	**39**	0.7	14.5	1.7	16.5	1.3	1.4	0.3	1.2	5.5	**1.0**	**2.0**	14	42	97.4	2.6
	e. Skin carcinoma	0	0	2	2	28	**4**	**32**	0.3	5.3	1.4	13.5	-	-	0.6	0.5	5.5	**0.3**	**1.5**	5	33	100.0	0.0
	f. Other & unspecified	0	4	5	16	54	**25**	**79**	1.6	32.9	3.5	33.3	-	1.4	1.4	3.9	10.6	**2.0**	**3.9**	32	85	98.7	1.3
XII	OTHER & UNSPECIFIED	2	7	0	2	3	**11**	**14**	0.7	100.0	0.6	100.0	2.5	2.4	-	0.5	0.6	**1.1**	**1.0**	15	17	92.9	7.1
	a. Other specified	0	0	0	2	3	**2**	**5**	0.1	18.2	0.2	35.7	-	-	-	0.5	0.6	**0.1**	**0.2**	2	5	100.0	0.0
	b. Other unspecified	2	7	0	0	0	**9**	**9**	0.6	81.8	0.4	64.3	2.5	2.4	-	-	-	**0.9**	**0.7**	12	12	88.9	11.1
	TOTAL	191	549	376	429	740	**1545**	**2285**	100.0	100.0	100.0	100.0	240.2	187.1	105.0	104.9	145.5	**141.1**	**142.1**	2042	2769	98.8	1.0

† includes 9 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Slovakia

Slovakia is located in central Europe and is bordered by Ukraine to the east, Hungary and Austria to the south, the Czech Republic to the west, and Poland to the north. The country covers an area of 49 035 km^2 and has a continental climate, which is strongly influenced by altitude and type of relief. Arable land suitable for agriculture comprises about 30% of the territory.

Slovakia became independent in 1993, after the peaceful dissolution of the Czech and Slovak Federative Republic. During the reporting period, the country experienced transformation from a one-party socialist state into a democracy with a very high standard of living and an advanced market economy driven by exports of automobiles and electronics. In 2010, the population of Slovakia was 5.4 million, and 22% of the population was younger than 20 years (Table A.6). During the reporting period, the proportion of people younger than 20 years decreased and that of people aged 60 years and older increased.

Health care in Slovakia is provided free of charge to patients with cancer, but all residents must pay for mandatory health insurance. The primary health units are the Community Medical Stations headed by a general practitioner and supported by paediatricians and gynaecologists; these units offer general outpatient diagnostic and treatment services. Transportation links and relatively short distances enable access to more specialized facilities. Offices of Public Health are responsible for prevention of diseases. Major political changes in 1990 led to the creation of the private health sector, and by 2005, nearly 55% of the 98 829 employees in health services worked in the private sector.

Peripheral care for patients with cancer is provided by outpatient oncology clinics, which are located in all counties. These clinics are run by oncologists and are responsible for active patient follow-up. The Slovak League Against Cancer supports cancer-related health education. Specialized diagnostic and treatment services for children with cancer were provided by three major departments that specialized in paediatric oncology and by some other paediatric departments. Since 1992, the care of patients younger than 20 years has been centralized in the three specialized cancer treatment centres, which are located in Bratislava, Banská Bystrica, and Košice. Some adolescents may be treated in general cancer units.

POPULATION AT RISK

The population data were provided by the Statistical Office of the Slovak Republic (https://slovak.statistics.sk) and are based on the 1991, 2001, and 2011 censuses (Table A.7). Data were provided in the requested detail for 1991–2011. For 1990, data were provided by sex and age groups (0, 1–4, 5,9, 10–14, 15–19 years), and the population counts for the missing age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

The two Slovak registries presented in full tables in the IICC-3 book (Table A.12) both cover the entire country, but they differ in their history, mission, target age range, data sources, registration practice, and reporting period. The two groups are working towards closer cooperation and data exchange, and they provide comparable data. Both registries register all non-malignant CNS tumours, although the coding of the behaviour of pilocytic astrocytoma differs between the two registries.

Slovak National Cancer Registry, 1990–2009

Chakameh Safaei Diba, Ivan Plesko

Notification of cancer cases and deaths has been mandatory in Slovakia since 1952. The Slovak National Cancer Registry was established in 1976 (Table A.10), with retrospective data collection since 1968. Data sources include notifications, death certificates, and autopsy, histology, cytology, and hospital discharge reports. The registry database is annually matched against the database of hospitalizations established by the Ministry of Health. Missing information is requested from providers. The ICD-O-1, ICD-9, and TNM classifications were used to code cases since 1968; they were replaced by ICD-O-2 and ICD-10 in 1994 and by ICD-O-3 in 2007 (Table A.10). The registry staff consists of one full-time physician specializing in epidemiology, two part-time physicians specializing in oncology and pathology, one statistician, and six registrars.

Data on the burden of childhood cancer are shared with paediatric oncologists. The registry data were presented in both previous IICC volumes and have been used in several international studies (e.g. European Cancer Incidence and Mortality [EUROCIM], ECLIS, EUROCARE, and ACCIS).

POPULATION AT RISK

See Slovakia, above.

EDITORS' COMMENTS

The registry participated in both previous IICC volumes (Table A.1). The provided dates and age were inconsistent in 7% of cases (Table A.8). Non-malignant CNS tumours and skin carcinomas are systematically recorded. Pilocytic astrocytoma was originally coded according to the ICD-O edition in use (Table A.10) and recoded with uncertain behaviour in the IICC-3 dataset, according to ICD-O-3. Laterality was almost complete. See also Slovakia, above.

SLOVAKIA (1990-2009)

	Age group (years)	Males	Females
Person-years	0	622 078	591 397
	1-4	2 604 995	2 481 153
	5-9	3 616 112	3 452 319
	10-14	4 109 902	3 934 735
	15-19	4 454 889	4 272 255
	0-14	10 953 087	10 459 604
	0-19	15 407 976	14 731 859
Average annual population	0-14	547 654	522 980
	0-19	770 399	736 593

Please consult the quality indicators for this registry

SLOVAKIA (1990-2009)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	32	352	226	190	194	800	994	27.1	100.0	21.7	100.0	26.4	69.2	32.0	23.6	22.2	40.8	36.6	583	694	99.9	0.1
	a. Lymphoid	17	298	176	129	93	620	713	21.0	77.5	15.6	71.7	14.0	58.6	24.9	16.0	10.7	32.0	27.2	455	508	100.0	0.0
	b. Acute myeloid	10	42	39	42	60	133	193	4.5	16.6	4.2	19.4	8.2	8.3	5.5	5.2	6.9	6.5	6.6	95	129	100.0	0.0
	c. CMD	1	6	6	12	25	25	50	0.8	3.1	1.1	5.0	0.8	1.2	0.8	1.5	2.9	1.1	1.5	17	32	100.0	0.0
	d. MDS & other	0	1	5	4	8	10	18	0.3	1.3	0.4	1.8	-	0.2	0.7	0.5	0.9	0.4	0.5	7	11	100.0	0.0
	e. Unspecified	4	5	0	3	8	12	20	0.4	1.5	0.4	2.0	3.3	1.0	-	0.4	0.9	0.7	0.7	9	14	95.0	5.0
II	LYMPHOMA & RELATED	17	68	147	181	358	413	771	14.0	100.0	16.9	100.0	14.0	13.4	20.8	22.5	41.0	18.5	23.5	284	489	99.6	0.3
	a. Hodgkin	0	17	51	114	263	182	445	6.2	44.1	9.7	57.7	-	3.3	7.2	14.2	30.1	7.5	12.6	120	271	100.0	0.0
	b. Non-Hodgkin except BL	5	24	68	45	79	142	221	4.8	34.4	4.8	28.7	4.1	4.7	9.6	5.6	9.1	6.5	7.1	99	144	100.0	0.0
	c. Burkitt (BL)	0	12	20	10	8	42	50	1.4	10.2	1.1	6.5	-	2.4	2.8	1.2	0.9	2.0	1.8	30	34	100.0	0.0
	d. Lymphoreticular	8	13	6	5	3	32	35	1.1	7.7	0.8	4.5	6.6	2.6	0.8	0.6	0.3	1.7	1.4	24	26	100.0	0.0
	e. Unspecified	4	2	2	7	5	15	20	0.5	3.6	0.4	2.6	3.3	0.4	0.3	0.9	0.6	0.7	0.7	11	13	85.0	10.0
III	CNS NEOPLASMS †	41	206	214	221	234	682	916	23.1	100.0	20.0	100.0	33.8	40.5	30.3	27.5	26.8	32.9	31.5	485	619	87.4	4.1
	a. Ependymoma	7	32	17	22	16	78	94	2.6	11.4	2.1	10.3	5.8	6.3	2.4	2.7	1.8	4.0	3.5	57	66	100.0	0.0
	b. Astrocytoma	9	76	91	105	112	281	393	9.5	41.2	8.6	42.9	7.4	14.9	12.9	13.1	12.8	13.2	13.1	197	261	100.0	0.0
	c. CNS embryonal	13	40	39	25	15	117	132	4.0	17.2	2.9	14.4	10.7	7.9	5.5	3.1	1.7	5.9	5.0	85	94	100.0	0.0
	d. Other gliomas	3	12	17	18	25	50	75	1.7	7.3	1.6	8.2	2.5	2.4	2.4	2.2	2.9	2.3	2.5	35	49	100.0	0.0
	e. Other specified	4	22	15	26	37	67	104	2.3	9.8	2.3	11.4	3.3	4.3	2.1	3.2	4.2	3.2	3.4	47	69	98.1	1.9
	f. Unspecified CNS	5	24	35	25	29	89	118	3.0	13.0	2.6	12.9	4.1	4.7	5.0	3.1	3.3	4.3	4.1	63	80	4.2	30.5
IV	NEUROBLASTOMA	72	94	22	13	9	201	210	6.8	100.0	4.6	100.0	59.3	18.5	3.1	1.6	1.0	11.7	9.3	155	161	99.0	1.0
	a. (Ganglio)neuroblastoma	72	93	20	11	7	196	203	6.6	97.5	4.4	96.7	59.3	18.3	2.8	1.4	0.8	11.4	9.1	152	156	99.0	1.0
	b. Peripheral nervous	0	1	2	2	2	5	7	0.2	2.5	0.2	3.3	-	0.2	0.3	0.2	0.2	0.2	0.2	3	5	100.0	0.0
V	RETINOBLASTOMA	22	32	4	0	0	58	58	2.0	100.0	1.3	100.0	18.1	6.3	0.6	-	-	3.5	2.7	46	46	98.3	1.7
VI	RENAL TUMOURS	28	85	44	5	13	162	175	5.5	100.0	3.8	100.0	23.1	16.7	6.2	0.6	1.5	9.1	7.4	124	131	98.3	0.6
	a. Nephroblastoma	26	84	44	4	3	158	161	5.3	97.5	3.5	92.0	21.4	16.5	6.2	0.5	0.3	8.9	7.0	121	123	100.0	0.0
	b. Renal carcinoma	0	0	0	0	9	0	9	-	-	0.2	5.1	-	-	-	-	1.0	-	0.2	-	5	100.0	0.0
	c. Unspecified	2	1	0	1	1	4	5	0.1	2.5	0.1	2.9	1.6	0.2	-	0.1	0.1	0.2	0.2	3	4	40.0	20.0
VII	HEPATIC TUMOURS	15	15	5	7	10	42	52	1.4	100.0	1.1	100.0	12.4	2.9	0.7	0.9	1.1	2.3	2.1	32	37	92.3	5.8
	a. Hepatoblastoma	12	14	4	4	2	34	36	1.2	81.0	0.8	69.2	9.9	2.8	0.6	0.5	0.2	1.9	1.5	26	27	100.0	0.0
	b. Hepatic carcinoma	0	0	1	3	8	4	12	0.1	9.5	0.3	23.1	-	-	0.1	0.4	0.9	0.2	0.3	3	7	100.0	0.0
	c. Unspecified	3	1	0	0	0	4	4	0.1	9.5	0.1	7.7	2.5	0.2	-	-	-	0.2	0.2	3	3	0.0	75.0
VIII	BONE TUMOURS	0	10	34	127	129	171	300	5.8	100.0	6.6	100.0	-	2.0	4.8	15.8	14.8	6.7	8.6	111	185	99.0	0.7
	a. Osteosarcoma	0	2	13	72	59	87	146	2.9	50.9	3.2	48.7	-	0.4	1.8	9.0	6.8	3.3	4.1	56	89	100.0	0.0
	b. Chondrosarcoma	0	0	0	10	11	10	21	0.3	5.8	0.5	7.0	-	-	-	1.2	1.3	0.4	0.6	6	13	100.0	0.0
	c. Ewing & related	0	7	19	39	49	65	114	2.2	38.0	2.5	38.0	-	1.4	2.7	4.8	5.6	2.7	3.4	43	71	100.0	0.0
	d. Other specified	0	1	1	4	7	6	13	0.2	3.5	0.3	4.3	-	0.2	0.1	0.5	0.8	0.3	0.4	4	8	100.0	0.0
	e. Unspecified	0	0	1	2	3	3	6	0.1	1.8	0.1	2.0	-	-	0.1	0.2	0.3	0.1	0.2	2	4	50.0	33.3
IX	SOFT TISSUE SARCOMA	28	51	51	59	83	189	272	6.4	100.0	5.9	100.0	23.1	10.0	7.2	7.3	9.5	9.3	9.4	135	183	97.8	2.2
	a. Rhabdomyosarcoma	11	35	34	22	16	102	118	3.5	54.0	2.6	43.4	9.1	6.9	4.8	2.7	1.8	5.2	4.4	74	83	100.0	0.0
	b. Fibrosarcoma	5	6	3	9	12	23	35	0.8	12.2	0.8	12.9	4.1	1.2	0.4	1.1	1.4	1.1	1.2	16	23	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	9	7	9	24	42	49	91	1.7	25.9	2.0	33.5	7.4	1.4	1.3	3.0	4.8	2.3	2.8	34	58	100.0	0.0
	e. Unspecified	3	3	5	4	13	15	28	0.5	7.9	0.6	10.3	2.5	0.6	0.7	0.5	1.5	0.7	0.9	11	18	78.6	21.4
X	GERM CELL TUMOURS	23	33	10	40	304	106	410	3.6	100.0	9.0	100.0	19.0	6.5	1.4	5.0	34.8	5.3	12.0	76	251	98.3	0.2
	a. CNS germ cell ‡	4	3	4	7	10	18	28	0.6	17.0	0.6	6.8	3.3	0.6	0.6	0.9	1.1	0.9	0.9	13	18	100.0	0.0
	b. Other extragonadal	8	11	0	0	14	19	33	0.6	17.9	0.7	8.0	6.6	2.2	-	-	1.6	1.2	1.3	15	23	100.0	0.0
	c. Gonadal germ cell	10	18	5	30	249	63	312	2.1	59.4	6.8	76.1	8.2	3.5	0.7	3.7	28.5	3.0	8.8	44	187	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	15	1	16	0.0	0.9	0.3	3.9	-	-	-	0.1	1.7	0.0	0.4	1	9	100.0	0.0
	e. Unspecified gonadal	1	1	1	2	16	5	21	0.2	4.7	0.5	5.1	0.8	0.2	0.1	0.2	1.8	0.2	0.6	4	13	66.7	4.8
XI	CARCINOMA & MELANOMA	2	10	22	74	275	108	383	3.7	100.0	8.4	100.0	1.6	2.0	3.1	9.2	31.5	4.4	10.5	71	229	100.0	0.0
	a. Adrenocortical	1	4	1	4	2	10	12	0.3	9.3	0.3	3.1	0.8	0.8	0.1	0.5	0.2	0.5	0.4	7	8	100.0	0.0
	b. Thyroid	0	1	7	23	91	31	122	1.0	28.7	2.7	31.9	-	0.2	1.0	2.9	10.4	1.2	3.3	20	72	100.0	0.0
	c. Nasopharyngeal	0	0	3	11	17	14	31	0.5	13.0	0.7	8.1	-	-	0.4	1.4	1.9	0.5	0.9	9	19	100.0	0.0
	d. Melanoma	0	3	3	14	53	20	73	0.7	18.5	1.6	19.1	-	0.6	0.4	1.7	6.1	0.8	2.0	13	44	100.0	0.0
	e. Skin carcinoma	0	1	1	5	38	7	45	0.2	6.5	1.0	11.7	-	0.2	0.1	0.6	4.4	0.3	1.2	5	26	100.0	0.0
	f. Other & unspecified	1	1	7	17	74	26	100	0.9	24.1	2.2	26.1	0.8	0.2	1.0	2.1	8.5	1.1	2.7	17	60	100.0	0.0
XII	OTHER & UNSPECIFIED	8	3	5	7	10	23	33	0.8	100.0	0.7	100.0	6.6	0.6	0.7	0.9	1.1	1.2	1.2	17	22	42.4	21.2
	a. Other specified	0	1	0	2	6	3	9	0.1	13.0	0.2	27.3	-	0.2	-	0.2	0.7	0.1	0.3	2	5	100.0	0.0
	b. Other unspecified	8	2	5	5	4	20	24	0.7	87.0	0.5	72.7	6.6	0.4	0.7	0.6	0.5	1.0	0.9	15	17	20.8	29.2
	TOTAL	288	959	784	924	1619	2955	4574	100.0	100.0	100.0	100.0	237.3	188.6	110.9	114.9	185.5	145.8	154.7	2119	3046	96.4	1.4

† includes 308 non-malignant ‡ includes 3 non-malignant

Please consult the quality indicators for this registry

Slovak Clinical Cancer Registry of Children and Adolescents, 2000–2012

Miroslava Makohusová, Emília Kaiserová, Murielle Colombet, Eva Bubanská, Irina Oravkinová, Terézia Stančoková, Judita Pušká̌čová, Alexandra Kolenová, Eva Steliarova-Foucher

The Slovak Clinical Cancer Registry of Children and Adolescents, which covers the whole population of Slovakia, is the result of a close collaboration between the three specialized paediatric oncology treatment centres, which are located in Bratislava, Banská Bystrica, and Košice. These centres all use the same treatment strategies (protocols according to European and American treatment groups) and are involved in international clinical studies. On the initiative of the heads of these centres, a Section of Paediatric Haematology and Oncology was established within the Slovak Paediatric Society. This led to the creation of the Slovak childhood cancer database to centralize the collection of data on cancer in children and adolescents. In 2015, the database was renamed the Slovak Clinical Cancer Registry of Children and Adolescents. Registration of patients in this registry requires informed consent.

Until 2014, cancer diagnoses were coded according to ICD-10, and cancer cases were recorded in an electronic spreadsheet. In 2014, all cancer cases were converted to the ICD-O-3 classification after verification of the medical records, and the database was imported into the CanReg5 software provided by IARC. Information sources are the medical records of the three treatment centres and other specialized hospitals.

The registry includes all malignant tumours, including skin tumours and Langerhans cell histiocytosis, all unspecified and some benign tumours, and tumours of borderline malignancy. Data collection is mainly active. The database is updated annually, based on information provided by the treatment centres about new cases and the follow-up of registered patients. The goals of the registry are to monitor childhood cancer incidence and survival, provide an overview of cancer diagnosis and management, and evaluate outcomes with respect to diagnosis, treatment, and predisposing characteristics.

PUBLICATIONS

Makohusová M, Kaiserová E, Colombet M, Bubanská E, Oravkinová I, Stančoková T, et al. (2017). The Slovak Clinical Cancer Registry of Children and Adolescents: rationale, organization and incidence in years 2000–2012. Pediatr Blood Cancer. 64(Suppl 3):S415.

Kaiserová E, Bubánska E, Oravkinová I, Stančoková T, Šubová Z, Plank L (2006). [Incidence and curability of childhood tumours in the Slovak Republic]. Onkológia. 1(3):180–6.

POPULATION AT RISK

See Slovakia, above.

EDITORS' COMMENTS

In this paediatric cancer registry, registration focused on the age range 0–14 years during the reporting period. Therefore, data for the age groups 15–19 years and 0–19 years are not shown in the tables. All non-malignant CNS tumours are registered. Pilocytic astrocytoma was coded mostly with uncertain behaviour, but a few cases were coded with malignant behaviour. Skin carcinomas are reportable, but none were recorded, probably because the patients were treated outside the paediatric oncology network. Laterality was 90% complete, and the dataset was included in the laterality table for nephroblastoma. See also Slovakia, above.

SLOVAKIA, paediatric (2000-2012)

	Age group (years)	Males	Females
Person-years	0	365 121	349 379
	1-4	1 455 573	1 385 171
	5-9	1 939 425	1 845 460
	10-14	2 268 138	2 167 857
	0-14	6 028 257	5 747 867
Average annual population	0-14	463 712	442 144

Please consult the quality indicators for this registry

SLOVAKIA, paediatric (2000-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	27	203	139	115	**484**	29.8	100.0	37.8	71.5	36.7	25.9	**44.4**	637	100.0	0.0
	a. Lymphoid	9	170	113	79	**371**	22.8	76.7	12.6	59.8	29.9	17.8	**34.3**	490	100.0	0.0
	b. Acute myeloid	9	23	21	24	**77**	4.7	15.9	12.6	8.1	5.5	5.4	**6.8**	100	100.0	0.0
	c. CMD	3	1	0	6	**10**	0.6	2.1	4.2	0.4	-	1.4	**0.8**	12	100.0	0.0
	d. MDS & other	1	5	1	1	**8**	0.5	1.7	1.4	1.8	0.3	0.2	**0.8**	11	100.0	0.0
	e. Unspecified	5	4	4	5	**18**	1.1	3.7	7.0	1.4	1.1	1.1	**1.6**	24	100.0	0.0
II	LYMPHOMA & RELATED	3	30	57	106	**196**	12.1	100.0	4.2	10.6	15.1	23.9	**15.4**	241	99.5	0.0
	a. Hodgkin	0	9	17	68	**94**	5.8	48.0	-	3.2	4.5	15.3	**6.9**	112	100.0	0.0
	b. Non-Hodgkin except BL	0	18	33	32	**83**	5.1	42.3	-	6.3	8.7	7.2	**6.9**	105	100.0	0.0
	c. Burkitt (BL)	0	3	7	6	**16**	1.0	8.2	-	1.1	1.8	1.4	**1.3**	20	100.0	0.0
	d. Lymphoreticular	3	0	0	0	**3**	0.2	1.5	4.2	-	-	-	**0.3**	4	66.7	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
III	CNS NEOPLASMS †	17	109	123	114	**363**	22.3	100.0	23.8	38.4	32.5	25.7	**31.7**	468	91.2	0.0
	a. Ependymoma	1	12	7	13	**33**	2.0	9.1	1.4	4.2	1.8	2.9	**2.9**	42	100.0	0.0
	b. Astrocytoma	5	43	57	64	**169**	10.4	46.6	7.0	15.1	15.1	14.4	**14.3**	215	99.4	0.0
	c. CNS embryonal	7	31	25	15	**78**	4.8	21.5	9.8	10.9	6.6	3.4	**7.2**	103	100.0	0.0
	d. Other gliomas	1	8	8	9	**26**	1.6	7.2	1.4	2.8	2.1	2.0	**2.3**	33	96.2	0.0
	e. Other specified	1	8	7	8	**24**	1.5	6.6	1.4	2.8	1.8	1.8	**2.1**	31	100.0	0.0
	f. Unspecified CNS	2	7	19	5	**33**	2.0	9.1	2.8	2.5	5.0	1.1	**2.9**	43	9.1	0.0
IV	NEUROBLASTOMA	50	54	16	5	**125**	7.7	100.0	70.0	19.0	4.2	1.1	**13.0**	173	100.0	0.0
	a. (Ganglio)neuroblastoma	49	54	15	4	**122**	7.5	97.6	68.6	19.0	4.0	0.9	**12.8**	169	100.0	0.0
	b. Peripheral nervous	1	0	1	1	**3**	0.2	2.4	1.4	-	0.3	0.2	**0.3**	4	100.0	0.0
V	RETINOBLASTOMA	16	16	1	1	**34**	2.1	100.0	22.4	5.6	0.3	0.2	**3.6**	47	2.9	0.0
VI	RENAL TUMOURS	22	50	26	2	**100**	6.2	100.0	30.8	17.6	6.9	0.5	**10.2**	138	100.0	0.0
	a. Nephroblastoma	22	50	26	2	**100**	6.2	100.0	30.8	17.6	6.9	0.5	**10.2**	138	100.0	0.0
	b. Renal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	9	9	5	8	**31**	1.9	100.0	12.6	3.2	1.3	1.8	**2.9**	41	100.0	0.0
	a. Hepatoblastoma	9	9	5	2	**25**	1.5	80.6	12.6	3.2	1.3	0.5	**2.5**	34	100.0	0.0
	b. Hepatic carcinoma	0	0	0	6	**6**	0.4	19.4	-	-	-	1.4	**0.4**	7	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	0	4	16	79	**99**	6.1	100.0	-	1.4	4.2	17.8	**7.0**	116	100.0	0.0
	a. Osteosarcoma	0	1	7	45	**53**	3.3	53.5	-	0.4	1.8	10.1	**3.7**	61	100.0	0.0
	b. Chondrosarcoma	0	1	0	4	**5**	0.3	5.1	-	0.4	-	0.9	**0.4**	6	100.0	0.0
	c. Ewing & related	0	2	9	29	**40**	2.5	40.4	-	0.7	2.4	6.5	**2.9**	47	100.0	0.0
	d. Other specified	0	0	0	1	**1**	0.1	1.0	-	-	-	0.2	**0.1**	1	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
IX	SOFT TISSUE SARCOMA	11	21	27	23	**82**	5.0	100.0	15.4	7.4	7.1	5.2	**7.3**	107	98.8	0.0
	a. Rhabdomyosarcoma	4	17	19	12	**52**	3.2	63.4	5.6	6.0	5.0	2.7	**4.7**	68	100.0	0.0
	b. Fibrosarcoma	5	1	1	2	**9**	0.6	11.0	7.0	0.4	0.3	0.5	**0.9**	12	88.9	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	1	1	7	9	**18**	1.1	22.0	1.4	0.4	1.8	2.0	**1.4**	22	100.0	0.0
	e. Unspecified	1	2	0	0	**3**	0.2	3.7	1.4	0.7	-	-	**0.3**	4	100.0	0.0
X	GERM CELL TUMOURS	16	16	6	39	**77**	4.7	100.0	22.4	5.6	1.6	8.8	**6.5**	97	100.0	0.0
	a. CNS germ cell ‡	3	2	1	11	**17**	1.0	22.1	4.2	0.7	0.3	2.5	**1.3**	21	100.0	0.0
	b. Other extragonadal	2	3	1	3	**9**	0.6	11.7	2.8	1.1	0.3	0.7	**0.8**	12	100.0	0.0
	c. Gonadal germ cell	11	10	4	24	**49**	3.0	63.6	15.4	3.5	1.1	5.4	**4.2**	62	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	1	0	1	**2**	0.1	2.6	-	0.4	-	0.2	**0.2**	3	100.0	0.0
XI	CARCINOMA & MELANOMA	0	3	8	22	**33**	2.0	100.0	-	1.1	2.1	5.0	**2.4**	40	100.0	0.0
	a. Adrenocortical	0	1	0	0	**1**	0.1	3.0	-	0.4	-	-	**0.1**	1	100.0	0.0
	b. Thyroid	0	0	1	5	**6**	0.4	18.2	-	-	0.3	1.1	**0.4**	7	100.0	0.0
	c. Nasopharyngeal	0	0	2	3	**5**	0.3	15.2	-	-	0.5	0.7	**0.4**	6	100.0	0.0
	d. Melanoma	0	2	1	2	**5**	0.3	15.2	-	0.7	0.3	0.5	**0.4**	6	100.0	0.0
	e. Skin carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	f. Other & unspecified	0	0	4	12	**16**	1.0	48.5	-	-	1.1	2.7	**1.1**	19	100.0	0.0
XII	OTHER & UNSPECIFIED	0	1	0	1	**2**	0.1	100.0	-	0.4	-	0.2	**0.2**	3	100.0	0.0
	a. Other specified	0	1	0	1	**2**	0.1	100.0	-	0.4	-	0.2	**0.2**	3	100.0	0.0
	b. Other unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	TOTAL	171	516	424	515	**1626**	100.0	100.0	239.3	181.6	112.0	116.1	**144.6**	2107	95.9	0.0

† includes 123 non-malignant ‡ includes 6 non-malignant

Please consult the quality indicators for this registry

Slovenia

Cancer Registry of Republic of Slovenia, 1991–2012

Maja Primic Zakelj, Vesna Zadnik, Tina Zagar, Fani Skrlec

Slovenia is bordered by Italy to the west, Austria to the north, Hungary to the north-east, Croatia to the south and south-east, and the Adriatic Sea to the south-west. It covers an area of 20 273 km^2. More than half of its mountainous territory is covered by forest, and the country has a mostly continental climate.

Slovenia became an independent country in 1991, after the introduction of multiparty representative democracy and a split from Serbia and Montenegro. The export-oriented developed economy is composed of services, industry (motor vehicles, electrical and electronic equipment, machinery, pharmaceuticals, and fuels), and construction. The country has a very high HDI. The population of 2.1 million is ageing because of a low birth rate (1.3 children per woman) and an increasing life expectancy (78 years in 2016); 19% of the population is younger than 20 years (Table A.6), and 18% is aged 65 years and older. Slovenians make up 83% of the population, and people of other nationalities are mainly from neighbouring countries.

Cancer care is completely covered by mandatory public health insurance. Primary care is provided by health-care centres and general practitioners in private practice within the public network. Secondary health care is provided by 11 general hospitals and two tertiary clinical centres, located in Ljubljana and Maribor. The Institute of Oncology Ljubljana, which was founded in 1938, is the only national comprehensive cancer centre and is involved in research and education. Common cancers are also treated in general hospitals, but the Institute of Oncology Ljubljana is the referral centre for rare cancers; radiotherapy is administered only at the institute. Since 2010, the National Cancer Control Programme (https://www.dpor.si/) has had the goal of improving all aspects of cancer prevention and care in Slovenia.

The Cancer Registry of Republic of Slovenia was founded in 1950 (Table A.10) at the Institute of Oncology Ljubljana; it covers the entire Slovenian population. Notification of cancer is mandated by law. The main sources of data are notifications from all hospitals and diagnostic centres; additional sources are death certificates and autopsy protocols. Trained registrars, supervised by a physician, perform data coding. Case identification is based on the personal identification number, which enables accurate follow-up for vital status by daily online linkage to the Slovenian Central Population Register; people are lost to follow-up only if they move to another country.

There have been no major changes in data processing in recent years. The high MV% and the low DCO% attest to the quality of the registry data. The completeness of registration has never been formally evaluated. Registration may be less complete for non-melanoma skin cancer and for other malignancies that are treated on an outpatient basis; both cancer types are uncommon in children.

Since 2010, annual reports of the registry (https://www.onko-i.si/crs) are published on the SLORA online portal (http://www.slora.si/), where analyses of registry data are available to the general public. Registry data are used for planning and evaluation of the National Cancer Control Programme and in national and international research.

POPULATION AT RISK

Population data are provided by the Statistical Office of the Republic of Slovenia (https://pxweb.stat.si/pxweb/dialog/statfile1.asp) and are based on the Central Population Register of the Republic of Slovenia. National censuses were conducted in 1991, 2002, and 2011 (Table A.7). Data were provided in the requested detail.

EDITORS' COMMENTS

The registry participated in both previous IICC volumes (Table A.1). The MV% was very high in the IICC-3 dataset (Table A.9); accordingly, the proportion of cases diagnosed clinically was small. Non-malignant CNS tumours are included, and pilocytic astrocytoma was coded with either uncertain behaviour or malignant behaviour throughout the reporting period, according to the ICD-O edition in use (Table A.10) and pathology reports. Laterality is complete. Skin carcinomas are systematically notified and registered.

SLOVENIA (1991-2012)

	Age group (years)	Males	Females
Person-years	0	218 308	206 418
	1-4	890 146	841 687
	5-9	1 180 114	1 117 600
	10-14	1 325 308	1 257 125
	15-19	1 477 004	1 399 617
	0-14	3 613 876	3 422 830
	0-19	5 090 880	4 822 447
Average annual population	0-14	164 267	155 583
	0-19	231 404	219 202

Please consult the quality indicators for this registry

SLOVENIA (1991-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	12	141	61	60	87	**274**	**361**	28.2	100.0	23.5	100.0	28.3	81.4	26.5	23.2	30.2	**42.8**	**40.0**	604	755	100.0	0.0
	a. Lymphoid	8	124	51	39	46	**222**	**268**	22.9	81.0	17.5	74.2	18.8	71.6	22.2	15.1	16.0	**35.2**	**30.9**	493	572	100.0	0.0
	b. Acute myeloid	3	16	9	17	27	**45**	**72**	4.6	16.4	4.7	19.9	7.1	9.2	3.9	6.6	9.4	**6.6**	**7.2**	97	143	100.0	0.0
	c. CMD	0	0	0	2	10	**2**	**12**	0.2	0.7	0.8	3.3	-	-	-	0.8	3.5	**0.2**	**1.0**	4	21	100.0	0.0
	d. MDS & other	1	1	0	2	2	**4**	**6**	0.4	1.5	0.4	1.7	2.4	0.6	-	0.8	0.7	**0.6**	**0.6**	9	12	100.0	0.0
	e. Unspecified	0	0	1	0	2	**1**	**3**	0.1	0.4	0.2	0.8	-	-	0.4	-	0.7	**0.1**	**0.3**	2	6	100.0	0.0
II	**LYMPHOMA & RELATED**	3	22	40	72	142	**137**	**279**	14.1	100.0	18.2	100.0	7.1	12.7	17.4	27.9	49.4	**18.2**	**25.2**	284	531	100.0	0.0
	a. Hodgkin	0	5	13	40	104	**58**	**162**	6.0	42.3	10.6	58.1	-	2.9	5.7	15.5	36.2	**7.2**	**13.7**	117	298	100.0	0.0
	b. Non-Hodgkin except BL	2	9	13	27	31	**51**	**82**	5.3	37.2	5.3	29.4	4.7	5.2	5.7	10.5	10.8	**6.8**	**7.7**	106	160	100.0	0.0
	c. Burkitt (BL)	0	7	13	5	6	**25**	**31**	2.6	18.2	2.0	11.1	-	4.0	5.7	1.9	2.1	**3.6**	**3.3**	54	65	100.0	0.0
	d. Lymphoreticular	1	0	1	0	0	**2**	**2**	0.2	1.5	0.1	0.7	2.4	-	0.4	-	-	**0.3**	**0.2**	4	4	100.0	0.0
	e. Unspecified	0	1	0	0	1	**1**	**2**	0.1	0.7	0.1	0.7	-	0.6	-	-	0.3	**0.2**	**0.2**	2	4	100.0	0.0
III	**CNS NEOPLASMS** †	19	55	60	59	56	**193**	**249**	19.9	100.0	16.2	100.0	44.7	31.8	26.1	22.8	19.5	**28.3**	**26.3**	416	514	93.2	0.0
	a. Ependymoma	8	13	5	3	2	**29**	**31**	3.0	15.0	2.0	12.4	18.8	7.5	2.2	1.2	0.7	**4.8**	**3.9**	65	69	100.0	0.0
	b. Astrocytoma	4	17	28	33	25	**82**	**107**	8.4	42.5	7.0	43.0	9.4	9.8	12.2	12.8	8.7	**11.4**	**10.8**	174	217	100.0	0.0
	c. CNS embryonal	5	17	14	7	8	**43**	**51**	4.4	22.3	3.3	20.5	11.8	9.8	6.1	2.7	2.8	**6.7**	**5.8**	95	109	100.0	0.0
	d. Other gliomas	1	1	5	6	9	**13**	**22**	1.3	6.7	1.4	8.8	2.4	0.6	2.2	2.3	3.1	**1.7**	**2.0**	27	43	100.0	0.0
	e. Other specified	0	3	2	7	7	**12**	**19**	1.2	6.2	1.2	7.6	-	1.7	0.9	2.7	2.4	**1.6**	**1.8**	25	37	100.0	0.0
	f. Unspecified CNS	1	4	6	3	5	**14**	**19**	1.4	7.3	1.2	7.6	2.4	2.3	2.6	1.2	1.7	**2.1**	**2.0**	30	39	10.5	0.0
IV	**NEUROBLASTOMA**	19	28	5	0	0	**52**	**52**	5.4	100.0	3.4	100.0	44.7	16.2	2.2	-	-	**9.1**	**7.1**	120	120	100.0	0.0
	a. (Ganglio)neuroblastoma	19	27	5	0	0	**51**	**51**	5.3	98.1	3.3	98.1	44.7	15.6	2.2	-	-	**9.0**	**6.9**	118	118	100.0	0.0
	b. Peripheral nervous	0	1	0	0	0	**1**	**1**	0.1	1.9	0.1	1.9	-	0.6	-	-	-	**0.2**	**0.1**	2	2	100.0	0.0
V	**RETINOBLASTOMA**	3	19	0	0	0	**22**	**22**	2.3	100.0	1.4	100.0	7.1	11.0	-	-	-	**3.9**	**3.1**	51	51	100.0	0.0
VI	**RENAL TUMOURS**	6	46	9	1	1	**62**	**63**	6.4	100.0	4.1	100.0	14.1	26.6	3.9	0.4	0.3	**10.7**	**8.4**	142	144	98.4	0.0
	a. Nephroblastoma	6	45	9	1	1	**61**	**62**	6.3	98.4	4.0	98.4	14.1	26.0	3.9	0.4	0.3	**10.5**	**8.2**	140	142	100.0	0.0
	b. Renal carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Unspecified	0	1	0	0	0	**1**	**1**	0.1	1.6	0.1	1.6	-	0.6	-	-	-	**0.2**	**0.1**	2	2	0.0	0.0
VII	**HEPATIC TUMOURS**	7	4	1	1	0	**13**	**13**	1.3	100.0	0.8	100.0	16.5	2.3	0.4	0.4	-	**2.2**	**1.7**	30	30	100.0	0.0
	a. Hepatoblastoma	7	4	0	1	0	**12**	**12**	1.2	92.3	0.8	92.3	16.5	2.3	-	0.4	-	**2.1**	**1.6**	27	27	100.0	0.0
	b. Hepatic carcinoma	0	0	1	0	0	**1**	**1**	0.1	7.7	0.1	7.7	-	-	0.4	-	-	**0.1**	**0.1**	2	2	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	**BONE TUMOURS**	0	0	10	26	46	**36**	**82**	3.7	100.0	5.3	100.0	-	-	4.4	10.1	16.0	**4.3**	**7.0**	72	152	100.0	0.0
	a. Osteosarcoma	0	0	8	15	24	**23**	**47**	2.4	63.9	3.1	57.3	-	-	3.5	5.8	8.3	**2.8**	**4.1**	46	88	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	3	**1**	**4**	0.1	2.8	0.3	4.9	-	-	-	0.4	1.0	**0.1**	**0.3**	2	7	100.0	0.0
	c. Ewing & related	0	0	2	9	17	**11**	**28**	1.1	30.6	1.8	34.1	-	-	0.9	3.5	5.9	**1.3**	**2.3**	22	51	100.0	0.0
	d. Other specified	0	0	0	0	2	**0**	**2**	-	-	0.1	2.4	-	-	-	-	0.7	**-**	**0.2**	-	3	100.0	0.0
	e. Unspecified	0	0	0	1	0	**1**	**1**	0.1	2.8	0.1	1.2	-	-	-	0.4	-	**0.1**	**0.1**	2	2	100.0	0.0
IX	**SOFT TISSUE SARCOMA**	4	17	20	24	28	**65**	**93**	6.7	100.0	6.1	100.0	9.4	9.8	8.7	9.3	9.7	**9.3**	**9.4**	139	187	100.0	0.0
	a. Rhabdomyosarcoma	2	16	10	13	7	**41**	**48**	4.2	63.1	3.1	51.6	4.7	9.2	4.4	5.0	2.4	**6.1**	**5.3**	89	101	100.0	0.0
	b. Fibrosarcoma	1	1	2	0	4	**4**	**8**	0.4	6.2	0.5	8.6	2.4	0.6	0.9	-	1.4	**0.6**	**0.8**	9	16	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	1	0	6	10	15	**17**	**32**	1.8	26.2	2.1	34.4	2.4	-	2.6	3.9	5.2	**2.1**	**2.8**	35	61	100.0	0.0
	e. Unspecified	0	0	2	1	2	**3**	**5**	0.3	4.6	0.3	5.4	-	-	0.9	0.4	0.7	**0.4**	**0.5**	6	10	100.0	0.0
X	**GERM CELL TUMOURS**	5	13	9	18	92	**45**	**137**	4.6	100.0	8.9	100.0	11.8	7.5	3.9	7.0	32.0	**6.5**	**12.2**	96	256	99.3	0.0
	a. CNS germ cell ‡	1	0	5	2	2	**8**	**10**	0.8	17.8	0.7	7.3	2.4	-	2.2	0.8	0.7	**1.1**	**1.0**	17	21	100.0	0.0
	b. Other extragonadal	4	9	1	0	2	**14**	**16**	1.4	31.1	1.0	11.7	9.4	5.2	0.4	-	0.7	**2.5**	**2.1**	32	36	100.0	0.0
	c. Gonadal germ cell	0	4	3	14	84	**21**	**105**	2.2	46.7	6.8	76.6	-	2.3	1.3	5.4	29.2	**2.7**	**8.7**	43	189	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	3	**1**	**4**	0.1	2.2	0.3	2.9	-	-	-	0.4	1.0	**0.1**	**0.3**	2	7	100.0	0.0
	e. Unspecified gonadal	0	0	0	1	1	**1**	**2**	0.1	2.2	0.1	1.5	-	-	-	0.4	0.3	**0.1**	**0.2**	2	4	50.0	0.0
XI	**CARCINOMA & MELANOMA**	1	2	9	56	110	**68**	**178**	7.0	100.0	11.6	100.0	2.4	1.2	3.9	21.7	38.2	**8.1**	**14.9**	135	326	100.0	0.0
	a. Adrenocortical	1	1	0	0	1	**2**	**3**	0.2	2.9	0.2	1.7	2.4	0.6	-	-	0.3	**0.4**	**0.4**	5	6	100.0	0.0
	b. Thyroid	0	1	1	27	43	**29**	**72**	3.0	42.6	4.7	40.4	-	0.6	0.4	10.5	14.9	**3.4**	**6.0**	57	132	100.0	0.0
	c. Nasopharyngeal	0	0	0	3	2	**3**	**5**	0.3	4.4	0.3	2.8	-	-	-	1.2	0.7	**0.3**	**0.4**	6	9	100.0	0.0
	d. Melanoma	0	0	6	9	29	**15**	**44**	1.5	22.1	2.9	24.7	-	-	2.6	3.5	10.1	**1.9**	**3.7**	30	81	100.0	0.0
	e. Skin carcinoma	0	0	1	7	12	**8**	**20**	0.8	11.8	1.3	11.2	-	-	0.4	2.7	4.2	**0.9**	**1.7**	16	37	100.0	0.0
	f. Other & unspecified	0	0	1	10	23	**11**	**34**	1.1	16.2	2.2	19.1	-	-	0.4	3.9	8.0	**1.3**	**2.8**	22	62	100.0	0.0
XII	**OTHER & UNSPECIFIED**	3	0	0	1	2	**4**	**6**	0.4	100.0	0.4	100.0	7.1	-	-	0.4	0.7	**0.7**	**0.7**	9	12	66.7	0.0
	a. Other specified	0	0	0	1	1	**1**	**2**	0.1	25.0	0.1	33.3	-	-	-	0.4	0.3	**0.1**	**0.2**	2	4	100.0	0.0
	b. Other unspecified	3	0	0	0	1	**3**	**4**	0.3	75.0	0.3	66.7	7.1	-	-	-	0.3	**0.5**	**0.5**	7	9	50.0	0.0
	TOTAL	82	347	224	318	564	**971**	**1535**	100.0	100.0	100.0	100.0	193.1	200.4	97.5	123.1	196.1	**144.2**	**155.9**	2098	3078	98.6	0.0

† includes 55 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this registry

Spain

Spain is in south-western Europe. It covers an area of 505 196 km^2, including the Balearic Islands in the Mediterranean Sea and the Canary Islands in the Atlantic Ocean. The mainland has coastlines on the Mediterranean Sea to the east and south and the Atlantic Ocean to the north, west, and south. Spain is bordered by France to the north and Portugal to the west. The climate is Mediterranean and Atlantic on the coast and continental in the interior.

Spain is divided into 17 autonomous regions (also known as autonomous communities), which are further subdivided into 50 provinces, and two autonomous cities (on the north coast of Africa). In 2010, the estimated total population was 46.6 million (Table A.7), and 19% of the population was younger than 20 years (Table A.6). In 2010, the average population density was 92 per km^2, with marked variations across the country. Native-born Spanish citizens comprise 88% of the population. The economy is based mainly on the tertiary sector (65%), industry (16%), building (9%), and agriculture (3%) (https://www.ine.es/). Spain is a high-income country with a very high HDI (http://hdr.undp.org/en).

The Spanish National Health System provides universal health-care coverage. Responsibility for the provision of health-care services is decentralized to the autonomous communities.

The cancer registration is managed and funded mostly locally. Cancer notification is not compulsory in Spain; therefore, the registries use a combination of active case finding and passive linkage with electronic databases, where they are available. In 2010, 15 population-based cancer registries in Spain established the cooperative Spanish Network of Cancer Registries (REDECAN; https://redecan.org/en). Use of a joint REDECAN database ensures improved quality and provision of data to the national health authorities and the scientific community, in support of the main goal of REDECAN.

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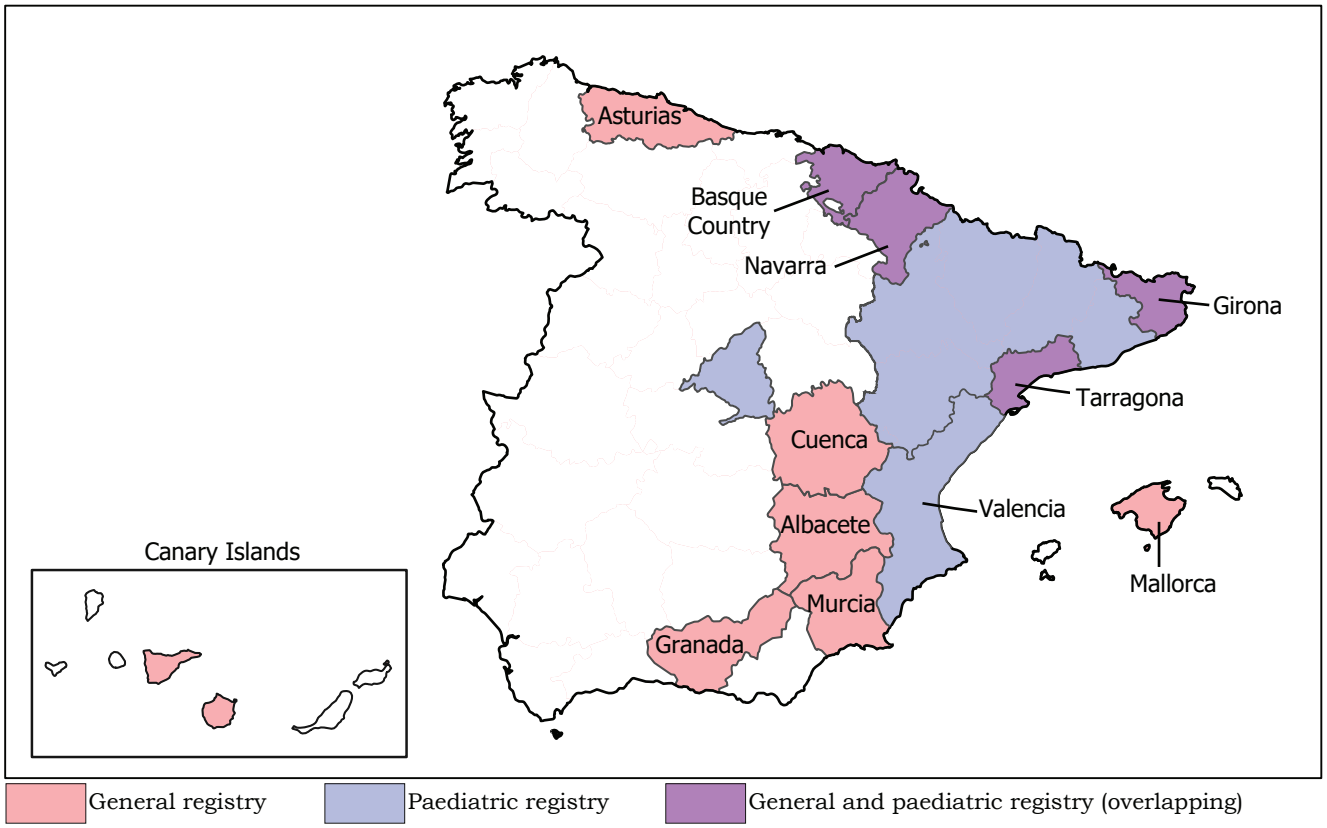
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POPULATION AT RISK

The population data are provided by the National Statistics Institute (INE) (https://www.ine.es/), which also conducts decennial national censuses (Table A.7). The census data are the basis for the intercensal estimates prepared by INE. The autonomous communities also generate population data for their areas, and these data were used by some registries.

EDITORS' COMMENTS

The cancer data for Spain are presented in the IICC-3 book in four tables, as shown in Table A.12: (i) data collected by the Spanish Registry of Childhood Tumours (RETI-SEHOP) in five selected regions (Aragon, the Basque Country, Catalonia, Navarra, and Madrid); (ii) data from the Childhood Cancer Registry of the Valencian Community; (iii) combined data from these two paediatric cancer registries; and (iv) data pooled from 11 subnational areas covered by general cancer registries (Albacete, Asturias, the Basque Country, Canary Islands, Cuenca, Girona, Granada, Mallorca, Murcia, Navarra, and Tarragona). Additional full incidence tables are available online for nine individual general cancer registries, and abbreviated tables for the Albacete and Cuenca registries are available online within the Spanish combined dataset (Table A.12). The two paediatric cancer registries cover about half of the national population aged 0–14 years, and the combined dataset of the general cancer registries covers about one quarter of the national population aged 0–19 years (Table A.6). The populations covered by the general cancer registries of the Basque Country, Girona, Navarra, and Tarragona are also covered by RETI-SEHOP.

The cancer registries of Asturias, the Basque Country, Granada, Murcia, Navarra, and Tarragona participated in IICC-2; the Childhood Cancer Registry of the Valencian Community participated in IICC-2 and contributed frequency data to IICC-1 (Table A.1).

With the exception of RETI-SEHOP, all registries have access to death certificates (Table A.9). Day of incidence was missing for 16% of cases in the combined dataset of the general cancer registries and for an even larger proportion in the paediatric registries. Therefore, the age of some patients may be imprecise (Table A.8). Non-malignant CNS tumours were recorded in all registries except that of Murcia, although in some registries their recording was restricted to part of the reporting period. Where these tumours were recorded, pilocytic astrocytoma was originally coded according to the ICD-O edition in use (Table A.10) and, if needed, was recoded with uncertain behaviour for submission to IICC-3, to comply with ICD-O-3. Skin carcinomas were registered in RETI-SEHOP and the registries of Mallorca, Girona, Granada, Navarra, and Tarragona but not in the other cancer registries. Laterality was available in the paediatric cancer registries; therefore, these data are included in the tables in the IICC-3 book for the larger diagnostic groups (retinoblastoma and Wilms tumour). Information on laterality was less available in the general cancer registries. No screening programmes were reported in any of the registration areas during the reporting periods.

SPAIN, 2 paediatric registries (1991-2013)

	Age group (years)	Males	Females
Person-years	0	1 740 730	1 636 057
	1-4	6 835 469	6 449 192
	5-9	8 073 862	7 645 238
	10-14	8 071 330	7 639 327
	0-14	24 721 391	23 369 814

Please consult the quality indicators for this pool and its constituent registries

Spanish Registry of Childhood Tumours (RETI-SEHOP), selected regions, 2000–2013

Rafael Peris Bonet, Tomás Acha García, José Sánchez de Toledo Codina, Ana Sastre Urgelles, Saray Felipe García, Salvador Valero Poveda, Elena Pardo Romaguera

The Spanish Registry of Childhood Tumours (RETI-SEHOP) is a joint venture of the Spanish Society of Paediatric Haematology and Oncology (SEHOP) and the University of Valencia. The main goal is to estimate childhood cancer survival. This central cancer registry coordinates a nationwide network of all the paediatric oncology units in Spain. These units provide notification of new cases and follow up the cases until the fifth anniversary of the incidence. All malignant tumours and CNS tumours of any behaviour are reportable. The residence status of the cases is determined using the address of residence on the date of incidence. Automatic and manual checks are performed to avoid duplicates. Data checks are routinely performed using the DEPedits software provided by IARC. The registry does not have access to death certificates.

The registry is considered population-based for children aged 0–14 years in five regions, where the ratios of the observed to the expected numbers of cases are about 100% (using the pool of regional population-based cancer registries of Spain as the reference). The combined covered population is 18.1 million, and 15% of the population is younger than 15 years (Table A.6). The contributing regions are Aragon (~7% of the combined childhood population of the five regions), the Basque Country (11%), Catalonia (42%), and Navarra (4%) since 1990, and Madrid (36%) since 2000. A total of 40% of the childhood population of Spain is covered (Table A.6). The location of the constituent regions is shown on the map.

The five covered regions are the wealthiest in Spain. The GDP per capita is up to 20% higher than the national average (https://www.ine.es/). All areas have hospitals that have paediatric oncology units, some of which are the largest in the country, and provide comprehensive diagnostic and treatment services.

RETI-SEHOP data are used to describe incidence and monitor survival of childhood cancer, for planning and evaluation of health services and for epidemiological research on the causes of childhood cancer. RETI-SEHOP collaborates on several national and international projects, such as EUROCARE, CONCORD, ACCIS, and the European Union Joint Action on Rare Cancers (JARC).

RETI-SEHOP is supported mainly by the Ministry of Health, Social Services and Equality of Spain, the University of Valencia, and the Enriqueta Villavecchia Private Foundation for Child Oncology in Barcelona.

POPULATION AT RISK

Data were provided in the requested detail, by sex and single year of age within the age range 0–14 years, and by region (Aragon, the Basque Country, Catalonia, Navarra, and Madrid) for each calendar year of the reporting period. The population denominators are the official intercensal and postcensal estimates provided by INE.

EDITORS' COMMENTS

In this paediatric cancer registry, registration focused on the age group 0–14 years during the reporting period. Therefore, data for age groups 15–19 years and 0–19 years are not shown in the tables. This dataset overlaps with those provided by the cancer registries of the Basque Country, Girona, Navarra, and Tarragona for the age group 0–14 years for 2000 onwards. Because the registry does not have access to identified death certificates (Table A.9), a proportion of new cases may be missed. Day of incidence is not recorded (Table A.8). The age is calculated from the month and year of the dates of birth and incidence and is then adjusted according to the medical records, if needed (Table A.8). Non-malignant CNS tumours were systematically registered. Laterality was complete for retinoblastoma and nephroblastoma. See also Spain, above.

SPAIN, selected regions, paediatric (2000-2013)

	Age group (years)	Males	Females
Person-years	0	1 320 485	1 242 150
	1-4	5 094 664	4 807 459
	5-9	5 809 608	5 503 571
	10-14	5 535 750	5 237 307
	0-14	17 760 507	16 790 487
Average annual population	0-14	1 268 608	1 199 321

Please consult the quality indicators for this registry

SPAIN, 2 paediatric registries (1991-2013)

Registry	Period	Cases	%	Person-years	%
Valencia, paediatric	1991-2010	2204	29.4	13 540 211	28.2
selected regions, paediatric	2000-2013	5293	70.6	34 550 994	71.8
SPAIN	**1991-2013**	**7497**	**100.0**	**48 091 205**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Valencia, Childhood Cancer Registry of the Valencian Community, 1991–2010

C. Sabater Gregori, F. Almela Vich, N. Fuster Camarena, J. Peñalver Herrero, M.L. Vicente Raneda, A. Vizcaino Batllés, E. Banqueri Guerrero, P. Botella Rocamora, C. Alberich Martí

The Valencian Community is located on the east coast of Spain. Narrow and elongated, it is bordered by the Mediterranean Sea to the east, Catalonia to the north, Aragon and Castilla-La Mancha to the west, and Murcia to the south. It covers an area of 23 255 km^2 (4.6% of the total area of Spain). The climate is Mediterranean, with scarce rainfall. Administratively, the region has 355 municipalities and is subdivided into three provinces: Alicante, Castellón, and Valencia. The population is 5.0 million, and 15% of the population is younger than 15 years (Table A.6). The region is mostly urban, and the population density is 219 per km^2. The proportion of foreign-born residents (15%) is slightly higher than the national average (10%). The foreign-born residents are from other countries in Europe (59%), Latin America (25%), Africa (12%, mainly from the Maghreb), and Asia (3%).

The economy is based on a strong tourism sector and a large contribution from agriculture. The Valencian Community generates almost 10% of Spain's GDP and has the fourth largest GDP among regions in Spain.

Three hospitals – two in Valencia and one in Alicante – of the Spanish National Health System provide paediatric oncology, surgery, chemotherapy, and radiotherapy services. The region also has a private oncology hospital.

The population-based childhood cancer registry, the Childhood Cancer Registry of the Valencian Community, covers the whole Valencia region. It began operating in 1985 (Table A.10) and is integrated into the legal framework of the cancer information system of the regional health authority within the regional cancer control plan. The registry was founded by and is run by the regional government. Cancer in residents younger than 15 years has been registered

SPAIN, 2 paediatric registries (1991-2013)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	128	1010	634	461	**2233**	29.8	100.0	37.9	76.0	40.3	29.3	**48.0**	690	100.0	0.0
	a. Lymphoid	64	833	515	325	**1737**	23.2	77.8	19.0	62.7	32.8	20.7	**37.4**	536	100.0	0.0
	b. Acute myeloid	45	153	98	114	**410**	5.5	18.4	13.3	11.5	6.2	7.3	**8.7**	127	100.0	0.0
	c. CMD	4	5	12	12	**33**	0.4	1.5	1.2	0.4	0.8	0.8	**0.7**	10	100.0	0.0
	d. MDS & other	9	10	3	2	**24**	0.3	1.1	2.7	0.8	0.2	0.1	**0.5**	7	100.0	0.0
	e. Unspecified	6	9	6	8	**29**	0.4	1.3	1.8	0.7	0.4	0.5	**0.6**	9	96.6	3.4
II	LYMPHOMA & RELATED	16	173	319	429	**937**	12.5	100.0	4.7	13.0	20.3	27.3	**18.9**	295	100.0	0.0
	a. Hodgkin	1	18	84	222	**325**	4.3	34.7	0.3	1.4	5.3	14.1	**6.3**	103	100.0	0.0
	b. Non-Hodgkin except BL	4	67	114	135	**320**	4.3	34.2	1.2	5.0	7.3	8.6	**6.5**	101	100.0	0.0
	c. Burkitt (BL)	2	81	120	72	**275**	3.7	29.3	0.6	6.1	7.6	4.6	**5.7**	86	100.0	0.0
	d. Lymphoreticular	9	7	0	0	**16**	0.2	1.7	2.7	0.5	-	-	**0.4**	5	100.0	0.0
	e. Unspecified	0	0	1	0	**1**	0.0	0.1	-	-	0.1	-	**0.0**	0	100.0	0.0
III	CNS NEOPLASMS †	118	564	567	461	**1710**	22.8	100.0	34.9	42.5	36.1	29.3	**36.0**	532	79.4	0.0
	a. Ependymoma	23	89	42	43	**197**	2.6	11.5	6.8	6.7	2.7	2.7	**4.3**	61	98.0	0.0
	b. Astrocytoma	35	216	213	184	**648**	8.6	37.9	10.4	16.3	13.6	11.7	**13.6**	202	81.8	0.0
	c. CNS embryonal	33	144	132	73	**382**	5.1	22.3	9.8	10.8	8.4	4.6	**8.2**	118	98.4	0.0
	d. Other gliomas	6	62	87	53	**208**	2.8	12.2	1.8	4.7	5.5	3.4	**4.3**	65	32.7	0.0
	e. Other specified	17	39	62	82	**200**	2.7	11.7	5.0	2.9	3.9	5.2	**4.1**	63	88.5	0.0
	f. Unspecified CNS	4	14	31	26	**75**	1.0	4.4	1.2	1.1	2.0	1.7	**1.5**	24	17.3	0.0
IV	NEUROBLASTOMA	293	284	55	14	**646**	8.6	100.0	86.8	21.4	3.5	0.9	**14.8**	195	95.7	0.0
	a. (Ganglio)neuroblastoma	291	282	53	13	**639**	8.5	98.9	86.2	21.2	3.4	0.8	**14.6**	193	95.8	0.0
	b. Peripheral nervous	2	2	2	1	**7**	0.1	1.1	0.6	0.2	0.1	0.1	**0.2**	2	85.7	0.0
V	RETINOBLASTOMA	78	124	12	1	**215**	2.9	100.0	23.1	9.3	0.8	0.1	**5.0**	65	37.7	0.0
VI	RENAL TUMOURS	65	220	60	14	**359**	4.8	100.0	19.2	16.6	3.8	0.9	**8.1**	109	87.2	0.0
	a. Nephroblastoma	65	220	57	11	**353**	4.7	98.3	19.2	16.6	3.6	0.7	**8.0**	107	87.0	0.0
	b. Renal carcinoma	0	0	2	3	**5**	0.1	1.4	-	-	0.1	0.2	**0.1**	2	100.0	0.0
	c. Unspecified	0	0	1	0	**1**	0.0	0.3	-	-	0.1	-	**0.0**	0	100.0	0.0
VII	HEPATIC TUMOURS	28	49	12	10	**99**	1.3	100.0	8.3	3.7	0.8	0.6	**2.2**	30	96.0	0.0
	a. Hepatoblastoma	27	48	7	4	**86**	1.1	86.9	8.0	3.6	0.4	0.3	**2.0**	26	96.5	0.0
	b. Hepatic carcinoma	1	1	5	6	**13**	0.2	13.1	0.3	0.1	0.3	0.4	**0.3**	4	92.3	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	3	34	128	264	**429**	5.7	100.0	0.9	2.6	8.1	16.8	**8.4**	136	99.8	0.0
	a. Osteosarcoma	0	7	44	124	**175**	2.3	40.8	-	0.5	2.8	7.9	**3.4**	56	100.0	0.0
	b. Chondrosarcoma	0	0	0	5	**5**	0.1	1.2	-	-	-	0.3	**0.1**	2	100.0	0.0
	c. Ewing & related	3	24	81	132	**240**	3.2	55.9	0.9	1.8	5.2	8.4	**4.7**	76	100.0	0.0
	d. Other specified	0	2	3	3	**8**	0.1	1.9	-	0.2	0.2	0.2	**0.2**	3	87.5	0.0
	e. Unspecified	0	1	0	0	**1**	0.0	0.2	-	0.1	-	-	**0.0**	0	100.0	0.0
IX	SOFT TISSUE SARCOMA	55	139	127	148	**469**	6.3	100.0	16.3	10.5	8.1	9.4	**9.8**	146	99.6	0.0
	a. Rhabdomyosarcoma	21	98	71	45	**235**	3.1	50.1	6.2	7.4	4.5	2.9	**5.1**	73	100.0	0.0
	b. Fibrosarcoma	17	7	11	17	**52**	0.7	11.1	5.0	0.5	0.7	1.1	**1.1**	16	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	15	27	39	67	**148**	2.0	31.6	4.4	2.0	2.5	4.3	**3.0**	46	98.6	0.0
	e. Unspecified	2	7	6	19	**34**	0.5	7.2	0.6	0.5	0.4	1.2	**0.7**	11	100.0	0.0
X	GERM CELL TUMOURS	45	46	39	93	**223**	3.0	100.0	13.3	3.5	2.5	5.9	**4.6**	69	95.1	0.0
	a. CNS germ cell ‡	8	3	24	33	**68**	0.9	30.5	2.4	0.2	1.5	2.1	**1.4**	21	88.2	0.0
	b. Other extragonadal	24	26	2	5	**57**	0.8	25.6	7.1	2.0	0.1	0.3	**1.3**	17	94.7	0.0
	c. Gonadal germ cell	13	17	13	53	**96**	1.3	43.0	3.8	1.3	0.8	3.4	**1.9**	30	100.0	0.0
	d. Gonadal carcinoma	0	0	0	2	**2**	0.0	0.9	-	-	-	0.1	**0.0**	1	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	7	14	39	106	**166**	2.2	100.0	2.1	1.1	2.5	6.7	**3.2**	52	99.4	0.0
	a. Adrenocortical	1	2	3	2	**8**	0.1	4.8	0.3	0.2	0.2	0.1	**0.2**	2	100.0	0.0
	b. Thyroid	2	5	12	48	**67**	0.9	40.4	0.6	0.4	0.8	3.1	**1.3**	21	98.5	0.0
	c. Nasopharyngeal	0	0	2	5	**7**	0.1	4.2	-	-	0.1	0.3	**0.1**	2	100.0	0.0
	d. Melanoma	3	6	12	17	**38**	0.5	22.9	0.9	0.5	0.8	1.1	**0.8**	12	100.0	0.0
	e. Skin carcinoma	1	0	1	3	**5**	0.1	3.0	0.3	-	0.1	0.2	**0.1**	2	100.0	0.0
	f. Other & unspecified	0	1	9	31	**41**	0.5	24.7	-	0.1	0.6	2.0	**0.8**	13	100.0	0.0
XII	OTHER & UNSPECIFIED	2	4	2	3	**11**	0.1	100.0	0.6	0.3	0.1	0.2	**0.2**	3	90.9	0.0
	a. Other specified	2	3	0	1	**6**	0.1	54.5	0.6	0.2	-	0.1	**0.1**	2	100.0	0.0
	b. Other unspecified	0	1	2	2	**5**	0.1	45.5	-	0.1	0.1	0.1	**0.1**	2	80.0	0.0
	TOTAL	838	2661	1994	2004	**7497**	100.0	100.0	248.2	200.3	126.9	127.6	**159.2**	2322	92.2	0.0

† includes 533 non-malignant ‡ includes 9 non-malignant

Please consult the quality indicators for this pool and its constituent registries

SPAIN, selected regions, paediatric (2000-2013)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	90	708	460	330	**1588**	30.0	100.0	35.1	71.5	40.7	30.6	**46.8**	677	100.0	0.0
	a. Lymphoid	45	588	374	234	**1241**	23.4	78.1	17.6	59.4	33.1	21.7	**36.6**	528	100.0	0.0
	b. Acute myeloid	32	105	71	77	**285**	5.4	17.9	12.5	10.6	6.3	7.1	**8.4**	122	100.0	0.0
	c. CMD	3	4	8	9	**24**	0.5	1.5	1.2	0.4	0.7	0.8	**0.7**	11	100.0	0.0
	d. MDS & other	7	7	3	2	**19**	0.4	1.2	2.7	0.7	0.3	0.2	**0.6**	8	100.0	0.0
	e. Unspecified	3	4	4	8	**19**	0.4	1.2	1.2	0.4	0.4	0.7	**0.5**	8	100.0	0.0
II	LYMPHOMA & RELATED	7	112	256	298	**673**	12.7	100.0	2.7	11.3	22.6	27.7	**19.0**	299	100.0	0.0
	a. Hodgkin	1	13	69	166	**249**	4.7	37.0	0.4	1.3	6.1	15.4	**6.9**	113	100.0	0.0
	b. Non-Hodgkin except BL	3	44	95	92	**234**	4.4	34.8	1.2	4.4	8.4	8.5	**6.6**	104	100.0	0.0
	c. Burkitt (BL)	1	52	92	40	**185**	3.5	27.5	0.4	5.3	8.1	3.7	**5.3**	80	100.0	0.0
	d. Lymphoreticular	2	3	0	0	**5**	0.1	0.7	0.8	0.3	-	-	**0.2**	2	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
III	CNS NEOPLASMS †	84	407	388	296	**1175**	22.2	100.0	32.8	41.1	34.3	27.5	**34.3**	506	80.0	0.0
	a. Ependymoma	19	67	27	31	**144**	2.7	12.3	7.4	6.8	2.4	2.9	**4.3**	61	99.3	0.0
	b. Astrocytoma	21	149	144	112	**426**	8.0	36.3	8.2	15.0	12.7	10.4	**12.4**	184	82.2	0.0
	c. CNS embryonal	22	108	92	43	**265**	5.0	22.6	8.6	10.9	8.1	4.0	**7.8**	113	98.9	0.0
	d. Other gliomas	5	47	64	41	**157**	3.0	13.4	2.0	4.7	5.7	3.8	**4.5**	68	33.1	0.0
	e. Other specified	13	28	43	52	**136**	2.6	11.6	5.1	2.8	3.8	4.8	**3.9**	60	91.2	0.0
	f. Unspecified CNS	4	8	18	17	**47**	0.9	4.0	1.6	0.8	1.6	1.6	**1.3**	21	19.1	0.0
IV	NEUROBLASTOMA	208	192	44	11	**455**	8.6	100.0	81.2	19.4	3.9	1.0	**14.0**	185	94.5	0.0
	a. (Ganglio)neuroblastoma	207	190	43	10	**450**	8.5	98.9	80.8	19.2	3.8	0.9	**13.8**	183	94.7	0.0
	b. Peripheral nervous	1	2	1	1	**5**	0.1	1.1	0.4	0.2	0.1	0.1	**0.1**	2	80.0	0.0
V	RETINOBLASTOMA	67	87	6	1	**161**	3.0	100.0	26.1	8.8	0.5	0.1	**5.0**	65	20.5	0.0
VI	RENAL TUMOURS	46	168	39	10	**263**	5.0	100.0	18.0	17.0	3.4	0.9	**8.0**	108	83.3	0.0
	a. Nephroblastoma	46	168	38	8	**260**	4.9	98.9	18.0	17.0	3.4	0.7	**7.9**	106	83.1	0.0
	b. Renal carcinoma	0	0	1	2	**3**	0.1	1.1	-	-	0.1	0.2	**0.1**	1	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	18	38	11	6	**73**	1.4	100.0	7.0	3.8	1.0	0.6	**2.2**	30	94.5	0.0
	a. Hepatoblastoma	17	37	7	3	**64**	1.2	87.7	6.6	3.7	0.6	0.3	**2.0**	26	95.3	0.0
	b. Hepatic carcinoma	1	1	4	3	**9**	0.2	12.3	0.4	0.1	0.4	0.3	**0.3**	4	88.9	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	2	26	89	184	**301**	5.7	100.0	0.8	2.6	7.9	17.1	**8.4**	136	99.7	0.0
	a. Osteosarcoma	0	6	32	80	**118**	2.2	39.2	-	0.6	2.8	7.4	**3.3**	54	100.0	0.0
	b. Chondrosarcoma	0	0	0	4	**4**	0.1	1.3	-	-	-	0.4	**0.1**	2	100.0	0.0
	c. Ewing & related	2	19	57	98	**176**	3.3	58.5	0.8	1.9	5.0	9.1	**4.9**	79	100.0	0.0
	d. Other specified	0	1	0	2	**3**	0.1	1.0	-	0.1	-	0.2	**0.1**	1	66.7	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
IX	SOFT TISSUE SARCOMA	36	95	87	104	**322**	6.1	100.0	14.0	9.6	7.7	9.7	**9.4**	139	99.4	0.0
	a. Rhabdomyosarcoma	14	62	46	28	**150**	2.8	46.6	5.5	6.3	4.1	2.6	**4.4**	64	100.0	0.0
	b. Fibrosarcoma	9	4	8	12	**33**	0.6	10.2	3.5	0.4	0.7	1.1	**1.0**	14	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	12	23	27	51	**113**	2.1	35.1	4.7	2.3	2.4	4.7	**3.2**	50	98.2	0.0
	e. Unspecified	1	6	6	13	**26**	0.5	8.1	0.4	0.6	0.5	1.2	**0.7**	11	100.0	0.0
X	GERM CELL TUMOURS	38	39	36	63	**176**	3.3	100.0	14.8	3.9	3.2	5.8	**5.1**	76	93.8	0.0
	a. CNS germ cell ‡	7	1	23	27	**58**	1.1	33.0	2.7	0.1	2.0	2.5	**1.6**	26	86.2	0.0
	b. Other extragonadal	20	22	2	3	**47**	0.9	26.7	7.8	2.2	0.2	0.3	**1.4**	19	93.6	0.0
	c. Gonadal germ cell	11	16	11	33	**71**	1.3	40.3	4.3	1.6	1.0	3.1	**2.0**	31	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	3	12	28	57	**100**	1.9	100.0	1.2	1.2	2.5	5.3	**2.8**	45	99.0	0.0
	a. Adrenocortical	1	2	2	0	**5**	0.1	5.0	0.4	0.2	0.2	-	**0.2**	2	100.0	0.0
	b. Thyroid	0	4	10	22	**36**	0.7	36.0	-	0.4	0.9	2.0	**1.0**	16	97.2	0.0
	c. Nasopharyngeal	0	0	0	3	**3**	0.1	3.0	-	-	-	0.3	**0.1**	1	100.0	0.0
	d. Melanoma	1	5	8	11	**25**	0.5	25.0	0.4	0.5	0.7	1.0	**0.7**	11	100.0	0.0
	e. Skin carcinoma	1	0	1	3	**5**	0.1	5.0	0.4	-	0.1	0.3	**0.1**	2	100.0	0.0
	f. Other & unspecified	0	1	7	18	**26**	0.5	26.0	-	0.1	0.6	1.7	**0.7**	12	100.0	0.0
XII	OTHER & UNSPECIFIED	2	2	2	0	**6**	0.1	100.0	0.8	0.2	0.2	-	**0.2**	2	100.0	0.0
	a. Other specified	2	2	0	0	**4**	0.1	66.7	0.8	0.2	-	-	**0.1**	2	100.0	0.0
	b. Other unspecified	0	0	2	0	**2**	0.0	33.3	-	-	0.2	-	**0.1**	1	100.0	0.0
	TOTAL	601	1886	1446	1360	**5293**	100.0	100.0	234.5	190.5	127.8	126.2	**155.1**	2268	91.5	0.0

† includes 379 non-malignant ‡ includes 7 non-malignant

Please consult the quality indicators for this registry

SPAIN, Valencia, paediatric (1991-2010)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	38	302	174	131	**645**	29.3	100.0	46.7	89.3	39.5	26.5	**51.8**	735	99.8	0.2
	a. Lymphoid	19	245	141	91	**496**	22.5	76.9	23.3	72.4	32.0	18.4	**40.0**	567	100.0	0.0
	b. Acute myeloid	13	48	27	37	**125**	5.7	19.4	16.0	14.2	6.1	7.5	**9.8**	141	100.0	0.0
	c. CMD	1	1	4	3	**9**	0.4	1.4	1.2	0.3	0.9	0.6	**0.7**	10	100.0	0.0
	d. MDS & other	2	3	0	0	**5**	0.2	0.8	2.5	0.9	-	-	**0.5**	6	100.0	0.0
	e. Unspecified	3	5	2	0	**10**	0.5	1.6	3.7	1.5	0.5	-	**0.9**	12	90.0	10.0
II	LYMPHOMA & RELATED	9	61	63	131	**264**	12.0	100.0	11.1	18.0	14.3	26.5	**18.8**	288	100.0	0.0
	a. Hodgkin	0	5	15	56	**76**	3.4	28.8	-	1.5	3.4	11.3	**4.9**	80	100.0	0.0
	b. Non-Hodgkin except BL	1	23	19	43	**86**	3.9	32.6	1.2	6.8	4.3	8.7	**6.1**	94	100.0	0.0
	c. Burkitt (BL)	1	29	28	32	**90**	4.1	34.1	1.2	8.6	6.4	6.5	**6.7**	100	100.0	0.0
	d. Lymphoreticular	7	4	0	0	**11**	0.5	4.2	8.6	1.2	-	-	**1.0**	13	100.0	0.0
	e. Unspecified	0	0	1	0	**1**	0.0	0.4	-	-	0.2	-	**0.1**	1	100.0	0.0
III	CNS NEOPLASMS †	34	157	179	165	**535**	24.3	100.0	41.8	46.4	40.6	33.4	**40.4**	598	77.9	0.0
	a. Ependymoma	4	22	15	12	**53**	2.4	9.9	4.9	6.5	3.4	2.4	**4.2**	60	94.3	0.0
	b. Astrocytoma	14	67	69	72	**222**	10.1	41.5	17.2	19.8	15.7	14.6	**16.8**	248	81.1	0.0
	c. CNS embryonal	11	36	40	30	**117**	5.3	21.9	13.5	10.6	9.1	6.1	**9.0**	132	97.4	0.0
	d. Other gliomas	1	15	23	12	**51**	2.3	9.5	1.2	4.4	5.2	2.4	**3.9**	57	31.4	0.0
	e. Other specified	4	11	19	30	**64**	2.9	12.0	4.9	3.3	4.3	6.1	**4.5**	70	82.8	0.0
	f. Unspecified CNS	0	6	13	9	**28**	1.3	5.2	-	1.8	3.0	1.8	**2.0**	31	14.3	0.0
IV	NEUROBLASTOMA	85	92	11	3	**191**	8.7	100.0	104.4	27.2	2.5	0.6	**17.3**	226	98.4	0.0
	a. (Ganglio)neuroblastoma	84	92	10	3	**189**	8.6	99.0	103.2	27.2	2.3	0.6	**17.1**	224	98.4	0.0
	b. Peripheral nervous	1	0	1	0	**2**	0.1	1.0	1.2	-	0.2	-	**0.2**	2	100.0	0.0
V	RETINOBLASTOMA	11	37	6	0	**54**	2.5	100.0	13.5	10.9	1.4	-	**4.9**	64	88.9	0.0
VI	RENAL TUMOURS	19	52	21	4	**96**	4.4	100.0	23.3	15.4	4.8	0.8	**8.3**	112	97.9	0.0
	a. Nephroblastoma	19	52	19	3	**93**	4.2	96.9	23.3	15.4	4.3	0.6	**8.1**	109	97.8	0.0
	b. Renal carcinoma	0	0	1	1	**2**	0.1	2.1	-	-	0.2	0.2	**0.1**	2	100.0	0.0
	c. Unspecified	0	0	1	0	**1**	0.0	1.0	-	-	0.2	-	**0.1**	1	100.0	0.0
VII	HEPATIC TUMOURS	10	11	1	4	**26**	1.2	100.0	12.3	3.3	0.2	0.8	**2.2**	30	100.0	0.0
	a. Hepatoblastoma	10	11	0	1	**22**	1.0	84.6	12.3	3.3	-	0.2	**2.0**	26	100.0	0.0
	b. Hepatic carcinoma	0	0	1	3	**4**	0.2	15.4	-	-	0.2	0.6	**0.2**	4	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	1	8	39	80	**128**	5.8	100.0	1.2	2.4	8.9	16.2	**8.4**	136	100.0	0.0
	a. Osteosarcoma	0	1	12	44	**57**	2.6	44.5	-	0.3	2.7	8.9	**3.6**	59	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	**1**	0.0	0.8	-	-	-	0.2	**0.1**	1	100.0	0.0
	c. Ewing & related	1	5	24	34	**64**	2.9	50.0	1.2	1.5	5.4	6.9	**4.3**	69	100.0	0.0
	d. Other specified	0	1	3	1	**5**	0.2	3.9	-	0.3	0.7	0.2	**0.4**	6	100.0	0.0
	e. Unspecified	0	1	0	0	**1**	0.0	0.8	-	0.3	-	-	**0.1**	1	100.0	0.0
IX	SOFT TISSUE SARCOMA	19	44	40	44	**147**	6.7	100.0	23.3	13.0	9.1	8.9	**11.3**	165	100.0	0.0
	a. Rhabdomyosarcoma	7	36	25	17	**85**	3.9	57.8	8.6	10.6	5.7	3.4	**6.8**	97	100.0	0.0
	b. Fibrosarcoma	8	3	3	5	**19**	0.9	12.9	9.8	0.9	0.7	1.0	**1.5**	22	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	3	4	12	16	**35**	1.6	23.8	3.7	1.2	2.7	3.2	**2.5**	38	100.0	0.0
	e. Unspecified	1	1	0	6	**8**	0.4	5.4	1.2	0.3	-	1.2	**0.5**	8	100.0	0.0
X	GERM CELL TUMOURS	7	7	3	30	**47**	2.1	100.0	8.6	2.1	0.7	6.1	**3.3**	50	100.0	0.0
	a. CNS germ cell ‡	1	2	1	6	**10**	0.5	21.3	1.2	0.6	0.2	1.2	**0.7**	11	100.0	0.0
	b. Other extragonadal	4	4	0	2	**10**	0.5	21.3	4.9	1.2	-	0.4	**0.9**	12	100.0	0.0
	c. Gonadal germ cell	2	1	2	20	**25**	1.1	53.2	2.5	0.3	0.5	4.1	**1.6**	26	100.0	0.0
	d. Gonadal carcinoma	0	0	0	2	**2**	0.1	4.3	-	-	-	0.4	**0.1**	2	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	4	2	11	49	**66**	3.0	100.0	4.9	0.6	2.5	9.9	**4.2**	69	100.0	0.0
	a. Adrenocortical	0	0	1	2	**3**	0.1	4.5	-	-	0.2	0.4	**0.2**	3	100.0	0.0
	b. Thyroid	2	1	2	26	**31**	1.4	47.0	2.5	0.3	0.5	5.3	**2.0**	32	100.0	0.0
	c. Nasopharyngeal	0	0	2	2	**4**	0.2	6.1	-	-	0.5	0.4	**0.3**	4	100.0	0.0
	d. Melanoma	2	1	4	6	**13**	0.6	19.7	2.5	0.3	0.9	1.2	**0.9**	14	100.0	0.0
	e. Skin carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	f. Other & unspecified	0	0	2	13	**15**	0.7	22.7	-	-	0.5	2.6	**0.9**	15	100.0	0.0
XII	OTHER & UNSPECIFIED	0	2	0	3	**5**	0.2	100.0	-	0.6	-	0.6	**0.4**	5	80.0	0.0
	a. Other specified	0	1	0	1	**2**	0.1	40.0	-	0.3	-	0.2	**0.2**	2	100.0	0.0
	b. Other unspecified	0	1	0	2	**3**	0.1	60.0	-	0.3	-	0.4	**0.2**	3	66.7	0.0
	TOTAL	237	775	548	644	**2204**	100.0	100.0	291.1	229.1	124.4	130.4	**171.3**	2480	94.1	0.0

† includes 154 non-malignant ‡ includes 2 non-malignant

Please consult the quality indicators for this registry

since 1983; in 2007, registration was expanded to include residents younger than 20 years.

Cases are identified actively from all clinical and administrative sources of information. Follow-up of patients involves both active and passive methods. Death certificates of the regional mortality registry are reviewed annually and linked with the Spanish National Death Index and regional death files. The DEPedits program is used to verify the recorded data, in agreement with ENCR recommendations. Confidentiality guidelines are applied according to Spanish law (Personal Data Protection Act 15/1999). The database is registered with the Spanish Agency for Data Protection.

The registry data are used to monitor incidence and survival of childhood cancer, for planning and evaluation of health services, and for epidemiological research. The registry has conducted and participated in various epidemiological studies, such as EUROCARE.

POPULATION AT RISK

The population data are provided by the Regional Statistics Institute (http://pegv.gva.es/) from 1999. Data were provided in the requested detail.

EDITORS' COMMENTS

Day of incidence was missing for one quarter of the registrations (Table A.8). Non-malignant CNS tumours were systematically registered. Laterality was complete for retinoblastoma and nephroblastoma. See also Spain, above.

SPAIN, Valencia, paediatric (1991-2010)

	Age group (years)	Males	Females
Person-years	0	420 245	393 907
	1-4	1 740 805	1 641 733
	5-9	2 264 254	2 141 667
	10-14	2 535 580	2 402 020
	0-14	6 960 884	6 579 327
Average annual population	0-14	348 044	328 966

Please consult the quality indicators for this registry

SPAIN, 11 registries (1990-2013)

Registry	Period	Cases	%	Person-years	%
Albacete	1991-2010	286	3.6	1 752 522	3.9
Asturias	1992-2010	561	7.2	3 449 497	7.6
Basque Country	1990-2012	1728	22.0	9 400 582	20.8
Canary Islands	1993-2011	1064	13.6	6 772 909	15.0
Cuenca	1993-2012	155	2.0	818 192	1.8
Girona	1990-2013	594	7.6	3 185 311	7.1
Granada	1992-2013	753	9.6	4 612 851	10.2
Mallorca	1990-2012	621	7.9	3 653 444	8.1
Murcia	1991-2009	1033	13.2	5 924 458	13.1
Navarra	1990-2010	475	6.1	2 443 010	5.4
Tarragona	1990-2011	569	7.3	3 098 068	6.9
SPAIN	**1990-2013**	**7839**	**100.0**	**45 110 844**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Albacete Cancer Registry, 1991–2010

I. de la Cruz, A. Mateos, C. Ramírez, M. Lillo, R. Vera

The province of Albacete is located on the central plateau of Spain. The province covers an area of 14 926 km^2 and is divided into 87 municipalities. The total population is 0.4 million, and 21% of the population is younger than 20 years (Table A.6). The population density is 27 per km^2, and one third of residents live in rural municipalities with fewer than 2000 inhabitants.

There are 36 public primary health-care centres, five public hospitals, and two private hospitals. There is only one paediatric oncology unit. Many patients must travel outside the province to receive diagnostic and treatment services.

The population-based Albacete Cancer Registry was established in 1991, within the Epidemiology Service of the Health Department of the autonomous community of Castilla-La Mancha, and covers the entire province of Albacete.

Data are collected actively by registry staff members through the review of clinical records in hospitals and primary health-care centres. Information sources include automated discharge files from public hospitals, electronic pathology reports, and other records from different information sources. Individualized information is also

received from general practitioners, from physicians who diagnose and treat patients with cancer in hospitals, from association of parents of children with cancer, and from other sources.

All malignant tumours are recorded, except basal and squamous cell skin carcinomas. Non-malignant CNS tumours are registered according to ICD-O-3. All cancers diagnosed in residents since 1 January 1991, including the DCO cases, are eligible for registration.

The registry follows IARC/IACR recommendations for classifying multiple primary tumours and for coding different variables. Access to the data is restricted to registry staff, and data security protocols guarantee confidentiality.

POPULATION AT RISK

Data were provided in the requested detail, by sex and single year of age for each calendar year of the reporting period, as generated by INE.

EDITORS' COMMENTS

The calculated age was inconsistent with the provided dates in 11% of cases (Table A.8). The proportion of cases aged 19 years in the age group 15–19 years was low (14.6%) (Table A.9); this can probably be explained by the small size of the dataset. Pilocytic astrocytoma was registered throughout the reporting period, but other non-malignant CNS tumours were registered only from 2008 onwards. Laterality was complete for retinoblastoma and nephroblastoma. See also Spain, above.

Asturias Cancer Registry, 1992–2010

V. Menéndez, M.V. Argüelles, C. Rodríguez Oleaga, J.R. Quirós

The Principality of Asturias, a Spanish autonomous community that covers an area of 10 565 km^2, is located in the north-western part of the Iberian Peninsula between the Cantabrian Mountains and the Bay of Biscay.

The population is 1.1 million (2.3% of the national population). Asturias has one of the lowest fertility rates in Europe (0.99 live births per woman), and only 14% of the population is younger than 20 years (Table A.6). About 80% of the population lives in urban areas, and the population density is 102 per km^2.

The iron and steel industry, metal processing, coal mining, a growing food industry, and ecotourism form the basis of the Asturian economy. In 2010, the GDP per capita was about 89% of the European Union average, and the unemployment rate was 16%.

General health care is provided mostly by public services through a well-developed network comprising eight district hospitals, 220 urban and local primary health-care centres, and a central hospital located in the capital, Oviedo. The hospital's comprehensive oncology centre provides surgery, radiotherapy, and chemotherapy services for children and adolescents with cancer. These facilities are supplemented by one private hospital, which offers some cancer treatments. Patients with suspected cancer are referred from primary care paediatricians to hospital services. All children with cancer in Asturias are referred to the central hospital in Oviedo. Although few patients need to travel outside Asturias for additional treatment, those who do mainly travel to Madrid.

The Asturias Cancer Registry covers the whole Principality of Asturias. The registry was established in 1978 and became population-based in 1982 (Table A.10). It is funded by the Asturian regional government and is overseen by the Public Health Directorate. The registry is staffed by one part-time epidemiologist and two full-time registrars.

Active case finding is performed using the records of all public and private hospitals, pathology and haematology laboratories, and death certificates. Passive follow-up is performed through record linkage with health insurance and mortality records. The paediatric cases are reported to RETI-SEHOP (located in Valencia). The registry uses the procedures and rules established by IARC and ENCR.

POPULATION AT RISK

The sources of the population data are the official censuses and annual updates of official population figures extracted from municipalities and published by INE and the Asturian Society of Economic and Industrial Studies (https://www.sadei.es/). Data were provided in the requested detail.

EDITORS' COMMENTS

In the IICC-3 dataset, the sex ratio is relatively high in the age group 15–19 years. Non-malignant CNS tumours were registered (Table A.9). Information on laterality was not provided. Non-melanoma skin cancers were not included. See also Spain, above.

Basque Country Cancer Registry, 1990–2012

Arantza Lopez de Munain, Nerea Larrañaga, Visitación de Castro, Marta De la Cruz, Leire Gil, Domingo Eizaguirre, Covadonga Audícana, M. Luisa Iruretagoyena

The Basque Country Cancer Registry covers the autonomous community of the Basque Country, which covers an area of 7261 km^2 and is located in northern Spain. It is administratively divided into three provinces: Araba, Bizkaia, and Gipuzkoa. The territory is quite mountainous. In most of the area the climate is oceanic; the average temperature is about 15 °C, and the average humidity is 70%.

The total population is 2.2 million, and 17% of the population is younger than 20 years (Table A.6). The economically active population is employed in the services sector (69%), industry (24%), construction (6%), and agriculture (1%).

Immigration plays an important role in the demographics of the Basque Country; 29% of the population was born outside the region. During the 20th century most of the immigrants were from other parts of Spain; the recent immigrants are from South America and Africa.

Universal health-care coverage is provided by the Basque Autonomous Government. Health care is provided

to 95% of the population by the Osakidetza (the public health-care system of the Basque Country). There are 40 hospitals (public and private). Most patients with cancer who are seen within the network of primary health-care centres are referred to general hospitals with oncology facilities. Although the upper age limit for paediatric primary care is 14 years, the age range for specialized paediatric services including oncology usually extends to include patients aged 18–20 years.

The registry was established in 1986 (Table A.10) by the region's health department, which coordinates three provincial teams. Beginning in 1995, large hospitals in the region established hospital-based cancer registries, and these were the main data sources for the Basque Country Cancer Registry. A system of active case finding from other sources has been established at the provincial level, enabling the registrars to match cancer records with data on residents treated outside the area and with death certificates.

Completeness of registration is excellent; multiple data sources are used to constitute a case record. Children and adolescents with cancer, who receive specialist care at referral hospitals, are particularly well covered.

The registry reports incidence and survival patterns and trends for the main cancer sites annually. Registry data are used for the planning and evaluation of health services, the cancer strategy for the Basque Country, and screening programmes. The registry collaborates on several national and international projects, such as EUROCARE, CONCORD, RARECARE, Cancer Prevalence in Europe (EUROPREVAL), ACCIS, and the European Prospective Investigation into Cancer and Nutrition (EPIC).

PUBLICATIONS

De Castro V, Tobalina MC, Larrañaga N, Bidaurrazaga J, De la Cruz M, Lopez de Munain A, et al. (2016). Cáncer infantil en la Comunidad Autónoma Vasca, 1990–2012. Gobierno Vasco. Available from: https://www.euskadi.eus/contenidos/informacion/registros_cancer/es_def/adjuntos/Cancer-infantil-CAV.pdf.

POPULATION AT RISK

Intercensal figures were estimated by the registry by linear interpolation until 2010 and by linear extrapolation for 2012, using the data from the 2006 census conducted specifically in the Basque Country and from the 2011 national census. Census data were provided by the Basque Statistical Institute (https://www.eustat.eus/). Data were provided in the requested detail.

EDITORS' COMMENTS

This dataset overlaps with that provided by RETI-SEHOP for the age group 0–14 years from 2000 onwards. The proportion of cancers diagnosed at age 19 years is high (Table A.9). Systematic registration of non-malignant CNS tumours started in 1995, although some were present in the dataset for earlier years. Skin carcinomas were not registered. Information on laterality was available for only 13% of the cases of interest. See also Spain, above.

Canary Islands Cancer Registry, 1993–2011

M.D. Rojas-Martín, A. Alemán-Herrera, E. De Miguel

The Canary Islands, an autonomous community of Spain, is located 100 km east of the coast of northern Africa and 1500 km from mainland Spain.

The Canary Islands Cancer Registry covers the two main islands, Gran Canaria and Tenerife, which are the administrative capitals of the two eponymous provinces and make up 83% of the population of the archipelago. The population of the two islands is 1.8 million, and 20% of the population is younger than 20 years (Table A.6). The residents are almost exclusively White, and a small minority is of Indian origin. The principal economic activities are services (mainly tourism, 77.9%), agriculture (7%), and industry (3.4%).

The Canary Health Service covers almost 100% of the population. The area has three hospitals with specialized paediatric oncology units.

The registry is located within the Public Health headquarters and is part of the Epidemiology and Health Prevention Service. It was created by law in 1993 (Table A.10) and is registered in the Spanish National Agency for Data Protection. On each island, a team of three people work in the registry.

The registry collects data actively from public and private data sources, including pathology, oncology, radiotherapy, and haematology departments, coded hospital discharge systems, hospital cancer registries, and death certificates with cancer as the underlying cause of death. In addition, the registry can access clinical histories from the four major hospitals online, and since 2014, the registry has also had access to primary health-care records. Registered cases are followed up by both active and passive methods.

Although most patients with cancer are diagnosed in the Canary Islands, some may travel to mainland Spain for diagnosis and treatment. The registry is working on data exchange with RETI-SEHOP.

The data produced by the registry are updated periodically (https://www3.gobiernodecanarias.org/sanidad/scs/organica.jsp?idCarpeta=b25ca6dc-a9a4-11dd-b574-dd4e320f085c) and are used by hospitals and the government to plan health programmes. The registry contributed to CI5 Volumes VII–XI.

POPULATION AT RISK

Data were provided by sex and 5-year age groups for 1993–1999 and by sex and single year of age for 2000–2011. INE did not publish separate data for the islands of Gran Canaria and Tenerife for 1993–1999; thus, these data were estimated at the Canary Islands Cancer Registry by geometric interpolation of the 1991 census data produced by INE and the data from the official municipality census of 1 May 1996, provided by the Canary Islands Statistics Institute. Since 1999, an official Municipality Continuous Census is conducted, and the data are published on 1 January of each year. The data for the remaining missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

Non-malignant CNS tumours became eligible for registration progressively: in 1993–2002, the registration was incomplete; in 2003–2004, it was systematic except for the sites C75.1–C75.3, and from 2005, it was complete. Information on laterality was available for 73% of the cases of interest. See also Spain, above.

Cuenca Cancer Registry, 1993–2012

Ana Isabel Marcos Navarro, Rosario Jiménez Chillarón, Amparo Chumillas Martínez, Gonzalo Gutiérrez Ávila

The Cuenca Cancer Registry covers the province of Cuenca, which covers an area of 17 140 km^2 and is located on the central plateau of Spain. The covered population is 0.2 million; 18% of the population is younger than 20 years (Table A.6) and 25% is 65 years and older. The province has 238 municipalities. The population density is 11.7 per km^2, and 40% of the population lives in rural municipalities with fewer than 2000 inhabitants. The economic activity consists of services (45%), industry and construction (30%), and agriculture (25%).

The province has 37 public primary health-care centres, one public hospital, and one private hospital. Most beds (90%) are in the public sector, which provides chemotherapy and surgical services. Patients are referred to highly specialized centres that provide radiotherapy and neuro-oncology therapy. Most children with cancer are treated in specialized hospitals.

The population-based Cuenca Cancer Registry was established in 1993 (Table A.10), within the Epidemiology Service of the Health Department of the autonomous community of Castilla-La Mancha. The registry personnel actively review clinical records from hospitals and primary health-care centres. Case finding is based on automated discharge files provided by the public hospital and electronic pathology reports. Additional data sources are individualized information from general practitioners, from attending physicians in hospitals, and from death certificates.

All malignant tumours are registered, with the exception of basal and squamous cell skin carcinomas. Non-malignant CNS tumours are also registered, according to ICD-O-3 rules. IARC recommendations are followed to classify multiple primary tumours and to code the different variables. Access to the data is restricted to registry staff, and data security protocols guarantee confidentiality.

POPULATION AT RISK

Data were provided in the requested detail, as generated by INE.

EDITORS' COMMENTS

The registry staff was unable to access the files of specialized paediatric hospitals; this may affect the data accuracy. The date of birth or date of incidence was imprecise in more than 10% of cases (Table A.8). The proportion of cases with unspecified morphology is rather high (11%) (Table A.9). Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. The high proportion of cases aged 19 years in the age group 15–19 years and the low sex ratio (Table A.9) may result from random variation due to the small number of cases in the dataset. Non-malignant CNS tumours are systematically recorded. Skin carcinomas are not registered. Laterality information was complete for retinoblastoma and gonadal tumours. See also Spain, above.

Girona Cancer Registry, 1990–2013

Rafael Marcos-Gragera, Loreto Vilardell, Montse Puigdemont, Angel Izquierdo, Josepa Ribes, Jordi Galvez, Anna Vidal, Laura Esteban, Josep Maria Borràs

The province of Girona is located in north-eastern Spain; it is the northernmost of the four provinces of the Catalonia region. The total population is 0.7 million, and 21% of the population is younger than 20 years (Table A.6). In recent years, there has been a large increase in immigration from Africa and South America.

Health care is provided predominantly by the Spanish National Health System, through district hospitals and a network of primary health-care centres. Radiotherapy, cancer surgery, and chemotherapy are coordinated by the cancer centre in the city of Girona and provided at various general hospitals.

The Girona Cancer Registry was formed in 1994 as an extension of the specialized registry of breast cancer and female genital cancer, which had been operating since 1980. Population-based data have been produced since 1994. Information on malignant, uncertain, and benign tumours in children and adolescents was collected retrospectively. Thus, incidence, mortality, and survival data are available from 1980.

The registry is part of the Oncology Coordination Plan within the Department of Health of the Autonomous Government of Catalonia, at the Catalan Institute of Oncology. The registry staff consists of a director, two epidemiologists, a computer scientist, two health documentarians, a statistician, and a clerk. Data are assembled from automated notifications by most sources and from active case finding in other sources. Most data sources are located in the province of Girona, although childhood cancers are mostly ascertained from the two referral hospitals in Barcelona, in which they are usually treated. The registry obtains mortality data from the Mortality Registry of Catalonia and the Spanish National Death Index and analyses all death certificates for residents of the province of Girona annually. Several types of checks are used systematically to detect and remove errors and inconsistencies in the collected data.

The registry data are published in annual incidence reports and serve as a basis for health planning. Studies are also conducted on the survival and the treatment of patients with specific tumour types.

POPULATION AT RISK

The source of the data is the Statistical Institute of Catalonia (https://www.idescat.cat/). Data were provided in the requested detail.

EDITORS' COMMENTS

This dataset overlaps with that provided by RETI-SEHOP for ages 0–14 years from 2000 onwards. Day of incidence is missing for one quarter of the cases (Table A.8), because this information was not available in the data sources. All non-malignant CNS tumours were registered. Skin carcinomas were registered, although data on outpatients may be missing. Information on laterality was provided for 74% of the cases of interest. See also Spain, above.

Granada Cancer Registry, 1992–2013

Maria-José Sánchez-Pérez, Miguel Rodriguez-Barranco, Yoe-Ling Chang-Chan, Daniel Redondo Sánchez, David López López, Carmen Ruiz-Baena, Carmen Estévez-Estévez, Victoria Barragán-Sánchez, Maribel Antoniles-Moreno

The province of Granada covers an area of 12 531 km^2. It is part of the Andalusian region, located in southern Spain.

The population is 0.9 million, and 22% of the population is younger than 20 years (Table A.6). The province is divided into 170 municipalities. The one urban area, Granada, has a population of about 0.2 million; 18 other areas have a population of more than 10 000, and the rest of the population lives in smaller municipalities. The population is ethnically homogeneous. The province of Granada has one of the lowest per capita incomes in Spain.

The area has five public hospitals (1880 beds) and three private hospitals (338 beds). Private hospitals serve a small part of the population. Childhood cancer diagnostic and treatment services are available within the province, and only a few cancer cases are diagnosed or treated outside the province.

The Granada Cancer Registry was established in 1985 (Table A.10) at the Andalusian School of Public Health, with the main objective of providing cancer epidemiology information for the province of Granada. In 2007, the Andalusia Cancer Registry was created and regulated by Decree 297/2007. It was made up of newly established population-based cancer registries in all eight Andalusian provinces and affiliated with the General Secretariat for Public Health and Participation of the Regional Ministry of Health of the Andalusian Government.

The Granada Cancer Registry is directed by a medical epidemiologist; other staff members include one physician, two statisticians, and four clerks. All staff members are involved in case finding, data collection, cancer coding, and data processing. Cancer notification is voluntary. Basic information sources include automated discharge files and reports from pathology, radiotherapy, haematology, and paediatric oncology departments from all public and private hospitals. Data collection is mixed (active and passive).

The registry uses the specialized software provided by IARC (IARCcrgTools, DEPedits) and other programs developed in the registry for quality control purposes. The IARC/IACR rules are used for multiple primary tumours. Passive and active follow-up of registered cases for vital status is conducted through linkage to the Spanish National Death Index and the regional mortality registry, and by reviewing medical records.

Underregistration of cancer cases is unlikely, because information on cancer diagnosis and treatment is always available to the registry.

In addition to estimating incidence, trends, and survival, the registry participates in international studies on cancer care and survival, including EUROCARE, EUROCHIP, and CONCORD, and other national studies on childhood cancer in collaboration with RETI-SEHOP.

POPULATION AT RISK

Intercensal population estimates were provided by the Institute of Statistics of Andalusia for 1981–2002 and by INE for the more recent years. Data were provided in the requested detail.

EDITORS' COMMENTS

Non-malignant CNS tumours other than pilocytic astrocytoma were not systematically registered before 2003. Therefore, the reported incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. Skin carcinomas are registered and are believed to be complete. Information on laterality was complete for the cases of interest. See also Spain, above.

Mallorca Cancer Registry, 1990–2012

Paula Franch, Lynn Fieraert, Maria Ramos

The Mallorca Cancer Registry covers the population of Mallorca Island, the largest of the Balearic Islands. The estimated population is 0.9 million, and 22% of the population is younger than 20 years (Table A.10). The Balearic Islands are located in the Mediterranean Sea, to the east of the Iberian Peninsula.

The Balearic Health Service is part of the Spanish National Health System and covers 95% of the population through a network of 40 primary health-care centres and three hospitals, which comprise the public health sector. The private sector includes four hospitals. About 29% of the population has private health insurance. All public hospitals have an oncology department, and one has a specialized paediatric oncology department.

The Mallorca Cancer Registry was established by a non-profit organization, the Colorectal Cancer Study Group, and was funded by the regional government until January 2008, when it became part of the Balearic Public Health Department. Population-based data were provided from 1988 (Table A.10).

In Mallorca, notification of cancer is voluntary. Data are collected through passive notification from most data

sources, and active case finding is performed from some sources. Since 2008, access to death certificates has been unrestricted. The registry also has electronic access to the clinical records of primary health-care and public hospitals.

POPULATION AT RISK

Population data for Mallorca were calculated from Balearic intercensal estimates (censuses of 1981 and 1991) until 2000. Estimates based on later censuses were provided by INE. Data were provided in the requested detail.

EDITORS' COMMENTS

Day of incidence was missing for a large proportion of cases (Table A.8). All intracranial and intraspinal CNS tumours were included from 2000. Laterality information was complete for retinoblastoma. Skin carcinomas may be underrepresented because of variable registration practices during the reporting period. See also Spain, above.

Murcia Cancer Registry, 1991–2009

Carmen Navarro, María Dolores Chirlaque, Jacinta Tortosa, Isabel Valera, Encarnación Párraga, Diego Salmerón

The Murcia Cancer Registry covers the whole population of the Murcia region, one of the 17 autonomous communities of Spain. The region is a Mediterranean area located in south-eastern Spain. The weather is warm, with a median annual temperature of 19 °C and a semi-arid climate. The Murcia region is one of Europe's main producers of fruits and vegetables. The economy is based on tourism, the food industry (fresh and canned food), and the energy sector (petrochemicals and renewable energy). About 62% of the working population is employed in services, 27% are employed in industry and construction, and 11% in agriculture. The population is 1.5 million, and 23% of the population is younger than 20 years. Resident children and adolescents constitute 3.8% of the national population younger than 20 years (Table A.6).

The Murcia Ministry of Healthcare is a public health system that is funded by social security insurance and provides primary care and hospital-based care free of charge.

The Murcia Cancer Registry began collecting data in 1982 (Table A.10). The data presented in IICC-3 are from 1991–2009, continuing from the period of this registry's contribution to IICC-2.

The main data sources are hospital discharge records, pathology reports, and information from haematology, medical oncology, radiotherapy, and day-hospital services. The data collection process is systematic, active, and continuous. Staff members regularly visit health centres to verify and complete records. The registry recently received online access to clinical records. To ascertain patients with cancer who are treated outside the region, the registry receives notifications from RETI-SEHOP and the social security service. Follow-up of registered patients is performed mainly using the Spanish National Death Index. Other sources, such as the social security database (which belongs to the Spanish National Health System), hospital records, primary care records, and municipal censuses, were used to complete vital status.

The proportion of cases notified from death certificates and the DCO% are used to monitor quality control. Registry data are used to estimate regional cancer incidence, trends, and survival, and to plan and evaluate cancer control programmes. The registry has participated in multicentre case–control studies and cohort studies (e.g. EPIC) in both Spain and Europe, and participates in EUROCARE. The Murcia Cancer Registry is a member of the Iberoamerican Network of Epidemiology and Information Systems on Cancer (REDEPICAN).

POPULATION AT RISK

The source of the population data was INE. Data were provided in the requested detail.

EDITORS' COMMENTS

Day of incidence was unknown in one quarter of the cases (Table A.8) and was coded to 1; this may have affected the age-specific rates. The sex ratio is rather high in adolescents aged 15–19 years (Table A.9). Non-malignant CNS tumours were not registered, and there were no cases of pilocytic astrocytoma in the dataset. Therefore, the reported incidence rates are likely to be underestimated for the diagnostic categories III and Xa and the total. Skin carcinomas were not registered. Information on laterality was provided for 92% of the cases of interest. See also Spain, above.

Navarra Cancer Registry, 1990–2010

Eva Ardanaz, Marcela Guevara, Rosana Burgui, María Aldereguía, Marta Ibarra, Maria Isabel Eciolaza

Navarra is one of the 17 autonomous communities of Spain and is located in the northern part of the Iberian Peninsula. It is bordered by France and the Pyrenees Mountains to the north, by the autonomous community of Aragon to the east, by the autonomous community of Rioja to the south, and by the autonomous community of the Basque Country to the west. Navarra covers an area of 10 421 km^2 and has three geographically distinct zones: the northern zone, which is characterized by the Pyrenees Mountains; the central zone, which is dominated by the region's capital city, Pamplona; and the southern zone, which borders the Ebro River.

The population is 0.6 million, half of whom live in Pamplona and the surrounding area; 20% of the population is younger than 20 years (Table A.6), and 17% is aged 65 years and older.

The Navarra Cancer Registry, which is a population-based registry, was established in 1970 (Table A.10) in an agreement between the Spanish Association Against

Cancer and the Navarra Public Health Institute. The principal goal is to study cancer epidemiology in Navarra. Data on all cancer cases in residents of the region are systematically collected by active methods.

The principal data sources include pathology, radiotherapy, and oncology departments and the medical records of all the hospitals in the region (public and private). The registry data are linked to the regional mortality registry, to identify patients whose cause of death was cancer. Data are collected and stored as individual electronic records. Each case is verified to avoid duplicate registration and errors in the records. About 3200 new malignant tumours (other than non-melanoma skin cancer) are registered per year. The registry produces incidence reports by 5-year periods and has participated in various epidemiological studies.

POPULATION AT RISK

The population data are the official intercensal estimates provided by the Navarra Institute of Statistics (https://nastat.navarra.es/es/). Data were provided in the requested detail.

EDITORS' COMMENTS

This dataset overlaps with that provided by RETI-SEHOP for the age group 0–14 years from 2000 onwards. Non-malignant CNS tumours were systematically registered from 1995, although some non-malignant cases were present in the dataset for earlier years. Nevertheless, the incidence rates for CNS tumours and overall may be lower than those in the registries with complete registration of these neoplasms. Information on laterality was provided for all cases of interest. Skin carcinomas were systematically recorded and are believed to be complete. See also Spain, above.

Tarragona Cancer Registry, 1990–2011

Jaume Galceran, Marià Carulla, Alberto Ameijide, Xavier Cardó, Laia Llauradó, Araceli Jiménez, Joan Borràs

The province of Tarragona is located in north-eastern Spain; it is the southernmost of the four provinces of the Catalonia region. The total population is 0.8 million, and 21% of the population is younger than 20 years (Table A.6). In 2000, about 3% of the population younger than 20 years consisted of foreign-born residents from Africa, other European countries, the Americas, and Asia. The influx of immigrants led to 17% of children and adolescents being foreign-born by 2007. The working population is employed in agriculture (6%), industry (20%), construction (16%), and services (58%).

Almost all residents are covered by the Spanish National Health System, and most use its services. In 2005, the province had about 2900 physicians, seven public hospitals with 1250 beds, and three private hospitals with 100 beds. One of the public hospitals has an oncology department, with 32 beds, that comprises medical oncology, radiotherapy, oncology, and palliative care units. Paediatric cancer care is provided in two referral hospitals in Barcelona, outside the province of Tarragona.

The Tarragona Cancer Registry was established in 1979 and achieved complete coverage of the population in 1980 (Table A.10). The registry is part of the Foundation League for Cancer Research and Prevention, which has a provincial scope. The registry staff consists of a director, an epidemiologist, a computer scientist, two nurses, a statistician, a technician, and a clerk. Data are collected through passive automated notification from most sources and by active case finding in the remaining sources. Registered cases are ascertained mostly in the province of Tarragona; however, most childhood cancer cases are ascertained from the two referral hospitals in Barcelona. The registry systematically obtains mortality data from the Mortality Registry of Catalonia and the Spanish National Death Index and has access to all death certificates for residents of the province of Tarragona. Cases notified from death certificates are systematically traced, and if no further information is obtained, they are registered as DCO cases. Several types of checks are used regularly to detect and remove errors and inconsistencies in the collected data. Completeness of the registry exceeds 95%. Since the registry was established, the availability of diagnostic and treatment services has increased, but it is difficult to estimate the influence on incidence trends.

The registry produces several sets of cancer statistics and describes their epidemiological characteristics and evolution (https://epicancer.cat/inici). It also promotes epidemiological research, helps policy-makers identify needs for cancer care services, and collaborates in evaluating screening programmes and other cancer control activities.

POPULATION AT RISK

A demographic survey conducted in 2007 by the Statistical Institute of Catalonia (https://www.idescat.cat/) is the source of the population data. For 1990–2000, intercensal estimates at 1 July were used; for 2001–2007, postcensal estimates at 1 July were used. Data were provided in the requested detail.

EDITORS' COMMENTS

This dataset overlaps with that provided by RETI-SEHOP for the age group 0–14 years from 2000 onwards. Day of incidence is missing for almost two thirds of the cases (Table A.8), because this information was not available in the data sources, mostly during the 1990s. Non-malignant CNS tumours were not systematically registered; however, some cases were included in the dataset throughout the reporting period. Skin carcinomas were systematically recorded and are believed to be complete from 1980. Information on laterality was provided for 90% of the cases of interest. See also Spain, above.

SPAIN, 11 registries (1990-2013)

	Age group (years)	Males	Females
Person-years	0	1 014 238	959 949
	1-4	4 163 015	3 968 098
	5-9	5 342 608	5 100 841
	10-14	5 850 542	5 589 807
	15-19	6 712 940	6 408 806
	0-14	16 370 403	15 618 695
	0-19	23 083 343	22 027 501

Please consult the quality indicators for this pool and its constituent registries

SPAIN, 11 registries (1990-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	88	655	423	345	356	**1511**	**1867**	29.7	100.0	23.8	100.0	44.6	80.6	40.5	30.2	27.1	**50.3**	**45.1**	721	857	98.8	0.8
	a. Lymphoid	40	558	333	215	193	**1146**	**1339**	22.6	75.8	17.1	71.7	20.3	68.6	31.9	18.8	14.7	**38.6**	**33.3**	549	623	99.8	0.1
	b. Acute myeloid	30	63	60	85	103	**238**	**341**	4.7	15.8	4.4	18.3	15.2	7.7	5.7	7.4	7.8	**7.6**	**7.6**	112	151	99.4	0.3
	c. CMD	1	6	9	17	41	**33**	**74**	0.6	2.2	0.9	4.0	0.5	0.7	0.9	1.5	3.1	**1.0**	**1.5**	15	31	100.0	0.0
	d. MDS & other	7	12	7	5	7	**31**	**38**	0.6	2.1	0.5	2.0	3.5	1.5	0.7	0.4	0.5	**1.1**	**0.9**	15	18	100.0	0.0
	e. Unspecified	10	16	14	23	12	**63**	**75**	1.2	4.2	1.0	4.0	5.1	2.0	1.3	2.0	0.9	**2.0**	**1.8**	30	34	76.0	16.0
II	**LYMPHOMA & RELATED**	22	119	207	346	785	**694**	**1479**	13.7	100.0	18.9	100.0	11.1	14.6	19.8	30.2	59.8	**20.6**	**29.4**	320	619	98.9	0.4
	a. Hodgkin	0	9	54	181	531	**244**	**775**	4.8	35.2	9.9	52.4	-	1.1	5.2	15.8	40.5	**6.6**	**14.2**	109	312	99.9	0.0
	b. Non-Hodgkin except BL	3	34	70	90	194	**197**	**391**	3.9	28.4	5.0	26.4	1.5	4.2	6.7	7.9	14.8	**5.9**	**7.9**	91	165	99.0	0.5
	c. Burkitt (BL)	0	49	66	56	39	**171**	**210**	3.4	24.6	2.7	14.2	-	6.0	6.3	4.9	3.0	**5.3**	**4.8**	80	95	100.0	0.0
	d. Lymphoreticular	18	24	11	9	10	**62**	**72**	1.2	8.9	0.9	4.9	9.1	3.0	1.1	0.8	0.8	**2.2**	**1.9**	30	34	100.0	0.0
	e. Unspecified	1	3	6	10	11	**20**	**31**	0.4	2.9	0.4	2.1	0.5	0.4	0.6	0.9	0.8	**0.6**	**0.6**	9	13	64.5	12.9
III	**CNS NEOPLASMS** †	57	333	353	318	371	**1061**	**1432**	20.9	100.0	18.3	100.0	28.9	41.0	33.8	27.8	28.3	**33.9**	**32.6**	501	642	82.5	0.5
	a. Ependymoma	20	47	22	21	30	**110**	**140**	2.2	10.4	1.8	9.8	10.1	5.8	2.1	1.8	2.3	**3.8**	**3.4**	53	64	98.6	0.0
	b. Astrocytoma	14	129	137	140	160	**420**	**580**	8.3	39.6	7.4	40.5	7.1	15.9	13.1	12.2	12.2	**13.3**	**13.0**	198	259	95.9	0.0
	c. CNS embryonal	10	80	86	41	37	**217**	**254**	4.3	20.5	3.2	17.7	5.1	9.8	8.2	3.6	2.8	**7.1**	**6.2**	104	118	100.0	0.0
	d. Other gliomas	3	33	42	33	32	**111**	**143**	2.2	10.5	1.8	10.0	1.5	4.1	4.0	2.9	2.4	**3.5**	**3.3**	52	65	55.9	0.0
	e. Other specified	3	16	32	45	59	**96**	**155**	1.9	9.0	2.0	10.8	1.5	2.0	3.1	3.9	4.5	**2.9**	**3.2**	44	67	90.3	0.0
	f. Unspecified CNS	7	28	34	38	53	**107**	**160**	2.1	10.1	2.0	11.2	3.5	3.4	3.3	3.3	4.0	**3.4**	**3.5**	50	70	8.1	4.4
IV	**NEUROBLASTOMA**	164	164	41	10	20	**379**	**399**	7.5	100.0	5.1	100.0	83.1	20.2	3.9	0.9	1.5	**14.1**	**11.3**	186	194	97.0	0.0
	a. (Ganglio)neuroblastoma	162	162	38	10	9	**372**	**381**	7.3	98.2	4.9	95.5	82.1	19.9	3.6	0.9	0.7	**13.8**	**10.9**	183	186	96.9	0.0
	b. Peripheral nervous	2	2	3	0	11	**7**	**18**	0.1	1.8	0.2	4.5	1.0	0.2	0.3	-	0.8	**0.2**	**0.4**	3	8	100.0	0.0
V	**RETINOBLASTOMA**	35	67	4	1	0	**107**	**107**	2.1	100.0	1.4	100.0	17.7	8.2	0.4	0.1	-	**4.1**	**3.1**	53	53	74.8	0.0
VI	**RENAL TUMOURS**	52	137	37	11	20	**237**	**257**	4.7	100.0	3.3	100.0	26.3	16.8	3.5	1.0	1.5	**8.7**	**7.1**	116	124	95.3	0.4
	a. Nephroblastoma	50	136	37	6	6	**229**	**235**	4.5	96.6	3.0	91.4	25.3	16.7	3.5	0.5	0.5	**8.4**	**6.6**	112	115	95.7	0.0
	b. Renal carcinoma	0	1	0	5	14	**6**	**20**	0.1	2.5	0.3	7.8	-	0.1	-	0.4	1.1	**0.2**	**0.4**	3	8	100.0	0.0
	c. Unspecified	2	0	0	0	0	**2**	**2**	0.0	0.8	0.0	0.8	1.0	-	-	-	-	**0.1**	**0.1**	1	1	0.0	50.0
VII	**HEPATIC TUMOURS**	18	25	8	9	19	**60**	**79**	1.2	100.0	1.0	100.0	9.1	3.1	0.8	0.8	1.4	**2.1**	**2.0**	29	36	93.7	0.0
	a. Hepatoblastoma	18	22	2	3	0	**45**	**45**	0.9	75.0	0.6	57.0	9.1	2.7	0.2	0.3	-	**1.7**	**1.3**	22	22	97.8	0.0
	b. Hepatic carcinoma	0	3	5	6	18	**14**	**32**	0.3	23.3	0.4	40.5	-	0.4	0.5	0.5	1.4	**0.4**	**0.6**	7	13	93.8	0.0
	c. Unspecified	0	0	1	0	1	**1**	**2**	0.0	1.7	0.0	2.5	-	-	0.1	-	0.1	**0.0**	**0.0**	0	1	0.0	0.0
VIII	**BONE TUMOURS**	2	22	78	227	205	**329**	**534**	6.5	100.0	6.8	100.0	1.0	2.7	7.5	19.8	15.6	**9.1**	**10.6**	148	227	99.1	0.2
	a. Osteosarcoma	0	6	35	112	101	**153**	**254**	3.0	46.5	3.2	47.6	-	0.7	3.4	9.8	7.7	**4.2**	**5.0**	69	107	99.6	0.0
	b. Chondrosarcoma	0	0	2	1	13	**3**	**16**	0.1	0.9	0.2	3.0	-	-	0.2	0.1	1.0	**0.1**	**0.3**	1	6	100.0	0.0
	c. Ewing & related	1	13	37	105	78	**156**	**234**	3.1	47.4	3.0	43.8	0.5	1.6	3.5	9.2	5.9	**4.3**	**4.7**	71	100	100.0	0.0
	d. Other specified	1	3	1	4	8	**9**	**17**	0.2	2.7	0.2	3.2	0.5	0.4	0.1	0.3	0.6	**0.3**	**0.4**	4	7	100.0	0.0
	e. Unspecified	0	0	3	5	5	**8**	**13**	0.2	2.4	0.2	2.4	-	-	0.3	0.4	0.4	**0.2**	**0.3**	4	6	69.2	7.7
IX	**SOFT TISSUE SARCOMA**	21	102	90	105	238	**318**	**556**	6.3	100.0	7.1	100.0	10.6	12.5	8.6	9.2	18.1	**10.2**	**12.0**	150	241	100.0	0.0
	a. Rhabdomyosarcoma	10	81	57	33	53	**181**	**234**	3.6	56.9	3.0	42.1	5.1	10.0	5.5	2.9	4.0	**6.1**	**5.6**	87	107	100.0	0.0
	b. Fibrosarcoma	3	2	5	10	20	**20**	**40**	0.4	6.3	0.5	7.2	1.5	0.2	0.5	0.9	1.5	**0.6**	**0.8**	9	17	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	3	**0**	**3**	-	-	0.0	0.5	-	-	-	-	0.2	**-**	**0.1**	-	1	100.0	0.0
	d. Other specified	7	14	23	50	147	**94**	**241**	1.9	29.6	3.1	43.3	3.5	1.7	2.2	4.4	11.2	**2.8**	**4.7**	43	99	100.0	0.0
	e. Unspecified	1	5	5	12	15	**23**	**38**	0.5	7.2	0.5	6.8	0.5	0.6	0.5	1.0	1.1	**0.7**	**0.8**	11	16	100.0	0.0
X	**GERM CELL TUMOURS**	29	27	36	58	261	**150**	**411**	3.0	100.0	5.2	100.0	14.7	3.3	3.4	5.1	19.9	**4.7**	**8.1**	70	170	99.3	0.0
	a. CNS germ cell ‡	6	1	17	14	19	**38**	**57**	0.7	25.3	0.7	13.9	3.0	0.1	1.6	1.2	1.4	**1.1**	**1.2**	18	25	100.0	0.0
	b. Other extragonadal	15	10	4	2	14	**31**	**45**	0.6	20.7	0.6	10.9	7.6	1.2	0.4	0.2	1.1	**1.1**	**1.1**	15	20	100.0	0.0
	c. Gonadal germ cell	6	16	15	39	199	**76**	**275**	1.5	50.7	3.5	66.9	3.0	2.0	1.4	3.4	15.2	**2.3**	**5.2**	35	111	100.0	0.0
	d. Gonadal carcinoma	0	0	0	3	21	**3**	**24**	0.1	2.0	0.3	5.8	-	-	-	0.3	1.6	**0.1**	**0.4**	1	9	100.0	0.0
	e. Unspecified gonadal	2	0	0	0	8	**2**	**10**	0.0	1.3	0.1	2.4	1.0	-	-	-	0.6	**0.1**	**0.2**	1	4	70.0	0.0
XI	**CARCINOMA & MELANOMA**	5	22	47	148	474	**222**	**696**	4.4	100.0	8.9	100.0	2.5	2.7	4.5	12.9	36.1	**6.2**	**13.0**	101	281	100.0	0.0
	a. Adrenocortical	2	5	2	1	4	**10**	**14**	0.2	4.5	0.2	2.0	1.0	0.6	0.2	0.1	0.3	**0.4**	**0.3**	5	6	100.0	0.0
	b. Thyroid	0	4	20	65	183	**89**	**272**	1.8	40.1	3.5	39.1	-	0.5	1.9	5.7	13.9	**2.4**	**5.0**	40	110	100.0	0.0
	c. Nasopharyngeal	0	0	0	5	24	**5**	**29**	0.1	2.3	0.4	4.2	-	-	-	0.4	1.8	**0.1**	**0.5**	2	11	100.0	0.0
	d. Melanoma	2	10	14	29	115	**55**	**170**	1.1	24.8	2.2	24.4	1.0	1.2	1.3	2.5	8.8	**1.6**	**3.2**	25	69	100.0	0.0
	e. Skin carcinoma	0	1	2	18	49	**21**	**70**	0.4	9.5	0.9	10.1	-	0.1	0.2	1.6	3.7	**0.6**	**1.3**	9	28	100.0	0.0
	f. Other & unspecified	1	2	9	30	99	**42**	**141**	0.8	18.9	1.8	20.3	0.5	0.2	0.9	2.6	7.5	**1.2**	**2.6**	19	57	100.0	0.0
XII	**OTHER & UNSPECIFIED**	3	2	2	6	9	**13**	**22**	0.3	100.0	0.3	100.0	1.5	0.2	0.2	0.5	0.7	**0.4**	**0.5**	6	9	68.2	9.1
	a. Other specified	1	2	0	4	2	**7**	**9**	0.1	53.8	0.1	40.9	0.5	0.2	-	0.3	0.2	**0.2**	**0.2**	3	4	100.0	0.0
	b. Other unspecified	2	0	2	2	7	**6**	**13**	0.1	46.2	0.2	59.1	1.0	-	0.2	0.2	0.5	**0.2**	**0.3**	3	5	46.2	15.4
	TOTAL	496	1675	1326	1584	2758	**5081**	**7839**	100.0	100.0	100.0	100.0	251.2	206.0	127.0	138.5	210.2	**164.3**	**174.6**	2401	3452	95.4	0.4

† includes 460 non-malignant ‡ includes 7 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Sweden

Swedish Cancer Registry, 1990–2011

Staffan Khan, Niklas Toorell

Sweden is one of the Nordic countries of Europe. The country's climate is relatively mild considering the northerly latitudes, because of the significant maritime influence. Sweden covers an area of 450 295 km^2 and is sparsely populated; most of the population lives in the southern part of the country. In 2010, the population was 9.4 million (Table A.7), and 23% of the population was younger than 20 years (Table A.6). Almost 25% of the residents are foreign-born. Sweden ranks high in per capita income and has a social welfare system with universal health care and a high education level.

The general health-care system includes all medical specialties (including paediatric and adolescent oncology, pathology, and neuro-oncology). Children and adolescents with a cancer diagnosis are referred to one of six regional paediatric oncology centres, which coordinate both the medical and the psychosocial aspects of cancer care. Treatment is provided either at the paediatric cancer centre or at a local hospital, closer to the child's home, depending on the diagnosis and the services required. Children are followed up until age 18 years, for surveillance of late effects of the cancer or its treatment. The availability of specialists (both physicians and nurses) in paediatric oncology is evenly distributed within the population, but more specialists are needed.

The Swedish Cancer Registry has had national coverage since it was established in 1958 (Table A.10). The registry is managed by the Swedish National Board of Health and Welfare. Reporting of all malignant and certain non-malignant tumours is mandatory. The six regional paediatric cancer centres continuously register cases in coordination with reporting to certain clinical cancer registries. The Swedish Cancer Registry receives and consolidates regional data annually into a national database. Records are checked for duplicate entries, and patients are followed up annually through linkage to the population register for vital status and emigration. All residents of Sweden have a unique personal identification number, which enables linkage between data sources. Most incident cases are reported from at least two sources (a clinical report and a pathology report). Neoplasms have been coded according to ICD-O-3 since 2005 (Table A.10). All cancer diagnoses are also converted into earlier coding systems, to enable adequate analysis of time trends. Overall completeness of cancer registration is estimated to be 96%, with results varying between sites and ages. DCO cases are not included in the Swedish Cancer Registry, but this has negligible relevance for childhood cancer.

In addition to producing routine statistics (a statistical database and annual incidence reports are available at https://www.socialstyrelsen.se/), the registry shares data for use in quality assurance of public health services, including cancer prevention and cancer survival. Data are also used for clinical and epidemiological research.

PUBLICATIONS

Barlow L, Westergren K, Holmberg L, Talbäck M (2009). The completeness of the Swedish Cancer Register: a sample survey for year 1998. Acta Oncol. 48(1):27–33. https://doi.org/10.1080/02841860802247664 PMID:18767000

POPULATION AT RISK

The annual population data were provided by Statistics Sweden (https://www.scb.se/en) using data from censuses conducted in 1990 and 2005 and from a survey conducted in 2012 (Table A.7). Data were provided in the requested detail.

EDITORS' COMMENTS

The registry contributed to all three IICC volumes (Table A.1). Day of birth and day of incidence were not supplied (Table A.8), for confidentiality reasons, but they are recorded and are used by the registry to calculate age. Death certificates were not available for ascertainment of cancer cases (Table A.9). Thus, a proportion of new cases may be missed, although this proportion is believed to be small. Non-malignant CNS tumours are registered, and pilocytic astrocytoma is coded with uncertain behaviour. Basal cell skin carcinomas are not registered. Data on laterality are not presented, because the provided data did not include a code for bilateral tumours.

SWEDEN (1990-2011)

	Age group (years)	Males	Females
Person-years	0	1 187 181	1 123 916
	1-4	4 792 998	4 548 189
	5-9	5 994 295	5 688 932
	10-14	6 091 356	5 779 375
	15-19	6 275 277	5 951 121
	0-14	18 065 830	17 140 412
	0-19	24 341 107	23 091 533
Average annual population	0-14	821 174	779 110
	0-19	1 106 414	1 049 615

Please consult the quality indicators for this registry

SWEDEN (1990-2011)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	109	845	442	333	272	**1729**	**2001**	32.7	100.0	26.5	100.0	47.2	90.5	37.8	28.1	22.2	**52.0**	**45.3**	739	850	98.7	0.0
	a. Lymphoid	53	702	376	237	151	**1368**	**1519**	25.9	79.1	20.1	75.9	22.9	75.2	32.2	20.0	12.4	**41.3**	**34.8**	585	646	98.6	0.0
	b. Acute myeloid	41	99	51	72	87	**263**	**350**	5.0	15.2	4.6	17.5	17.7	10.6	4.4	6.1	7.1	**7.8**	**7.7**	112	148	99.4	0.0
	c. CMD	1	5	7	11	30	**24**	**54**	0.5	1.4	0.7	2.7	0.4	0.5	0.6	0.9	2.5	**0.7**	**1.1**	10	22	96.3	0.0
	d. MDS & other	2	12	0	1	0	**15**	**15**	0.3	0.9	0.2	0.7	0.9	1.3	-	0.1	-	**0.5**	**0.4**	6	6	93.3	0.0
	e. Unspecified	12	27	8	12	4	**59**	**63**	1.1	3.4	0.8	3.1	5.2	2.9	0.7	1.0	0.3	**1.8**	**1.5**	25	27	100.0	0.0
II	LYMPHOMA & RELATED	11	80	161	233	514	**485**	**999**	9.2	100.0	13.2	100.0	4.8	8.6	13.8	19.6	42.0	**13.2**	**19.7**	206	416	100.0	0.0
	a. Hodgkin	0	7	36	127	363	**170**	**533**	3.2	35.1	7.1	53.4	-	0.7	3.1	10.7	29.7	**4.3**	**10.0**	72	220	100.0	0.0
	b. Non-Hodgkin except BL	6	42	70	68	112	**186**	**298**	3.5	38.4	3.9	29.8	2.6	4.5	6.0	5.7	9.2	**5.2**	**6.1**	79	125	100.0	0.0
	c. Burkitt (BL)	0	9	28	18	17	**55**	**72**	1.0	11.3	1.0	7.2	-	1.0	2.4	1.5	1.4	**1.5**	**1.5**	23	30	100.0	0.0
	d. Lymphoreticular	4	10	5	0	0	**19**	**19**	0.4	3.9	0.3	1.9	1.7	1.1	0.4	-	-	**0.6**	**0.5**	8	8	100.0	0.0
	e. Unspecified	1	12	22	20	22	**55**	**77**	1.0	11.3	1.0	7.7	0.4	1.3	1.9	1.7	1.8	**1.5**	**1.6**	23	32	100.0	0.0
III	CNS NEOPLASMS †	78	429	441	420	361	**1368**	**1729**	25.9	100.0	22.9	100.0	33.8	45.9	37.7	35.4	29.5	**39.3**	**37.1**	583	731	89.5	0.0
	a. Ependymoma	19	58	40	30	35	**147**	**182**	2.8	10.7	2.4	10.5	8.2	6.2	3.4	2.5	2.9	**4.4**	**4.1**	63	77	100.0	0.0
	b. Astrocytoma	20	167	181	189	146	**557**	**703**	10.5	40.7	9.3	40.7	8.7	17.9	15.5	15.9	11.9	**15.8**	**15.0**	237	297	99.9	0.0
	c. CNS embryonal	13	94	108	63	42	**278**	**320**	5.3	20.3	4.2	18.5	5.6	10.1	9.2	5.3	3.4	**8.1**	**7.0**	119	136	100.0	0.0
	d. Other gliomas	9	12	25	34	44	**80**	**124**	1.5	5.8	1.6	7.2	3.9	1.3	2.1	2.9	3.6	**2.2**	**2.5**	34	52	99.2	0.0
	e. Other specified	8	24	30	48	56	**110**	**166**	2.1	8.0	2.2	9.6	3.5	2.6	2.6	4.0	4.6	**3.1**	**3.4**	47	70	100.0	0.0
	f. Unspecified CNS	9	74	57	56	38	**196**	**234**	3.7	14.3	3.1	13.5	3.9	7.9	4.9	4.7	3.1	**5.7**	**5.1**	84	99	23.1	0.0
IV	NEUROBLASTOMA	109	138	34	12	8	**293**	**301**	5.5	100.0	4.0	100.0	47.2	14.8	2.9	1.0	0.7	**9.4**	**7.5**	126	129	99.7	0.0
	a. (Ganglio)neuroblastoma	109	138	34	10	5	**291**	**296**	5.5	99.3	3.9	98.3	47.2	14.8	2.9	0.8	0.4	**9.4**	**7.4**	125	127	99.7	0.0
	b. Peripheral nervous	0	0	0	2	3	**2**	**5**	0.0	0.7	0.1	1.7	-	-	-	0.2	0.2	**0.0**	**0.1**	1	2	100.0	0.0
V	RETINOBLASTOMA	56	85	6	1	0	**148**	**148**	2.8	100.0	2.0	100.0	24.2	9.1	0.5	0.1	-	**4.9**	**3.8**	63	63	78.4	0.0
VI	RENAL TUMOURS	47	174	49	12	15	**282**	**297**	5.3	100.0	3.9	100.0	20.3	18.6	4.2	1.0	1.2	**9.0**	**7.2**	121	127	99.0	0.0
	a. Nephroblastoma	47	170	44	9	11	**270**	**281**	5.1	95.7	3.7	94.6	20.3	18.2	3.8	0.8	0.9	**8.6**	**6.9**	116	120	99.6	0.0
	b. Renal carcinoma	0	3	2	3	4	**8**	**12**	0.2	2.8	0.2	4.0	-	0.3	0.2	0.3	0.3	**0.2**	**0.3**	3	5	100.0	0.0
	c. Unspecified	0	1	3	0	0	**4**	**4**	0.1	1.4	0.1	1.3	-	0.1	0.3	-	-	**0.1**	**0.1**	2	2	50.0	0.0
VII	HEPATIC TUMOURS	29	35	8	7	10	**79**	**89**	1.5	100.0	1.2	100.0	12.5	3.7	0.7	0.6	0.8	**2.5**	**2.1**	34	38	100.0	0.0
	a. Hepatoblastoma	29	31	5	2	1	**67**	**68**	1.3	84.8	0.9	76.4	12.5	3.3	0.4	0.2	0.1	**2.2**	**1.7**	29	29	100.0	0.0
	b. Hepatic carcinoma	0	4	3	5	9	**12**	**21**	0.2	15.2	0.3	23.6	-	0.4	0.3	0.4	0.7	**0.3**	**0.4**	5	9	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	BONE TUMOURS	1	13	61	121	191	**196**	**387**	3.7	100.0	5.1	100.0	0.4	1.4	5.2	10.2	15.6	**5.1**	**7.5**	83	161	100.0	0.0
	a. Osteosarcoma	0	4	30	75	115	**109**	**224**	2.1	55.6	3.0	57.9	-	0.4	2.6	6.3	9.4	**2.8**	**4.3**	46	93	100.0	0.0
	b. Chondrosarcoma	0	1	1	7	15	**9**	**24**	0.2	4.6	0.3	6.2	-	0.1	0.1	0.6	1.2	**0.2**	**0.5**	4	10	100.0	0.0
	c. Ewing & related	0	8	30	34	53	**72**	**125**	1.4	36.7	1.7	32.3	-	0.9	2.6	2.9	4.3	**1.9**	**2.5**	31	52	100.0	0.0
	d. Other specified	0	0	0	4	6	**4**	**10**	0.1	2.0	0.1	2.6	-	-	-	0.3	0.5	**0.1**	**0.2**	2	4	100.0	0.0
	e. Unspecified	1	0	0	1	2	**2**	**4**	0.0	1.0	0.1	1.0	0.4	-	-	0.1	0.2	**0.1**	**0.1**	1	2	100.0	0.0
IX	SOFT TISSUE SARCOMA	48	100	86	112	152	**346**	**498**	6.5	100.0	6.6	100.0	20.8	10.7	7.4	9.4	12.4	**10.0**	**10.6**	147	210	100.0	0.0
	a. Rhabdomyosarcoma	16	63	52	18	29	**149**	**178**	2.8	43.1	2.4	35.7	6.9	6.7	4.5	1.5	2.4	**4.5**	**4.0**	64	76	100.0	0.0
	b. Fibrosarcoma	11	7	13	14	25	**45**	**70**	0.9	13.0	0.9	14.1	4.8	0.7	1.1	1.2	2.0	**1.3**	**1.5**	19	29	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	0	**1**	**1**	0.0	0.3	0.0	0.2	-	-	-	0.1	-	**0.0**	**0.0**	0	0	100.0	0.0
	d. Other specified	12	24	14	51	69	**101**	**170**	1.9	29.2	2.2	34.1	5.2	2.6	1.2	4.3	5.6	**2.8**	**3.5**	43	71	100.0	0.0
	e. Unspecified	9	6	7	28	29	**50**	**79**	0.9	14.5	1.0	15.9	3.9	0.6	0.6	2.4	2.4	**1.4**	**1.6**	21	33	100.0	0.0
X	GERM CELL TUMOURS	35	37	25	58	295	**155**	**450**	2.9	100.0	6.0	100.0	15.1	4.0	2.1	4.9	24.1	**4.5**	**8.9**	66	187	100.0	0.0
	a. CNS germ cell ‡	12	9	9	15	26	**45**	**71**	0.9	29.0	0.9	15.8	5.2	1.0	0.8	1.3	2.1	**1.3**	**1.5**	19	30	100.0	0.0
	b. Other extragonadal	18	8	0	2	12	**28**	**40**	0.5	18.1	0.5	8.9	7.8	0.9	-	0.2	1.0	**0.9**	**0.9**	12	17	100.0	0.0
	c. Gonadal germ cell	5	17	10	35	228	**67**	**295**	1.3	43.2	3.9	65.6	2.2	1.8	0.9	2.9	18.6	**1.9**	**5.6**	28	122	100.0	0.0
	d. Gonadal carcinoma	0	0	0	2	15	**2**	**17**	0.0	1.3	0.2	3.8	-	-	-	0.2	1.2	**0.0**	**0.3**	1	7	100.0	0.0
	e. Unspecified gonadal	0	3	6	4	14	**13**	**27**	0.2	8.4	0.4	6.0	-	0.3	0.5	0.3	1.1	**0.4**	**0.5**	6	11	100.0	0.0
XI	CARCINOMA & MELANOMA	4	7	28	127	435	**166**	**601**	3.1	100.0	8.0	100.0	1.7	0.7	2.4	10.7	35.6	**4.2**	**11.3**	70	248	99.8	0.0
	a. Adrenocortical	1	6	1	1	1	**9**	**10**	0.2	5.4	0.1	1.7	0.4	0.6	0.1	0.1	0.1	**0.3**	**0.2**	4	4	100.0	0.0
	b. Thyroid	0	1	19	45	138	**65**	**203**	1.2	39.2	2.7	33.8	-	0.1	1.6	3.8	11.3	**1.7**	**3.8**	28	84	100.0	0.0
	c. Nasopharyngeal	0	0	0	11	11	**11**	**22**	0.2	6.6	0.3	3.7	-	-	-	0.9	0.9	**0.3**	**0.4**	5	9	100.0	0.0
	d. Melanoma	2	0	1	24	178	**27**	**205**	0.5	16.3	2.7	34.1	0.9	-	0.1	2.0	14.6	**0.7**	**3.8**	11	84	99.5	0.0
	e. Skin carcinoma	0	0	0	2	7	**2**	**9**	0.0	1.2	0.1	1.5	-	-	-	0.2	0.6	**0.0**	**0.2**	1	4	100.0	0.0
	f. Other & unspecified	1	0	7	44	100	**52**	**152**	1.0	31.3	2.0	25.3	0.4	-	0.6	3.7	8.2	**1.3**	**2.8**	22	63	100.0	0.0
XII	OTHER & UNSPECIFIED	13	13	5	6	20	**37**	**57**	0.7	100.0	0.8	100.0	5.6	1.4	0.4	0.5	1.6	**1.1**	**1.3**	16	24	73.7	0.0
	a. Other specified	0	2	0	1	0	**3**	**3**	0.1	8.1	0.0	5.3	-	0.2	-	0.1	-	**0.1**	**0.1**	1	1	100.0	0.0
	b. Other unspecified	13	11	5	5	20	**34**	**54**	0.6	91.9	0.7	94.7	5.6	1.2	0.4	0.4	1.6	**1.1**	**1.2**	15	23	72.2	0.0
	TOTAL	540	1956	1346	1442	2273	**5284**	**7557**	100.0	100.0	100.0	100.0	233.7	209.4	115.2	121.5	185.9	**155.3**	**162.2**	2254	3184	96.6	0.0

† includes 653 non-malignant ‡ includes 21 non-malignant

Please consult the quality indicators for this registry

Switzerland

Switzerland is a landlocked country located in western Europe. It covers an area of 41 285 km^2, which lies between the Alps, the central plateau of Switzerland, and the Jura Mountains. The climate is generally temperate.

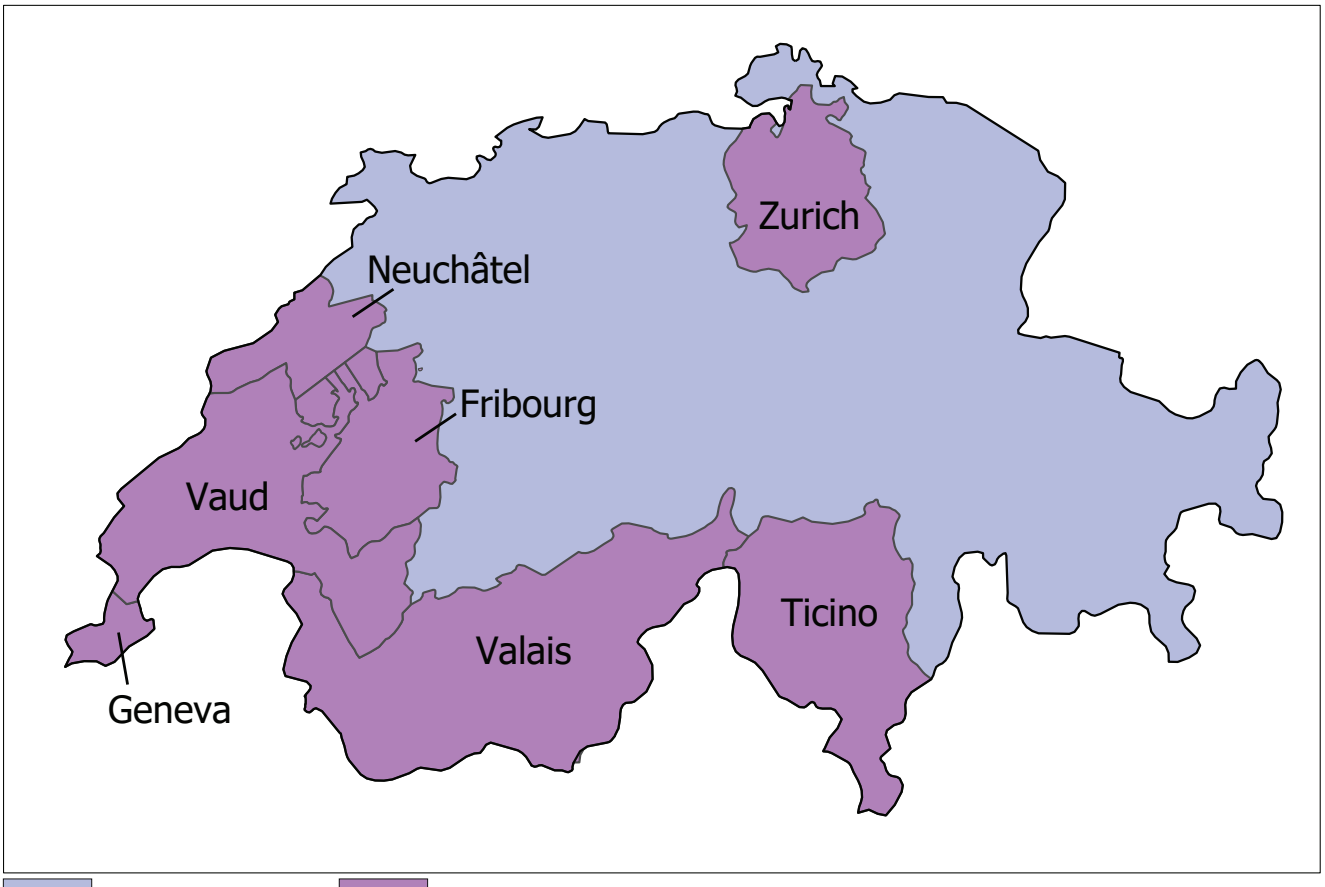
Switzerland (officially the Swiss Confederation, with the capital city of Bern) is divided into 26 cantons. In 2010, the population was 7.8 million (Table A.7); 15% of the population was younger than 15 years, and 21% was younger than 20 years (Table A.6). People speak one or several of the four official languages: German, French, Italian, and Romansh. Foreign-born residents (people without Swiss citizenship) comprise one quarter of the total population; most of them are from other European countries. Switzerland is a developed country. It ranks high in terms of government transparency, civil liberties, standard of living, economic competitiveness, and human development, and it has a stable modern economy.

Swiss citizens are required to purchase universal health insurance from private insurance companies, which are required to accept all applicants regardless of their medical condition or age. The insurance covers access to preventive and therapeutic care, including paediatric haematology and oncology and pharmaceuticals. The main supplementary health insurance policies, known as private and semi-private policies, cover additional benefits not covered by the compulsory health insurance (i.e. choice of hospital-based physician and superior levels of hospital accommodation). The cancer registries have no access to medical or social insurance data. All patients younger than 16 years diagnosed with cancer and a variable proportion of those diagnosed at ages 16–20 years are treated in one of the nine paediatric haematology and oncology units. Most children are monitored from birth by a paediatrician; the remainder are followed up by general practitioners.

Three Swiss cantons (Geneva, Neuchâtel, and Vaud) provided data on childhood cancer incidence to all three IICC volumes. Since 2007, the National Institute for Cancer Epidemiology and Registration (NICER) (https://www.nicer.org/en) foundation has promoted and supported population-based cancer registration and epidemiological cancer research in Switzerland. NICER is supported mainly by federal funds. The foundation compiles and aggregates data collected by all the cantonal and regional general cancer registries, of which there were 15 in October 2018, and cooperates with the Swiss Childhood Cancer Registry. The cantonal cancer registries exchange data on patients if the cases are ascertained outside the canton of residence. During the reporting period, notification of cancer was voluntary. A federal law of 2020 mandates cancer registration.

POPULATION AT RISK

The source of the population data is the Swiss Federal Statistical Office, which also conducts decennial national censuses (Table A.7). In 2010, the censuses were replaced by surveys provided by Population and Households Statistics (https://www.bfs.admin.ch/). These surveys are based on official registries (harmonized registers of people of the confederation, the cantons, and the communities, and the federal registry of dwellings). Population and Households Statistics presents the status of the population on 31 December of each year. Data were provided in the requested detail, by sex and single year of age.



EDITORS' COMMENTS

In the IICC-3 book, the Swiss data are presented in one table showing data for the Swiss Childhood Cancer Registry for the age group 0–14 years and in another table showing data combined from seven general cancer registries for the age group 0–19 years. The tables for the individual registries that constitute the combined dataset are available online; these are the full incidence tables for Geneva, Vaud, and Zurich and the abbreviated tables for Neuchâtel, Ticino, and Valais, which contribute to the Swiss pool table. No table is available for Fribourg, because of the small dataset, but the data from this registry are included in the pooled dataset (Table A.12). The Zurich Cancer Registry also contributed to IICC-2, and the registries of Geneva, Neuchâtel, and Vaud contributed to all three IICC volumes (Table A.1).

All registries can ascertain cancer cases from mortality records. The dates of birth and incidence are incomplete in most of the contributing registries (Table A.8); this may affect the age-specific incidence rates. All registries registered all or almost all non-malignant CNS tumours. The behaviour of pilocytic astrocytoma was originally coded according to the ICD-O edition in use (Table A.10), although most registries recoded pilocytic astrocytoma with uncertain behaviour according to ICD-O-3. There are few cases of pilocytic astrocytoma coded with malignant behaviour in the pooled dataset of general registries; the most recent such case is from 2000. The MV% for retinoblastoma differs between the Swiss Childhood Cancer Registry and the pooled dataset because of differences in the registration methods. Retinoblastoma is detected mostly by imaging and is treated non-invasively using laser surgery (enucleation); thus, pathology reports or samples are rarely provided. Although the Swiss Childhood Cancer Registry routinely collects imaging reports, cantonal cancer registries rely mainly on pathology reports. Laterality was complete in almost all registries; however, because the completeness was lower for retinoblastoma and ovarian tumours in the pooled dataset, the data for these two tumour types were not included in the laterality tables.

Swiss Childhood Cancer Registry, 1990–2013

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In 1976, the Swiss Paediatric Oncology Group established the Swiss Childhood Cancer Registry, a nationwide cancer registry for children and adolescents. Since 2004, the registry has been located at the Institute of Social and Preventive Medicine of the University of Bern. Detailed characteristics of the registry and its research are presented online (https://www.childhoodcancerregistry.ch/). All children and adolescents with cancer diagnosed or treated in one of the nine paediatric haematology and oncology units in Switzerland are reported to the Swiss Childhood Cancer Registry. The registry collects data on patients aged 0–20 years at diagnosis. Population-based data are available for the age range 0–14 years from 1990. A clinical research assistant in each clinic notifies new cases to the registry, using a standard notification form that includes patient identification data (name, date of birth, diagnosis, sex, address) and diagnostic details (exact diagnosis, localization, morphology, behaviour, staging, and metastases). Regular linkages with cantonal cancer registries, pathology laboratories, and mortality statistics enable the identification of patients who were not treated in paediatric cancer centres. Case ascertainment is excellent for children aged 0–15 years at diagnosis. Currently, coverage of adolescents aged 16–20 years is less satisfactory; however, it is expected to improve as a result of the 2020 federal law mandating cancer registration.

For children treated and followed up in paediatric cancer centres (for 5–10 years from the time of diagnosis), follow-up information on remissions, relapses, late effects, second tumours, changes in treatments, and clinical study participation is extracted annually from patient records by local data managers. Afterwards, information on vital status is regularly updated through community registries, mortality statistics, and linkage with cantonal registries. Information on morbidity, health behaviours, quality of life, and social and psychological outcomes is collected from the patients using questionnaires. Linkage with the Swiss National Cohort (https://www.swissnationalcohort.ch/) enables assessment of whether environmental and socioeconomic factors are associated with incidence and prognosis.

The Swiss Childhood Cancer Registry is authorized to collect non-anonymized data, by permission of the Swiss Federal Commission of Experts for Professional Secrecy in Medical Research. After the implementation in 2014 of the new act on human research, the new authorization issued by the Ethics Committee of the Canton of Bern was granted to the registry in July 2014.

PUBLICATIONS

Swiss Childhood Cancer Registry (2016). Annual report of the Swiss Childhood Cancer Registry 2014–2015. Available from: https://www.kinderkrebsregister.ch/zahlen-und-berichte/jahresberichte/.

Schindler M, Belle FN, Grotzer MA, von der Weid NX, Kuehni CE; Swiss Paediatric Oncology Group (SPOG) (2017). Childhood cancer survival in Switzerland (1976–2013): time-trends and predictors. Int J Cancer. 140(1):62–74. https://doi.org/10.1002/ijc.30434 PMID:27632765

POPULATION AT RISK

See Switzerland, above.

EDITORS' COMMENTS

In this paediatric cancer registry, registration focused on the age range 0–14 years during the reporting period. Therefore, data for the age groups 15–19 years and 0–19 years are not shown in the tables. The accuracy of the calculated age could not be verified at IARC; only year of birth and year of diagnosis were submitted (Table A.8), because of the data protection requirement, although complete dates are recorded by the registry. The reported proportion of non-malignant CNS tumours is high, because of strong links with neurology clinics throughout the country and systematic registration of all types of CNS tumours. Pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete for 99% of the cases of interest. Skin carcinomas are recorded, but notification is not complete, especially when the excision is performed by a practicing dermatologist. See also Switzerland, above.

SWITZERLAND, paediatric (1990-2013)

	Age group (years)	Males	Females
Person-years	0	964 658	913 554
	1-4	3 899 160	3 692 213
	5-9	4 964 121	4 699 848
	10-14	5 102 561	4 830 782
	0-14	14 930 500	14 136 397
Average annual population	0-14	622 104	589 017

Please consult the quality indicators for this registry

SWITZERLAND, paediatric (1990-2013)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	63	701	404	296	**1464**	32.7	100.0	33.5	92.3	41.8	29.8	**53.4**	761	99.5	0.1
	a. Lymphoid	25	605	327	208	**1165**	26.0	79.6	13.3	79.7	33.8	20.9	**42.7**	607	99.8	0.1
	b. Acute myeloid	26	76	52	57	**211**	4.7	14.4	13.8	10.0	5.4	5.7	**7.6**	109	97.6	0.0
	c. CMD	0	2	5	11	**18**	0.4	1.2	-	0.3	0.5	1.1	**0.6**	9	100.0	0.0
	d. MDS & other	7	15	16	18	**56**	1.2	3.8	3.7	2.0	1.7	1.8	**2.0**	29	100.0	0.0
	e. Unspecified	5	3	4	2	**14**	0.3	1.0	2.7	0.4	0.4	0.2	**0.5**	7	100.0	0.0
II	LYMPHOMA & RELATED	14	93	158	285	**550**	12.3	100.0	7.5	12.3	16.3	28.7	**18.0**	282	98.9	0.2
	a. Hodgkin	0	11	37	157	**205**	4.6	37.3	-	1.4	3.8	15.8	**6.3**	104	99.5	0.0
	b. Non-Hodgkin except BL	5	30	63	81	**179**	4.0	32.5	2.7	4.0	6.5	8.2	**5.9**	92	99.4	0.6
	c. Burkitt (BL)	1	29	49	39	**118**	2.6	21.5	0.5	3.8	5.1	3.9	**4.0**	61	99.2	0.0
	d. Lymphoreticular	8	22	8	8	**46**	1.0	8.4	4.3	2.9	0.8	0.8	**1.7**	24	93.5	0.0
	e. Unspecified	0	1	1	0	**2**	0.0	0.4	-	0.1	0.1	-	**0.1**	1	100.0	0.0
III	CNS NEOPLASMS †	61	279	368	276	**984**	22.0	100.0	32.5	36.8	38.1	27.8	**34.2**	509	86.3	0.1
	a. Ependymoma	22	44	21	11	**98**	2.2	10.0	11.7	5.8	2.2	1.1	**3.7**	51	100.0	0.0
	b. Astrocytoma	7	113	146	123	**389**	8.7	39.5	3.7	14.9	15.1	12.4	**13.4**	201	91.5	0.0
	c. CNS embryonal	22	67	97	34	**220**	4.9	22.4	11.7	8.8	10.0	3.4	**7.9**	114	97.7	0.5
	d. Other gliomas	1	27	53	24	**105**	2.3	10.7	0.5	3.6	5.5	2.4	**3.6**	54	27.6	0.0
	e. Other specified	5	25	48	75	**153**	3.4	15.5	2.7	3.3	5.0	7.6	**5.0**	78	94.8	0.0
	f. Unspecified CNS	4	3	3	9	**19**	0.4	1.9	2.1	0.4	0.3	0.9	**0.6**	10	31.6	0.0
IV	NEUROBLASTOMA	134	128	17	14	**293**	6.5	100.0	71.3	16.9	1.8	1.4	**11.7**	154	90.8	1.0
	a. (Ganglio)neuroblastoma	134	128	17	13	**292**	6.5	99.7	71.3	16.9	1.8	1.3	**11.7**	154	90.8	1.0
	b. Peripheral nervous	0	0	0	1	**1**	0.0	0.3	-	-	-	0.1	**0.0**	1	100.0	0.0
V	RETINOBLASTOMA	59	57	7	1	**124**	2.8	100.0	31.4	7.5	0.7	0.1	**5.0**	65	29.8	0.0
VI	RENAL TUMOURS	28	134	59	11	**232**	5.2	100.0	14.9	17.7	6.1	1.1	**8.9**	122	97.0	0.0
	a. Nephroblastoma	28	134	57	7	**226**	5.0	97.4	14.9	17.7	5.9	0.7	**8.7**	119	96.9	0.0
	b. Renal carcinoma	0	0	2	4	**6**	0.1	2.6	-	-	0.2	0.4	**0.2**	3	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	17	19	7	11	**54**	1.2	100.0	9.1	2.5	0.7	1.1	**2.0**	28	96.3	1.9
	a. Hepatoblastoma	15	19	6	5	**45**	1.0	83.3	8.0	2.5	0.6	0.5	**1.7**	24	97.8	0.0
	b. Hepatic carcinoma	1	0	1	6	**8**	0.2	14.8	0.5	-	0.1	0.6	**0.2**	4	100.0	0.0
	c. Unspecified	1	0	0	0	**1**	0.0	1.9	0.5	-	-	-	**0.0**	1	0.0	100.0
VIII	BONE TUMOURS	0	12	65	127	**204**	4.6	100.0	-	1.6	6.7	12.8	**6.4**	104	100.0	0.0
	a. Osteosarcoma	0	5	33	66	**104**	2.3	51.0	-	0.7	3.4	6.6	**3.2**	53	100.0	0.0
	b. Chondrosarcoma	0	0	0	3	**3**	0.1	1.5	-	-	-	0.3	**0.1**	2	100.0	0.0
	c. Ewing & related	0	7	31	56	**94**	2.1	46.1	-	0.9	3.2	5.6	**3.0**	48	100.0	0.0
	d. Other specified	0	0	1	1	**2**	0.0	1.0	-	-	0.1	0.1	**0.1**	1	100.0	0.0
	e. Unspecified	0	0	0	1	**1**	0.0	0.5	-	-	-	0.1	**0.0**	1	100.0	0.0
IX	SOFT TISSUE SARCOMA	34	89	71	109	**303**	6.8	100.0	18.1	11.7	7.3	11.0	**10.6**	157	99.7	0.0
	a. Rhabdomyosarcoma	18	67	42	42	**169**	3.8	55.8	9.6	8.8	4.3	4.2	**6.1**	88	100.0	0.0
	b. Fibrosarcoma	4	4	2	10	**20**	0.4	6.6	2.1	0.5	0.2	1.0	**0.7**	10	100.0	0.0
	c. Kaposi sarcoma	0	1	0	1	**2**	0.0	0.7	-	0.1	-	0.1	**0.1**	1	100.0	0.0
	d. Other specified	4	11	26	46	**87**	1.9	28.7	2.1	1.4	2.7	4.6	**2.8**	45	100.0	0.0
	e. Unspecified	8	6	1	10	**25**	0.6	8.3	4.3	0.8	0.1	1.0	**0.9**	13	96.0	0.0
X	GERM CELL TUMOURS	25	31	18	59	**133**	3.0	100.0	13.3	4.1	1.9	5.9	**4.6**	69	97.0	0.0
	a. CNS germ cell ‡	1	2	11	19	**33**	0.7	24.8	0.5	0.3	1.1	1.9	**1.0**	17	87.9	0.0
	b. Other extragonadal	19	12	0	3	**34**	0.8	25.6	10.1	1.6	-	0.3	**1.4**	18	100.0	0.0
	c. Gonadal germ cell	4	17	7	36	**64**	1.4	48.1	2.1	2.2	0.7	3.6	**2.1**	33	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	**1**	0.0	0.8	-	-	-	0.1	**0.0**	1	100.0	0.0
	e. Unspecified gonadal	1	0	0	0	**1**	0.0	0.8	0.5	-	-	-	**0.0**	1	100.0	0.0
XI	CARCINOMA & MELANOMA	3	6	24	95	**128**	2.9	100.0	1.6	0.8	2.5	9.6	**3.9**	65	94.5	0.8
	a. Adrenocortical	1	1	1	3	**6**	0.1	4.7	0.5	0.1	0.1	0.3	**0.2**	3	100.0	0.0
	b. Thyroid	0	0	4	25	**29**	0.6	22.7	-	-	0.4	2.5	**0.9**	15	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	**1**	0.0	0.8	-	-	-	0.1	**0.0**	1	100.0	0.0
	d. Melanoma	2	3	11	32	**48**	1.1	37.5	1.1	0.4	1.1	3.2	**1.5**	24	91.7	0.0
	e. Skin carcinoma	0	2	3	9	**14**	0.3	10.9	-	0.3	0.3	0.9	**0.4**	7	100.0	0.0
	f. Other & unspecified	0	0	5	25	**30**	0.7	23.4	-	-	0.5	2.5	**0.9**	15	90.0	3.3
XII	OTHER & UNSPECIFIED	2	3	1	6	**12**	0.3	100.0	1.1	0.4	0.1	0.6	**0.4**	6	58.3	0.0
	a. Other specified	1	3	0	1	**5**	0.1	41.7	0.5	0.4	-	0.1	**0.2**	3	100.0	0.0
	b. Other unspecified	1	0	1	5	**7**	0.2	58.3	0.5	-	0.1	0.5	**0.2**	4	28.6	0.0
	TOTAL	440	1552	1199	1290	**4481**	100.0	100.0	234.3	204.4	124.1	129.9	**159.2**	2321	93.6	0.2

† includes 404 non-malignant ‡ includes 6 non-malignant

Please consult the quality indicators for this registry

SWITZERLAND, 7 registries (1990-2013)

Registry	Period	Cases	%	Person-years	%
Fribourg	2006-2013	120	4.5	534 716	3.7
Geneva	1993-2013	345	12.9	1 954 486	13.7
Neuchâtel	1993-2013	163	6.1	802 020	5.6
Ticino	1996-2012	201	7.5	1 053 292	7.4
Valais	1990-2012	270	10.1	1 531 149	10.7
Vaud	1993-2012	520	19.5	2 971 432	20.8
Zurich	1993-2013	1046	39.2	5 420 147	38.0
SWITZERLAND	**1990-2013**	**2665**	**100.0**	**14 267 242**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

Fribourg Cancer Registry, 2006–2013

Bertrand Camey

The cancer registry of the canton of Fribourg started operating on 1 January 2006 (https://fribourg.liguecancer.ch/registre-des-tumeurs/). It covers the whole population of the canton. The cantonal population of 0.3 million is slightly younger than the national average (Table A.6), with slow but constant growth and rejuvenation.

The Fribourg Cancer Registry receives information from all data sources in the canton, including pathology laboratories, hospitals, oncologists, and the compulsory medical statistics hospital reports. All malignant tumours (invasive and in situ) of any topography and non-malignant tumours of the CNS are registered. Anonymized data are transferred annually to NICER, which produces cantonal and national statistics.

POPULATION AT RISK

See Switzerland, above.

EDITORS' COMMENTS

The number of incident cases during the reporting period was not sufficiently large for presentation of the data in a full table, but the registry contributed to the national pool (Table A.12). More than half of the CNS tumours were non-malignant (many of them meningioma); pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete for the cases of interest. See also Switzerland, above.

Geneva Cancer Registry, 1993–2013

Isabelle Neyroud-Caspar, Elisabetta Rapiti

The canton of Geneva in western Switzerland accounts for 5.8% of the total Swiss population. Geneva is surrounded by the Jura Mountains and the Alps. The canton covers an area of 282 km^2. The population is 0.5 million, and 22% of the population is younger than 20 years (Table A.6); 80% of the population lives in urban areas. The population structure is the result of a low fertility rate, a high life expectancy, and fairly heavy immigration of economically active people. The proportion of foreign-born residents is about 40%. Economic activity is concentrated in the administrative and service sectors. There is one paediatric unit in the public Cantonal University Hospital, which provides outpatient consultation and a day hospital, and paediatric emergency consultation services in a private clinic. Almost all cases of cancer in patients younger than 20 years are treated in this unit.

The Geneva Cancer Registry was established in 1970 and has been affiliated with the University of Geneva since 1999. The registry covers the entire population of the canton of Geneva. The registry staff consists of 12 employees, including three physicians and two statisticians. The Cantonal University Hospital, the five private clinics, all the pathology laboratories, and private practitioners in the canton are requested to report all cancer cases. An annual list of hospitalizations with any tumour diagnosis code enables the recording of tumours without histology information. The adult and paediatric oncology services provide annual listings, which enable the registry to record new cases and treatments. Trained tumour registrars systematically abstract data from medical and laboratory records. Tumours are coded according to IARC rules. Tumour staging is coded according to TNM-7. Passive and active follow-up is performed annually using the Cantonal Population Office records; this office is responsible for the registration of the resident population. Cause of death is ascertained from clinical files and from death certificates

from the Swiss Federal Statistical Office. The DCO% is very low (< 1% in 2008–2012). The low proportion of cases found at autopsy (0.3% in 2008–2012) compared with the total number of histologically confirmed cases suggests that most cases are identified during the lifetime of the patient.

The registry routinely publishes incidence and survival data. It conducts studies and collaborates on epidemiological studies at the local, national, and international levels. The registry transmits data annually to the Swiss Childhood Cancer Registry.

POPULATION AT RISK

Population data were provided by the Geneva Cancer Registry in the requested detail for 1993–2012. The population data for 2013 were estimated at IARC using the methods described in Chapter 2. See also Switzerland, above.

EDITORS' COMMENTS

The registry has access to death certificates, but no DCO cases were identified among the patients diagnosed before age 20 years (Table A.9). The reported proportion of non-malignant CNS tumours is high (Table A.9), although only intracranial tumours are eligible for registration, because of strong links with the neurology clinic in the registration area. Pilocytic astrocytoma was coded with malignant behaviour until 2002 and was recoded with uncertain behaviour according to ICD-O-3 for submission to IICC-3. Laterality was complete for the cases of interest. Malignant carcinoid tumours of the appendix made up 2.3% of the cases (Table A.11). See also Switzerland, above.

Neuchâtel Cancer Registry, 1993–2013

Manuela Maspoli-Conconi, Roland Choffat, Lalao Randimbison, Fabio Levi

The French-speaking canton of Neuchâtel is located in western Switzerland and shares half of its border with France. It covers an area of 803 km^2. The population is 0.2 million, and 22% of the population is younger than 20 years (Table A.6). The canton is a mainly rural region, with only two cities with about 35 000 inhabitants. In the absence of heavy industry, watchmaking and the microtechnology industry are the main economic activities. Almost all the population is White; 23% are Protestant, 24% are Catholic, and 40% are non-religious. Foreign-born residents (predominantly of Mediterranean origin) make up about 25% of residents. In 2012, the main occupational sectors in the canton of Neuchâtel were industry (35%), agriculture (2%), and services (63%).

In 2012, the region had about 4 hospital beds available for diagnosis and treatment per 1000 residents, and 337 practicing physicians (including 27 paediatricians). Radiotherapy and oncology services for adults are integrated into a unique coordinated multisite public organization that covers the whole area. Paediatric oncology services (diagnosis and treatment) are provided in university medical centres in the neighbouring cantons (e.g. Bern and Vaud).

The Neuchâtel Cancer Registry was established in 1972, and population-based data are available from 1974 (Table A.10). Until 2012, the registry received 60% of its funding from the local League Against Cancer and 40% from the cantonal public health department. Since 2013, the registry has been fully funded by the cantonal public health department. Additional support is also provided by the Swiss government through NICER.

Information is provided mainly by the Neuchâtel Institute of Pathology through biopsy, cytology, and autopsy reports. The paediatric cases are provided by neighbouring cancer registries or identified by periodic linkage with the database of the Swiss Childhood Cancer Registry. Notification is voluntary for medical institutions. Additional information is abstracted by the registry staff from electronic hospital charts. The registry routinely integrates abstracts of medical records into its database and performs periodic electronic linkage between the registry database and the centralized cantonal administrative population database (active follow-up). All death certificates established within the region are checked against the registry files annually. The registry follows IARC/IACR rules for the definition of incidence and multiple primary tumours.

The registry publishes routine annual incidence and mortality data by sex, age, and primary site, provides data for local planning purposes, and contributes anonymized annual incidence data to NICER. The registry also conducts epidemiological studies in collaboration with the Vaud Cancer Registry.

PUBLICATIONS

Levi F, Siegenthaler P, Méan AM, Baumann RP, Erler G, Haefliger JM (1997). Neuchâtel Tumor Registry: evaluation and results of 25 years of activity. [in French] Rev Med Suisse Romande. 117(7):537–86. PMID:9289808

Levi F, Moeckli R, Randimbison L, Te VC, Maspoli M, La Vecchia C (2006). Skin cancer in survivors of childhood and adolescent cancer. Eur J Cancer. 42(5):656–9. https://doi.org/10.1016/j.ejca.2005.08.042 PMID:16442793

POPULATION AT RISK

See Switzerland, above.

EDITORS' COMMENTS

The small number of cases may have contributed to some of the observed extreme values described below. The MV% is very high (Table A.9); however, given the high overall incidence rates (Table A.9), it is unlikely that any cases diagnosed clinically were missed. The date of birth and date of incidence were considered incomplete for a proportion of cases, because of the high proportion of certain days or months. This resulted in inconsistency between the reported age and the dates for 4% of cases (Table A.8). The proportion of cases aged 19 years in the age group 15–19 years was 33.3% (Table A.9), but the age was queried in only one such case. The reported proportion of non-malignant CNS tumours is high because of systematic registration of all types of CNS tumours. Pilocytic astrocytoma was coded with malignant behaviour until 2005 and recoded with uncertain behaviour according to the ICD-O edition in use (Table A.10). Laterality was complete for the cases of interest. See also Switzerland, above.

Ticino Cancer Registry, 1996–2012

Laura Ortelli, Paola Mazzola, Simona Peverelli, Alessandra Spitale, Andrea Bordoni

The canton of Ticino is located in the southernmost part of Switzerland. It covers an area of 2812 km^2 and is bordered by the canton of Uri to the north, by the canton of Graubünden and by Italy to the east, and by Italy to the south and west. The highest point is 3402 m above sea level, and the lowest is 194 m above sea level. The population is 0.3 million, and 19% of the population is younger than 20 years (Table A.6). The foreign-born population makes up 27% of the total and originates mainly in Italy, Portugal, Serbia, and Montenegro. Most of the population is Christian (76% are Catholic). The official language is Italian. The economy is based mainly on the services sector. The areas of trade, gastronomy, finances, insurance and real estate activities, health and social care, education, transportation, communication, and public administration employ about 81% of the population, followed by industry and manufacturing (17%) and farming and forestry (2%).

During the reporting period, the canton of Ticino had four public hospitals (two with a specific paediatric and adolescent oncology department), six private health-care facilities, and one radiotherapy department (located at the hospital in Bellinzona).

The Ticino Cancer Registry (https://www4.ti.ch/dss/dsp/rct/home) was established in 1995 by the local government through a cantonal law, based on a popular initiative; the registry began its activities in 1996 (Table A.10). The registry is mostly government-funded, with additional funding from the Federal Ministry of Health, through NICER. The registry is located within the Cantonal Institute of Pathology and Cytology and is staffed by a full-time physician, two data managers, and two full-time statisticians. About 80% of cases are notified by the Cantonal Institute of Pathology and Cytology. Additional cases come from the main public and private hospitals, radiotherapy and oncology centres, haematology laboratories, oncologists, general practitioners, and other Swiss cancer registries.

The registry database includes all children and adolescents with a malignant tumour at any site or with a non-malignant CNS tumour, diagnosed at age 0–19 years. Data are actively collected, checked, and coded manually by registry staff members before being entered into the database. Initial plausibility tests are automatically performed during the data entry phase. In addition, the registry staff members periodically apply IARC checks and rules for multiple primary tumours and several other plausibility, validity, and consistency checks (e.g. logical sequence of dates, validity of codes, and morphology by topography, sex, and age). Active follow-up for vital status of all patients with tumours is performed annually, by consulting the electronic records of the cantonal population office, accessible online.

Policy-makers frequently use registry data to plan and evaluate health services. The registry also conducts epidemiological research at the local, national, and international levels, including analysis of prognostic factors, incidence, and survival (e.g. EUROCARE, Cancer Registry-Based Project on Haematologic Malignancies [HAEMACARE], RARECARE, CONCORD, EUROCIM, and the Swiss HIV Cohort Study).

POPULATION AT RISK

See Switzerland, above.

EDITORS' COMMENTS

Although the registry collects complete dates of birth and incidence, the days were not provided in the submitted datasets (Table A.8); thus, the accuracy of the calculated age could not be verified at IARC. The MV% is very high; this suggests that some cases diagnosed clinically may be missed by the registry, and this may affect the resulting incidence rates. The registry has access to death certificates, but no DCO cases were identified among the patients diagnosed before age 20 years (Table A.9). Non-malignant CNS tumours were registered, but their low proportion suggests that some may have been missed. Pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete for 88% of the cases of interest. See also Switzerland, above.

Valais Cancer Registry, 1990–2012

Isabelle Konzelmann

The canton of Valais covers an area of 5225 km^2 and is located in southern Switzerland. The economy is supported mainly by production of wine and fruit brandies, cattle breeding, and tourism. Industries include hydroelectric power plants, agricultural factories, an oil refinery, a large aluminium processing plant, and other metal and chemical production. The population is 0.3 million (4% of the national population), and 21% of the population is younger than 20 years (Table A.6). About 25% of the population lives in the German-speaking area (Upper Valais), and 75% lives in the French-speaking area (Central Valais and Lower Valais). Foreign-born residents (mainly from Italy, Portugal, Serbia, and Montenegro) make up 24% of the population.

General health care in the region is provided predominantly by one public hospital and a few private clinics. This is supplemented by more than 800 private practitioners (25 physicians per 10 000 residents in 2013). Children suspected to have cancer are admitted to the hospital in Sion (the capital of the canton of Valais) to receive care in the department of paediatrics. Patients who require more complex treatment are referred to university centres in Lausanne or Geneva (for French-speaking people) and in Bern or Zürich (for German-speaking people).

The registry was established in 1989 (Table A.10); it is located in Sion and has been administered by the Valais Health Observatory (https://www.ovs.ch/) since 2001. The registry is funded primarily by the canton of Valais, and NICER provides a portion of the funding. The registry uses passive and active case finding from

numerous sources (pathology laboratories, hospitals, oncology and radiotherapy departments, other Swiss cantons, and death certificates). All malignant invasive and in situ tumours and brain tumours of any behaviour in all residents of the canton are registered. The registry follows IARC and ENCR coding rules. Active follow-up of registered patients is conducted by inquiring about the vital status or migration of the patients in the communes of their registered residence. The incidence data are used to inform public health planners, health professionals, and the general population about cancer in the population. Anonymized data are transferred to NICER for incidence, prevalence, mortality, and survival analysis.

POPULATION AT RISK

See Switzerland, above.

EDITORS' COMMENTS

Dates of birth and incidence were incomplete for a proportion of cases, and because the originally provided age was queried in almost half of the cases, the age recalculated at IARC was used in analyses (Table A.8). Pilocytic astrocytoma was coded with malignant behaviour until 2002 and with uncertain behaviour thereafter, according to the ICD-O edition in use (Table A.10). Laterality was complete for the cases of interest. See also Switzerland, above.

Vaud Cancer Registry, 1993–2012

Rafael Blanc Moya, Lalao Randimbison, Fabio Levi

The French-speaking canton of Vaud covers an area of 3212 km^2 and has a population of 0.7 million; 23% of the population is younger than 20 years (Table A.6).The canton is divided into 318 communes (16 with more than 5000 residents), which are grouped into 10 administrative and political districts. The canton's capital, Lausanne, hosts about 30% of the canton's total population. The population density is slightly higher than the national average. Foreign-born residents, predominantly of Mediterranean origin, make up about 32% of the population. The economy is based heavily on services that offer high added value (health care, finance, insurance, consulting, education, and research); almost 80% of workers are employed in these services. The canton also has state-of-the-art industrial activities, notably in the fields of micromechanics, electronics, watchmaking, medical engineering, information technology, and biotechnology.

The canton of Vaud has advanced hospital facilities and medical infrastructures; the Vaud University Hospital Centre is a hub of medicine and medical research in Europe. In 2011, the canton had about 3750 hospital beds available for cancer diagnosis and treatment (~5 per 1000 residents) and about 5860 hospital medical residents and private practitioners (4.1 per 1000 residents). Cancer care is provided by one major, multidisciplinary, public university oncology and radiotherapy centre, by four private radiotherapy units available to all residents, and by several peripheral (mostly hospital-based) medical and surgical oncology facilities and specialists.

The Vaud Cancer Registry, which covers the entire canton of Vaud, is part of the Cancer Epidemiology Unit of the Institute of Social and Preventive Medicine within the Faculty of Biology and Medicine of the University of Lausanne. Notification is voluntary. The main sources of information are the University Institute of Pathology of the University of Lausanne and three major private pathology laboratories. Registered patients are followed up passively and actively. Data on all deaths in the canton are available for review by the registry. All non-melanoma skin cancers are registered and linked to reports of selected preneoplastic conditions to the registry database for study of subsequent cancer risk. The registry also analyses the risk of second neoplasm and trends in survival.

POPULATION AT RISK

See Switzerland, above.

EDITORS' COMMENTS

The calculated age was inconsistent with the provided dates in 2.7% of cases (Table A.8). The MV% is very high overall (Table A.9), especially for CNS tumours; this suggests that some cases diagnosed clinically may be missed by the registry, and this may affect the resulting incidence rates. The reported proportion of non-malignant CNS tumours was high (Table A.9) because of the systematic registration of all types of CNS tumours. Pilocytic astrocytoma was recorded with malignant behaviour until 2005, but all cases were recoded with uncertain behaviour for submission to IICC-3, according to the ICD-O in use. Laterality was provided for 94% of the cases of interest, and it was complete for nephroblastoma. See also Switzerland, above.

Zurich Cancer Registry, 1993–2013

Sabine Rohrmann, Dimitri Korol, Manuela Limam, Katarina Matthes, Miriam Wanner

The predominantly urban, German-speaking canton of Zurich is located in north-eastern Switzerland and covers an area of 1729 km^2. Although most of the land is cultivated, manufacturing predominates in all parts of the canton. There is a large paper industry, and many small and medium-sized companies are active in construction and electronics. The service sector employs 84% of the population, and the city of Zurich is a major financial centre.

The population is 1.4 million, and 20% of the population is younger than 20 years (Table A.6). Foreign-born residents (mainly from eastern and southern Europe and Germany) make up about 25% of the population. There are more than 40 cantonal, public, or private hospitals and clinics, some of which have oncology departments providing specialized services (e.g. radiotherapy). The children's hospital in Zurich, which has an oncology department, is the referral centre for children with cancer.

The Zurich Cancer Registry, which was established in 1980 (Table A.10), covers the entire canton. It is affiliated with the Institute of Pathology and Molecular Pathology at the University Hospital Zurich, and with the Epidemiology, Biostatistics and Prevention Institute at the University of Zurich. The main information sources are reports from public and private pathology and haematology institutes. Additional sources are patient lists with cancer-specific ICD-10 codes from hospital statistics and medical records. Most of these files are actively abstracted by the registry staff. Treating physicians are asked for further information when needed. Date of death is supplied by official population registries and by the Swiss Federal Statistical Office. Death certificates are used for additional case finding. All information is manually checked and coded. Plausibility checks are performed regularly and before data submission or analysis. The data sources and procedures are the same for children and adults. Completeness of registration is estimated to be high and stable. Patients are followed up for vital status actively in 1-year and 5-year follow-up procedures and passively. Because the canton of Zurich lacks a centralized population register, individual requests are sent to the respective residents' registration offices.

Registry data are used to produce annual cantonal cancer incidence and mortality statistics and national statistics to help policy-makers plan and evaluate health services. The registry also participates in national and international studies.

POPULATION AT RISK

See Switzerland, above.

EDITORS' COMMENTS

Although the registry collects complete dates of birth and incidence, the days were not provided in the submitted datasets (Table A.8); thus, the accuracy of the calculated age could not be verified at IARC. The reported proportion of non-malignant CNS tumours was high because of systematic registration of all types of CNS tumours (Table A.9). Pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete for nephroblastoma and gonadal tumours. See also Switzerland, above.

SWITZERLAND, 7 registries (1990-2013)

	Age group (years)	Males	Females
Person-years	0	354 034	334 713
	1-4	1 462 730	1 383 369
	5-9	1 814 987	1 718 332
	10-14	1 824 395	1 730 537
	15-19	1 859 584	1 784 561
	0-14	5 456 146	5 166 951
	0-19	7 315 730	6 951 512

Please consult the quality indicators for this pool and its constituent registries

SWITZERLAND, 7 registries (1990-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	29	274	138	110	77	551	628	30.6	100.0	23.6	100.0	42.1	96.3	39.1	30.9	21.1	54.8	47.2	779	884	99.4	0.6
	a. Lymphoid	11	222	113	77	38	423	461	23.5	76.8	17.3	73.4	16.0	78.0	32.0	21.7	10.4	42.1	35.0	598	650	99.3	0.7
	b. Acute myeloid	13	33	11	23	21	80	101	4.4	14.5	3.8	16.1	18.9	11.6	3.1	6.5	5.8	7.9	7.4	113	142	100.0	0.0
	c. CMD	0	1	4	5	14	10	24	0.6	1.8	0.9	3.8	-	0.4	1.1	1.4	3.8	0.9	1.5	14	33	100.0	0.0
	d. MDS & other	3	5	2	3	4	13	17	0.7	2.4	0.6	2.7	4.4	1.8	0.6	0.8	1.1	1.3	1.3	18	24	100.0	0.0
	e. Unspecified	2	13	8	2	0	25	25	1.4	4.5	0.9	4.0	2.9	4.6	2.3	0.6	-	2.5	2.0	35	35	96.0	4.0
II	LYMPHOMA & RELATED	6	46	71	107	236	230	466	12.8	100.0	17.5	100.0	8.7	16.2	20.1	30.1	64.8	20.9	30.8	325	648	100.0	0.0
	a. Hodgkin	0	7	14	58	162	79	241	4.4	34.3	9.0	51.7	-	2.5	4.0	16.3	44.5	6.8	15.3	111	334	100.0	0.0
	b. Non-Hodgkin except BL	4	14	32	36	64	86	150	4.8	37.4	5.6	32.2	5.8	4.9	9.1	10.1	17.6	7.8	10.0	121	209	100.0	0.0
	c. Burkitt (BL)	0	15	21	10	8	46	54	2.6	20.0	2.0	11.6	-	5.3	5.9	2.8	2.2	4.4	3.9	65	76	100.0	0.0
	d. Lymphoreticular	2	8	4	3	1	17	18	0.9	7.4	0.7	3.9	2.9	2.8	1.1	0.8	0.3	1.7	1.4	24	25	100.0	0.0
	e. Unspecified	0	2	0	0	1	2	3	0.1	0.9	0.1	0.6	-	0.7	-	-	0.3	0.2	0.2	3	4	100.0	0.0
III	CNS NEOPLASMS †	23	105	144	124	106	396	502	22.0	100.0	18.8	100.0	33.4	36.9	40.8	34.9	29.1	37.3	35.4	559	705	86.7	0.2
	a. Ependymoma	9	17	14	7	12	47	59	2.6	11.9	2.2	11.8	13.1	6.0	4.0	2.0	3.3	4.7	4.4	66	83	84.7	0.0
	b. Astrocytoma	3	40	50	59	46	152	198	8.5	38.4	7.4	39.4	4.4	14.1	14.2	16.6	12.6	14.1	13.8	215	278	96.5	0.0
	c. CNS embryonal	8	29	39	16	15	92	107	5.1	23.2	4.0	21.3	11.6	10.2	11.0	4.5	4.1	8.9	7.8	130	151	99.1	0.0
	d. Other gliomas	1	6	12	5	6	24	30	1.3	6.1	1.1	6.0	1.5	2.1	3.4	1.4	1.6	2.3	2.1	34	42	40.0	0.0
	e. Other specified	0	9	19	31	21	59	80	3.3	14.9	3.0	15.9	-	3.2	5.4	8.7	5.8	5.3	5.4	83	112	90.0	0.0
	f. Unspecified CNS	2	4	10	6	6	22	28	1.2	5.6	1.1	5.6	2.9	1.4	2.8	1.7	1.6	2.1	2.0	31	39	14.3	3.6
IV	NEUROBLASTOMA	49	58	8	4	2	119	121	6.6	100.0	4.5	100.0	71.1	20.4	2.3	1.1	0.5	12.8	10.0	168	171	100.0	0.0
	a. (Ganglio)neuroblastoma	49	58	8	3	1	118	119	6.6	99.2	4.5	98.3	71.1	20.4	2.3	0.8	0.3	12.7	9.9	167	168	100.0	0.0
	b. Peripheral nervous	0	0	0	1	1	1	2	0.1	0.8	0.1	1.7	-	-	-	0.3	0.3	0.1	0.1	1	3	100.0	0.0
V	RETINOBLASTOMA	22	17	2	0	0	41	41	2.3	100.0	1.5	100.0	31.9	6.0	0.6	-	-	4.5	3.5	58	58	78.0	0.0
VI	RENAL TUMOURS	11	39	25	5	9	80	89	4.4	100.0	3.3	100.0	16.0	13.7	7.1	1.4	2.5	8.2	6.9	113	125	100.0	0.0
	a. Nephroblastoma	11	39	25	2	2	77	79	4.3	96.3	3.0	88.8	16.0	13.7	7.1	0.6	0.5	7.9	6.3	109	112	100.0	0.0
	b. Renal carcinoma	0	0	0	3	7	3	10	0.2	3.8	0.4	11.2	-	-	-	0.8	1.9	0.2	0.6	4	14	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	10	8	3	5	9	26	35	1.4	100.0	1.3	100.0	14.5	2.8	0.8	1.4	2.5	2.7	2.6	37	49	97.1	2.9
	a. Hepatoblastoma	7	8	2	3	1	20	21	1.1	76.9	0.8	60.0	10.2	2.8	0.6	0.8	0.3	2.1	1.7	28	30	100.0	0.0
	b. Hepatic carcinoma	2	0	1	2	8	5	13	0.3	19.2	0.5	37.1	2.9	-	0.3	0.6	2.2	0.5	0.9	7	18	100.0	0.0
	c. Unspecified	1	0	0	0	0	1	1	0.1	3.8	0.0	2.9	1.5	-	-	-	-	0.1	0.1	1	1	0.0	100.0
VIII	BONE TUMOURS	0	8	29	55	62	92	154	5.1	100.0	5.8	100.0	-	2.8	8.2	15.5	17.0	8.0	10.0	130	215	99.4	0.0
	a. Osteosarcoma	0	3	12	29	36	44	80	2.4	47.8	3.0	51.9	-	1.1	3.4	8.2	9.9	3.8	5.2	62	111	100.0	0.0
	b. Chondrosarcoma	0	0	0	3	4	3	7	0.2	3.3	0.3	4.5	-	-	-	0.8	1.1	0.2	0.4	4	10	100.0	0.0
	c. Ewing & related	0	4	17	22	19	43	62	2.4	46.7	2.3	40.3	-	1.4	4.8	6.2	5.2	3.8	4.1	61	87	100.0	0.0
	d. Other specified	0	0	0	1	3	1	4	0.1	1.1	0.2	2.6	-	-	-	0.3	0.8	0.1	0.2	1	6	100.0	0.0
	e. Unspecified	0	1	0	0	0	1	1	0.1	1.1	0.0	0.6	-	0.4	-	-	-	0.1	0.1	1	1	0.0	0.0
IX	SOFT TISSUE SARCOMA	9	37	29	47	52	122	174	6.8	100.0	6.5	100.0	13.1	13.0	8.2	13.2	14.3	11.5	12.1	172	244	100.0	0.0
	a. Rhabdomyosarcoma	6	27	15	18	12	66	78	3.7	54.1	2.9	44.8	8.7	9.5	4.2	5.1	3.3	6.5	5.7	93	110	100.0	0.0
	b. Fibrosarcoma	1	2	4	6	5	13	18	0.7	10.7	0.7	10.3	1.5	0.7	1.1	1.7	1.4	1.2	1.2	18	25	100.0	0.0
	c. Kaposi sarcoma	0	1	0	1	0	2	2	0.1	1.6	0.1	1.1	-	0.4	-	0.3	-	0.2	0.1	3	3	100.0	0.0
	d. Other specified	0	3	9	20	29	32	61	1.8	26.2	2.3	35.1	-	1.1	2.5	5.6	8.0	2.8	3.9	45	85	100.0	0.0
	e. Unspecified	2	4	1	2	6	9	15	0.5	7.4	0.6	8.6	2.9	1.4	0.3	0.6	1.6	0.9	1.1	13	21	100.0	0.0
X	GERM CELL TUMOURS	14	10	3	26	102	53	155	2.9	100.0	5.8	100.0	20.3	3.5	0.8	7.3	28.0	5.0	10.2	75	215	100.0	0.0
	a. CNS germ cell	0	0	2	7	5	9	14	0.5	17.0	0.5	9.0	-	-	0.6	2.0	1.4	0.8	0.9	13	20	100.0	0.0
	b. Other extragonadal	9	3	0	1	3	13	16	0.7	24.5	0.6	10.3	13.1	1.1	-	0.3	0.8	1.4	1.3	18	22	100.0	0.0
	c. Gonadal germ cell	4	7	1	18	89	30	119	1.7	56.6	4.5	76.8	5.8	2.5	0.3	5.1	24.4	2.8	7.6	42	164	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	4	0	4	-	-	0.2	2.6	-	-	-	-	1.1	-	0.2	-	5	100.0	0.0
	e. Unspecified gonadal	1	0	0	0	1	1	2	0.1	1.9	0.1	1.3	1.5	-	-	-	0.3	0.1	0.1	1	3	100.0	0.0
XI	CARCINOMA & MELANOMA	1	3	18	61	210	83	293	4.6	100.0	11.0	100.0	1.5	1.1	5.1	17.2	57.6	7.1	18.4	117	405	100.0	0.0
	a. Adrenocortical	0	1	1	1	2	3	5	0.2	3.6	0.2	1.7	-	0.4	0.3	0.3	0.5	0.3	0.3	4	7	100.0	0.0
	b. Thyroid	0	0	2	10	41	12	53	0.7	14.5	2.0	18.1	-	-	0.6	2.8	11.3	1.0	3.3	17	73	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	7	0	7	-	-	0.3	2.4	-	-	-	-	1.9	-	0.4	-	10	100.0	0.0
	d. Melanoma	1	2	7	25	98	35	133	1.9	42.2	5.0	45.4	1.5	0.7	2.0	7.0	26.9	3.0	8.4	49	184	100.0	0.0
	e. Skin carcinoma	0	0	2	8	16	10	26	0.6	12.0	1.0	8.9	-	-	0.6	2.3	4.4	0.8	1.6	14	36	100.0	0.0
	f. Other & unspecified	0	0	6	17	46	23	69	1.3	27.7	2.6	23.5	-	-	1.7	4.8	12.6	1.9	4.3	32	96	100.0	0.0
XII	OTHER & UNSPECIFIED	1	1	1	2	2	5	7	0.3	100.0	0.3	100.0	1.5	0.4	0.3	0.6	0.5	0.5	0.5	7	10	71.4	14.3
	a. Other specified	0	1	0	1	2	2	4	0.1	40.0	0.2	57.1	-	0.4	-	0.3	0.5	0.2	0.3	3	6	100.0	0.0
	b. Other unspecified	1	0	1	1	0	3	3	0.2	60.0	0.1	42.9	1.5	-	0.3	0.3	-	0.3	0.2	4	4	33.3	33.3
	TOTAL	175	606	471	546	867	1798	2665	100.0	100.0	100.0	100.0	254.1	212.9	133.3	153.6	237.9	173.1	187.7	2539	3729	96.8	0.3

† includes 232 non-malignant

Please consult the quality indicators for this pool and its constituent registries

Ukraine

National Cancer Registry of Ukraine, 2002–2012

Anton Ryzhov, Olena Soumkina, Liudmyla Goulak, Yevgeniy Gorokh, Lyubov Koutsenko, Zoya Fedorenko

Ukraine is a large country in eastern Europe; it was one of the republics of the former Soviet Union. It covers an area of 603 000 km^2. In 2010, the estimated population was 45.6 million (Table A.7), and 20% of the population was younger than 20 years (Table A.6). The capital and largest city is Kyiv. The extensive fertile farmlands make the country one of the largest grain exporters in the world. Ukraine is classified as a lower-middle-income country, which has to deal with poverty and corruption. The population is 78% Ukrainians, with Russians and other nationalities comprising the reminder. Ukraine is a unitary republic with a semi-presidential system and separation of powers into legislative, executive, and judicial branches. Medical services are provided free of charge, but a transition to an insurance-based health-care system is under way.

Cancer registration was mandatory throughout the former Soviet Union in the beginning of the 1950s. In 1996, 5 years after Ukraine gained its independence, the National Cancer Registry of Ukraine was established. It took 6 years, until 2002, to cover the whole country with a network of regional cancer registries.

The registry collects data on incident cases via notification forms provided by all medical institutions that are likely to identify or treat a new patient with cancer. Registered patients are followed up by regional cancer registry personnel, who link the registry data with the departments of vital statistics, and by regional oncologists, who have direct contact with patients or their relatives. The delay in registering the follow-up status of patients may be more than 1.5 years, especially in the young population, who are highly mobile.

The registry collects data on all malignant cases in all age groups within the country. An estimated 93.4% of new cancer cases and 90.7% of deaths from cancer are registered within the first year of diagnosis. The completeness of ascertainment of new cases is estimated to be 87.0% in the age group 0–17 years, and the completeness of mortality data is estimated to be 77.9% in the age group 0–19 years. The database records more than 100 data items on each patient, grouped into four categories: personal information, diagnosis, treatment, and follow-up.

Local systems for coding topography and morphology of neoplasms were developed and are used by regional registrars. Automated conversion from local codes to ICD-O-3 and ICD-10 enables the registry to participate in international projects. Procedures for data quality and completeness are developed in accordance with international recommendations and guidelines.

Registry data are included in international databases and publications, including CI5 Volumes X and XI, estimates of cancer incidence, mortality, and prevalence (EUCAN), and database and software presenting data from European Cancer Registries (EUREG).

PUBLICATIONS

Karalexi MA, Papathoma P, Thomopoulos TP, Ryzhov A, Zborovskaya A, Dimitrova N, et al. (2015). Childhood central nervous system tumour mortality and survival in Southern and Eastern Europe (1983–2014): gaps persist across 14 cancer registries. Eur J Cancer. 51(17):2665–77. https://doi.org/10.1016/j.ejca.2015.08.018 PMID:26343313

Ryzhov A, Bray F, Ferlay J, Fedorenko Z, Goulak L, Gorokh Y, et al. (2018). Evaluation of data quality at the National Cancer Registry of Ukraine. Cancer Epidemiol. 53:156–65. https://doi.org/10.1016/j.canep.2018.02.002 PMID:29459256

POPULATION AT RISK

The source of the data is the State Statistics Service of Ukraine (http://database.ukrcensus.gov.ua/MULT/Database/Population/databasetree_en.asp). The annual data are based on the national census conducted in 2001 (Table A.7). Data were provided in the requested detail, by sex and single year of age for each calendar year of the reporting period.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology is rather high (11%) (Table A.9), because of poor or no reporting of morphology in pathology reports from specialized paediatric hospitals that diagnose and treat childhood cancers. Thus, the resulting rates may be lower for specific and higher for unspecified cancer types. The registry does not collect exact dates of diagnosis (Table A.8), and age is calculated using only the month and year of the date of incidence. As a result, age-specific rates may be slightly affected. Non-malignant CNS tumours (including pilocytic astrocytoma) were not registered during the reporting period. Therefore, the reported incidence rates are lower for the diagnostic categories III and Xa and the total. Information on laterality was not collected during the reporting period.

UKRAINE (2002-2012)

	Age group (years)	Males	Females
Person-years	0	2 537 938	2 392 345
	1-4	9 603 336	9 074 690
	5-9	11 989 170	11 373 677
	10-14	14 677 880	13 965 888
	15-19	18 729 741	17 870 468
	0-14	38 808 324	36 806 600
	0-19	57 538 065	54 677 068
Average annual population	0-14	3 528 029	3 346 055
	0-19	5 230 733	4 970 643

Please consult the quality indicators for this registry

UKRAINE (2002-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	209	1445	979	721	974	**3354**	**4328**	33.3	100.0	26.5	100.0	42.4	77.4	41.9	25.2	26.6	**47.9**	**43.1**	686	819	99.7	0.1
	a. Lymphoid	85	1158	771	461	499	**2475**	**2974**	24.6	73.8	18.2	68.7	17.2	62.0	33.0	16.1	13.6	**35.7**	**30.7**	509	577	99.9	0.0
	b. Acute myeloid	54	150	112	153	236	**469**	**705**	4.7	14.0	4.3	16.3	11.0	8.0	4.8	5.3	6.4	**6.4**	**6.4**	94	126	100.0	0.0
	c. CMD	24	32	29	39	98	**124**	**222**	1.2	3.7	1.4	5.1	4.9	1.7	1.2	1.4	2.7	**1.7**	**1.9**	25	38	100.0	0.0
	d. MDS & other	4	9	10	10	17	**33**	**50**	0.3	1.0	0.3	1.2	0.8	0.5	0.4	0.3	0.5	**0.5**	**0.5**	7	9	100.0	0.0
	e. Unspecified	42	96	57	58	124	**253**	**377**	2.5	7.5	2.3	8.7	8.5	5.1	2.4	2.0	3.4	**3.6**	**3.6**	52	68	97.9	0.8
II	LYMPHOMA & RELATED	43	278	312	597	1638	**1230**	**2868**	12.2	100.0	17.5	100.0	8.7	14.9	13.4	20.8	44.8	**15.6**	**22.2**	239	463	99.5	0.0
	a. Hodgkin	1	95	125	350	1269	**571**	**1840**	5.7	46.4	11.2	64.2	0.2	5.1	5.4	12.2	34.7	**6.8**	**13.1**	108	282	99.7	0.0
	b. Non-Hodgkin except BL	8	70	91	145	297	**314**	**611**	3.1	25.5	3.7	21.3	1.6	3.7	3.9	5.1	8.1	**4.0**	**4.9**	61	102	99.3	0.2
	c. Burkitt (BL)	1	44	68	69	31	**182**	**213**	1.8	14.8	1.3	7.4	0.2	2.4	2.9	2.4	0.8	**2.4**	**2.0**	36	40	100.0	0.0
	d. Lymphoreticular	32	60	13	13	13	**118**	**131**	1.2	9.6	0.8	4.6	6.5	3.2	0.6	0.5	0.4	**1.8**	**1.5**	25	26	98.5	0.0
	e. Unspecified	1	9	15	20	28	**45**	**73**	0.4	3.7	0.4	2.5	0.2	0.5	0.6	0.7	0.8	**0.6**	**0.6**	9	13	98.6	0.0
III	CNS NEOPLASMS	113	478	586	572	631	**1749**	**2380**	17.4	100.0	14.5	100.0	22.9	25.6	25.1	20.0	17.2	**23.6**	**22.2**	350	437	76.9	0.7
	a. Ependymoma	14	55	54	35	36	**158**	**194**	1.6	9.0	1.2	8.2	2.8	2.9	2.3	1.2	1.0	**2.2**	**2.0**	32	37	100.0	0.0
	b. Astrocytoma	32	142	179	243	281	**596**	**877**	5.9	34.1	5.4	36.8	6.5	7.6	7.7	8.5	7.7	**7.8**	**7.8**	118	156	99.2	0.0
	c. CNS embryonal	15	123	156	102	64	**396**	**460**	3.9	22.6	2.8	19.3	3.0	6.6	6.7	3.6	1.7	**5.5**	**4.6**	80	89	99.8	0.2
	d. Other gliomas	6	18	34	36	43	**94**	**137**	0.9	5.4	0.8	5.8	1.2	1.0	1.5	1.3	1.2	**1.2**	**1.2**	19	25	80.3	0.0
	e. Other specified	1	3	7	16	34	**27**	**61**	0.3	1.5	0.4	2.6	0.2	0.2	0.3	0.6	0.9	**0.3**	**0.5**	5	10	98.4	0.0
	f. Unspecified CNS	45	137	156	140	173	**478**	**651**	4.7	27.3	4.0	27.4	9.1	7.3	6.7	4.9	4.7	**6.6**	**6.1**	96	120	21.2	2.3
IV	NEUROBLASTOMA	169	280	101	49	59	**599**	**658**	5.9	100.0	4.0	100.0	34.3	15.0	4.3	1.7	1.6	**9.3**	**7.5**	125	133	96.7	0.0
	a. (Ganglio)neuroblastoma	163	269	87	33	28	**552**	**580**	5.5	92.2	3.5	88.1	33.1	14.4	3.7	1.2	0.8	**8.6**	**6.9**	116	120	96.2	0.0
	b. Peripheral nervous	6	11	14	16	31	**47**	**78**	0.5	7.8	0.5	11.9	1.2	0.6	0.6	0.6	0.8	**0.6**	**0.7**	9	14	100.0	0.0
V	RETINOBLASTOMA	84	135	16	4	3	**239**	**242**	2.4	100.0	1.5	100.0	17.0	7.2	0.7	0.1	0.1	**3.9**	**3.0**	51	51	89.7	0.0
VI	RENAL TUMOURS	125	408	125	37	59	**695**	**754**	6.9	100.0	4.6	100.0	25.4	21.8	5.4	1.3	1.6	**10.8**	**8.8**	146	154	92.8	0.3
	a. Nephroblastoma	113	381	114	20	10	**628**	**638**	6.2	90.4	3.9	84.6	22.9	20.4	4.9	0.7	0.3	**9.9**	**7.7**	133	134	95.3	0.2
	b. Renal carcinoma	6	16	5	16	41	**43**	**84**	0.4	6.2	0.5	11.1	1.2	0.9	0.2	0.6	1.1	**0.6**	**0.7**	9	14	100.0	0.0
	c. Unspecified	6	11	6	1	8	**24**	**32**	0.2	3.5	0.2	4.2	1.2	0.6	0.3	0.0	0.2	**0.4**	**0.3**	5	6	25.0	3.1
VII	HEPATIC TUMOURS	54	73	14	18	39	**159**	**198**	1.6	100.0	1.2	100.0	11.0	3.9	0.6	0.6	1.1	**2.5**	**2.1**	33	38	90.9	0.0
	a. Hepatoblastoma	40	55	4	7	1	**106**	**107**	1.1	66.7	0.7	54.0	8.1	2.9	0.2	0.2	0.0	**1.7**	**1.3**	22	22	100.0	0.0
	b. Hepatic carcinoma	8	14	9	10	30	**41**	**71**	0.4	25.8	0.4	35.9	1.6	0.7	0.4	0.3	0.8	**0.6**	**0.6**	8	12	98.6	0.0
	c. Unspecified	6	4	1	1	8	**12**	**20**	0.1	7.5	0.1	10.1	1.2	0.2	0.0	0.0	0.2	**0.2**	**0.2**	3	4	15.0	0.0
VIII	BONE TUMOURS	2	28	111	331	467	**472**	**939**	4.7	100.0	5.7	100.0	0.4	1.5	4.8	11.6	12.8	**5.4**	**7.0**	88	152	97.3	0.1
	a. Osteosarcoma	0	5	42	148	208	**195**	**403**	1.9	41.3	2.5	42.9	-	0.3	1.8	5.2	5.7	**2.2**	**3.0**	36	64	99.8	0.0
	b. Chondrosarcoma	1	1	6	21	52	**29**	**81**	0.3	6.1	0.5	8.6	0.2	0.1	0.3	0.7	1.4	**0.3**	**0.6**	5	12	100.0	0.0
	c. Ewing & related	1	10	42	81	94	**134**	**228**	1.3	28.4	1.4	24.3	0.2	0.5	1.8	2.8	2.6	**1.6**	**1.8**	25	38	100.0	0.0
	d. Other specified	0	3	11	47	68	**61**	**129**	0.6	12.9	0.8	13.7	-	0.2	0.5	1.6	1.9	**0.7**	**0.9**	11	20	99.2	0.0
	e. Unspecified	0	9	10	34	45	**53**	**98**	0.5	11.2	0.6	10.4	-	0.5	0.4	1.2	1.2	**0.6**	**0.8**	10	16	76.5	1.0
IX	SOFT TISSUE SARCOMA	84	194	142	221	446	**641**	**1087**	6.4	100.0	6.6	100.0	17.0	10.4	6.1	7.7	12.2	**8.8**	**9.5**	128	189	99.6	0.0
	a. Rhabdomyosarcoma	23	102	55	47	54	**227**	**281**	2.3	35.4	1.7	25.9	4.7	5.5	2.4	1.6	1.5	**3.3**	**2.9**	46	54	100.0	0.0
	b. Fibrosarcoma	19	24	19	44	106	**106**	**212**	1.1	16.5	1.3	19.5	3.9	1.3	0.8	1.5	2.9	**1.4**	**1.7**	21	35	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	**0**	**1**	-	-	0.0	0.1	-	-	-	-	0.0	**-**	**0.0**	-	0	100.0	0.0
	d. Other specified	37	57	50	108	218	**252**	**470**	2.5	39.3	2.9	43.2	7.5	3.1	2.1	3.8	6.0	**3.3**	**3.9**	49	79	99.8	0.0
	e. Unspecified	5	11	18	22	67	**56**	**123**	0.6	8.7	0.8	11.3	1.0	0.6	0.8	0.8	1.8	**0.7**	**1.0**	11	20	97.6	0.0
X	GERM CELL TUMOURS	66	85	59	144	514	**354**	**868**	3.5	100.0	5.3	100.0	13.4	4.6	2.5	5.0	14.0	**4.8**	**6.8**	70	140	98.2	0.0
	a. CNS germ cell	4	5	10	20	18	**39**	**57**	0.4	11.0	0.3	6.6	0.8	0.3	0.4	0.7	0.5	**0.5**	**0.5**	8	10	98.2	0.0
	b. Other extragonadal	34	51	4	12	49	**101**	**150**	1.0	28.5	0.9	17.3	6.9	2.7	0.2	0.4	1.3	**1.6**	**1.5**	21	28	99.3	0.0
	c. Gonadal germ cell	26	23	36	77	273	**162**	**435**	1.6	45.8	2.7	50.1	5.3	1.2	1.5	2.7	7.5	**2.1**	**3.3**	32	69	100.0	0.0
	d. Gonadal carcinoma	1	2	5	20	117	**28**	**145**	0.3	7.9	0.9	16.7	0.2	0.1	0.2	0.7	3.2	**0.3**	**1.0**	5	21	100.0	0.0
	e. Unspecified gonadal	1	4	4	15	57	**24**	**81**	0.2	6.8	0.5	9.3	0.2	0.2	0.2	0.5	1.6	**0.3**	**0.6**	5	12	82.7	0.0
XI	CARCINOMA & MELANOMA	7	42	71	323	1294	**443**	**1737**	4.4	100.0	10.6	100.0	1.4	2.2	3.0	11.3	35.4	**5.1**	**11.9**	82	259	99.6	0.0
	a. Adrenocortical	1	6	3	5	10	**15**	**25**	0.1	3.4	0.2	1.4	0.2	0.3	0.1	0.2	0.3	**0.2**	**0.2**	3	4	100.0	0.0
	b. Thyroid	0	0	16	146	491	**162**	**653**	1.6	36.6	4.0	37.6	-	-	0.7	5.1	13.4	**1.7**	**4.3**	29	96	100.0	0.0
	c. Nasopharyngeal	0	0	3	25	38	**28**	**66**	0.3	6.3	0.4	3.8	-	-	0.1	0.9	1.0	**0.3**	**0.5**	5	10	100.0	0.0
	d. Melanoma	2	5	16	48	202	**71**	**273**	0.7	16.0	1.7	15.7	0.4	0.3	0.7	1.7	5.5	**0.8**	**1.9**	13	41	97.8	0.0
	e. Skin carcinoma	0	1	3	18	129	**22**	**151**	0.2	5.0	0.9	8.7	-	0.1	0.1	0.6	3.5	**0.2**	**1.0**	4	22	100.0	0.0
	f. Other & unspecified	4	30	30	81	424	**145**	**569**	1.4	32.7	3.5	32.8	0.8	1.6	1.3	2.8	11.6	**1.8**	**4.0**	28	86	99.8	0.0
XII	OTHER & UNSPECIFIED	27	51	35	31	155	**144**	**299**	1.4	100.0	1.8	100.0	5.5	2.7	1.5	1.1	4.2	**2.1**	**2.6**	29	51	46.8	3.3
	a. Other specified	1	4	2	2	25	**9**	**34**	0.1	6.3	0.2	11.4	0.2	0.2	0.1	0.1	0.7	**0.1**	**0.3**	2	5	97.1	0.0
	b. Other unspecified	26	47	33	29	130	**135**	**265**	1.3	93.8	1.6	88.6	5.3	2.5	1.4	1.0	3.6	**1.9**	**2.3**	28	45	40.4	3.8
	TOTAL	983	3497	2551	3048	6279	**10079**	**16358**	100.0	100.0	100.0	100.0	199.4	187.2	109.2	106.4	171.6	**139.6**	**146.8**	2027	2885	94.5	0.2

Please consult the quality indicators for this registry

United Kingdom

The United Kingdom of Great Britain and Northern Ireland includes the island of Great Britain, the north-eastern part of the island of Ireland, and many smaller islands located off the north-western coast of the European mainland. Except for the land border with the Republic of Ireland, the United Kingdom is surrounded by seas: the Atlantic Ocean and the Irish Sea to the west, the North Sea to the east, the English Channel to the south, and the Celtic Sea to the south-west. The natural resources include petroleum, natural gas, tin, limestone, iron ore, salt, clay, chalk, gypsum, lead, silica, and an abundance of arable land. Intensive agriculture practices result in the production of 60% of the population's food needs by less than 1.6% of the labour force. The service sector comprises about 79% of the GDP. Important industries include manufacturing, automotive, aerospace, pharmaceutical, tourism, and creative industries. The capital and the largest city is London, a global financial centre with a population of 10.3 million. The United Kingdom has a partially regulated market economy, one of the largest in the world. The unemployment rate is low, and residents are generally satisfied with their living conditions. The United Kingdom is a developed high-income country and has a very high HDI. Since the 1980s, economic inequality has increased, and in 2011 an estimated 5% of the population experienced severe material deprivation.

In 2010, the population of the United Kingdom was 62.7 million (Table A.7), and 24% of the population was younger than 20 years (Table A.6). During the reporting period, almost 80% of the population lived in urban areas. In 2012, the average total fertility rate was 1.92 children per woman, which is below the replacement rate of 2.1, and 47.3% of births were to unmarried women.

Public health care is provided to all permanent residents of the United Kingdom and is mostly free of charge at the point of use; health care is funded through general taxation. by Each of the four constituent countries (England, Northern Ireland, Scotland, and Wales) independently administers its own health care system, education system, and environmental initiatives. Each National Health Service has distinct policies and priorities.

Cancer registration in the United Kingdom dates back to 1945, when population-based data were first collected in the south-western region. The United Kingdom also hosted the first-ever National Registry of Childhood Tumours (NRCT). Cancer registration has since evolved into national coverage of all ages nationwide; the four independent registries, for England, Northern Ireland, Scotland, and Wales, formed the United Kingdom and Ireland Association of Cancer Registries. Registration is not mandatory and patients have the right to refuse to have their data registered, although this right is seldom exercised.

POPULATION AT RISK

In the United Kingdom, the censuses pertinent to IICC-3 were conducted in 1991, 2001, and 2011 (Table A.7). The censuses were organized separately in England and Wales, Northern Ireland, and Scotland, during coinciding dates. The collected data are published and used by the Office for National Statistics (https://www.ons.gov.uk). The annual mid-year estimates incorporate information on births, deaths, and migration. The details on the submitted data and the sources are specified separately for each registry below.

EDITORS' COMMENTS

The United Kingdom data are presented in six full tables in the IICC-3 book (Table A.12). The first table presents the pooled data for the four United Kingdom general cancer registries over the common period of registration. The second table shows data for England and Wales for the age group 0–14 years provided by NRCT. The four other tables present the data from the general cancer registries of England, Northern Ireland, Scotland, and Wales, respectively. Two of the included registries – NRCT and the Scottish Cancer Registry – participated in both previous IICC volumes (Table A.1). Each of the four United Kingdom registries has a different history and distinct registration practices.

England and Wales, National Registry of Childhood Tumours, paediatric, 1991–2010

Charles A. Stiller, Anita Bayne, Nicole Diggens, Janette King, Tim Vincent, Michael Murphy

The National Registry of Childhood Tumours (NRCT) was established on the recommendation of the Department of Health Standing Medical Advisory Committee in 1974 and was maintained by the Childhood Cancer Research Group of the Department of Paediatrics at the University of Oxford. The registry was population-based for Great Britain (England, Scotland, and Wales) from 1962 onwards and for Northern Ireland (and therefore for the whole of the United Kingdom) from 1993 onwards. From 2013, the national cancer registries of the four countries of the United Kingdom took sole responsibility for childhood cancer registration.

In IICC-3, data submitted by NRCT are for England and Wales, which cover a combined area of 15 207 km^2. England is predominantly lowland, with upland regions in the north and south-west. Wales is hilly and mountainous, with extensive tracts of high plateau. The annual mean temperature is about 10 °C, and the average annual rainfall is about 90 cm.

In 2010, the population of England and Wales was 55.7 million, and 18% of the population was younger than 15 years (Table A.6). Ethnic minority groups made up 14% of the population; of these, 54% were Asian and 24% were Black. Conurbations centred on the English cities of London, Birmingham, Leeds, Liverpool, Manchester, Newcastle-upon-Tyne, and Sheffield are home to 35% of the population; 5.5% of the population lives in Wales. Service industries account for 83% of employment, manufacturing for 8%, construction for 6%, and agriculture for 1%.

Medical treatment is available free of charge at the point of use under the National Health Service (NHS). More than 90% of children with cancer in England and Wales are treated within a network of 14 paediatric oncology principal treatment centres. There are two national treatment centres for treatment of retinoblastoma.

Children who received care at principal treatment centres were notified directly to the registry. Cases were also ascertained by regular data exchange with regional and national general (all ages) cancer registries throughout the United Kingdom and with specialized childhood cancer registries in several regions of England. The registry received copies of all death certificates for deaths occurring before age 20 years with a neoplasm as the underlying cause of death in Great Britain. Diagnoses were coded according to ICD-O-3, supplemented by codes for new entities as recommended in the WHO Classification of Tumours. Completeness of ascertainment is estimated to be at least 99% overall and for nearly all diagnostic groups; however, registration of skin carcinomas is likely to be less complete because of varying registration practices in general cancer registries. Passive follow-up of children who were not already known to have died was performed through the NHS Central Registers. Less than 1% of children diagnosed since 1991 were lost to follow-up.

Registry data have been presented in a book that offers a comprehensive account of the descriptive epidemiology of childhood cancer in Britain. The data have been used for a wide range of epidemiological studies within the United Kingdom. The registry has contributed to numerous international collaborations. The cohort for the British Childhood Cancer Survivor Study is derived from the registry.

PUBLICATIONS

Stiller C, editor (2007). Childhood cancer in Britain: incidence, survival, mortality. Oxford, UK: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198520702.001.0001

Kroll ME, Murphy MF, Carpenter LM, Stiller CA (2011). Childhood cancer registration in Britain: capture-recapture estimates of completeness of ascertainment. Br J Cancer. 104(7):1227–33. https://doi.org/10.1038/bjc.2011.70 PMID:21407221

POPULATION AT RISK

The source of the data is the Office for National Statistics (https://www.ons.gov.uk). Data were provided in the requested detail. See also United Kingdom, above.

EDITORS' COMMENTS

In this paediatric cancer registry, registration focused on the age range 0–14 years during the reporting period. Therefore, data for the age groups 15–19 years and 0–19 years are not shown in the tables. The proportion of cases with unknown basis of diagnosis was 2.3% (Table A.9). Non-malignant CNS tumours were included. Pilocytic astrocytoma was coded with uncertain behaviour throughout the reporting period. Laterality information was complete for retinoblastoma, nephroblastoma, and testicular tumours. Laterality was 93% complete for ovarian tumours. See also United Kingdom, above.

UNITED KINGDOM, England and Wales, paediatric (1991-2010)

	Age group (years)	Males	Females
Person-years	0	6 668 942	6 350 082
	1-4	26 567 519	25 335 362
	5-9	33 436 698	31 896 132
	10-14	33 829 738	32 265 945
	0-14	100 502 897	95 847 521
Average annual population	0-14	5 025 145	4 792 376

Please consult the quality indicators for this registry

UNITED KINGDOM, England and Wales, paediatric (1991-2010)

		Number of cases Age group (years)					Percentage 0-14		Incidence rates per million person-years Age-specific				ASR	Cumulative	MV %	DCO %
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	514	4142	2331	1731	**8718**	31.4	100.0	39.5	79.8	35.7	26.2	**46.9**	668	98.3	0.4
	a. Lymphoid	240	3509	1889	1173	**6811**	24.5	78.1	18.4	67.6	28.9	17.7	**36.8**	522	99.3	0.1
	b. Acute myeloid	184	447	319	397	**1347**	4.8	15.5	14.1	8.6	4.9	6.0	**7.1**	103	97.9	0.9
	c. CMD	9	25	36	97	**167**	0.6	1.9	0.7	0.5	0.6	1.5	**0.8**	13	85.6	0.6
	d. MDS & other	66	136	69	46	**317**	1.1	3.6	5.1	2.6	1.1	0.7	**1.7**	24	92.1	0.6
	e. Unspecified	15	25	18	18	**76**	0.3	0.9	1.2	0.5	0.3	0.3	**0.4**	6	73.7	13.2
II	LYMPHOMA & RELATED	18	427	873	1464	**2782**	10.0	100.0	1.4	8.2	13.4	22.1	**13.4**	212	96.5	0.3
	a. Hodgkin	0	79	286	827	**1192**	4.3	42.8	-	1.5	4.4	12.5	**5.5**	91	97.7	0.0
	b. Non-Hodgkin except BL	11	207	385	467	**1070**	3.8	38.5	0.8	4.0	5.9	7.1	**5.3**	82	95.9	0.3
	c. Burkitt (BL)	0	118	181	154	**453**	1.6	16.3	-	2.3	2.8	2.3	**2.3**	35	99.3	0.0
	d. Lymphoreticular	7	17	7	2	**33**	0.1	1.2	0.5	0.3	0.1	0.0	**0.2**	3	78.8	3.0
	e. Unspecified	0	6	14	14	**34**	0.1	1.2	-	0.1	0.2	0.2	**0.2**	3	58.8	11.8
III	CNS NEOPLASMS †	485	2077	2383	2104	**7049**	25.4	100.0	37.3	40.0	36.5	31.8	**36.3**	539	78.9	0.7
	a. Ependymoma	102	295	163	136	**696**	2.5	9.9	7.8	5.7	2.5	2.1	**3.8**	53	97.0	0.1
	b. Astrocytoma	142	898	1055	917	**3012**	10.8	42.7	10.9	17.3	16.1	13.9	**15.4**	230	83.0	0.2
	c. CNS embryonal	120	452	462	280	**1314**	4.7	18.6	9.2	8.7	7.1	4.2	**6.9**	101	97.0	0.4
	d. Other gliomas	22	185	305	214	**726**	2.6	10.3	1.7	3.6	4.7	3.2	**3.7**	55	31.4	1.1
	e. Other specified	54	166	302	440	**962**	3.5	13.6	4.1	3.2	4.6	6.7	**4.7**	73	86.2	0.1
	f. Unspecified CNS	45	81	96	117	**339**	1.2	4.8	3.5	1.6	1.5	1.8	**1.7**	26	16.8	8.8
IV	NEUROBLASTOMA	525	889	188	49	**1651**	5.9	100.0	40.3	17.1	2.9	0.7	**9.6**	127	96.4	0.0
	a. (Ganglio)neuroblastoma	524	883	183	41	**1631**	5.9	98.8	40.2	17.0	2.8	0.6	**9.5**	125	96.4	0.0
	b. Peripheral nervous	1	6	5	8	**20**	0.1	1.2	0.1	0.1	0.1	0.1	**0.1**	2	95.0	0.0
V	RETINOBLASTOMA	333	422	31	7	**793**	2.9	100.0	25.6	8.1	0.5	0.1	**4.7**	61	71.5	0.0
VI	RENAL TUMOURS	197	958	277	82	**1514**	5.4	100.0	15.1	18.5	4.2	1.2	**8.6**	116	97.8	0.3
	a. Nephroblastoma	196	956	270	51	**1473**	5.3	97.3	15.1	18.4	4.1	0.8	**8.4**	113	98.0	0.3
	b. Renal carcinoma	1	2	4	30	**37**	0.1	2.4	0.1	0.0	0.1	0.5	**0.2**	3	97.3	2.7
	c. Unspecified	0	0	3	1	**4**	0.0	0.3	-	-	0.0	0.0	**0.0**	0	0.0	0.0
VII	HEPATIC TUMOURS	102	143	29	45	**319**	1.1	100.0	7.8	2.8	0.4	0.7	**1.8**	24	94.4	0.3
	a. Hepatoblastoma	97	135	17	15	**264**	0.9	82.8	7.5	2.6	0.3	0.2	**1.5**	20	95.8	0.0
	b. Hepatic carcinoma	1	7	12	30	**50**	0.2	15.7	0.1	0.1	0.2	0.5	**0.2**	4	94.0	0.0
	c. Unspecified	4	1	0	0	**5**	0.0	1.6	0.3	0.0	-	-	**0.0**	0	20.0	20.0
VIII	BONE TUMOURS	8	47	306	768	**1129**	4.1	100.0	0.6	0.9	4.7	11.6	**5.2**	86	97.3	0.2
	a. Osteosarcoma	0	14	165	450	**629**	2.3	55.7	-	0.3	2.5	6.8	**2.9**	48	98.4	0.3
	b. Chondrosarcoma	1	0	3	22	**26**	0.1	2.3	0.1	-	0.0	0.3	**0.1**	2	88.5	0.0
	c. Ewing & related	1	31	125	264	**421**	1.5	37.3	0.1	0.6	1.9	4.0	**2.0**	32	99.0	0.0
	d. Other specified	3	1	6	20	**30**	0.1	2.7	0.2	0.0	0.1	0.3	**0.1**	2	96.7	0.0
	e. Unspecified	3	1	7	12	**23**	0.1	2.0	0.2	0.0	0.1	0.2	**0.1**	2	47.8	0.0
IX	SOFT TISSUE SARCOMA	161	564	504	601	**1830**	6.6	100.0	12.4	10.9	7.7	9.1	**9.5**	140	97.0	0.2
	a. Rhabdomyosarcoma	69	417	282	154	**922**	3.3	50.4	5.3	8.0	4.3	2.3	**5.0**	71	98.8	0.0
	b. Fibrosarcoma	36	18	25	82	**161**	0.6	8.8	2.8	0.3	0.4	1.2	**0.8**	12	92.5	1.2
	c. Kaposi sarcoma	0	1	4	4	**9**	0.0	0.5	-	0.0	0.1	0.1	**0.0**	1	66.7	0.0
	d. Other specified	42	110	165	318	**635**	2.3	34.7	3.2	2.1	2.5	4.8	**3.1**	48	96.4	0.0
	e. Unspecified	14	18	28	43	**103**	0.4	5.6	1.1	0.3	0.4	0.7	**0.5**	8	94.2	1.0
X	GERM CELL TUMOURS	183	217	145	397	**942**	3.4	100.0	14.1	4.2	2.2	6.0	**4.8**	72	91.5	0.3
	a. CNS germ cell ‡	27	36	75	171	**309**	1.1	32.8	2.1	0.7	1.1	2.6	**1.5**	24	79.9	0.6
	b. Other extragonadal	116	94	11	18	**239**	0.9	25.4	8.9	1.8	0.2	0.3	**1.4**	18	96.7	0.4
	c. Gonadal germ cell	39	87	54	195	**375**	1.3	39.8	3.0	1.7	0.8	3.0	**1.9**	29	98.1	0.0
	d. Gonadal carcinoma	0	0	2	8	**10**	0.0	1.1	-	-	0.0	0.1	**0.0**	1	100.0	0.0
	e. Unspecified gonadal	1	0	3	5	**9**	0.0	1.0	0.1	-	0.0	0.1	**0.0**	1	66.7	0.0
XI	CARCINOMA & MELANOMA	13	82	203	649	**947**	3.4	100.0	1.0	1.6	3.1	9.8	**4.4**	72	87.4	0.2
	a. Adrenocortical	4	22	9	6	**41**	0.1	4.3	0.3	0.4	0.1	0.1	**0.2**	3	97.6	0.0
	b. Thyroid	1	15	39	128	**183**	0.7	19.3	0.1	0.3	0.6	1.9	**0.9**	14	97.8	0.0
	c. Nasopharyngeal	0	0	4	46	**50**	0.2	5.3	-	-	0.1	0.7	**0.2**	4	100.0	0.0
	d. Melanoma	7	29	54	143	**233**	0.8	24.6	0.5	0.6	0.8	2.2	**1.1**	18	88.8	0.4
	e. Skin carcinoma	1	10	54	137	**202**	0.7	21.3	0.1	0.2	0.8	2.1	**0.9**	15	78.7	0.0
	f. Other & unspecified	0	6	43	189	**238**	0.9	25.1	-	0.1	0.7	2.9	**1.1**	18	81.1	0.4
XII	OTHER & UNSPECIFIED	20	50	20	35	**125**	0.4	100.0	1.5	1.0	0.3	0.5	**0.7**	10	44.8	1.6
	a. Other specified	6	17	3	11	**37**	0.1	29.6	0.5	0.3	0.0	0.2	**0.2**	3	100.0	0.0
	b. Other unspecified	14	33	17	24	**88**	0.3	70.4	1.1	0.6	0.3	0.4	**0.5**	7	21.6	2.3
	TOTAL	2559	10018	7290	7932	**27799**	100.0	100.0	196.6	193.0	111.6	120.0	**145.8**	2127	91.3	0.4

† includes 2767 non-malignant ‡ includes 62 non-malignant

Please consult the quality indicators for this registry

UNITED KINGDOM (2000-2011)

Registry	Period	Cases	%	Person-years	%
England	2000-2011	21626	82.1	149 635 076	83.8
Northern Ireland	2000-2011	939	3.6	5 858 928	3.3
Scotland	2000-2011	2366	9.0	14 382 939	8.1
Wales	2000-2011	1415	5.4	8 711 888	4.9
UNITED KINGDOM	**2000-2011**	**26346**	**100.0**	**178 588 831**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

England, National Cancer Registration and Analysis Service (NCRAS), 1990–2013

Jem Rashbass, Charles A. Stiller

In 2010, the population of England was 52.6 million, and 24% of the population was younger than 20 years (Table A.6). Most residents live in metropolitan or smaller urban areas, and the rest live in mixed urban–rural areas. At the 2001 census, 91% of residents described themselves as White, 4.6% as Asian, 2.3% as Black, and 2.1% as mixed, Chinese, or other ethnic groups.

Patients with cancer are treated within the NHS, which is free of charge at the point of use. A minority of patients receive care within the private sector. Cancer services were restructured in 1995; cancer specialists now work in multidisciplinary teams, with services concentrated in specialized centres. Targets have been set to achieve reasonable waiting time for treatment, and cancer audits were established. These initiatives were reinforced by the NHS Cancer Plan published in 2000.

Cancer is not a reportable disease in England. The collection of personally identifiable information is permitted by a special provision within the NHS Act 2006. Cancers were registered by eight population-based registries, which collectively covered all of England until 2013, and subsequently by the national cancer registry maintained by the National Cancer Registration and Analysis Service (NCRAS). The data included in IICC-3 were submitted by the National Cancer Data Repository, which provides annual aggregate information for England. Data are collected from sources including hospital records, pathology reports, and waiting-time datasets, but the registries' methods varied during the reporting period. The national registry (and formerly the regional registries) is notified by the national death registration system of all deaths in their covered area, if a death certificate mentions cancer.

NCRAS performs a variety of public health surveillance and health protection functions and provides information to health organizations and researchers. The registry is the only source of reliable population-based cancer incidence, prevalence, and survival data, which are essential for implementing and monitoring key national initiatives, such as the Cancer Reform Strategy (2007).

POPULATION AT RISK

The population data are based on mid-year population estimates provided by the Office for National Statistics in Titchfield, England. Estimates for 1991–2000 are based on 2001 Census Area Statistical ward estimates adjusted to Lower Layer Super Output Areas (LSOAs) boundaries. Estimates for 2001–2007 are provided at LSOA level by the Office for National Statistics Small Area Population Estimates under Microdata Release Panel Data Access Agreement No. 0826 2007. In October 2010, the Office for National Statistics provided revised LSOA population estimates for 2002–2007 that use more specific methods of adjustment for international migrants, students, and internal migrants. Population data were provided by sex and 5-year age groups for 1991–1994, and by sex and single year of age for all the following years of the reporting period. The data provided for 1991 were applied to 1990, and the data for the missing year–age–sex categories were estimated at IARC using the methods described in Chapter 2. See also United Kingdom, above.

EDITORS' COMMENTS

Day of birth and day of incidence are collected, but they were not provided because of data protection rules (Table A.8). Basis of diagnosis was unknown for 2.7% of cases (Table A.9). Non-malignant CNS tumours were systematically recorded, although their proportion is relatively low (Table A.9). Pilocytic astrocytoma was coded with uncertain behaviour. Only the first occurrence of a non-melanoma skin cancer in a patient is registered. Laterality was not provided. See also United Kingdom, above.

Northern Ireland Cancer Registry, 1993–2013

Anna T. Gavin, Deirdre A. Fitzpatrick

Northern Ireland covers the north-eastern part of the island of Ireland and has a temperate maritime climate. The traditionally industrial economy has been replaced by services, which employ 70% of the workforce, complemented by high-tech industry and tourism. The capital city is Belfast.

In 2010, the population was about 1.8 million, and 27% of the population was younger than 20 years (Table A.6). The population is ethnically homogeneous, although there has been a recent influx of immigrants, mainly from eastern Europe.

Most patients with cancer are treated within the NHS, and even patients treated privately receive some of their treatment in the NHS hospitals. The Royal Belfast Hospital for Sick Children is the only hospital in Northern Ireland dedicated specifically to the care of children and provides most of the paediatric regional specialities for children throughout Northern Ireland.

The Northern Ireland Cancer Registry covers the entire population of Northern Ireland. The registry is part of the Centre for Public Health in the School of Medicine, Dentistry and Biomedical Sciences at Queen's University Belfast. In May 1994, the registry was re-established under an agreement between the Public Health Agency and Queen's University Belfast, with a remit to collect all cancers diagnosed in the population of Northern Ireland from 1993 onwards. It replaced an older, incomplete, paper-based registry, which was established in 1959.

The Northern Ireland Cancer Registry collects information on all malignant neoplasms, all carcinoma in situ, all neoplasms of uncertain behaviour, a subset of benign neoplasms, and some pre-malignant conditions.

Cases are registered using an automated computer system with multiple sources of information, primarily the Patient Administration System, histopathology reports, and death notifications. From the Patient Administration System, the registry obtains patient demographic information, tumour site (ICD-10), and treatment information. More detailed tumour information is matched electronically against the records of histopathology and cytopathology laboratories, coded to Systematized Nomenclature of Medicine, third edition (SNOMED-3). Registry staff members have access to the Cancer Patient Pathways System, which is used to record patient treatment plans and care from hospital multidisciplinary team meetings. Staff members also have access to practitioner notes for patients who have died from cancer. For other patients whose only source of information is from the Patient Administration System, registry staff members examine patient hospital records. The registered patients are followed up for vital status using information extracted from death certificates as provided by the General Registrar Office. Residence status is confirmed regularly by the Business Services Organisation, unless a registered patient has migrated.

The registry is the provider of official cancer incidence, prevalence, and survival statistics for Northern Ireland. It aims to provide accurate, timely information on cancers occurring in the population of Northern Ireland, for research, planning, and education, to help reduce the burden of disease and improve patient experience and outcomes.

POPULATION AT RISK

The annual mid-year resident population was estimated using the cohort component method, and the data were provided by the Northern Ireland Statistics and Research Agency (https://www.nisra.gov.uk/). Data were provided in the requested detail. See also United Kingdom, above.

EDITORS' COMMENTS

The proportion of cases with unspecified morphology is high (Table A.9). Non-malignant CNS tumours were registered. Pilocytic astrocytoma was coded with malignant behaviour until 2007 and with uncertain behaviour thereafter. Laterality is complete for 79% of the cases of interest. See also United Kingdom, above.

Scottish Cancer Registry, 1991–2013

Lesley A. Bhatti, Joannes J. Kerssens, Paula L. McClements, Andrew J. Deas, David H. Brewster

Scotland covers the northern third of the island of Great Britain, which has a temperate and oceanic climate. A mixed economy is open to the rest of the United Kingdom and internationally. Historically, the Scottish economy has been dominated by shipbuilding, coal mining, and steel industries. Petroleum-related industries associated with the extraction of North Sea oil have also been important employers since the 1970s. Services and tourism increasingly contribute to the economy. Exports include whisky, electronics, and financial services. The capital city is Edinburgh, and the largest city is Glasgow.

In 2010, the population was 5.3 million, and 23% of the population was younger than 20 years (Table A.6). Most of the population lives in an industrialized belt across the centre of the country; the remainder reside in more sparsely populated areas to the north and south. At the 2011 census, only 4% of people assigned themselves to minority ethnic groups.

The NHS is funded mainly through taxation and is mostly free at the point of use. The private health-care sector in Scotland is relatively small, and it is largely irrelevant to paediatric oncology. Access to hospital care is controlled by primary care physicians. Scotland has a nationally Managed Service Network for Children and Young People with Cancer (https://www.youngcancer.scot.nhs.uk). Small numbers of children with very rare cancers (e.g. retinoblastoma) are referred to specialized centres in England, but most children with cancer in Scotland are managed by paediatric haematology and oncology centres in the cities of Glasgow, Edinburgh, and Aberdeen.

The Scottish Cancer Registry covers the whole of Scotland. The registry forms part of the Information

Services Division within the Public Health and Intelligence unit of NHS National Services Scotland. It is funded by the Scottish government. Cancer is not a notifiable disease in Scotland. Potential registrations are identified from multiple electronic sources, including hospital discharge records, oncology records, pathology records, and death records. Information from these and other sources is linked to create provisional registrations, which are made available to out-posted cancer registration staff. By referring to medical records, the out-posted staff members validate provisional registrations and abstract additional information that cannot currently be collected electronically. In addition, childhood cancers are notified actively by paediatric haematology and oncology centres to the cancer registry (formerly to NRCT based in Oxford, England, but since 2013, directly to the Scottish Cancer Registry).

Registration data are believed to be of comparatively high quality, in terms of both accuracy and completeness of ascertainment.

Follow-up for vital status is achieved by regular linkage to mortality records; it is also believed to be relatively complete. In addition, emigrations of patients registered with cancer from Scotland to other United Kingdom countries are notified to the cancer registry by the NHS Central Register, thereby enabling censoring of data for these individuals.

After the publication of a dedicated report on childhood cancer in Scotland, the registry has maintained separate webpages for childhood cancer information (https://www.isdscotland.org/Health-Topics/Cancer/Cancer-Statistics/Childhood). The registry data are used to support a wide range of activities, including research.

PUBLICATIONS

Campbell J, Wallace WHB, Bhatti LA, Stockton DL, Rapson T, Brewster DH (2004). Childhood cancer in Scotland. Trends in incidence, mortality and survival 1975–1999. Edinburgh, UK: NHS Scotland. Informatics and Statistics Division.

POPULATION AT RISK

The annual mid-year population estimates provided by National Records of Scotland (https://www.nrscotland.gov.uk/) are based on a decennial census, supplemented by information on births, deaths, and estimated migration. Data were provided in the requested detail. See also United Kingdom, above.

EDITORS' COMMENTS

Day of birth and day of incidence were not provided by the registry, because of data protection requirements (Table A.8); thus, the accuracy of the calculated age could not be verified at IARC. CNS tumours with uncertain or unknown behaviour have been reported since 1975, and benign CNS tumours have been systematically registered since 2000. Pilocytic astrocytoma was coded with malignant behaviour until 2005 and with uncertain behaviour thereafter, but all cases were recoded with uncertain behaviour for submission to IICC-3. Laterality is known for two thirds of the cases of interest. Skin carcinomas are registered and are believed to be complete. See also United Kingdom, above.

Wales Cancer Registry, 2000–2011

Dyfed Wyn Huws, Ceri White, Janet Warlow

Wales covers an area of 20 779 km^2 in the western part of the island of Great Britain. The land is largely mountainous and has a changeable, maritime climate. The traditional extractive and heavy industries have been largely replaced by the public sector, light and service industries, and tourism. Two thirds of the population lives in southern Wales, concentrated around Cardiff, the capital. In 2010, the resident population was 3.0 million, and 24% of the population was younger than 20 years (Table A.6).

The Welsh government is responsible for the NHS in Wales. The seven health boards are responsible for delivering all NHS health-care services within a geographical area. In addition, NHS Trusts operate nationwide agencies and services, including ambulance, blood service, and health education. The health boards and trusts are funded by the Welsh government.

There are specialized cancer centres in Cardiff, in the north, and in the south-west. There is a network of cancer site-specific multidisciplinary teams across the country. Many young adults and children (depending on the type of cancer) are diagnosed and treated at specialized units in Wales, and a small proportion require specialized treatment that is available at centres in England.

The Welsh Cancer Intelligence and Surveillance Unit (WCISU) covers the entire population of Wales. It was established in 1997 to provide information on cancer in Wales and hold the population-based cancer registry. It is part of the Health Intelligence Division of Public Health Wales, which is the NHS national public health agency. WCISU produces official statistics on cancer incidence and survival in Wales and has a statutory duty to publish cancer mortality information. WCISU is staffed by 25 employees trained in public health, who perform registration, coding, informatics, analysis, administration, and management.

The main sources of information for cancer registration are electronic submission of multidisciplinary team clinical data, hospital inpatient records, radiology and pathology reports, cancer screening data, death certificates, and registrations from other cancer registries (for resident cases diagnosed and/or treated outside Wales). A new informatics registration system, developed in partnership with Public Health England, forms part of a broader cancer data warehouse for linkage of radiotherapy, chemotherapy, general practitioner data, prescribing data, laboratory data, genetic and molecular data, and other relevant information.

The registry also provides a data request and analysis service to organizations and individuals who require cancer information and provides information to support genetic counselling services. WCISU has also participated in more health service-level analyses with the health-care service, and it produces several annual reports on various topics.

There is an increasing emphasis on collaboration with universities, cancer charities, clinicians, and epidemiologists within Wales, the United Kingdom, and internationally.

POPULATION AT RISK

The source of the data is the Office for National Statistics of the Welsh government (https://www.gov.wales/census-population). Data were provided in the requested detail. See also United Kingdom, above.

EDITORS' COMMENTS

The MV% is low (83%), and for an additional 11% of cases the basis of diagnosis is unknown (Table A.9). The unknown basis of diagnosis is inconsistent with the precise morphology codes in 11% of cases (Table A.11). The sex ratio is rather high in adolescents (Table A.9); the excess of males is seen especially for bone and soft tissue sarcomas and germ cell tumours. Non-malignant CNS tumours were registered. Pilocytic astrocytoma was originally coded with malignant behaviour, but all cases were recoded with uncertain behaviour for submission to IICC-3. Skin carcinomas are registered, but ascertainment may be incomplete. Laterality was available for only about half of the cases of interest. See also United Kingdom, above.

UNITED KINGDOM (2000-2011)

	Age group (years)	Males	Females
Person-years	0	4 487 770	4 275 142
	1-4	17 590 228	16 765 052
	5-9	22 107 939	21 062 950
	10-14	23 412 365	22 308 888
	15-19	23 754 735	22 823 762
	0-14	67 598 302	64 412 032
	0-19	91 353 037	87 235 794

Please consult the quality indicators for this pool and its constituent registries

UNITED KINGDOM (2000-2011)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	351	2711	1504	1187	1128	**5753**	**6881**	32.1	100.0	26.1	100.0	40.1	78.9	34.8	26.0	24.2	**46.3**	**41.3**	659	780	96.5	0.2
	a. Lymphoid	175	2323	1246	823	626	**4567**	**5193**	25.5	79.4	19.7	75.5	20.0	67.6	28.9	18.0	13.4	**37.0**	**31.7**	524	591	97.1	0.1
	b. Acute myeloid	125	318	213	282	345	**938**	**1283**	5.2	16.3	4.9	18.6	14.3	9.3	4.9	6.2	7.4	**7.4**	**7.4**	107	144	96.1	0.2
	c. CMD	5	12	19	63	111	**99**	**210**	0.6	1.7	0.8	3.1	0.6	0.3	0.4	1.4	2.4	**0.7**	**1.1**	11	23	94.3	0.0
	d. MDS & other	30	35	11	4	10	**80**	**90**	0.4	1.4	0.3	1.3	3.4	1.0	0.3	0.1	0.2	**0.7**	**0.6**	9	10	93.3	1.1
	e. Unspecified	16	23	15	15	36	**69**	**105**	0.4	1.2	0.4	1.5	1.8	0.7	0.3	0.3	0.8	**0.6**	**0.6**	8	12	82.9	5.7
II	**LYMPHOMA & RELATED**	24	287	585	1076	2121	**1972**	**4093**	11.0	100.0	15.5	100.0	2.7	8.4	13.6	23.5	45.5	**14.0**	**21.1**	221	449	97.5	0.1
	a. Hodgkin	0	52	203	618	1479	**873**	**2352**	4.9	44.3	8.9	57.5	-	1.5	4.7	13.5	31.8	**5.9**	**11.7**	97	256	98.7	0.0
	b. Non-Hodgkin except BL	8	128	225	310	494	**671**	**1165**	3.7	34.0	4.4	28.5	0.9	3.7	5.2	6.8	10.6	**4.9**	**6.2**	76	129	96.3	0.2
	c. Burkitt (BL)	0	86	132	126	75	**344**	**419**	1.9	17.4	1.6	10.2	-	2.5	3.1	2.8	1.6	**2.6**	**2.3**	39	47	98.8	0.0
	d. Lymphoreticular	13	12	8	1	10	**34**	**44**	0.2	1.7	0.2	1.1	1.5	0.3	0.2	0.0	0.2	**0.3**	**0.3**	4	5	88.6	0.0
	e. Unspecified	3	9	17	21	63	**50**	**113**	0.3	2.5	0.4	2.8	0.3	0.3	0.4	0.5	1.4	**0.4**	**0.6**	6	12	83.2	0.9
III	**CNS NEOPLASMS** †	234	1249	1369	1136	920	**3988**	**4908**	22.2	100.0	18.6	100.0	26.7	36.4	31.7	24.8	19.8	**30.8**	**28.3**	455	554	81.6	0.1
	a. Ependymoma	46	176	97	60	53	**379**	**432**	2.1	9.5	1.6	8.8	5.2	5.1	2.2	1.3	1.1	**3.1**	**2.7**	44	49	96.1	0.0
	b. Astrocytoma	86	593	687	614	436	**1980**	**2416**	11.0	49.6	9.2	49.2	9.8	17.3	15.9	13.4	9.4	**15.1**	**13.8**	225	272	87.9	0.1
	c. CNS embryonal	55	267	297	201	122	**820**	**942**	4.6	20.6	3.6	19.2	6.3	7.8	6.9	4.4	2.6	**6.4**	**5.5**	94	107	98.2	0.1
	d. Other gliomas	12	139	192	159	133	**502**	**635**	2.8	12.6	2.4	12.9	1.4	4.0	4.4	3.5	2.9	**3.8**	**3.6**	57	71	47.7	0.0
	e. Other specified	13	31	51	55	81	**150**	**231**	0.8	3.8	0.9	4.7	1.5	0.9	1.2	1.2	1.7	**1.1**	**1.3**	17	26	84.0	0.0
	f. Unspecified CNS	22	43	45	47	95	**157**	**252**	0.9	3.9	1.0	5.1	2.5	1.3	1.0	1.0	2.0	**1.2**	**1.4**	18	28	17.5	1.2
IV	**NEUROBLASTOMA**	362	576	134	44	44	**1116**	**1160**	6.2	100.0	4.4	100.0	41.3	16.8	3.1	1.0	0.9	**9.7**	**7.7**	129	134	96.7	0.1
	a. (Ganglio)neuroblastoma	361	572	131	35	26	**1099**	**1125**	6.1	98.5	4.3	97.0	41.2	16.6	3.0	0.8	0.6	**9.6**	**7.5**	127	130	96.7	0.0
	b. Peripheral nervous	1	4	3	9	18	**17**	**35**	0.1	1.5	0.1	3.0	0.1	0.1	0.1	0.2	0.4	**0.1**	**0.2**	2	4	97.1	2.9
V	**RETINOBLASTOMA**	218	268	20	4	2	**510**	**512**	2.8	100.0	1.9	100.0	24.9	7.8	0.5	0.1	0.0	**4.5**	**3.5**	59	59	72.9	0.0
VI	**RENAL TUMOURS**	151	662	190	54	50	**1057**	**1107**	5.9	100.0	4.2	100.0	17.2	19.3	4.4	1.2	1.1	**9.1**	**7.3**	122	128	97.9	0.0
	a. Nephroblastoma	149	656	187	37	6	**1029**	**1035**	5.7	97.4	3.9	93.5	17.0	19.1	4.3	0.8	0.1	**8.9**	**6.9**	119	120	98.3	0.0
	b. Renal carcinoma	1	2	3	16	42	**22**	**64**	0.1	2.1	0.2	5.8	0.1	0.1	0.1	0.3	0.9	**0.2**	**0.3**	2	7	96.9	0.0
	c. Unspecified	1	4	0	1	2	**6**	**8**	0.0	0.6	0.0	0.7	0.1	0.1	-	0.0	0.0	**0.1**	**0.0**	1	1	62.5	0.0
VII	**HEPATIC TUMOURS**	82	123	22	35	59	**262**	**321**	1.5	100.0	1.2	100.0	9.4	3.6	0.5	0.8	1.3	**2.2**	**2.0**	30	36	95.6	0.0
	a. Hepatoblastoma	79	110	16	15	2	**220**	**222**	1.2	84.0	0.8	69.2	9.0	3.2	0.4	0.3	0.0	**1.9**	**1.5**	25	26	97.7	0.0
	b. Hepatic carcinoma	1	7	5	18	56	**31**	**87**	0.2	11.8	0.3	27.1	0.1	0.2	0.1	0.4	1.2	**0.2**	**0.4**	3	9	94.3	0.0
	c. Unspecified	2	6	1	2	1	**11**	**12**	0.1	4.2	0.0	3.7	0.2	0.2	0.0	0.0	0.0	**0.1**	**0.1**	1	1	66.7	0.0
VIII	**BONE TUMOURS**	6	42	226	562	641	**836**	**1477**	4.7	100.0	5.6	100.0	0.7	1.2	5.2	12.3	13.8	**5.7**	**7.5**	93	162	96.5	0.0
	a. Osteosarcoma	0	12	105	324	344	**441**	**785**	2.5	52.8	3.0	53.1	-	0.3	2.4	7.1	7.4	**2.9**	**3.9**	49	86	97.8	0.0
	b. Chondrosarcoma	0	0	5	18	40	**23**	**63**	0.1	2.8	0.2	4.3	-	-	0.1	0.4	0.9	**0.2**	**0.3**	3	7	98.4	0.0
	c. Ewing & related	4	24	103	201	209	**332**	**541**	1.9	39.7	2.1	36.6	0.5	0.7	2.4	4.4	4.5	**2.3**	**2.8**	37	60	97.8	0.0
	d. Other specified	1	3	8	9	28	**21**	**49**	0.1	2.5	0.2	3.3	0.1	0.1	0.2	0.2	0.6	**0.2**	**0.3**	2	5	98.0	0.0
	e. Unspecified	1	3	5	10	20	**19**	**39**	0.1	2.3	0.1	2.6	0.1	0.1	0.1	0.2	0.4	**0.1**	**0.2**	2	4	46.2	0.0
IX	**SOFT TISSUE SARCOMA**	114	374	294	401	497	**1183**	**1680**	6.6	100.0	6.4	100.0	13.0	10.9	6.8	8.8	10.7	**9.1**	**9.5**	134	188	98.0	0.0
	a. Rhabdomyosarcoma	44	276	189	119	134	**628**	**762**	3.5	53.1	2.9	45.4	5.0	8.0	4.4	2.6	2.9	**5.0**	**4.6**	72	86	98.3	0.0
	b. Fibrosarcoma	31	13	17	54	54	**115**	**169**	0.6	9.7	0.6	10.1	3.5	0.4	0.4	1.2	1.2	**0.9**	**0.9**	13	19	96.4	0.0
	c. Kaposi sarcoma	0	1	1	3	5	**5**	**10**	0.0	0.4	0.0	0.6	-	0.0	0.0	0.1	0.1	**0.0**	**0.1**	1	1	80.0	0.0
	d. Other specified	24	57	63	180	225	**324**	**549**	1.8	27.4	2.1	32.7	2.7	1.7	1.5	3.9	4.8	**2.3**	**2.9**	36	61	98.5	0.0
	e. Unspecified	15	27	24	45	79	**111**	**190**	0.6	9.4	0.7	11.3	1.7	0.8	0.6	1.0	1.7	**0.8**	**1.0**	13	21	97.4	0.0
X	**GERM CELL TUMOURS**	124	108	81	268	1142	**581**	**1723**	3.2	100.0	6.5	100.0	14.2	3.1	1.9	5.9	24.5	**4.4**	**8.9**	66	188	94.2	0.1
	a. CNS germ cell ‡	8	5	37	112	98	**162**	**260**	0.9	27.9	1.0	15.1	0.9	0.1	0.9	2.4	2.1	**1.1**	**1.3**	18	29	88.5	0.0
	b. Other extragonadal	79	47	9	14	32	**149**	**181**	0.8	25.6	0.7	10.5	9.0	1.4	0.2	0.3	0.7	**1.3**	**1.2**	17	21	93.9	0.6
	c. Gonadal germ cell	32	54	31	130	898	**247**	**1145**	1.4	42.5	4.3	66.5	3.7	1.6	0.7	2.8	19.3	**1.8**	**5.8**	28	124	97.0	0.0
	d. Gonadal carcinoma	1	0	2	5	76	**8**	**84**	0.0	1.4	0.3	4.9	0.1	-	0.0	0.1	1.6	**0.1**	**0.4**	1	9	90.5	0.0
	e. Unspecified gonadal	4	2	2	7	38	**15**	**53**	0.1	2.6	0.2	3.1	0.5	0.1	0.0	0.2	0.8	**0.1**	**0.3**	2	6	67.9	0.0
XI	**CARCINOMA & MELANOMA**	11	49	95	416	1685	**571**	**2256**	3.2	100.0	8.6	100.0	1.3	1.4	2.2	9.1	36.2	**3.9**	**11.2**	63	244	98.2	0.0
	a. Adrenocortical	4	15	4	3	7	**26**	**33**	0.1	4.6	0.1	1.5	0.5	0.4	0.1	0.1	0.2	**0.2**	**0.2**	3	4	100.0	0.0
	b. Thyroid	1	13	28	106	381	**148**	**529**	0.8	25.9	2.0	23.4	0.1	0.4	0.6	2.3	8.2	**1.0**	**2.6**	16	57	99.4	0.0
	c. Nasopharyngeal	0	0	1	29	68	**30**	**98**	0.2	5.3	0.4	4.3	-	-	0.0	0.6	1.5	**0.2**	**0.5**	3	11	100.0	0.0
	d. Melanoma	3	15	25	90	665	**133**	**798**	0.7	23.3	3.0	35.4	0.3	0.4	0.6	2.0	14.3	**0.9**	**3.9**	15	86	98.0	0.0
	e. Skin carcinoma	0	1	4	12	55	**17**	**72**	0.1	3.0	0.3	3.2	-	0.0	0.1	0.3	1.2	**0.1**	**0.4**	2	8	98.6	0.0
	f. Other & unspecified	3	5	33	176	509	**217**	**726**	1.2	38.0	2.8	32.2	0.3	0.1	0.8	3.8	10.9	**1.4**	**3.6**	24	79	97.1	0.0
XII	**OTHER & UNSPECIFIED**	23	35	23	32	115	**113**	**228**	0.6	100.0	0.9	100.0	2.6	1.0	0.5	0.7	2.5	**0.9**	**1.2**	13	25	41.7	0.9
	a. Other specified	6	12	4	4	10	**26**	**36**	0.1	23.0	0.1	15.8	0.7	0.3	0.1	0.1	0.2	**0.2**	**0.2**	3	4	100.0	0.0
	b. Other unspecified	17	23	19	28	105	**87**	**192**	0.5	77.0	0.7	84.2	1.9	0.7	0.4	0.6	2.3	**0.7**	**1.0**	10	21	30.7	1.0
	TOTAL	1700	6484	4543	5215	8404	**17942**	**26346**	100.0	100.0	100.0	100.0	194.0	188.7	105.2	114.1	180.4	**140.5**	**149.5**	2045	2948	93.1	0.1

† includes 1539 non-malignant ‡ includes 3 non-malignant

Please consult the quality indicators for this pool and its constituent registries

OCEANIA

Australia, 1992–2014

Australia is the largest country in Oceania and the sixth largest country in the world by total area. The country ranks among the largest economies and among the highest in per capita income. Australia maintains a stable liberal democratic political system that functions as a federal parliamentary constitutional monarchy comprising six states and two territories.

The population of 22.2 million (in 2010) is highly urbanized and is concentrated on the eastern seaboard. Australia has a large immigrant population (26%). In the 2016 census, which recorded up to two ancestries, the most common ancestries were English (36.1%), Australian (33.5%, mostly Anglo-Celtic), Irish (11.0%), Scottish (9.3%), Chinese (5.6%), Italian (4.6%), German (4.5%), Indian (2.8%), Greek (1.8%), and Dutch (1.6%). Like many high-income countries, Australia is undergoing a demographic shift towards an older population, with more retirees and fewer people of working age. In 2010, people younger than 20 years made up 26% of the total population (Table A.6).

PUBLICATIONS

Youlden DR, Baade PD, Hallahan AR, Valery PC, Green AC, Aitken JF (2015). Conditional survival estimates for childhood cancer in Australia, 2002–2011: a population-based study. Cancer Epidemiol. 39(3):394–400. https://doi.org/10.1016/j.canep.2015.02.008 PMID:25769222

POPULATION AT RISK

Population data were provided by the Australian Bureau of Statistics and are based on the censuses of 1991, 1996, 2001, 2006, and 2011 (https://www.abs.gov.au/census); all requested details were provided, unless otherwise stated in the registry-specific sections below.

EDITORS' COMMENTS

The combined dataset in IICC-3 comprises the data collected by eight registries, each covering one of the six Australian states (New South Wales, Queensland, South Australia, Tasmania, Victoria, and Western Australia) or one of the two territories (Australian Capital Territory and Northern Territory). Collectively, these registries covered the entire population of 5.7 million people younger than 20 years counted in Australia in 2010 (Table A.6). All eight cancer registries contributed to IICC-2, and the New South Wales Cancer Registry contributed to all three volumes of IICC (Table A.1). The paediatric cancer registry of Queensland, which provided data for IICC-1, expanded its coverage to the whole country and contributed to IICC-2 as the Australian Paediatric Cancer Registry (APCR). The APCR could not participate in IICC-3 because the ethics and legislative approvals under which it operates stipulate that identified or identifiable information may not be released.

All cancer registries have access to death certificates, and the low proportion of DCO cases indicates that either no cases were identified or those identified were successfully traced back and their records updated. The cancer registries routinely exchange information on registered cases, thus avoiding double counting and ensuring completeness of all registries. All registries may release individual records to researchers with appropriate ethical approval issued by the relevant registry's ethics committee. All Australian jurisdictional registries provide annual incidence data to the APCR, which also collects data on stage and treatment from hospital records. Incidence data held by the APCR and by jurisdictional registries are matched to ensure complete ascertainment.

The IICC-3 book includes one incidence table for the pooled Australian data and another for the data on the Indigenous population covered by three registries (see below). The full IICC-3 tables for the constituent registries with large numbers of cases are available online (Table A.12).

Registration practices differ slightly between the Australian registries. Only two of them, representing 13% of the total dataset, provided the records of non-malignant CNS tumours. As a rule, pilocytic astrocytoma was provided (coded with uncertain behaviour) only by the registries that included non-malignant cases. The date of birth and date

AUSTRALIA (1992-2014)

Registry	Period	Cases	%	Person-years	%
Australian Capital Territory	1992-2012	336	1.6	1 911 937	1.6
New South Wales	1992-2012	6230	30.4	37 182 494	31.5
Northern Territory	1992-2012	182	0.9	1 385 312	1.2
Queensland	1992-2013	4204	20.5	23 270 270	19.7
South Australia	1992-2012	1388	6.8	8 285 974	7.0
Tasmania	1992-2013	490	2.4	2 952 021	2.5
Victoria	1992-2014	5179	25.3	30 045 182	25.5
Western Australia	1992-2014	2499	12.2	12 836 883	10.9
AUSTRALIA	**1992-2014**	**20508**	**100.0**	**117 870 073**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

of diagnosis were available at different levels of detail. In the combined dataset, date of birth or date of incidence was unknown in about 10% of cases; this might have affected the precision of the provided age, because age was inconsistent with the dates in 1.3% of cases (Table A.8). Laterality was available for a large proportion of cases in three registries, but this was not sufficient for the pooled dataset to reach 95% completeness and be included in the laterality tables in the IICC-3 book. Malignant carcinoid of appendix made up 1.8% of all cases (Table A.11).

Three registries, Indigenous, 1992–2014

For about 50 000 years, Australia was inhabited by Indigenous Australians, who spoke about 250 languages. In 2016, the Indigenous population – Aboriginal and Torres Strait Islanders – made up 2.8% of the total population. Compared with non-Indigenous Australians, Indigenous Australians have a lower life expectancy (11 years lower for males and 17 years lower for females), lower levels of education, a higher unemployment rate, and a higher rate of imprisonment.

The registries of the Northern Territory, Queensland, and Western Australia provided information on the ethnicity of the registered patients and the background ethnic population. In the 2011 census, Indigenous people made up an estimated 3% of the Australian population covered by these cancer registries, and the proportion of the population younger than 20 years was somewhat higher in the Indigenous population (47%) than in the general population (26%) (Table A.6). Although the numbers of Indigenous cases were low in each of these registries, a combined dataset was constructed to provide sample information on cancer incidence in this ethnic group.

POPULATION AT RISK

Population estimates and projections of the Aboriginal and Torres Strait Islander population of Australia are based on the results of the 2011 Census of Population and Housing (https://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/3238.0). The data for all individual categories of calendar year, sex, single year of age, and ethnicity were not available. Therefore, each of the three registries that provided information on the Aboriginal and Torres Strait Islander population also provided the relevant population data for this Indigenous population; these data were further processed at IARC as described in the relevant section within the individual registries.

EDITORS' COMMENTS

The incidence rates for the Indigenous population were the lowest of all the Australian datasets (Table A.9); this may be explained, at least in part, by underdiagnosis due to suboptimal access to health care of the Indigenous population. The proportion of cases aged 0 years was high, which reflects the age structure in the Indigenous population. Also notable is a lower sex ratio of cancer cases than in the overall Australian dataset (Table A.9). The three contributing registries differed in data collected or provided for IICC-3. Laterality was available only from Queensland, data on non-malignant CNS tumours were available only from Western Australia, and the extent of incompleteness of dates also differed, as described in the commentaries for the individual registries. The incomplete dates may have contributed to some bias in age definition, because date of birth was incomplete in about one third of all cases and date of incidence was incomplete in 19% of cases (Table A.8). Malignant carcinoid of appendix made up 1.8% of all cases (Table A.11).

AUSTRALIA, 3 registries, Indigenous (1992-2014)

Registry	Period	Cases	%	Person-years	%
Northern Territory	1992-2012	62	18.5	596 010	19.7
Queensland	1992-2013	156	46.4	1 630 228	53.8
Western Australia	1992-2014	118	35.1	804 780	26.6
AUSTRALIA	**1992-2014**	**336**	**100.0**	**3 031 018**	**100.0**

Please consult the quality indicators for this registry

Australian Capital Territory Cancer Registry, 1992–2012

Elizabeth Chalker, Leah Newman, Hai Phung

The Australian Capital Territory (ACT) Cancer Registry covers the population of the ACT, which has an area of about 2400 km^2 and is surrounded by the state of New South Wales (NSW). The ACT is about 580 m above sea level. The territory has warm, dry summers and cold winters, including frequent frosts and occasional snow. The average ultraviolet index ranges from 2 in winter to 11 in summer. More than half of the ACT is designated as a protected area, such as a national park or nature reserve.

The ACT accounts for 1.6% of Australia's total population, and most residents live in the country's capital, Canberra. In 2010, the estimated population of the ACT

was 0.4 million, of which 25% were people younger than 20 years (Table A.6) and 1.5% were Aboriginal or Torres Strait Islanders. The income and education levels of people living in the ACT are higher than the national average.

The ACT Government Health Directorate oversees public health care in the region, in partnership with a range of service providers. The ACT offers the community a comprehensive range of cancer prevention, early detection, treatment, community care, and palliative services, in both the public and the private sector. The largest hospital in the ACT is Canberra Hospital. This public hospital is the principal cancer care provider in the ACT and the surrounding NSW region, offering expertise in surgery, medical and radiation oncology, and haematology services. However, all children with cancer in the ACT are referred to Sydney (NSW) for treatment.

The ACT Cancer Registry, funded by the Health Directorate, collects data on all new cancer cases and cancer-related deaths in ACT residents. Since 1994, when the notification of cancer became mandatory under provisions of the Public Health Act, all ACT public and private pathology laboratories, hospitals, and nursing homes are required by law to notify the registry of any cancer in patients or in human tissues. Previously, notification had been voluntary since 1982. Registration of childhood cancers is considered complete for the ACT resident population from 1994 onwards. The Health Directorate contracts the Cancer Institute NSW to register ACT cancer cases and cancer-related deaths on its behalf.

The ACT Cancer Registry monitors cancer incidence trends within the ACT population. Because of the small number of cases registered each year, data are reported as 5-year averages on a biennial reporting cycle.

POPULATION AT RISK

See Australia, above.

EDITORS' COMMENTS

The ACT had the highest rates for the age group 0–14 years among the Australian registries that did not provide data on non-malignant CNS tumours (Table A.9). Malignant carcinoid of appendix made up 5.1% of all cases (Table A.11). Laterality was complete for retinoblastoma and nephroblastoma. Reporting of skin carcinomas was not mandatory, and these cases were not included. See also Australia, above.

New South Wales Cancer Registry, 1992–2012

Sanchia Aranda, Deborah Baker, Nicola Creighton, Elizabeth Tracey, John Uesi

New South Wales (NSW) is located on the east coast of Australia; the ACT is an enclave within the state. Sydney, the state capital, is Australia's most populous city (4.7 million). NSW is the most populous state, with a total population of 7.1 million in 2010. The principal ancestries of NSW residents (in 2011) are Australian (25%), English (24%), Irish (7%), Scottish (6%), and Chinese (4.3%). The Aboriginal population makes up 2.8%. People younger than 20 years made up 26% of the total population of NSW, and 32% of all children in Australia (Table A.6).

The NSW Cancer Registry records all new cancer diagnoses and cancer-related deaths in NSW residents. A case of cancer is defined as the occurrence of a primary malignant neoplasm in one organ of a particular person. The NSW Cancer Registry records new cancer cases; it does not capture cancer recurrences. Notification of a malignant neoplasm is a statutory requirement and currently operates under the authority of the Public Health Act of 1991. Any NSW facility that treats or diagnoses cancer is required by law to notify the NSW Cancer Registry.

Local health districts are responsible for providing local cancer services. These districts provide hospital inpatient, outpatient, and community health care and specialist cancer care for their residents. Radiotherapy and chemotherapy services are predominantly outpatient and are provided in specialist cancer care facilities, which may also be private. Most children with cancer are treated at specialized paediatric oncology centres in Sydney.

The NSW Cancer Registry is managed and funded by the Cancer Institute of NSW on behalf of the NSW Ministry of Health. The information collected includes name, address, date of birth, country of birth, clinical details about the cancer, the notifying institution, and the doctor. All information sent to the registry is kept confidential, held under security, and protected by the Public Health Act.

Cancer notifications are provided as pathology reports from pathology laboratories, as death certificates from the NSW Registry of Births, Deaths and Marriages, or according to the cancer notification form from hospitals and other notifying institutions. The NSW Cancer Registry processes more than 250 000 notifications each year, resulting in 36 000 unique cases of cancer. The registry routinely matches cancer cases with deaths from all causes occurring in the whole of Australia. The clinical cancer registry database was formed from the six clinical cancer registries that collected TNM staging and treatment information on public patients; this information also feeds into the registry.

The NSW Cancer Registry contributes to prevention, planning, cancer control, and evaluation of screening programmes for the population of NSW by providing timely, accurate data. A statistical report and tabulated data are made available from the online statistics module. Several other reports (https://www.cancer.nsw.gov.au/research-and-data/cancer-data-and-statistics) and publications (https://www.cancer.nsw.gov.au/research-and-data/cancer-data-and-statistics/publications-using-our-data) are also accessible online. Data from the NSW Cancer Registry are crucial in the evaluation and monitoring of system performance and cancer trends in NSW.

POPULATION AT RISK

Population data were provided by sex and single year of age for 1992–2010 and by 5-year age group for 1992 and 2012. The data provided by 5-year age group were used, and the data for the missing combinations of sex and single year of age were estimated at IARC using the methods described in Chapter 2. The proportions of single years of age reported for 2010 were applied to 2011 and 2012.

EDITORS' COMMENTS

The proportion of cases aged 19 years in the age group 15–19 years was slightly higher than expected (Table A.9). Non-malignant CNS tumours and skin carcinomas were excluded from registration. Laterality was unknown for 12% of cases of interest. Malignant carcinoid of appendix made up 2.1% of all cases (Table A.11). See also Australia, above.

Northern Territory Cancer Registry, 1992–2012

Shu Qin Li, Xiao Hua Zhang, Vincent He, John Condon, Lindy Garling

The Northern Territory is located in central and central-northern Australia, and Darwin is the capital and the largest city. With an area of more than 1.35 million km^2, Northern Territory is the third largest Australian federal division; however, it is also the least populous. The territory's population was 1% of the total population of Australia in 2010, and 30% of people were younger than 20 years (Table A.6). Most of the residents (54%) live in Darwin. The economy is based on tourism and mining.

Indigenous Australians settled the region more than 40 000 years ago; they own about 49% of the land. In the 2011 census, the most common ancestries in the Northern Territory were Australian (23.9%), English (19.4%), Australian Aboriginal (14.7%), Irish (6.2%), and Scottish (5.1%); more than 100 nationalities are represented. Overall, 25.4% of the population was born overseas.

All residents have public health insurance (Medicare), and some residents have private health insurance, which provides coverage for specialist care, pathology, paediatric and adolescent oncology, and neuro-oncology.

The Northern Territory Cancer Registry (NTCR) is located in Darwin and covers the territory's entire population. The NTCR collects data on cancer cases from public hospital inpatient records, a computerized public hospital discharge recording system, private hospital inpatient records, and pathology laboratories. Data from hospitals and laboratories are sent to the cancer registry by mail or in electronic format. The information is recorded into RegPlus, and then checked and coded by the clinical coder within RegPlus. Neoplasms are coded using the ICD-O-3 system, and the IARC/IACR recommendations are used for other variables. The NTCR undertakes passive patient follow-up as a routine practice through hospital inpatient records, national mortality data, and laboratory data. The NTCR data are reported in government statistical reports and are provided for research, with ethical approval.

POPULATION AT RISK

The Northern Territory Department of Health published Northern Territory Estimated Resident Population by Age, Sex, Indigenous Status and Health Districts (1971–2014), prepared by Health Gains Planning (accessed 24 April 2015), using the resident population as estimated by the Australian Bureau of Statistics. Data were provided by sex and 5-year age group for 1991–2012 and by sex and single year of age for 2001–2012. The data for the missing sex–age–ethnicity categories were estimated at IARC by applying the single age proportions in each sex–ethnicity category (Indigenous and non-Indigenous) observed in 2001 to each sex–age–ethnicity category in each year of the period 1991–2000.

EDITORS' COMMENTS

The NTCR provided a small number of cases. The incidence rates were the lowest of the Australian registries (Table A.9), possibly because the Northern Territory has the largest proportion of Indigenous population, which is characterized by low overall incidence rates in children. Date of incidence was incomplete for almost all cases because it was not routinely recorded before 2015, and date of birth was incomplete in 12% of cases (Table A.8). Therefore, age definition may be biased, and this may explain the unexpected distribution of cases by age highlighted in Table A.9. Also notable are high sex ratios in children and adolescents. Non-malignant CNS tumours and skin carcinomas were not reportable, and laterality was not recorded. The data for the Indigenous population were included in the combined table described earlier in this section. See also Australia, above.

Queensland Cancer Registry, 1992–2013

Joanne F. Aitken, Carly Scott

Queensland comprises the north-eastern portion of Australia and has a subtropical to tropical climate. The Queensland population of 4.4 million (in 2010) is 20% of the total population of Australia. The Queensland population is growing quickly; 27% of the total population is younger than 20 years (Table A.6).

The Queensland Paediatric Haematology Oncology Network was established by Queensland Health in 2006 to oversee and support services that provide care to children with cancer and severe haematological disorders throughout Queensland. Care is coordinated through the tertiary Queensland Children's Cancer Centre at Queensland Children's Hospital (formerly known as Lady Cilento Children's Hospital), Brisbane, and is delivered in conjunction with regional shared care units in Cairns, Townsville, Mackay, Rockhampton, Bundaberg, Hervey Bay, Nambour, Toowoomba, Logan, and Gold Coast. The Queensland Children's Cancer Centre comprises a 24-bed inpatient facility, including a blood and marrow transplant unit and a day chemotherapy and outpatient centre. The centre treats about 160 children with malignancy per year. Currently, the centre has 12 paediatric oncologists on staff, including one palliative care specialist and one adolescent specialist, and three paediatric haematologists.

The Queensland Cancer Registry is located at and managed by Cancer Council Queensland, is funded by Queensland Health, and is supported by the Queensland

Cancer Control Analysis Team. The registry has a core of 14 staff, with additional temporary staff.

Data collection began on 1 January 1982 (Table A.10). The Queensland Cancer Registry operates under an Act of Parliament that requires compulsory notification of all patients with cancer in Queensland from all hospitals (public, private, and psychiatric), nursing homes, and pathology laboratories. Relevant information is obtained from death certificates regardless of whether cancer is the cause of death. Recent initiatives that have resulted in improved data quality include an increase in the number of facilities that provide notifications electronically and the introduction of a scanned record system.

The aim of the Queensland Cancer Registry is to collect data to describe the nature and extent of cancer in Queensland. Cancer Council Queensland analyses and publishes registry data in regular, detailed reports of selected cancers, including childhood cancers. The registry provides data for research and for the planning and evaluation of health services. All releases of registry data strictly adhere to governing legislation about privacy and confidentiality. Data from the Queensland Cancer Registry are released annually in the publication *Cancer in Queensland: Incidence, Mortality, Survival and Prevalence* and are provided to national bodies for Australia-wide statistical analysis and publication. These national bodies include the APCR, which is an approved national research project.

PUBLICATIONS

Queensland Cancer Registry, Cancer Council Queensland (2015). Cancer in Queensland: incidence, mortality, survival and prevalence, 1982 to 2013. Brisbane, Australia: Queensland Cancer Registry.

POPULATION AT RISK

Queensland provided annual data by individual years of age and sex for 1990–2013, but these data were not split by ethnicity. The population data for Indigenous residents were provided by sex and 5-year age group for 1996–2011. The data for the missing sex–age–ethnicity categories in calendar years 1991–1995 and 2012–2013 were derived by linear extrapolation of the proportion of the Indigenous ethnicity within the total population in 1996–2011 for each sex–age category. Subsequently, the single age proportions within each age group and calendar year observed in 1996–2011 were applied to estimate the relevant counts in the Indigenous category.

EDITORS' COMMENTS

Non-malignant CNS tumours and skin carcinomas were not registered, which affected the incidence rates. Laterality was almost complete for retinoblastoma, nephroblastoma, and testicular tumours. The Queensland Cancer Registry also defined data by ethnicity, and data on the Indigenous population were combined with those from two other registries, as described above. See also Australia, above.

South Australian Cancer Registry, 1992–2012

Katina D'Onise, Helen Thomas, Rhonda Pfeiffer, Sonya Clarke, Elizabeth Jarosz, Lesley Milliken, Teresa Molik, Kylie Parrott, Anna-Liisa Skene, Cathy Wiesner, Debra Whyatt

South Australia makes up about 13% of the land mass of Australia and has about 7% of the child, adolescent, and total national populations. People younger than 20 years made up 24% of the population in 2010 (Table A.6). South Australia is located centrally on the continent, spanning from mid-continent to the Southern Ocean. With the state's preponderance of desert terrain, a long coastline, and a Mediterranean climate, the environmental exposures of primary interest for cancer control are sunlight and, in some rural areas, atmospheric dust. The political geography of the state has not changed in many years.

The relatively small population is predominantly urban, with a large concentration in the state capital, Adelaide. Most of the population is of European ancestry, with an increasingly diverse ethnic mix characteristic of more recent immigrants. South Australia also has a small Indigenous minority. Government schools provide free primary and secondary education for all children, but some families prefer church-affiliated or other fee-based private schools. Low-income families and unemployed people are entitled to government income support. Healthy lifestyles for young people are promoted by both public and private agencies, with particular emphasis on increased physical activity, proper diet, and protection from sun exposure. Nevertheless, child obesity is a recurring public health issue.

All citizens and permanent residents are included in the national health insurance scheme, which provides hospital care and some out-of-hospital care at no direct cost to the patient. Some people also purchase private, supplemental insurance coverage, which offers them more discretion in choosing care providers and quicker access to non-acute services. Most hospital medical staff are public employees, but community doctors, both generalists and specialists, are in private practice.

The South Australian Cancer Registry covers all residents of the state. Since 1977, notification of cancer has been a statutory obligation for all hospitals and pathology laboratories (public and private). The registry staff consists of a registrar and five permanent staff, supplemented by some part-time, temporary staff. Technical support is provided by epidemiologists associated with the registry. Registered cases are cross-checked with hospital discharge files and with two death indexes (monthly state and annual national indexes) to maximize completeness of case registration.

POPULATION AT RISK

See Australia, above.

EDITORS' COMMENTS

Day of incidence was missing for 85% of cases (Table A.8), because this information was not collected before 2011. Non-malignant CNS tumours were not registered (Table A.9). A single case of pilocytic astrocytoma was coded with malignant behaviour. Laterality was provided for about 14% of cases of interest. Among skin carcinomas, only two sites (genitalia and perineum) were reportable. See also Australia, above.

Tasmanian Cancer Registry, 1992–2013

Alison Venn, Brian Stokes

Tasmania, which is the smallest state in Australia, comprises a group of islands with a total area of 68 018 km^2 located 240 km south of the Australian mainland. Tasmania has a temperate climate. The population of Tasmania accounts for about 2.3% of the total Australian population, and Tasmania has the most dispersed population of any Australian jurisdiction, with 58% of the population living outside the greater capital city area. About 72% of the population resides in urban areas. About 16% of the Tasmanian population was born outside Australia, and 4% are Indigenous. People younger than 20 years made up 26% of the population in 2010 (Table A.6).

The three main population regions of Tasmania are the south, which includes Hobart, the capital city; the north, which includes Launceston; and the north-west, which includes Devonport and Burnie. Each of the three regions has a public hospital system and several private hospitals. Sophisticated services such as neurosurgery and neonatal intensive care are available in the capital city; general services, including surgery and paediatric services, are offered at all three major hospitals. A statewide paediatric oncology medical team maintains close ties with the paediatric oncology team of a large tertiary hospital in Victoria, the nearest state. The two existing radiotherapy units rarely treat paediatric patients.

The Tasmanian Cancer Registry (TCR) was established in 1977 (Table A.10), and its operation was transferred from the Department of Health and Human Services to the Menzies Institute for Medical Research, University of Tasmania, in July 1988. Cancers were declared to be notifiable in December 1992, and since then cancer registration has been required by law. Currently, the TCR is staffed by a director, a manager, two medical coders, and a part-time project officer.

Notifications of cancer diagnosis are received from all pathology and radiology service providers in the state, radiation oncology clinics, and private and public hospitals. Death certificates of Tasmanian residents are reviewed for mention of cancer and are linked with information stored in the TCR database. Almost all notifications are received electronically. The TCR also has electronic access to the public hospital electronic medical record system and the statewide oncology management system. When insufficient information is received to enable complete registration of cancer notifications, active follow-up is undertaken by accessing electronic systems and by contacting the treating doctors and the staff at pathology and radiology laboratories. Before 2000, the TCR did not accept DCO cases. The ICD-O-3 system is used to classify topography and morphology of tumours. No active follow-up of patients to ascertain status is undertaken, other than receiving monthly death registrations and ad hoc linkages with the National Death Index.

The TCR publishes a morbidity and mortality report each year and contributes to national reporting. The Department of Health and Human Services receives detailed data annually, and regular data exchange is carried out between the TCR and specified cancer screening programmes, as well as between the TCR and the APCR.

POPULATION AT RISK

See Australia, above.

EDITORS' COMMENTS

No DCO cases were reported, partly because death certificates were not used as a source of data before 2000. Day of incidence was unknown in 43% of cases; this might have affected the precision of the provided age, because age was inconsistent with the dates in 45% of cases (Table A.8). The registry provided data for non-malignant CNS tumours, which made up 42% of all CNS cases (Table A.9), and included cases of pilocytic astrocytoma, coded with uncertain behaviour. Laterality was provided for 50% of cases of interest. Skin carcinomas were not reportable. See also Australia, above.

Victorian Cancer Registry, 1992–2014

Catherine Shang, Helen Farrugia, Vicky Thursfield

Victoria is the southernmost mainland state, located just opposite Tasmania. The climate and topography include the wet, temperate Gippsland region in the south-east; the snow-covered Victorian alpine areas, which rise to an altitude of almost 2000 m; and extensive semi-arid plains to the west and north-west.

Victoria is the most densely populated state; one quarter of the Australian population resides there, and 25% of the Victoria population is younger than 20 years (Table A.6). About 70% of the population resides in the capital city, Melbourne, which dominates the state's economy, media, and culture. Only nine other towns and cities in Victoria have more than 25 000 inhabitants, and the rest of the population resides in smaller settlements. In the 2011 census, 24% of the total population was born overseas; 41% of immigrants were from Asia, 18% from southern Europe, and 17% from Great Britain. About 5% of children younger than 14 years were born overseas, mostly in Asian countries.

Finance, insurance, and property services form the largest income-producing sector; the community, social, and personal services sector is the largest employer. Despite

the shift towards service industries, the manufacturing sector remains an important contributor to the economy of the state. About 60% of the total land area is used for agriculture, with farms ranging from small horticultural enterprises to large-scale livestock and grain producers. One quarter of farmland is used to grow consumable crops.

Specialist paediatric cancer services are provided at two hospitals in Victoria – the Royal Children's Hospital Melbourne and Monash Medical Centre – which offer integrated multidisciplinary teams of specialist medical, nursing, research, and allied health professionals who provide care and services to meet the clinical, physical, social, and psychological needs of patients and parents. The Peter MacCallum Cancer Centre provides a specialized radiation therapy service for children and adolescents. The Paediatric Integrated Cancer Service was established in 2004 as part of the Victorian Government's Caring for Children package and is now part of the Victorian Government's broader cancer reform strategy, A Cancer Services Framework for Victoria.

The Victorian Cancer Registry works within the legal framework of the Cancer Act, the Health Records Act, and the Public Records Act, which cover the mandatory reporting, the release of information, and the retention of records, respectively. The registry is located within Cancer Council Victoria and has a staff of about 25 people, including medical coders, an operations manager, electronic notifications and training officers, a director, an information manager, and administrative support staff. About 80% of notifications are received electronically from 250 public and private hospitals and from 27 pathology laboratories statewide. More than 120 000 cancer notifications are processed each year.

The Victorian Cancer Registry adheres to IACR recommendations with respect to case definition and coding. Data quality is ensured by matching pathology reports with hospital registrations for cases in which diagnosis was based on histological confirmation.

Data on cancer incidence, mortality, survival, and projections are published annually.

PUBLICATIONS

Thursfield V, Farrugia H (2018). Cancer in Victoria: statistics and trends 2017. Melbourne, Australia: Cancer Council Victoria.

POPULATION AT RISK

See Australia, above.

EDITORS' COMMENTS

Non-malignant CNS tumours were not included. Laterality was provided for 84% of relevant cases. Skin carcinomas were excluded, with the exception of those that occurred on genitals. Malignant carcinoid of appendix made up 1.3% of all cases (Table A.11). See also Australia, above.

Western Australian Cancer Registry, 1992–2014

Timothy J. Threlfall, Judith R. Thompson

Western Australia occupies the western third of the country and is the largest state. Of its population of 2.6 million (~10% of the national total), 75% live in the metropolitan area of the capital city, Perth, which is located in the south-western corner of the state. People younger than 20 years made up 26% of the total population in 2010 (Table A.6). The south-western climate is Mediterranean; however, most of the state is arid desert.

The population is largely of European origin, with growing proportions of immigrants from most areas of the world. About 3.5% of people in Western Australia are of Aboriginal or Indigenous Australian origin (according to self-declaration and cultural acceptance).

Medical services are concentrated in the Perth metropolitan area and at larger coastal towns in the south-west, with a heavy reliance on aerial emergency services (the Royal Flying Doctor Service) in isolated areas. Perth Children's Hospital (formerly known as Princess Margaret Hospital for Children), located in Perth, is the only specialist children's hospital, and most paediatric patients are treated at this publicly funded institution. The federal government offers financial incentives to increase membership of private health insurance funds. Health funding is a persistent subject of negotiation between state and federal governments, and health funding accounts for 28% of the budget of the Western Australian government.

The Western Australia Cancer Registry ensures a relatively complete notification stream from pathology laboratories, and considerable work is done to follow up reports of non-pathologically diagnosed cases and cases detected via death notifications. The registry operates within the Western Australian Department of Health and performs statistical functions but also has significant involvement in recruiting participants for medical research studies.

When ICD-O coding systems change, the entire database is translated into the most recent code set, with review and recoding of individual cases as needed (Table A.10). The Western Australia Cancer Registry has completed a nationally coordinated process of incorporating the latest ICD-O-3 updates into its computer systems.

Staff of the Western Australia Cancer Registry have online access to hospital data, the electoral roll, clinical information systems, and mortality data; the local Data Linkage Branch assists with de-duplication and mortality linkage. Aboriginality is determined by the registry staff, based on hospitalization and death records.

All staff members have desktop scanners, and since 2008 all documentation has been scanned and is accessible as image files. Currently, 95% of information is provided to the registry electronically. Use of an electronic records system has enabled the registry to maintain operations without adding staff in more than 10 years. In addition, Department of Health staff in certain clinical areas can access Western Australia Cancer Registry records online via a remote read-only access facility, which further reduces the burden on registry staff.

The Western Australia Cancer Registry publishes an annual statistical report (available from https://ww2.health.wa.gov.au/Articles/U_Z/Western-Australian-Cancer-Registry-Statistics).

PUBLICATIONS

Threlfall TJ, Thompson JR (2015). Cancer incidence and mortality in Western Australia, 2013. Perth, Australia: Department of Health, Western Australia.

Threlfall TJ, Thompson JR (2015). Cancer incidence and mortality in Western Australia, 2014. Perth, Australia: Department of Health, Western Australia.

POPULATION AT RISK

Population data by sex and 5-year age group were provided by the Australian Bureau of Statistics for 1990–2013. The registry split the relevant categories into individual years of age using the Beers formula and provided them for IICC-3, for all ethnicities combined. Data for 2014 were provided by the Australian Bureau of Statistics with all requested detail and all ethnicities combined. Counts for the Indigenous population were provided by sex and 5-year age group for all calendar years of the reporting period. The single age counts for the Indigenous population were estimated at IARC by applying the proportions of single year of age and sex observed in the national Indigenous population in each year of the period 1990–2014 to each combination of sex, 5-year age group, and calendar year in the provided population data.

EDITORS' COMMENTS

Western Australia had the highest overall incidence rates (Table A.6), mostly because of the large proportion of non-malignant CNS tumours (42%); most of the other Australian registries provided only malignant neoplasms. Reporting of non-malignant CNS tumours was not legally required in 1992–1995; therefore, reporting might have been incomplete. However, the large proportion of these cases in the dataset suggests that any underascertainment must have been minimal. All cases of pilocytic astrocytoma were registered in accordance with the ICD-O system in use (Table A.10) and were recoded to uncertain behaviour when the registry started to use ICD-O-3. Exact date of birth is collected by the registry, but day of birth was not provided for confidentiality reasons (Table A.8). Therefore, it was not possible to verify the consistency of the provided age with the dates; age was inconsistent with the dates for 1.6% of cases (Table A.8). Laterality was unknown for about 30% of cases of interest. Malignant carcinoid of appendix made up 4.4% of all cases (Table A.11). The Western Australia Cancer Registry also defined data by ethnicity, and data on the Indigenous population were combined with those from two other registries, as described above. See also Australia, above.

AUSTRALIA (1992-2014)

	Age group (years)	Males	Females
Person-years	0	3 025 034	2 830 373
	1-4	11 969 705	11 395 377
	5-9	15 011 710	14 259 147
	10-14	15 123 843	14 372 319
	15-19	15 309 651	14 572 914
	0-14	45 130 292	42 857 216
	0-19	60 439 943	57 430 130

Please consult the quality indicators for this pool and its constituent registries

AUSTRALIA, 3 registries, Indigenous (1992-2014)

	Age group (years)	Males	Females
Person-years	0	88 875	84 810
	1-4	353 517	337 354
	5-9	410 037	391 969
	10-14	370 522	355 650
	15-19	325 362	312 922
	0-14	1 222 951	1 169 783
	0-19	1 548 313	1 482 705

Please consult the quality indicators for this registry

AUSTRALIA (1992-2014)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	290	2201	1233	901	955	**4625**	**5580**	35.1	100.0	27.2	100.0	49.5	94.2	42.1	30.5	32.0	**55.5**	**50.2**	790	949	97.7	0.0
	a. Lymphoid	116	1884	1013	609	488	**3622**	**4110**	27.5	78.3	20.0	73.7	19.8	80.6	34.6	20.6	16.3	**43.7**	**37.5**	618	700	98.4	0.0
	b. Acute myeloid	103	240	164	192	296	**699**	**995**	5.3	15.1	4.9	17.8	17.6	10.3	5.6	6.5	9.9	**8.2**	**8.6**	119	169	98.4	0.1
	c. CMD	35	28	29	63	123	**155**	**278**	1.2	3.4	1.4	5.0	6.0	1.2	1.0	2.1	4.1	**1.8**	**2.3**	26	47	87.8	0.4
	d. MDS & other	22	40	10	23	23	**95**	**118**	0.7	2.1	0.6	2.1	3.8	1.7	0.3	0.8	0.8	**1.2**	**1.1**	16	20	94.9	0.0
	e. Unspecified	14	9	17	14	25	**54**	**79**	0.4	1.2	0.4	1.4	2.4	0.4	0.6	0.5	0.8	**0.6**	**0.7**	9	13	88.6	0.0
II	LYMPHOMA & RELATED	37	265	449	748	1553	**1499**	**3052**	11.4	100.0	14.9	100.0	6.3	11.3	15.3	25.4	52.0	**16.3**	**24.3**	255	515	98.0	0.1
	a. Hodgkin	0	18	125	390	1015	**533**	**1548**	4.0	35.6	7.5	50.7	-	0.8	4.3	13.2	34.0	**5.5**	**11.9**	91	260	98.7	0.1
	b. Non-Hodgkin except BL	8	114	185	236	425	**543**	**968**	4.1	36.2	4.7	31.7	1.4	4.9	6.3	8.0	14.2	**6.0**	**7.8**	92	164	98.8	0.1
	c. Burkitt (BL)	0	61	112	86	69	**259**	**328**	2.0	17.3	1.6	10.7	-	2.6	3.8	2.9	2.3	**2.9**	**2.8**	44	56	98.8	0.0
	d. Lymphoreticular	28	64	23	22	23	**137**	**160**	1.0	9.1	0.8	5.2	4.8	2.7	0.8	0.7	0.8	**1.7**	**1.5**	23	27	90.6	0.0
	e. Unspecified	1	8	4	14	21	**27**	**48**	0.2	1.8	0.2	1.6	0.2	0.3	0.1	0.5	0.7	**0.3**	**0.4**	5	8	81.3	0.0
III	CNS NEOPLASMS †	156	759	720	536	510	**2171**	**2681**	16.5	100.0	13.1	100.0	26.6	32.5	24.6	18.2	17.1	**25.3**	**23.5**	370	456	81.2	0.1
	a. Ependymoma	21	143	61	40	55	**265**	**320**	2.0	12.2	1.6	11.9	3.6	6.1	2.1	1.4	1.8	**3.2**	**2.9**	45	54	98.1	0.0
	b. Astrocytoma	45	225	248	205	240	**723**	**963**	5.5	33.3	4.7	35.9	7.7	9.6	8.5	7.0	8.0	**8.3**	**8.3**	123	163	88.8	0.1
	c. CNS embryonal	60	227	212	124	63	**623**	**686**	4.7	28.7	3.3	25.6	10.2	9.7	7.2	4.2	2.1	**7.4**	**6.2**	106	117	98.3	0.0
	d. Other gliomas	10	104	121	100	87	**335**	**422**	2.5	15.4	2.1	15.7	1.7	4.5	4.1	3.4	2.9	**3.8**	**3.6**	57	72	48.8	0.2
	e. Other specified	7	16	24	36	47	**83**	**130**	0.6	3.8	0.6	4.8	1.2	0.7	0.8	1.2	1.6	**0.9**	**1.1**	14	22	93.8	0.0
	f. Unspecified CNS	13	44	54	31	18	**142**	**160**	1.1	6.5	0.8	6.0	2.2	1.9	1.8	1.1	0.6	**1.7**	**1.4**	24	27	4.4	0.6
IV	NEUROBLASTOMA	338	453	90	30	18	**911**	**929**	6.9	100.0	4.5	100.0	57.7	19.4	3.1	1.0	0.6	**11.8**	**9.3**	156	159	97.6	0.0
	a. (Ganglio)neuroblastoma	338	452	84	21	5	**895**	**900**	6.8	98.2	4.4	96.9	57.7	19.3	2.9	0.7	0.2	**11.6**	**9.0**	153	154	97.8	0.0
	b. Peripheral nervous	0	1	6	9	13	**16**	**29**	0.1	1.8	0.1	3.1	-	0.0	0.2	0.3	0.4	**0.2**	**0.2**	3	5	93.1	0.0
V	RETINOBLASTOMA	136	200	14	0	1	**350**	**351**	2.7	100.0	1.7	100.0	23.2	8.6	0.5	-	0.0	**4.6**	**3.6**	60	60	86.3	0.0
VI	RENAL TUMOURS	102	432	145	36	43	**715**	**758**	5.4	100.0	3.7	100.0	17.4	18.5	5.0	1.2	1.4	**9.0**	**7.3**	122	129	97.8	0.1
	a. Nephroblastoma	100	428	140	18	10	**686**	**696**	5.2	95.9	3.4	91.8	17.1	18.3	4.8	0.6	0.3	**8.7**	**6.8**	117	119	98.1	0.0
	b. Renal carcinoma	1	3	4	18	32	**26**	**58**	0.2	3.6	0.3	7.7	0.2	0.1	0.1	0.6	1.1	**0.3**	**0.5**	4	10	100.0	0.0
	c. Unspecified	1	1	1	0	1	**3**	**4**	0.0	0.4	0.0	0.5	0.2	0.0	0.0	-	0.0	**0.0**	**0.0**	1	1	0.0	25.0
VII	HEPATIC TUMOURS	66	103	22	26	24	**217**	**241**	1.6	100.0	1.2	100.0	11.3	4.4	0.8	0.9	0.8	**2.7**	**2.3**	37	41	95.0	0.4
	a. Hepatoblastoma	61	96	18	10	3	**185**	**188**	1.4	85.3	0.9	78.0	10.4	4.1	0.6	0.3	0.1	**2.4**	**1.9**	32	32	98.4	0.0
	b. Hepatic carcinoma	1	4	4	16	20	**25**	**45**	0.2	11.5	0.2	18.7	0.2	0.2	0.1	0.5	0.7	**0.3**	**0.4**	4	8	97.8	0.0
	c. Unspecified	4	3	0	0	1	**7**	**8**	0.1	3.2	0.0	3.3	0.7	0.1	-	-	0.0	**0.1**	**0.1**	1	1	0.0	12.5
VIII	BONE TUMOURS	4	49	138	366	462	**557**	**1019**	4.2	100.0	5.0	100.0	0.7	2.1	4.7	12.4	15.5	**5.8**	**8.0**	95	172	98.3	0.1
	a. Osteosarcoma	0	8	49	188	253	**245**	**498**	1.9	44.0	2.4	48.9	-	0.3	1.7	6.4	8.5	**2.5**	**3.8**	42	84	99.4	0.0
	b. Chondrosarcoma	1	0	1	11	28	**13**	**41**	0.1	2.3	0.2	4.0	0.2	-	0.0	0.4	0.9	**0.1**	**0.3**	2	7	100.0	0.0
	c. Ewing & related	3	36	84	151	151	**274**	**425**	2.1	49.2	2.1	41.7	0.5	1.5	2.9	5.1	5.1	**2.9**	**3.4**	47	72	98.1	0.0
	d. Other specified	0	3	2	12	27	**17**	**44**	0.1	3.1	0.2	4.3	-	0.1	0.1	0.4	0.9	**0.2**	**0.3**	3	7	97.7	0.0
	e. Unspecified	0	2	2	4	3	**8**	**11**	0.1	1.4	0.1	1.1	-	0.1	0.1	0.1	0.1	**0.1**	**0.1**	1	2	54.5	9.1
IX	SOFT TISSUE SARCOMA	79	245	215	281	401	**820**	**1221**	6.2	100.0	6.0	100.0	13.5	10.5	7.3	9.5	13.4	**9.4**	**10.3**	140	207	98.0	0.0
	a. Rhabdomyosarcoma	30	187	124	80	87	**421**	**508**	3.2	51.3	2.5	41.6	5.1	8.0	4.2	2.7	2.9	**5.0**	**4.6**	72	86	99.2	0.0
	b. Fibrosarcoma	15	18	19	27	55	**79**	**134**	0.6	9.6	0.7	11.0	2.6	0.8	0.6	0.9	1.8	**0.9**	**1.1**	13	23	95.5	0.0
	c. Kaposi sarcoma	0	0	0	1	0	**1**	**1**	0.0	0.1	0.0	0.1	-	-	-	0.0	-	**0.0**	**0.0**	0	0	100.0	0.0
	d. Other specified	22	29	54	147	211	**252**	**463**	1.9	30.7	2.3	37.9	3.8	1.2	1.8	5.0	7.1	**2.7**	**3.7**	43	78	98.3	0.0
	e. Unspecified	12	11	18	26	48	**67**	**115**	0.5	8.2	0.6	9.4	2.0	0.5	0.6	0.9	1.6	**0.8**	**0.9**	11	19	94.8	0.0
X	GERM CELL TUMOURS	115	117	60	201	807	**493**	**1300**	3.7	100.0	6.3	100.0	19.6	5.0	2.0	6.8	27.0	**5.7**	**10.5**	84	219	96.1	0.2
	a. CNS germ cell ‡	15	7	32	81	68	**135**	**203**	1.0	27.4	1.0	15.6	2.6	0.3	1.1	2.7	2.3	**1.4**	**1.6**	23	34	89.2	0.0
	b. Other extragonadal	78	51	4	6	45	**139**	**184**	1.1	28.2	0.9	14.2	13.3	2.2	0.1	0.2	1.5	**1.8**	**1.7**	24	31	95.7	1.1
	c. Gonadal germ cell	22	57	21	100	640	**200**	**840**	1.5	40.6	4.1	64.6	3.8	2.4	0.7	3.4	21.4	**2.3**	**6.6**	34	141	98.6	0.0
	d. Gonadal carcinoma	0	0	2	8	36	**10**	**46**	0.1	2.0	0.2	3.5	-	-	0.1	0.3	1.2	**0.1**	**0.3**	2	8	97.8	0.0
	e. Unspecified gonadal	0	2	1	6	18	**9**	**27**	0.1	1.8	0.1	2.1	-	0.1	0.0	0.2	0.6	**0.1**	**0.2**	2	5	70.4	0.0
XI	CARCINOMA & MELANOMA	11	35	116	605	2514	**767**	**3281**	5.8	100.0	16.0	100.0	1.9	1.5	4.0	20.5	84.1	**7.8**	**25.0**	130	551	98.4	0.0
	a. Adrenocortical	4	9	4	4	7	**21**	**28**	0.2	2.7	0.1	0.9	0.7	0.4	0.1	0.1	0.2	**0.3**	**0.3**	4	5	96.4	0.0
	b. Thyroid	1	5	26	97	422	**129**	**551**	1.0	16.8	2.7	16.8	0.2	0.2	0.9	3.3	14.1	**1.3**	**4.2**	22	93	99.3	0.0
	c. Nasopharyngeal	0	0	2	21	32	**23**	**55**	0.2	3.0	0.3	1.7	-	-	0.1	0.7	1.1	**0.2**	**0.4**	4	9	98.2	0.0
	d. Melanoma	4	17	45	246	1449	**312**	**1761**	2.4	40.7	8.6	53.7	0.7	0.7	1.5	8.3	48.5	**3.2**	**13.4**	53	295	98.3	0.0
	e. Skin carcinoma	0	0	2	5	7	**7**	**14**	0.1	0.9	0.1	0.4	-	-	0.1	0.2	0.2	**0.1**	**0.1**	1	2	92.9	0.0
	f. Other & unspecified	2	4	37	232	597	**275**	**872**	2.1	35.9	4.3	26.6	0.3	0.2	1.3	7.9	20.0	**2.8**	**6.6**	47	147	98.1	0.1
XII	OTHER & UNSPECIFIED	23	25	9	8	30	**65**	**95**	0.5	100.0	0.5	100.0	3.9	1.1	0.3	0.3	1.0	**0.8**	**0.9**	11	16	54.7	6.3
	a. Other specified	7	15	4	4	10	**30**	**40**	0.2	46.2	0.2	42.1	1.2	0.6	0.1	0.1	0.3	**0.4**	**0.4**	5	7	95.0	0.0
	b. Other unspecified	16	10	5	4	20	**35**	**55**	0.3	53.8	0.3	57.9	2.7	0.4	0.2	0.1	0.7	**0.4**	**0.5**	6	9	25.5	10.9
	TOTAL	1357	4884	3211	3738	7318	**13190**	**20508**	100.0	100.0	100.0	100.0	231.8	209.0	109.7	126.7	244.9	**154.9**	**175.1**	2250	3475	95.2	0.1

† includes 239 non-malignant ‡ includes 7 non-malignant

Please consult the quality indicators for this pool and its constituent registries

AUSTRALIA, 3 registries, Indigenous (1992-2014)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	6	40	23	18	19	**87**	**106**	34.9	100.0	31.5	100.0	34.5	57.9	28.7	24.8	29.8	**37.0**	**35.4**	533	682	99.1	0.0
	a. Lymphoid	1	27	15	8	9	**51**	**60**	20.5	58.6	17.9	56.6	5.8	39.1	18.7	11.0	14.1	**21.8**	**20.0**	311	381	100.0	0.0
	b. Acute myeloid	4	10	8	6	9	**28**	**37**	11.2	32.2	11.0	34.9	23.0	14.5	10.0	8.3	14.1	**11.9**	**12.4**	172	243	100.0	0.0
	c. CMD	1	1	0	3	1	**5**	**6**	2.0	5.7	1.8	5.7	5.8	1.4	-	4.1	1.6	**2.1**	**2.0**	32	40	100.0	0.0
	d. MDS & other	0	2	0	1	0	**3**	**3**	1.2	3.4	0.9	2.8	-	2.9	-	1.4	-	**1.3**	**1.0**	18	18	66.7	0.0
	e. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
II	LYMPHOMA & RELATED	1	6	12	9	15	**28**	**43**	11.2	100.0	12.8	100.0	5.8	8.7	15.0	12.4	23.5	**11.6**	**14.2**	177	295	100.0	0.0
	a. Hodgkin	0	0	5	4	8	**9**	**17**	3.6	32.1	5.1	39.5	-	-	6.2	5.5	12.5	**3.6**	**5.6**	59	121	100.0	0.0
	b. Non-Hodgkin except BL	0	5	3	3	7	**11**	**18**	4.4	39.3	5.4	41.9	-	7.2	3.7	4.1	11.0	**4.6**	**6.1**	68	123	100.0	0.0
	c. Burkitt (BL)	0	1	4	2	0	**7**	**7**	2.8	25.0	2.1	16.3	-	1.4	5.0	2.8	-	**2.9**	**2.2**	44	44	100.0	0.0
	d. Lymphoreticular	1	0	0	0	0	**1**	**1**	0.4	3.6	0.3	2.3	5.8	-	-	-	-	**0.4**	**0.3**	6	6	100.0	0.0
	e. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
III	CNS NEOPLASMS †	10	8	18	9	7	**45**	**52**	18.1	100.0	15.5	100.0	57.6	11.6	22.4	12.4	11.0	**18.9**	**17.1**	278	333	76.9	0.0
	a. Ependymoma	1	2	1	1	0	**5**	**5**	2.0	11.1	1.5	9.6	5.8	2.9	1.2	1.4	-	**2.1**	**1.7**	30	30	100.0	0.0
	b. Astrocytoma	4	1	8	1	3	**14**	**17**	5.6	31.1	5.1	32.7	23.0	1.4	10.0	1.4	4.7	**5.9**	**5.6**	86	109	76.5	0.0
	c. CNS embryonal	2	5	5	3	0	**15**	**15**	6.0	33.3	4.5	28.8	11.5	7.2	6.2	4.1	-	**6.3**	**4.9**	92	92	93.3	0.0
	d. Other gliomas	2	0	3	2	3	**7**	**10**	2.8	15.6	3.0	19.2	11.5	-	3.7	2.8	4.7	**2.9**	**3.3**	44	68	30.0	0.0
	e. Other specified	1	0	1	2	1	**4**	**5**	1.6	8.9	1.5	9.6	5.8	-	1.2	2.8	1.6	**1.6**	**1.6**	26	34	100.0	0.0
	f. Unspecified CNS	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
IV	NEUROBLASTOMA	6	6	2	2	0	**16**	**16**	6.4	100.0	4.8	100.0	34.5	8.7	2.5	2.8	-	**7.0**	**5.4**	96	96	100.0	0.0
	a. (Ganglio)neuroblastoma	6	6	2	2	0	**16**	**16**	6.4	100.0	4.8	100.0	34.5	8.7	2.5	2.8	-	**7.0**	**5.4**	96	96	100.0	0.0
	b. Peripheral nervous	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
V	RETINOBLASTOMA	2	3	0	0	0	**5**	**5**	2.0	100.0	1.5	100.0	11.5	4.3	-	-	-	**2.2**	**1.7**	29	29	80.0	0.0
VI	RENAL TUMOURS	2	5	3	1	0	**11**	**11**	4.4	100.0	3.3	100.0	11.5	7.2	3.7	1.4	-	**4.7**	**3.7**	66	66	90.9	0.0
	a. Nephroblastoma	2	5	3	1	0	**11**	**11**	4.4	100.0	3.3	100.0	11.5	7.2	3.7	1.4	-	**4.7**	**3.7**	66	66	90.9	0.0
	b. Renal carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	HEPATIC TUMOURS	2	1	1	0	0	**4**	**4**	1.6	100.0	1.2	100.0	11.5	1.4	1.2	-	-	**1.7**	**1.4**	24	24	100.0	0.0
	a. Hepatoblastoma	2	1	1	0	0	**4**	**4**	1.6	100.0	1.2	100.0	11.5	1.4	1.2	-	-	**1.7**	**1.4**	24	24	100.0	0.0
	b. Hepatic carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	BONE TUMOURS	0	0	0	7	4	**7**	**11**	2.8	100.0	3.3	100.0	-	-	-	9.6	6.3	**2.8**	**3.6**	48	80	100.0	0.0
	a. Osteosarcoma	0	0	0	2	1	**2**	**3**	0.8	28.6	0.9	27.3	-	-	-	2.8	1.6	**0.8**	**1.0**	14	22	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	1	**0**	**1**	-	-	0.3	9.1	-	-	-	-	1.6	**-**	**0.4**	-	8	100.0	0.0
	c. Ewing & related	0	0	0	5	2	**5**	**7**	2.0	71.4	2.1	63.6	-	-	-	6.9	3.1	**2.0**	**2.3**	34	50	100.0	0.0
	d. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	e. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
IX	SOFT TISSUE SARCOMA	5	7	3	4	5	**19**	**24**	7.6	100.0	7.1	100.0	28.8	10.1	3.7	5.5	7.8	**8.2**	**8.1**	116	155	100.0	0.0
	a. Rhabdomyosarcoma	3	2	1	0	1	**6**	**7**	2.4	31.6	2.1	29.2	17.3	2.9	1.2	-	1.6	**2.6**	**2.4**	35	43	100.0	0.0
	b. Fibrosarcoma	1	2	0	0	0	**3**	**3**	1.2	15.8	0.9	12.5	5.8	2.9	-	-	-	**1.3**	**1.0**	17	17	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	1	2	1	4	3	**8**	**11**	3.2	42.1	3.3	45.8	5.8	2.9	1.2	5.5	4.7	**3.3**	**3.6**	51	75	100.0	0.0
	e. Unspecified	0	1	1	0	1	**2**	**3**	0.8	10.5	0.9	12.5	-	1.4	1.2	-	1.6	**0.8**	**1.0**	12	20	100.0	0.0
X	GERM CELL TUMOURS	2	2	1	5	14	**10**	**24**	4.0	100.0	7.1	100.0	11.5	2.9	1.2	6.9	21.9	**4.2**	**8.2**	64	173	91.7	0.0
	a. CNS germ cell	0	0	1	2	0	**3**	**3**	1.2	30.0	0.9	12.5	-	-	1.2	2.8	-	**1.2**	**0.9**	20	20	100.0	0.0
	b. Other extragonadal	1	0	0	0	4	**1**	**5**	0.4	10.0	1.5	20.8	5.8	-	-	-	6.3	**0.4**	**1.8**	6	37	80.0	0.0
	c. Gonadal germ cell	1	2	0	2	8	**5**	**13**	2.0	50.0	3.9	54.2	5.8	2.9	-	2.8	12.5	**2.1**	**4.5**	31	94	100.0	0.0
	d. Gonadal carcinoma	0	0	0	1	1	**1**	**2**	0.4	10.0	0.6	8.3	-	-	-	1.4	1.6	**0.4**	**0.7**	7	15	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	1	**0**	**1**	-	-	0.3	4.2	-	-	-	-	1.6	**-**	**0.4**	-	8	0.0	0.0
XI	CARCINOMA & MELANOMA	0	3	1	11	23	**15**	**38**	6.0	100.0	11.3	100.0	-	4.3	1.2	15.1	36.0	**6.1**	**12.9**	99	279	89.5	0.0
	a. Adrenocortical	0	1	0	0	0	**1**	**1**	0.4	6.7	0.3	2.6	-	1.4	-	-	-	**0.4**	**0.3**	6	6	100.0	0.0
	b. Thyroid	0	0	1	3	5	**4**	**9**	1.6	26.7	2.7	23.7	-	-	1.2	4.1	7.8	**1.6**	**3.0**	27	66	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	0	**1**	**1**	0.4	6.7	0.3	2.6	-	-	-	1.4	-	**0.4**	**0.3**	7	7	100.0	0.0
	d. Melanoma	0	1	0	3	5	**4**	**9**	1.6	26.7	2.7	23.7	-	1.4	-	4.1	7.8	**1.6**	**3.0**	26	66	77.8	0.0
	e. Skin carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	f. Other & unspecified	0	1	0	4	13	**5**	**18**	2.0	33.3	5.4	47.4	-	1.4	-	5.5	20.4	**2.0**	**6.2**	33	135	88.9	0.0
XII	OTHER & UNSPECIFIED	2	0	0	0	0	**2**	**2**	0.8	100.0	0.6	100.0	11.5	-	-	-	-	**0.9**	**0.7**	12	12	0.0	100.0
	a. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Other unspecified	2	0	0	0	0	**2**	**2**	0.8	100.0	0.6	100.0	11.5	-	-	-	-	**0.9**	**0.7**	12	12	0.0	100.0
	TOTAL	38	81	64	66	87	**249**	**336**	100.0	100.0	100.0	100.0	218.8	117.2	79.8	90.9	136.3	**105.4**	**112.4**	1542	2223	93.2	0.6

† includes 8 non-malignant

Please consult the quality indicators for this registry

France, overseas territories

EDITORS' COMMENTS

Datasets from two French overseas territories located in Oceania – New Caledonia and French Polynesia – are presented in a combined dataset. Both registries are active in the French Network of Cancer Registries (FRANCIM) and were certified by the French Registry Evaluation Committee. Despite geographical distance and differences in population structure, combining the two datasets in the table in the IICC-3 book enabled inclusion of the data from French Polynesia, which otherwise could not have been included because of the small number of cases in each registry. Data for both registries are presented separately online, in a full standard table for New Caledonia and in an abbreviated table for French Polynesia (Table A.12).

FRANCE, 2 registries (1990-2013)

Registry	Period	Cases	%	Person-years	%
French Polynesia	1990-2011	240	45.9	2 093 587	52.0
New Caledonia	1990-2013	283	54.1	1 931 895	48.0
FRANCE	**1990-2013**	**523**	**100.0**	**4 025 482**	**100.0**

Please consult the quality indicators for this pool and its constituent registries

France, French Polynesia Cancer Registry, 1990–2011

Laure Yen Kai Sun, Moea Liao-Toiroro, Jean-Michel Duffaux

The French Polynesia Cancer Registry covers the entire territory of French Polynesia, which comprises 121 islands located across a maritime surface area of 4 million km^2 in the South Pacific Ocean. In 2010, three quarters of the population of 268 000 were concentrated on the islands of Tahiti and Moorea. The population is young; 33% were younger than 20 years in 2010 (Table A.6). The slowing of demographic growth since 2002, the ageing of the population, and the increase in life expectancy (to 75.6 years in 2010) indicate that the demographic transition has been completed. Nevertheless, the lifestyle remains traditional, guided by religions, particularly in the distant archipelagos.

Despite the constraints of the geographical configuration and the dispersal of the population, access to health care is relatively satisfactory, through a network of public structures distributed across the territory. The private sector is well developed, although it is limited mostly to the islands of Tahiti, Moorea, and Raiatea. There are 211 doctors per 100 000 population (2008). Since 1995, Polynesia has a generalized social security system.

Most cancer care is provided at the 436-bed Hospital Centre of French Polynesia (CHPF) in Tahiti, which has a paediatrics department, a chemotherapy unit, and, since 2011, a radiotherapy unit. Medical transfers of patients, both domestic (from islands to the CHPF) and international (to France or New Zealand) remain necessary for specialized care of certain cancers.

The French Polynesia Cancer Registry was established by law in 1985 (Table A.10), certified by the French Registry Evaluation Committee in 1999, and authorized by the French Data Protection Authority in 2000. It is managed by the French Polynesia Health Directorate, with the technical support of the French Institute for Public Health Surveillance and FRANCIM.

The French Polynesia Cancer Registry records all primary malignant tumours (with the exception of cutaneous carcinomas) in children and adults. The data are collected from several sources: general practitioners, medical biology and anatomical pathology laboratories, the programme for medicalization of information systems of the CHPF, death certificates, the register of medical transfers, and the register of long-term diseases of the Social Security Fund. The registry uses CanReg4, provided by IARC. The completeness of the registry is globally considered to be good since 1999 and is even better for 2008 and 2009. Because of the small population, incidence is reported for periods of 5 years or 10 years, on the scale of the whole territory.

PUBLICATIONS

Yen Kai Sun L, Manuel C, Liao-Toiroro M, Schyle M, Tuheiava M (2010). Registre des cancers de Polynésie française: bilan de 10 années de surveillance, 1997–2006. Polynésie française: Direction de la Santé.

Vathaire CC, De Vathaire F, Vu BL, Gleize L, Sun LY, Gestas P, et al. (2004). Childhood malignancies in French Polynesia during the 1985–1995 period. Trop Med Int Health. 9(9):1005–11. https://doi.org/10.1111/j.1365-3156.2004.01302.x PMID:15361114

POPULATION AT RISK

The population data are based on the official censuses of 1988, 1996, 2002, 2007, and 2012, and annual intercensal estimates, as produced by the Institute of Statistics of French Polynesia (https://www.ispf.pf/themes/population). Data were provided for all categories, as requested.

EDITORS' COMMENTS

Dates may have been incomplete in up to 16% of cases (Table A.8), which may have resulted in minor age

misclassification. The proportion of unspecified tumours was high (13%) (Table A.9). Only malignant tumours were reported, and no cases of pilocytic astrocytoma were included in the dataset. Laterality was known for three quarters of cases of interest. Skin carcinomas were not registered. See also France, overseas territories, above.

France, New Caledonia Cancer Registry, 1990–2013

Erika Hartmann, Sylvie Laumond, Delphine Tranap, Isabelle Missotte, Luciano Dalla-Pozza

New Caledonia is an overseas French territory located in the South Pacific Ocean. The territory is divided into three administrative districts: North Province (19% of the population), South Province (74%), and Loyalty Islands Province (7%). The estimated population in 2010 was 0.3 million (Table A.7). Two thirds of the population lives in the capital city, Nouméa, and its suburbs. The communities comprising the population of New Caledonia are Melanesian (41%), European (29%), Polynesian (11%), and Other (19%). The population is relatively young; 32% are younger than 20 years (Table A.6).

All children with a cancer diagnosis are identified and followed up by staff at the children's ward of the Territorial Hospital Center Gaston Bourret in Dumbéa. Most of these patients are transferred for treatment to the Children's Hospital at Westmead, Sydney, Australia. The data for these patients were cross-checked with that hospital to ensure data completeness.

The New Caledonia Cancer Registry records all invasive tumours diagnosed in people who lived in New Caledonia for more than 6 months. All non-malignant CNS tumours are also registered.

This general cancer registry was established in 1977 (Table A.10), and in 1985 its management was entrusted to the Institut Pasteur of New Caledonia. Cancer has been a reportable disease since 1994.

The New Caledonia Cancer Registry was certified by the French Registry Evaluation Committee for the first time in 1998 but lost its certification in 2009 because of incompleteness and poor data quality. The registry was then transferred to the public health department of the New Caledonia Directorate of Health and Social Affairs on 1 January 2011. The subsequent improvements consisted of (i) setting up recording procedures based on French and international rules (European Network of Cancer Registries [ENCR], WHO, Union for International Cancer Control [UICC], and FRANCIM), (ii) increasing the number of independent data sources from notifications, (iii) adding new variables to describe patients and tumours, (iv) systematically linking data with clinical records, and (v) systematically validating the coding and recording of all new cases by a medical doctor with expertise in epidemiology. These procedures resulted in renewed certification in November 2012, for a 3-year period.

The New Caledonia Cancer Registry regularly publishes incidence data (https://dass.gouv.nc/votre-sante-maladies/le-cancer).

POPULATION AT RISK

Population estimates are provided by the Institute of Statistics and Economic Studies of New Caledonia (https://www.isee.nc/) and are based on the census data of 1989, 1996, 2004, 2009, and 2014. Data were provided by sex and single year of age for 1989, 1996, 2008, 2009, 2011, 2013, and 2014. The data for the missing year–sex–age categories were estimated at IARC using the methods described in Chapter 2.

EDITORS' COMMENTS

No DCO cases were included in the dataset (Table A.9), because all cases identified from death certificates were successfully traced back. The MV% was 98%. Non-malignant CNS tumours were reported, and pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete for retinoblastoma and nephroblastoma. Skin carcinomas were not registered. See also France, overseas territories, above.

FRANCE, 2 registries (1990-2013)

	Age group (years)	Males	Females
Person-years	0	103 710	86 197
	1-4	413 842	389 342
	5-9	529 065	499 516
	10-14	523 398	494 173
	15-19	502 879	483 360
	0-14	1 570 015	1 469 228
	0-19	2 072 894	1 952 588

Please consult the quality indicators for this pool and its constituent registries

FRANCE, 2 registries (1990-2013)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)					0-14	0-19	0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19			All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	**LEUKAEMIA**	9	55	33	27	28	**124**	**152**	33.0	100.0	29.1	100.0	47.4	68.5	32.1	26.5	28.4	**43.0**	**39.7**	615	757	99.3	0.7
	a. Lymphoid	3	29	18	11	8	**61**	**69**	16.2	49.2	13.2	45.4	15.8	36.1	17.5	10.8	8.1	**21.3**	**18.3**	303	343	100.0	0.0
	b. Acute myeloid	1	17	9	10	13	**37**	**50**	9.8	29.8	9.6	32.9	5.3	21.2	8.7	9.8	13.2	**12.7**	**12.8**	184	249	100.0	0.0
	c. CMD	0	0	2	3	7	**5**	**12**	1.3	4.0	2.3	7.9	-	-	1.9	2.9	7.1	**1.5**	**2.7**	24	60	100.0	0.0
	d. MDS & other	1	5	1	0	0	**7**	**7**	1.9	5.6	1.3	4.6	5.3	6.2	1.0	-	-	**2.7**	**2.1**	35	35	100.0	0.0
	e. Unspecified	4	4	3	3	0	**14**	**14**	3.7	11.3	2.7	9.2	21.1	5.0	2.9	2.9	-	**4.9**	**3.8**	70	70	92.9	7.1
II	**LYMPHOMA & RELATED**	0	6	17	18	21	**41**	**62**	10.9	100.0	11.9	100.0	-	7.5	16.5	17.7	21.3	**12.8**	**14.7**	201	308	100.0	0.0
	a. Hodgkin	0	2	8	7	5	**17**	**22**	4.5	41.5	4.2	35.5	-	2.5	7.8	6.9	5.1	**5.3**	**5.2**	83	109	100.0	0.0
	b. Non-Hodgkin except BL	0	3	4	7	11	**14**	**25**	3.7	34.1	4.8	40.3	-	3.7	3.9	6.9	11.2	**4.4**	**5.9**	69	125	100.0	0.0
	c. Burkitt (BL)	0	1	2	3	2	**6**	**8**	1.6	14.6	1.5	12.9	-	1.2	1.9	2.9	2.0	**1.9**	**1.9**	29	40	100.0	0.0
	d. Lymphoreticular	0	0	1	0	1	**1**	**2**	0.3	2.4	0.4	3.2	-	-	1.0	-	1.0	**0.3**	**0.5**	5	10	100.0	0.0
	e. Unspecified	0	0	2	1	2	**3**	**5**	0.8	7.3	1.0	8.1	-	-	1.9	1.0	2.0	**0.9**	**1.2**	15	25	100.0	0.0
III	**CNS NEOPLASMS** †	2	17	38	15	8	**72**	**80**	19.1	100.0	15.3	100.0	10.5	21.2	36.9	14.7	8.1	**23.6**	**20.1**	354	395	83.8	0.0
	a. Ependymoma	0	4	3	0	0	**7**	**7**	1.9	9.7	1.3	8.8	-	5.0	2.9	-	-	**2.5**	**1.9**	35	35	85.7	0.0
	b. Astrocytoma	2	3	11	4	4	**20**	**24**	5.3	27.8	4.6	30.0	10.5	3.7	10.7	3.9	4.1	**6.5**	**6.0**	98	119	95.8	0.0
	c. CNS embryonal	0	4	15	4	1	**23**	**24**	6.1	31.9	4.6	30.0	-	5.0	14.6	3.9	1.0	**7.4**	**6.0**	113	118	91.7	0.0
	d. Other gliomas	0	3	2	2	2	**7**	**9**	1.9	9.7	1.7	11.3	-	3.7	1.9	2.0	2.0	**2.4**	**2.3**	35	45	88.9	0.0
	e. Other specified	0	1	3	4	0	**8**	**8**	2.1	11.1	1.5	10.0	-	1.2	2.9	3.9	-	**2.5**	**1.9**	39	39	100.0	0.0
	f. Unspecified CNS	0	2	4	1	1	**7**	**8**	1.9	9.7	1.5	10.0	-	2.5	3.9	1.0	1.0	**2.3**	**2.0**	34	39	0.0	0.0
IV	**NEUROBLASTOMA**	9	9	2	2	0	**22**	**22**	5.9	100.0	4.2	100.0	47.4	11.2	1.9	2.0	-	**8.2**	**6.4**	110	110	90.9	0.0
	a. (Ganglio)neuroblastoma	8	9	2	1	0	**20**	**20**	5.3	90.9	3.8	90.9	42.1	11.2	1.9	1.0	-	**7.5**	**5.8**	100	100	90.0	0.0
	b. Peripheral nervous	1	0	0	1	0	**2**	**2**	0.5	9.1	0.4	9.1	5.3	-	-	1.0	-	**0.7**	**0.5**	10	10	100.0	0.0
V	**RETINOBLASTOMA**	4	5	1	0	1	**10**	**11**	2.7	100.0	2.1	100.0	21.1	6.2	1.0	-	1.0	**3.8**	**3.2**	50	55	100.0	0.0
VI	**RENAL TUMOURS**	5	12	4	3	0	**24**	**24**	6.4	100.0	4.6	100.0	26.3	14.9	3.9	2.9	-	**8.7**	**6.8**	120	120	91.7	0.0
	a. Nephroblastoma	5	12	4	1	0	**22**	**22**	5.9	91.7	4.2	91.7	26.3	14.9	3.9	1.0	-	**8.2**	**6.3**	110	110	90.9	0.0
	b. Renal carcinoma	0	0	0	2	0	**2**	**2**	0.5	8.3	0.4	8.3	-	-	-	2.0	-	**0.6**	**0.4**	10	10	100.0	0.0
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VII	**HEPATIC TUMOURS**	2	2	2	1	2	**7**	**9**	1.9	100.0	1.7	100.0	10.5	2.5	1.9	1.0	2.0	**2.5**	**2.4**	35	45	66.7	11.1
	a. Hepatoblastoma	2	1	1	0	0	**4**	**4**	1.1	57.1	0.8	44.4	10.5	1.2	1.0	-	-	**1.5**	**1.1**	20	20	100.0	0.0
	b. Hepatic carcinoma	0	0	0	1	2	**1**	**3**	0.3	14.3	0.6	33.3	-	-	-	1.0	2.0	**0.3**	**0.7**	5	15	66.7	0.0
	c. Unspecified	0	1	1	0	0	**2**	**2**	0.5	28.6	0.4	22.2	-	1.2	1.0	-	-	**0.7**	**0.5**	10	10	0.0	50.0
VIII	**BONE TUMOURS**	0	3	7	16	25	**26**	**51**	6.9	100.0	9.8	100.0	-	3.7	6.8	15.7	25.3	**7.9**	**11.8**	128	254	96.1	0.0
	a. Osteosarcoma	0	0	3	7	8	**10**	**18**	2.7	38.5	3.4	35.3	-	-	2.9	6.9	8.1	**2.9**	**4.1**	49	90	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	1	**0**	**1**	-	-	0.2	2.0	-	-	-	-	1.0	**-**	**0.2**	-	5	100.0	0.0
	c. Ewing & related	0	3	2	9	13	**14**	**27**	3.7	53.8	5.2	52.9	-	3.7	1.9	8.8	13.2	**4.4**	**6.3**	69	135	100.0	0.0
	d. Other specified	0	0	1	0	0	**1**	**1**	0.3	3.8	0.2	2.0	-	-	1.0	-	-	**0.3**	**0.2**	5	5	100.0	0.0
	e. Unspecified	0	0	1	0	3	**1**	**4**	0.3	3.8	0.8	7.8	-	-	1.0	-	3.0	**0.3**	**0.9**	5	20	50.0	0.0
IX	**SOFT TISSUE SARCOMA**	0	2	5	7	13	**14**	**27**	3.7	100.0	5.2	100.0	-	2.5	4.9	6.9	13.2	**4.3**	**6.3**	69	135	100.0	0.0
	a. Rhabdomyosarcoma	0	2	1	2	5	**5**	**10**	1.3	35.7	1.9	37.0	-	2.5	1.0	2.0	5.1	**1.7**	**2.4**	25	50	100.0	0.0
	b. Fibrosarcoma	0	0	0	1	2	**1**	**3**	0.3	7.1	0.6	11.1	-	-	-	1.0	2.0	**0.3**	**0.7**	5	15	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	d. Other specified	0	0	3	3	5	**6**	**11**	1.6	42.9	2.1	40.7	-	-	2.9	2.9	5.1	**1.8**	**2.5**	29	55	100.0	0.0
	e. Unspecified	0	0	1	1	1	**2**	**3**	0.5	14.3	0.6	11.1	-	-	1.0	1.0	1.0	**0.6**	**0.7**	10	15	100.0	0.0
X	**GERM CELL TUMOURS**	5	4	1	4	18	**14**	**32**	3.7	100.0	6.1	100.0	26.3	5.0	1.0	3.9	18.3	**5.0**	**8.0**	70	161	96.9	0.0
	a. CNS germ cell ‡	0	1	1	2	1	**4**	**5**	1.1	28.6	1.0	15.6	-	1.2	1.0	2.0	1.0	**1.3**	**1.2**	20	25	100.0	0.0
	b. Other extragonadal	3	2	0	0	2	**5**	**7**	1.3	35.7	1.3	21.9	15.8	2.5	-	-	2.0	**1.9**	**2.0**	25	35	100.0	0.0
	c. Gonadal germ cell	2	1	0	2	13	**5**	**18**	1.3	35.7	3.4	56.3	10.5	1.2	-	2.0	13.2	**1.7**	**4.3**	25	91	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	1	**0**	**1**	-	-	0.2	3.1	-	-	-	-	1.0	**-**	**0.2**	-	5	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	1	**0**	**1**	-	-	0.2	3.1	-	-	-	-	1.0	**-**	**0.2**	-	5	0.0	0.0
XI	**CARCINOMA & MELANOMA**	1	2	3	10	31	**16**	**47**	4.3	100.0	9.0	100.0	5.3	2.5	2.9	9.8	31.4	**5.0**	**10.9**	79	236	100.0	0.0
	a. Adrenocortical	0	1	0	0	0	**1**	**1**	0.3	6.3	0.2	2.1	-	1.2	-	-	-	**0.4**	**0.3**	5	5	100.0	0.0
	b. Thyroid	0	0	2	6	14	**8**	**22**	2.1	50.0	4.2	46.8	-	-	1.9	5.9	14.2	**2.3**	**5.0**	39	110	100.0	0.0
	c. Nasopharyngeal	0	0	0	2	0	**2**	**2**	0.5	12.5	0.4	4.3	-	-	-	2.0	-	**0.6**	**0.4**	10	10	100.0	0.0
	d. Melanoma	1	1	0	1	5	**3**	**8**	0.8	18.8	1.5	17.0	5.3	1.2	-	1.0	5.1	**1.1**	**2.0**	15	40	100.0	0.0
	e. Skin carcinoma	0	0	0	0	1	**0**	**1**	-	-	0.2	2.1	-	-	-	-	1.0	**-**	**0.2**	-	5	100.0	0.0
	f. Other & unspecified	0	0	1	1	11	**2**	**13**	0.5	12.5	2.5	27.7	-	-	1.0	1.0	11.2	**0.6**	**3.0**	10	66	100.0	0.0
XII	**OTHER & UNSPECIFIED**	2	2	1	1	0	**6**	**6**	1.6	100.0	1.1	100.0	10.5	2.5	1.0	1.0	-	**2.2**	**1.7**	30	30	16.7	0.0
	a. Other specified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	b. Other unspecified	2	2	1	1	0	**6**	**6**	1.6	100.0	1.1	100.0	10.5	2.5	1.0	1.0	-	**2.2**	**1.7**	30	30	16.7	0.0
	TOTAL	39	119	114	104	147	**376**	**523**	100.0	100.0	100.0	100.0	205.4	148.2	110.8	102.2	149.1	**127.0**	**132.0**	1861	2606	94.5	0.4

† includes 17 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this pool and its constituent registries

New Zealand

New Zealand is an island country in the south-western Pacific Ocean. It is located 1600 km south-east of Australia and comprises the North Island, the South Island, and about 600 smaller islands. The total land area is 270 534 km^2. New Zealand has a temperate maritime climate, a varied landscape, and distinct biodiversity. The capital city is Wellington, and the most populous city is Auckland. New Zealand is a high-income country and ranks highly in international comparisons of health, education, economic freedom, and quality of life. Since the 1980s, a shift from an agrarian economy to a market economy has occurred. In 2013, the service sector accounted for 63% of all GDP activity, and the primary sector dominated exports.

In the 13th century, Polynesians settled in the islands and developed a distinctive Māori culture. Today, most of the population of 4.4 million (Table A.7) is of European descent. The Indigenous Māori are the largest minority, followed by other ethnic groups. Many inhabitants identify with more than one ethnic group and are counted in each of them. The official languages are English, Māori, and New Zealand Sign Language. In 2010, children younger than 15 years made up 21% of the total population and people younger than 20 years made up 28% (Table A.6); 71% of them identified as European, 25% as Māori, 13% as Asian, 12% as Pacific Peoples, and 3% as Other.

Cancer care in New Zealand is predominantly state-funded, supplemented by private hospitals and private practitioners. There are six major cancer treatment facilities, located in the main population centres. Public hospitals treat citizens free of charge. All children diagnosed with cancer are referred to one of two specialist treatment centres: the Starship Blood and Cancer Centre in Auckland or the Children's Haematology Oncology Centre in Christchurch. A child may receive all their cancer care in one of these two centres, or their treatment may require coordination with other regional hospitals and medical specialties.

PUBLICATIONS

Ballantine KR, Hanna S, Macfarlane S, Bradbeer P, Teague L, Hunter S, et al. (2018). Childhood cancer registration in New Zealand: a registry collaboration to assess and improve data quality. Cancer Epidemiol. 55: 104–9. https://doi.org/10.1016/j.canep.2018.06.001 PMID:29902672

POPULATION AT RISK

Population data are generated by Statistics New Zealand and licensed for reuse under the Creative Commons (https://www.stats.govt.nz/topics/population) as mid-year estimates based on census data collected in 1986, 1996, 2001, 2006, and 2013. In the ethnicity-specific population data, Statistics New Zealand provides population numbers for Māori (anyone who identifies with Māori ethnicity, regardless of whether any other ethnicities are also recorded), and the two registries use a prioritization algorithm to assign ethnicity to a patient, although the algorithms differ slightly.

EDITORS' COMMENTS

Two cancer registries operate in New Zealand on the national level, one general and one paediatric. Although the registries differ by the target age range, the registration criteria, the data items collected, the reporting period, and the number of ethnic groups in the data provided, both registries fulfilled the criteria for contribution to IICC-3. The two registries operate independently, but their databases were compared and completed (Ballantine et al., 2018). The New Zealand Cancer Registry has contributed to all three volumes of IICC-3 (Table A.1). Tables for each of the two registries for the combined populations and for the ethnic groups are provided in the IICC-3 book; additional tables are available online (Table A.12).

New Zealand Cancer Registry, 1993–2012

Jenny Hendrix

The New Zealand Cancer Registry (NZCR) registers all primary malignant diseases diagnosed in New Zealand, excluding squamous and basal cell skin carcinomas. The primary function of the registry is to collect and store cancer incidence data, defined as the occurrence of new cancers in a defined population in a specified time period. The purpose of the NZCR is described and an overview of the information collected and reported on is provided in the New Zealand Government's Cancer Registry Act 1993 and Cancer Registry Regulations 1994.

The NZCR is located within the New Zealand Ministry of Health in Wellington and has been in operation since 1948 (Table A.10). The registry is staffed by six clinical coders and two support staff.

Since 1994, laboratories have been the primary source of cancer notifications to the NZCR. Laboratories are required by law to report any new reportable diagnosis of cancer in New Zealand. Additional data sources include medical certificates of causes of death, coroners' findings, and public and private hospital discharge data received in electronic form. The coders audit these collections to ensure that the NZCR has access to the most complete information possible. The two coding systems used by the NZCR are the International Statistical Classification of Diseases and Related Health Problems, 10th revision, Australian Modification (ICD-10-AM) and ICD-O-3 (Table A.10). Pilocytic astrocytoma ceased to be reported as of 2003, because the coding of behaviour for this neoplasm changed from malignant in ICD-O-2 to uncertain in ICD-O-3. Quality control procedures include computerized validation checks at data input and rigorous checks of pre-publication incidence data.

The NZCR maintains active membership in the Australasian Association of Cancer Registries and IACR and keeps up-to-date with international standards. The NZCR provides data for public health research, policy formulation, monitoring of screening programmes, and studies of cancer incidence and survival. The Ministry of Health produces an annual cancer publication containing information about cancer incidence and trends.

POPULATION AT RISK

The mid-year population data were provided by sex and individual years of age for 1993–2012, for all ethnicities

combined. The population data for ethnicities were provided by sex and 5-year age group for 1996–2012. The proportions of each ethnicity observed in 1996 were applied to the total population counts for each year in 1993–1995 in each sex–age category. Subsequently, the year–sex–age-specific proportions for each ethnicity in the total population were used to calculate the population counts in all of these categories. Finally, the ethnicity-specific proportions were split equally into the five single years of age within each year–sex–age category. See also New Zealand, above.

EDITORS' COMMENTS

The NZCR includes all cancer cases diagnosed in New Zealand, even in non-residents. The collected address is self-described at the time of diagnosis. Therefore, the proportion of non-residents diagnosed with cancer in New Zealand cannot be estimated from these data, and incidence rate may be overestimated. The incidence rates differed between ethnic groups; the highest rates were observed in Pacific Peoples and the lowest in the Māori population (Table A.9). Registration of non-resident cases may influence the incidence rates by ethnicity to a different extent. Although slight differences in the assignment of ethnicity between the population data and the registry data cannot be excluded, the NZCR is confident about a sufficient agreement between the two sources. Non-malignant CNS tumours are not included. Cases of pilocytic astrocytoma were included until 2002, when they were registered with malignant behaviour; however, as of 2003 pilocytic astrocytoma was considered non-malignant and therefore was not registered. In the age group 15–19 years, the sex ratio is high for the Māori population and low for Pacific Peoples (Table A.9). Laterality was not provided. See also the editors' comments for New Zealand, above, and for the New Zealand Children's Cancer Registry, below.

NEW ZEALAND (1993-2012)

	Age group (years)	Males	Females
Person-years	0	604 557	573 874
	1-4	2 415 247	2 289 806
	5-9	3 003 123	2 852 705
	10-14	3 009 723	2 858 995
	15-19	2 969 488	2 873 404
	0-14	9 032 650	8 575 380
	0-19	12 002 138	11 448 784
Average annual population	0-14	451 633	428 769
	0-19	600 107	572 439

Please consult the quality indicators for this registry

NEW ZEALAND, Maori (1993-2012)

	Age group (years)	Males	Females
Person-years	0	162 067	152 934
	1-4	647 382	610 048
	5-9	731 284	694 786
	10-14	684 201	654 550
	15-19	607 491	602 127
	0-14	2 224 934	2 112 318
	0-19	2 832 425	2 714 445
Average annual population	0-14	111 247	105 616
	0-19	141 621	135 722

Please consult the quality indicators for this registry

NEW ZEALAND, Pacific peoples (1993-2012)

	Age group (years)	Males	Females
Person-years	0	57 354	54 184
	1-4	228 768	215 853
	5-9	263 516	249 549
	10-14	242 128	231 785
	15-19	223 644	219 939
	0-14	791 766	751 371
	0-19	1 015 410	971 310
Average annual population	0-14	39 588	37 569
	0-19	50 771	48 566

Please consult the quality indicators for this registry

NEW ZEALAND, Other (1993-2012)

	Age group (years)	Males	Females
Person-years	0	385 136	366 756
	1-4	1 539 097	1 463 905
	5-9	2 008 323	1 908 370
	10-14	2 083 394	1 972 660
	15-19	2 138 353	2 051 338
	0-14	6 015 950	5 711 691
	0-19	8 154 303	7 763 029
Average annual population	0-14	300 798	285 585
	0-19	407 715	388 151

Please consult the quality indicators for this registry

NEW ZEALAND (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	56	429	250	191	200	**926**	**1126**	35.5	100.0	29.1	100.0	47.5	91.2	42.7	32.5	34.2	**55.1**	**50.4**	788	960	99.4	0.5
	a. Lymphoid	21	361	202	126	100	**710**	**810**	27.2	76.7	20.9	71.9	17.8	76.7	34.5	21.5	17.1	**42.5**	**36.8**	604	690	99.8	0.2
	b. Acute myeloid	26	53	37	49	73	**165**	**238**	6.3	17.8	6.1	21.1	22.1	11.3	6.3	8.3	12.5	**9.7**	**10.3**	140	203	98.3	1.3
	c. CMD	1	6	3	6	19	**16**	**35**	0.6	1.7	0.9	3.1	0.8	1.3	0.5	1.0	3.3	**0.9**	**1.4**	14	30	100.0	0.0
	d. MDS & other	3	6	1	6	5	**16**	**21**	0.6	1.7	0.5	1.9	2.5	1.3	0.2	1.0	0.9	**0.9**	**0.9**	14	18	95.2	4.8
	e. Unspecified	5	3	7	4	3	**19**	**22**	0.7	2.1	0.6	2.0	4.2	0.6	1.2	0.7	0.5	**1.1**	**1.0**	16	19	100.0	0.0
II	LYMPHOMA & RELATED	2	37	83	121	228	**243**	**471**	9.3	100.0	12.2	100.0	1.7	7.9	14.2	20.6	39.0	**13.1**	**19.0**	207	402	100.0	0.0
	a. Hodgkin	0	6	25	51	148	**82**	**230**	3.1	33.7	5.9	48.8	-	1.3	4.3	8.7	25.3	**4.3**	**9.0**	70	197	100.0	0.0
	b. Non-Hodgkin except BL	1	13	33	59	58	**106**	**164**	4.1	43.6	4.2	34.8	0.8	2.8	5.6	10.1	9.9	**5.7**	**6.6**	90	140	100.0	0.0
	c. Burkitt (BL)	0	11	22	11	20	**44**	**64**	1.7	18.1	1.7	13.6	-	2.3	3.8	1.9	3.4	**2.5**	**2.7**	38	55	100.0	0.0
	d. Lymphoreticular	1	7	1	0	1	**9**	**10**	0.3	3.7	0.3	2.1	0.8	1.5	0.2	-	0.2	**0.6**	**0.5**	8	9	100.0	0.0
	e. Unspecified	0	0	2	0	1	**2**	**3**	0.1	0.8	0.1	0.6	-	-	0.3	-	0.2	**0.1**	**0.1**	2	3	100.0	0.0
III	CNS NEOPLASMS	27	147	152	115	96	**441**	**537**	16.9	100.0	13.9	100.0	22.9	31.2	26.0	19.6	16.4	**25.5**	**23.5**	376	458	81.0	0.9
	a. Ependymoma	2	22	17	7	10	**48**	**58**	1.8	10.9	1.5	10.8	1.7	4.7	2.9	1.2	1.7	**2.9**	**2.6**	41	49	100.0	0.0
	b. Astrocytoma	9	55	40	50	40	**154**	**194**	5.9	34.9	5.0	36.1	7.6	11.7	6.8	8.5	6.8	**8.9**	**8.4**	131	165	89.2	1.0
	c. CNS embryonal	7	43	55	29	18	**134**	**152**	5.1	30.4	3.9	28.3	5.9	9.1	9.4	4.9	3.1	**7.8**	**6.7**	114	130	100.0	0.0
	d. Other gliomas	3	17	21	18	15	**59**	**74**	2.3	13.4	1.9	13.8	2.5	3.6	3.6	3.1	2.6	**3.4**	**3.2**	50	63	51.4	2.7
	e. Other specified	0	3	2	3	2	**8**	**10**	0.3	1.8	0.3	1.9	-	0.6	0.3	0.5	0.3	**0.5**	**0.4**	7	9	100.0	0.0
	f. Unspecified CNS	6	7	17	8	11	**38**	**49**	1.5	8.6	1.3	9.1	5.1	1.5	2.9	1.4	1.9	**2.2**	**2.1**	32	42	8.2	2.0
IV	NEUROBLASTOMA	64	82	24	11	6	**181**	**187**	6.9	100.0	4.8	100.0	54.3	17.4	4.1	1.9	1.0	**11.5**	**9.1**	154	159	98.4	1.1
	a. (Ganglio)neuroblastoma	64	82	24	8	5	**178**	**183**	6.8	98.3	4.7	97.9	54.3	17.4	4.1	1.4	0.9	**11.3**	**9.0**	151	156	98.9	1.1
	b. Peripheral nervous	0	0	0	3	1	**3**	**4**	0.1	1.7	0.1	2.1	-	-	-	0.5	0.2	**0.1**	**0.2**	3	3	75.0	0.0
V	RETINOBLASTOMA	33	58	4	1	0	**96**	**96**	3.7	100.0	2.5	100.0	28.0	12.3	0.7	0.2	-	**6.3**	**4.8**	82	82	87.5	0.0
VI	RENAL TUMOURS	23	83	19	7	10	**132**	**142**	5.1	100.0	3.7	100.0	19.5	17.6	3.2	1.2	1.7	**8.4**	**6.9**	112	121	99.3	0.0
	a. Nephroblastoma	23	83	19	4	5	**129**	**134**	5.0	97.7	3.5	94.4	19.5	17.6	3.2	0.7	0.9	**8.2**	**6.6**	110	114	99.3	0.0
	b. Renal carcinoma	0	0	0	3	4	**3**	**7**	0.1	2.3	0.2	4.9	-	-	-	0.5	0.7	**0.1**	**0.3**	3	6	100.0	0.0
	c. Unspecified	0	0	0	0	1	**0**	**1**	-	-	0.0	0.7	-	-	-	-	0.2	**-**	**0.0**	-	1	100.0	0.0
VII	HEPATIC TUMOURS	10	19	7	5	10	**41**	**51**	1.6	100.0	1.3	100.0	8.5	4.0	1.2	0.9	1.7	**2.5**	**2.4**	35	43	90.2	3.9
	a. Hepatoblastoma	8	18	3	1	0	**30**	**30**	1.2	73.2	0.8	58.8	6.8	3.8	0.5	0.2	-	**1.9**	**1.5**	26	26	86.7	3.3
	b. Hepatic carcinoma	2	1	4	4	10	**11**	**21**	0.4	26.8	0.5	41.2	1.7	0.2	0.7	0.7	1.7	**0.6**	**0.9**	9	18	95.2	4.8
	c. Unspecified	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
VIII	BONE TUMOURS	0	10	38	99	119	**147**	**266**	5.6	100.0	6.9	100.0	-	2.1	6.5	16.9	20.4	**7.6**	**10.5**	125	227	99.2	0.8
	a. Osteosarcoma	0	2	16	55	72	**73**	**145**	2.8	49.7	3.7	54.5	-	0.4	2.7	9.4	12.3	**3.7**	**5.7**	62	124	99.3	0.7
	b. Chondrosarcoma	0	0	0	1	4	**1**	**5**	0.0	0.7	0.1	1.9	-	-	-	0.2	0.7	**0.0**	**0.2**	1	4	100.0	0.0
	c. Ewing & related	0	5	20	37	34	**62**	**96**	2.4	42.2	2.5	36.1	-	1.1	3.4	6.3	5.8	**3.3**	**3.8**	53	82	99.0	1.0
	d. Other specified	0	2	2	5	6	**9**	**15**	0.3	6.1	0.4	5.6	-	0.4	0.3	0.9	1.0	**0.5**	**0.6**	8	13	100.0	0.0
	e. Unspecified	0	1	0	1	3	**2**	**5**	0.1	1.4	0.1	1.9	-	0.2	-	0.2	0.5	**0.1**	**0.2**	2	4	100.0	0.0
IX	SOFT TISSUE SARCOMA	22	50	47	59	92	**178**	**270**	6.8	100.0	7.0	100.0	18.7	10.6	8.0	10.1	15.7	**10.2**	**11.5**	152	230	100.0	0.0
	a. Rhabdomyosarcoma	10	37	27	17	27	**91**	**118**	3.5	51.1	3.0	43.7	8.5	7.9	4.6	2.9	4.6	**5.4**	**5.2**	77	101	100.0	0.0
	b. Fibrosarcoma	8	2	4	3	4	**17**	**21**	0.7	9.6	0.5	7.8	6.8	0.4	0.7	0.5	0.7	**1.0**	**0.9**	14	18	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	1	**1**	**2**	0.0	0.6	0.1	0.7	-	-	-	0.2	0.2	**0.0**	**0.1**	1	2	100.0	0.0
	d. Other specified	2	9	13	31	48	**55**	**103**	2.1	30.9	2.7	38.1	1.7	1.9	2.2	5.3	8.2	**3.0**	**4.2**	47	88	100.0	0.0
	e. Unspecified	2	2	3	7	12	**14**	**26**	0.5	7.9	0.7	9.6	1.7	0.4	0.5	1.2	2.1	**0.8**	**1.1**	12	22	100.0	0.0
X	GERM CELL TUMOURS	29	26	13	52	172	**120**	**292**	4.6	100.0	7.5	100.0	24.6	5.5	2.2	8.9	29.4	**6.9**	**12.0**	102	249	96.9	1.7
	a. CNS germ cell	0	3	10	24	16	**37**	**53**	1.4	30.8	1.4	18.2	-	0.6	1.7	4.1	2.7	**1.9**	**2.1**	32	45	96.2	0.0
	b. Other extragonadal	22	7	1	1	7	**31**	**38**	1.2	25.8	1.0	13.0	18.7	1.5	0.2	0.2	1.2	**2.0**	**1.8**	26	32	84.2	13.2
	c. Gonadal germ cell	7	16	2	24	123	**49**	**172**	1.9	40.8	4.4	58.9	5.9	3.4	0.3	4.1	21.1	**2.8**	**6.9**	42	147	99.4	0.0
	d. Gonadal carcinoma	0	0	0	3	22	**3**	**25**	0.1	2.5	0.6	8.6	-	-	-	0.5	3.8	**0.1**	**1.0**	3	21	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	4	**0**	**4**	-	-	0.1	1.4	-	-	-	-	0.7	**-**	**0.2**	-	3	100.0	0.0
XI	CARCINOMA & MELANOMA	0	9	13	65	322	**87**	**409**	3.3	100.0	10.6	100.0	-	1.9	2.2	11.1	55.1	**4.5**	**15.9**	74	350	99.8	0.0
	a. Adrenocortical	0	1	1	1	2	**3**	**5**	0.1	3.4	0.1	1.2	-	0.2	0.2	0.2	0.3	**0.2**	**0.2**	3	4	100.0	0.0
	b. Thyroid	0	2	4	8	50	**14**	**64**	0.5	16.1	1.7	15.6	-	0.4	0.7	1.4	8.6	**0.7**	**2.5**	12	55	100.0	0.0
	c. Nasopharyngeal	0	0	0	2	9	**2**	**11**	0.1	2.3	0.3	2.7	-	-	-	0.3	1.5	**0.1**	**0.4**	2	9	100.0	0.0
	d. Melanoma	0	4	2	32	199	**38**	**237**	1.5	43.7	6.1	57.9	-	0.9	0.3	5.5	34.1	**2.0**	**9.2**	32	203	99.6	0.0
	e. Skin carcinoma	0	0	0	0	0	**0**	**0**	-	-	-	-	-	-	-	-	-	**-**	**-**	-	-	-	-
	f. Other & unspecified	0	2	6	22	62	**30**	**92**	1.2	34.5	2.4	22.5	-	0.4	1.0	3.7	10.6	**1.6**	**3.6**	26	79	100.0	0.0
XII	OTHER & UNSPECIFIED	2	6	3	3	10	**14**	**24**	0.5	100.0	0.6	100.0	1.7	1.3	0.5	0.5	1.7	**0.8**	**1.0**	12	20	75.0	0.0
	a. Other specified	0	4	2	0	3	**6**	**9**	0.2	42.9	0.2	37.5	-	0.9	0.3	-	0.5	**0.4**	**0.4**	5	8	100.0	0.0
	b. Other unspecified	2	2	1	3	7	**8**	**15**	0.3	57.1	0.4	62.5	1.7	0.4	0.2	0.5	1.2	**0.5**	**0.6**	7	13	60.0	0.0
	TOTAL	268	956	653	729	1265	**2606**	**3871**	100.0	100.0	100.0	100.0	227.4	203.2	111.5	124.2	216.5	**152.6**	**167.0**	2219	3301	96.2	0.6

Please consult the quality indicators for this registry

NEW ZEALAND, Maori (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	16	91	50	40	49	197	246	34.6	100.0	30.3	100.0	50.8	72.4	35.1	29.9	40.5	46.3	45.0	665	867	99.6	0.4
	a. Lymphoid	3	72	35	26	20	136	156	23.9	69.0	19.2	63.4	9.5	57.3	24.5	19.4	16.5	32.0	28.5	458	541	100.0	0.0
	b. Acute myeloid	11	14	12	11	19	48	67	8.4	24.4	8.2	27.2	34.9	11.1	8.4	8.2	15.7	11.3	12.3	163	241	98.5	1.5
	c. CMD	0	2	0	1	7	3	10	0.5	1.5	1.2	4.1	-	1.6	-	0.7	5.8	0.7	1.9	10	39	100.0	0.0
	d. MDS & other	0	1	0	1	2	2	4	0.4	1.0	0.5	1.6	-	0.8	-	0.7	1.7	0.5	0.7	7	15	100.0	0.0
	e. Unspecified	2	2	3	1	1	8	9	1.4	4.1	1.1	3.7	6.3	1.6	2.1	0.7	0.8	1.9	1.6	27	31	100.0	0.0
II	LYMPHOMA & RELATED	0	16	20	20	31	56	87	9.8	100.0	10.7	100.0	-	12.7	14.0	14.9	25.6	12.8	15.7	196	324	100.0	0.0
	a. Hodgkin	0	1	8	5	18	14	32	2.5	25.0	3.9	36.8	-	0.8	5.6	3.7	14.9	3.1	5.8	50	124	100.0	0.0
	b. Non-Hodgkin except BL	0	5	6	12	10	23	33	4.0	41.1	4.1	37.9	-	4.0	4.2	9.0	8.3	5.2	5.9	82	123	100.0	0.0
	c. Burkitt (BL)	0	6	5	3	3	14	17	2.5	25.0	2.1	19.5	-	4.8	3.5	2.2	2.5	3.3	3.1	48	60	100.0	0.0
	d. Lymphoreticular	0	4	0	0	0	4	4	0.7	7.1	0.5	4.6	-	3.2	-	-	-	1.0	0.8	13	13	100.0	0.0
	e. Unspecified	0	0	1	0	0	1	1	0.2	1.8	0.1	1.1	-	-	0.7	-	-	0.2	0.2	4	4	100.0	0.0
III	CNS NEOPLASMS	2	38	35	21	13	96	109	16.8	100.0	13.4	100.0	6.3	30.2	24.5	15.7	10.7	22.3	19.7	328	382	85.3	0.0
	a. Ependymoma	0	5	3	1	1	9	10	1.6	9.4	1.2	9.2	-	4.0	2.1	0.7	0.8	2.1	1.8	30	34	100.0	0.0
	b. Astrocytoma	1	14	7	10	7	32	39	5.6	33.3	4.8	35.8	3.2	11.1	4.9	7.5	5.8	7.4	7.1	110	139	89.7	0.0
	c. CNS embryonal	0	15	18	6	3	39	42	6.8	40.6	5.2	38.5	-	11.9	12.6	4.5	2.5	9.1	7.6	133	146	100.0	0.0
	d. Other gliomas	0	3	1	2	1	6	7	1.1	6.3	0.9	6.4	-	2.4	0.7	1.5	0.8	1.4	1.3	21	25	57.1	0.0
	e. Other specified	0	0	1	1	0	2	2	0.4	2.1	0.2	1.8	-	-	0.7	0.7	-	0.4	0.3	7	7	100.0	0.0
	f. Unspecified CNS	1	1	5	1	1	8	9	1.4	8.3	1.1	8.3	3.2	0.8	3.5	0.7	0.8	1.8	1.6	28	32	0.0	0.0
IV	NEUROBLASTOMA	18	18	6	3	1	45	46	7.9	100.0	5.7	100.0	57.1	14.3	4.2	2.2	0.8	10.9	8.6	147	151	95.7	2.2
	a. (Ganglio)neuroblastoma	18	18	6	1	0	43	43	7.5	95.6	5.3	93.5	57.1	14.3	4.2	0.7	-	10.4	8.1	139	139	97.7	2.3
	b. Peripheral nervous	0	0	0	2	1	2	3	0.4	4.4	0.4	6.5	-	-	-	1.5	0.8	0.4	0.5	7	12	66.7	0.0
V	RETINOBLASTOMA	8	15	0	0	0	23	23	4.0	100.0	2.8	100.0	25.4	11.9	-	-	-	5.7	4.4	73	73	82.6	0.0
VI	RENAL TUMOURS	4	18	0	1	4	23	27	4.0	100.0	3.3	100.0	12.7	14.3	-	0.7	3.3	5.6	5.1	74	90	100.0	0.0
	a. Nephroblastoma	4	18	0	0	2	22	24	3.9	95.7	3.0	88.9	12.7	14.3	-	-	1.7	5.4	4.6	70	78	100.0	0.0
	b. Renal carcinoma	0	0	0	1	2	1	3	0.2	4.3	0.4	11.1	-	-	-	0.7	1.7	0.2	0.5	4	12	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	2	4	0	1	2	7	9	1.2	100.0	1.1	100.0	6.3	3.2	-	0.7	1.7	1.7	1.7	23	31	88.9	11.1
	a. Hepatoblastoma	2	3	0	0	0	5	5	0.9	71.4	0.6	55.6	6.3	2.4	-	-	-	1.2	1.0	16	16	100.0	0.0
	b. Hepatic carcinoma	0	1	0	1	2	2	4	0.4	28.6	0.5	44.4	-	0.8	-	0.7	1.7	0.5	0.7	7	15	75.0	25.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	1	10	22	30	33	63	5.8	100.0	7.7	100.0	-	0.8	7.0	16.4	24.8	7.3	11.2	120	244	100.0	0.0
	a. Osteosarcoma	0	1	3	11	16	15	31	2.6	45.5	3.8	49.2	-	0.8	2.1	8.2	13.2	3.3	5.5	55	121	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Ewing & related	0	0	7	9	12	16	28	2.8	48.5	3.4	44.4	-	-	4.9	6.7	9.9	3.5	5.0	58	108	100.0	0.0
	d. Other specified	0	0	0	2	2	2	4	0.4	6.1	0.5	6.3	-	-	-	1.5	1.7	0.4	0.7	7	16	100.0	0.0
	e. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IX	SOFT TISSUE SARCOMA	3	7	9	20	29	39	68	6.8	100.0	8.4	100.0	9.5	5.6	6.3	14.9	24.0	8.8	12.2	138	258	100.0	0.0
	a. Rhabdomyosarcoma	3	7	4	4	9	18	27	3.2	46.2	3.3	39.7	9.5	5.6	2.8	3.0	7.4	4.2	5.0	61	98	100.0	0.0
	b. Fibrosarcoma	0	0	0	1	1	1	2	0.2	2.6	0.2	2.9	-	-	-	0.7	0.8	0.2	0.4	4	8	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	d. Other specified	0	0	5	13	16	18	34	3.2	46.2	4.2	50.0	-	-	3.5	9.7	13.2	4.0	6.0	66	132	100.0	0.0
	e. Unspecified	0	0	0	2	3	2	5	0.4	5.1	0.6	7.4	-	-	-	1.5	2.5	0.4	0.9	7	20	100.0	0.0
X	GERM CELL TUMOURS	10	7	3	14	52	34	86	6.0	100.0	10.6	100.0	31.7	5.6	2.1	10.5	43.0	7.9	15.8	117	332	95.3	3.5
	a. CNS germ cell	0	1	2	6	7	9	16	1.6	26.5	2.0	18.6	-	0.8	1.4	4.5	5.8	2.0	2.9	33	62	100.0	0.0
	b. Other extragonadal	9	1	0	1	2	11	13	1.9	32.4	1.6	15.1	28.6	0.8	-	0.7	1.7	2.7	2.4	36	44	76.9	23.1
	c. Gonadal germ cell	1	5	1	6	39	13	52	2.3	38.2	6.4	60.5	3.2	4.0	0.7	4.5	32.2	3.0	9.6	45	206	98.1	0.0
	d. Gonadal carcinoma	0	0	0	1	4	1	5	0.2	2.9	0.6	5.8	-	-	-	0.7	3.3	0.2	0.9	4	20	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XI	CARCINOMA & MELANOMA	0	2	2	8	31	12	43	2.1	100.0	5.3	100.0	-	1.6	1.4	6.0	25.6	2.7	7.8	43	171	100.0	0.0
	a. Adrenocortical	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Thyroid	0	1	0	2	4	3	7	0.5	25.0	0.9	16.3	-	0.8	-	1.5	3.3	0.7	1.3	11	27	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	2	1	3	0.2	8.3	0.4	7.0	-	-	-	0.7	1.7	0.2	0.5	4	12	100.0	0.0
	d. Melanoma	0	0	1	0	8	1	9	0.2	8.3	1.1	20.9	-	-	0.7	-	6.6	0.2	1.7	4	37	100.0	0.0
	e. Skin carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Other & unspecified	0	1	1	5	17	7	24	1.2	58.3	3.0	55.8	-	0.8	0.7	3.7	14.1	1.6	4.4	25	96	100.0	0.0
XII	OTHER & UNSPECIFIED	0	4	1	0	1	5	6	0.9	100.0	0.7	100.0	-	3.2	0.7	-	0.8	1.2	1.1	16	20	83.3	0.0
	a. Other specified	0	3	1	0	0	4	4	0.7	80.0	0.5	66.7	-	2.4	0.7	-	-	1.0	0.7	13	13	100.0	0.0
	b. Other unspecified	0	1	0	0	1	1	2	0.2	20.0	0.2	33.3	-	0.8	-	-	0.8	0.2	0.4	3	7	50.0	0.0
	TOTAL	63	221	136	150	243	570	813	100.0	100.0	100.0	100.0	200.0	175.8	95.4	112.0	200.9	133.2	148.4	1940	2945	96.4	0.7

Please consult the quality indicators for this registry

NEW ZEALAND, Pacific peoples (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	9	40	39	21	28	109	137	38.1	100.0	34.8	100.0	80.7	90.0	76.0	44.3	63.1	71.5	69.6	1042	1358	99.3	0.0
	a. Lymphoid	4	35	29	10	11	78	89	27.3	71.6	22.6	65.0	35.9	78.7	56.5	21.1	24.8	51.5	45.5	739	863	100.0	0.0
	b. Acute myeloid	1	3	7	8	16	19	35	6.6	17.4	8.9	25.5	9.0	6.7	13.6	16.9	36.1	12.1	17.5	189	369	97.1	0.0
	c. CMD	1	1	1	1	0	4	4	1.4	3.7	1.0	2.9	9.0	2.2	1.9	2.1	-	2.6	2.0	38	38	100.0	0.0
	d. MDS & other	2	1	0	0	1	3	4	1.0	2.8	1.0	2.9	17.9	2.2	-	-	2.3	2.1	2.1	27	38	100.0	0.0
	e. Unspecified	1	0	2	2	0	5	5	1.7	4.6	1.3	3.6	9.0	-	3.9	4.2	-	3.2	2.5	50	50	100.0	0.0
II	LYMPHOMA & RELATED	0	4	9	7	12	20	32	7.0	100.0	8.1	100.0	-	9.0	17.5	14.8	27.1	12.7	16.0	198	333	100.0	0.0
	a. Hodgkin	0	2	3	1	7	6	13	2.1	30.0	3.3	40.6	-	4.5	5.8	2.1	15.8	3.9	6.6	58	137	100.0	0.0
	b. Non-Hodgkin except BL	0	1	1	5	4	7	11	2.4	35.0	2.8	34.4	-	2.2	1.9	10.6	9.0	4.4	5.4	71	117	100.0	0.0
	c. Burkitt (BL)	0	1	5	1	1	7	8	2.4	35.0	2.0	25.0	-	2.2	9.7	2.1	2.3	4.5	4.0	68	80	100.0	0.0
	d. Lymphoreticular	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	e. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
III	CNS NEOPLASMS	5	15	19	10	9	49	58	17.1	100.0	14.7	100.0	44.8	33.7	37.0	21.1	20.3	32.0	29.4	470	572	77.6	1.7
	a. Ependymoma	1	1	1	1	0	4	4	1.4	8.2	1.0	6.9	9.0	2.2	1.9	2.1	-	2.6	2.0	38	38	100.0	0.0
	b. Astrocytoma	0	4	4	3	5	11	16	3.8	22.4	4.1	27.6	-	9.0	7.8	6.3	11.3	7.1	8.1	107	163	100.0	0.0
	c. CNS embryonal	3	6	8	3	2	20	22	7.0	40.8	5.6	37.9	26.9	13.5	15.6	6.3	4.5	13.1	11.2	191	213	100.0	0.0
	d. Other gliomas	1	1	3	2	0	7	7	2.4	14.3	1.8	12.1	9.0	2.2	5.8	4.2	-	4.5	3.5	68	68	14.3	0.0
	e. Other specified	0	1	0	0	0	1	1	0.3	2.0	0.3	1.7	-	2.2	-	-	-	0.7	0.5	9	9	100.0	0.0
	f. Unspecified CNS	0	2	3	1	2	6	8	2.1	12.2	2.0	13.8	-	4.5	5.8	2.1	4.5	3.9	4.0	58	80	12.5	12.5
IV	NEUROBLASTOMA	4	5	0	0	0	9	9	3.1	100.0	2.3	100.0	35.9	11.2	-	-	-	6.3	4.9	81	81	88.9	11.1
	a. (Ganglio)neuroblastoma	4	5	0	0	0	9	9	3.1	100.0	2.3	100.0	35.9	11.2	-	-	-	6.3	4.9	81	81	88.9	11.1
	b. Peripheral nervous	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
V	RETINOBLASTOMA	2	11	0	0	0	13	13	4.5	100.0	3.3	100.0	17.9	24.7	-	-	-	9.0	7.0	117	117	92.3	0.0
VI	RENAL TUMOURS	3	4	1	0	1	8	9	2.8	100.0	2.3	100.0	26.9	9.0	1.9	-	2.3	5.5	4.8	73	84	100.0	0.0
	a. Nephroblastoma	3	4	1	0	1	8	9	2.8	100.0	2.3	100.0	26.9	9.0	1.9	-	2.3	5.5	4.8	73	84	100.0	0.0
	b. Renal carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII	HEPATIC TUMOURS	1	1	2	1	1	5	6	1.7	100.0	1.5	100.0	9.0	2.2	3.9	2.1	2.3	3.3	3.0	48	59	100.0	0.0
	a. Hepatoblastoma	0	1	1	1	0	3	3	1.0	60.0	0.8	50.0	-	2.2	1.9	2.1	-	1.9	1.5	29	29	100.0	0.0
	b. Hepatic carcinoma	1	0	1	0	1	2	3	0.7	40.0	0.8	50.0	9.0	-	1.9	-	2.3	1.3	1.5	19	30	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	3	5	19	8	27	35	9.4	100.0	8.9	100.0	-	6.7	9.7	40.1	18.0	16.9	17.1	276	366	97.1	2.9
	a. Osteosarcoma	0	1	2	11	8	14	22	4.9	51.9	5.6	62.9	-	2.2	3.9	23.2	18.0	8.7	10.8	145	235	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	c. Ewing & related	0	1	3	8	0	12	12	4.2	44.4	3.0	34.3	-	2.2	5.8	16.9	-	7.5	5.8	123	123	91.7	8.3
	d. Other specified	0	1	0	0	0	1	1	0.3	3.7	0.3	2.9	-	2.2	-	-	-	0.7	0.5	9	9	100.0	0.0
	e. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IX	SOFT TISSUE SARCOMA	2	3	6	4	11	15	26	5.2	100.0	6.6	100.0	17.9	6.7	11.7	8.4	24.8	9.7	13.1	146	270	100.0	0.0
	a. Rhabdomyosarcoma	1	3	4	0	1	8	9	2.8	53.3	2.3	34.6	9.0	6.7	7.8	-	2.3	5.3	4.6	75	86	100.0	0.0
	b. Fibrosarcoma	1	0	0	0	1	1	2	0.3	6.7	0.5	7.7	9.0	-	-	-	2.3	0.7	1.0	9	20	100.0	0.0
	c. Kaposi sarcoma	0	0	0	1	0	1	1	0.3	6.7	0.3	3.8	-	-	-	2.1	-	0.6	0.5	11	11	100.0	0.0
	d. Other specified	0	0	1	3	7	4	11	1.4	26.7	2.8	42.3	-	-	1.9	6.3	15.8	2.5	5.5	41	120	100.0	0.0
	e. Unspecified	0	0	1	0	2	1	3	0.3	6.7	0.8	11.5	-	-	1.9	-	4.5	0.6	1.5	10	32	100.0	0.0
X	GERM CELL TUMOURS	4	5	3	12	15	24	39	8.4	100.0	9.9	100.0	35.9	11.2	5.8	25.3	33.8	15.5	19.6	237	406	94.9	2.6
	a. CNS germ cell	0	0	2	8	1	10	11	3.5	41.7	2.8	28.2	-	-	3.9	16.9	2.3	6.2	5.3	104	115	90.9	0.0
	b. Other extragonadal	3	0	1	0	1	4	5	1.4	16.7	1.3	12.8	26.9	-	1.9	-	2.3	2.7	2.6	37	48	80.0	20.0
	c. Gonadal germ cell	1	5	0	4	7	10	17	3.5	41.7	4.3	43.6	9.0	11.2	-	8.4	15.8	6.6	8.7	96	175	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	4	0	4	-	-	1.0	10.3	-	-	-	-	9.0	-	2.0	-	45	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	2	0	2	-	-	0.5	5.1	-	-	-	-	4.5	-	1.0	-	23	100.0	0.0
XI	CARCINOMA & MELANOMA	0	0	1	5	22	6	28	2.1	100.0	7.1	100.0	-	-	1.9	10.6	49.6	3.7	14.0	62	310	100.0	0.0
	a. Adrenocortical	0	0	0	1	0	1	1	0.3	16.7	0.3	3.6	-	-	-	2.1	-	0.6	0.5	11	11	100.0	0.0
	b. Thyroid	0	0	0	1	11	1	12	0.3	16.7	3.0	42.9	-	-	-	2.1	24.8	0.6	6.1	11	135	100.0	0.0
	c. Nasopharyngeal	0	0	0	0	1	0	1	-	-	0.3	3.6	-	-	-	-	2.3	-	0.5	-	11	100.0	0.0
	d. Melanoma	0	0	0	0	2	0	2	-	-	0.5	7.1	-	-	-	-	4.5	-	1.0	-	23	100.0	0.0
	e. Skin carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Other & unspecified	0	0	1	3	8	4	12	1.4	66.7	3.0	42.9	-	-	1.9	6.3	18.0	2.5	6.0	41	132	100.0	0.0
XII	OTHER & UNSPECIFIED	0	1	0	0	1	1	2	0.3	100.0	0.5	100.0	-	2.2	-	-	2.3	0.7	1.0	9	20	50.0	0.0
	a. Other specified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	b. Other unspecified	0	1	0	0	1	1	2	0.3	100.0	0.5	100.0	-	2.2	-	-	2.3	0.7	1.0	9	20	50.0	0.0
	TOTAL	30	92	85	79	108	286	394	100.0	100.0	100.0	100.0	269.0	206.9	165.7	166.7	243.5	186.8	199.5	2759	3976	94.9	1.0

Please consult the quality indicators for this registry

NEW ZEALAND, Other (1993-2012)

		Number of cases							Percentage				Incidence rates per million person-years									MV	DCO
		Age group (years)							0-14		0-19		Age-specific					ASR		Cumulative		%	%
		0	1-4	5-9	10-14	15-19	0-14	0-19	All	Group	All	Group	0	1-4	5-9	10-14	15-19	0-14	0-19	0-14	0-19	0-19	0-19
I	LEUKAEMIA	31	298	161	130	123	620	743	35.4	100.0	27.9	100.0	41.2	99.2	41.1	32.1	29.4	56.5	50.4	804	951	99.3	0.7
	a. Lymphoid	14	254	138	90	69	496	565	28.3	80.0	21.2	76.0	18.6	84.6	35.2	22.2	16.5	45.4	38.9	644	726	99.6	0.4
	b. Acute myeloid	14	36	18	30	38	98	136	5.6	15.8	5.1	18.3	18.6	12.0	4.6	7.4	9.1	8.8	8.8	127	172	98.5	1.5
	c. CMD	0	3	2	4	12	9	21	0.5	1.5	0.8	2.8	-	1.0	0.5	1.0	2.9	0.8	1.2	11	26	100.0	0.0
	d. MDS & other	1	4	1	5	2	11	13	0.6	1.8	0.5	1.7	1.3	1.3	0.3	1.2	0.5	1.0	0.8	14	16	92.3	7.7
	e. Unspecified	2	1	2	1	2	6	8	0.3	1.0	0.3	1.1	2.7	0.3	0.5	0.2	0.5	0.5	0.5	8	10	100.0	0.0
II	LYMPHOMA & RELATED	2	17	54	94	185	167	352	9.5	100.0	13.2	100.0	2.7	5.7	13.8	23.2	44.2	13.1	20.1	210	431	100.0	0.0
	a. Hodgkin	0	3	14	45	123	62	185	3.5	37.1	6.9	52.6	-	1.0	3.6	11.1	29.4	4.7	10.2	77	224	100.0	0.0
	b. Non-Hodgkin except BL	1	7	26	42	44	76	120	4.3	45.5	4.5	34.1	1.3	2.3	6.6	10.4	10.5	6.0	7.0	96	148	100.0	0.0
	c. Burkitt (BL)	0	4	12	7	16	23	39	1.3	13.8	1.5	11.1	-	1.3	3.1	1.7	3.8	1.9	2.3	29	48	100.0	0.0
	d. Lymphoreticular	1	3	1	0	1	5	6	0.3	3.0	0.2	1.7	1.3	1.0	0.3	-	0.2	0.5	0.4	7	8	100.0	0.0
	e. Unspecified	0	0	1	0	1	1	2	0.1	0.6	0.1	0.6	-	-	0.3	-	0.2	0.1	0.1	1	2	100.0	0.0
III	CNS NEOPLASMS	20	94	98	84	74	296	370	16.9	100.0	13.9	100.0	26.6	31.3	25.0	20.7	17.7	25.8	24.0	380	469	80.3	1.1
	a. Ependymoma	1	16	13	5	9	35	44	2.0	11.8	1.7	11.9	1.3	5.3	3.3	1.2	2.1	3.2	2.9	45	56	100.0	0.0
	b. Astrocytoma	8	37	29	37	28	111	139	6.3	37.5	5.2	37.6	10.6	12.3	7.4	9.1	6.7	9.7	9.0	143	176	87.8	1.4
	c. CNS embryonal	4	22	29	20	13	75	88	4.3	25.3	3.3	23.8	5.3	7.3	7.4	4.9	3.1	6.5	5.7	96	112	100.0	0.0
	d. Other gliomas	2	13	17	14	14	46	60	2.6	15.5	2.3	16.2	2.7	4.3	4.3	3.5	3.3	3.9	3.8	59	76	55.0	3.3
	e. Other specified	0	2	1	2	2	5	7	0.3	1.7	0.3	1.9	-	0.7	0.3	0.5	0.5	0.4	0.4	6	9	100.0	0.0
	f. Unspecified CNS	5	4	9	6	8	24	32	1.4	8.1	1.2	8.6	6.6	1.3	2.3	1.5	1.9	2.1	2.1	31	40	9.4	0.0
IV	NEUROBLASTOMA	42	59	18	8	5	127	132	7.3	100.0	5.0	100.0	55.9	19.6	4.6	2.0	1.2	12.5	9.9	167	173	100.0	0.0
	a. (Ganglio)neuroblastoma	42	59	18	7	5	126	131	7.2	99.2	4.9	99.2	55.9	19.6	4.6	1.7	1.2	12.4	9.9	166	172	100.0	0.0
	b. Peripheral nervous	0	0	0	1	0	1	1	0.1	0.8	0.0	0.8	-	-	-	0.2	-	0.1	0.1	1	1	100.0	0.0
V	RETINOBLASTOMA	23	32	4	1	0	60	60	3.4	100.0	2.3	100.0	30.6	10.7	1.0	0.2	-	6.1	4.7	80	80	88.3	0.0
VI	RENAL TUMOURS	16	61	18	6	5	101	106	5.8	100.0	4.0	100.0	21.3	20.3	4.6	1.5	1.2	9.8	7.9	133	139	99.1	0.0
	a. Nephroblastoma	16	61	18	4	2	99	101	5.7	98.0	3.8	95.3	21.3	20.3	4.6	1.0	0.5	9.7	7.6	130	133	99.0	0.0
	b. Renal carcinoma	0	0	0	2	2	2	4	0.1	2.0	0.2	3.8	-	-	-	0.5	0.5	0.1	0.2	2	5	100.0	0.0
	c. Unspecified	0	0	0	0	1	0	1	-	-	0.0	0.9	-	-	-	-	0.2	-	0.1	-	1	100.0	0.0
VII	HEPATIC TUMOURS	7	14	5	3	7	29	36	1.7	100.0	1.4	100.0	9.3	4.7	1.3	0.7	1.7	2.8	2.5	38	46	88.9	2.8
	a. Hepatoblastoma	6	14	2	0	0	22	22	1.3	75.9	0.8	61.1	8.0	4.7	0.5	-	-	2.2	1.7	29	29	81.8	4.5
	b. Hepatic carcinoma	1	0	3	3	7	7	14	0.4	24.1	0.5	38.9	1.3	-	0.8	0.7	1.7	0.6	0.8	9	17	100.0	0.0
	c. Unspecified	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII	BONE TUMOURS	0	6	23	58	81	87	168	5.0	100.0	6.3	100.0	-	2.0	5.9	14.3	19.3	6.7	9.5	109	206	99.4	0.6
	a. Osteosarcoma	0	0	11	33	48	44	92	2.5	50.6	3.5	54.8	-	-	2.8	8.1	11.5	3.3	5.1	55	112	98.9	1.1
	b. Chondrosarcoma	0	0	0	1	4	1	5	0.1	1.1	0.2	3.0	-	-	-	0.2	1.0	0.1	0.3	1	6	100.0	0.0
	c. Ewing & related	0	4	10	20	22	34	56	1.9	39.1	2.1	33.3	-	1.3	2.6	4.9	5.3	2.7	3.2	43	69	100.0	0.0
	d. Other specified	0	1	2	3	4	6	10	0.3	6.9	0.4	6.0	-	0.3	0.5	0.7	1.0	0.5	0.6	8	12	100.0	0.0
	e. Unspecified	0	1	0	1	3	2	5	0.1	2.3	0.2	3.0	-	0.3	-	0.2	0.7	0.2	0.3	3	6	100.0	0.0
IX	SOFT TISSUE SARCOMA	17	40	32	35	52	124	176	7.1	100.0	6.6	100.0	22.6	13.3	8.2	8.6	12.4	11.0	11.3	160	222	100.0	0.0
	a. Rhabdomyosarcoma	6	27	19	13	17	65	82	3.7	52.4	3.1	46.6	8.0	9.0	4.9	3.2	4.1	5.9	5.5	84	105	100.0	0.0
	b. Fibrosarcoma	7	2	4	2	2	15	17	0.9	12.1	0.6	9.7	9.3	0.7	1.0	0.5	0.5	1.4	1.2	20	22	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	1	0	1	-	-	0.0	0.6	-	-	-	-	0.2	-	0.1	-	1	100.0	0.0
	d. Other specified	2	9	7	15	25	33	58	1.9	26.6	2.2	33.0	2.7	3.0	1.8	3.7	6.0	2.8	3.5	42	72	100.0	0.0
	e. Unspecified	2	2	2	5	7	11	18	0.6	8.9	0.7	10.2	2.7	0.7	0.5	1.2	1.7	0.9	1.1	14	22	100.0	0.0
X	GERM CELL TUMOURS	15	14	7	26	105	62	167	3.5	100.0	6.3	100.0	19.9	4.7	1.8	6.4	25.1	5.4	9.8	80	205	98.2	0.6
	a. CNS germ cell	0	2	6	10	8	18	26	1.0	29.0	1.0	15.6	-	0.7	1.5	2.5	1.9	1.4	1.5	23	32	96.2	0.0
	b. Other extragonadal	10	6	0	0	4	16	20	0.9	25.8	0.8	12.0	13.3	2.0	-	-	1.0	1.6	1.5	21	26	90.0	5.0
	c. Gonadal germ cell	5	6	1	14	77	26	103	1.5	41.9	3.9	61.7	6.6	2.0	0.3	3.5	18.4	2.2	5.9	33	125	100.0	0.0
	d. Gonadal carcinoma	0	0	0	2	14	2	16	0.1	3.2	0.6	9.6	-	-	-	0.5	3.3	0.1	0.9	2	19	100.0	0.0
	e. Unspecified gonadal	0	0	0	0	2	0	2	-	-	0.1	1.2	-	-	-	-	0.5	-	0.1	-	2	100.0	0.0
XI	CARCINOMA & MELANOMA	0	7	10	52	269	69	338	3.9	100.0	12.7	100.0	-	2.3	2.6	12.8	64.2	5.3	18.5	86	407	99.7	0.0
	a. Adrenocortical	0	1	1	0	2	2	4	0.1	2.9	0.2	1.2	-	0.3	0.3	-	0.5	0.2	0.3	3	5	100.0	0.0
	b. Thyroid	0	1	4	5	35	10	45	0.6	14.5	1.7	13.3	-	0.3	1.0	1.2	8.4	0.8	2.5	13	54	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	6	1	7	0.1	1.4	0.3	2.1	-	-	-	0.2	1.4	0.1	0.4	1	8	100.0	0.0
	d. Melanoma	0	4	1	32	189	37	226	2.1	53.6	8.5	66.9	-	1.3	0.3	7.9	45.1	2.8	12.3	46	272	99.6	0.0
	e. Skin carcinoma	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	f. Other & unspecified	0	1	4	14	37	19	56	1.1	27.5	2.1	16.6	-	0.3	1.0	3.5	8.8	1.4	3.1	24	68	100.0	0.0
XII	OTHER & UNSPECIFIED	2	1	2	3	8	8	16	0.5	100.0	0.6	100.0	2.7	0.3	0.5	0.7	1.9	0.7	1.0	10	20	75.0	0.0
	a. Other specified	0	1	1	0	3	2	5	0.1	25.0	0.2	31.3	-	0.3	0.3	-	0.7	0.2	0.3	3	6	100.0	0.0
	b. Other unspecified	2	0	1	3	5	6	11	0.3	75.0	0.4	68.8	2.7	-	0.3	0.7	1.2	0.5	0.7	8	14	63.6	0.0
	TOTAL	175	643	432	500	914	1750	2664	100.0	100.0	100.0	100.0	232.7	214.1	110.3	123.3	218.2	155.7	169.8	2257	3348	96.3	0.5

Please consult the quality indicators for this registry

New Zealand Children's Cancer Registry, 2000–2012

Kirsten Ballantine, Michael Sullivan

The New Zealand Children's Cancer Registry (NZCCR) was established in 2002 at the request of the Ministry of Health and holds verified demographic and treatment information for all children diagnosed with cancer since 2000. The NZCCR, under the governance of the National Child Cancer Network, serves multiple functions. At an individual level, the information held by the registry is accessed and updated by the late-effects clinical nurse specialist to produce the patient's end-of-treatment summary and surveillance plan. At a national level, the NZCCR provides anonymized datasets, which are used for research, service delivery planning, and statistical reporting purposes. Registry publications, including a comprehensive 2000–2009 analysis, are available from the National Child Cancer Network website (https://childcancernetwork.org.nz/).

All patient data are initially recorded in the NZCCR by clinical research associates from the two paediatric oncology centres using clinical summaries, laboratory reports, and other hospital records. In addition to the data items routinely collected by the NZCR, the NZCCR records detailed clinical information, including disease staging, clinical trial participation, predisposing conditions, and the treatment protocols followed. Registry records are updated, if applicable, with date and cause of death, second malignancies, relapse information, and all treatment- and disease-related late effects. All non-malignant CNS tumours are registered, and Langerhans cell histiocytosis has been recorded as a malignancy since 2010, according to the ICD-O standards (Table A.10). Among five ethnicities, up to three self-reported ethnicities are prioritized for each patient, in this order: Māori, Pacific Peoples, Asian, All Other excluding New Zealand European, and New Zealand European.

The data presented in IICC-3 cover the first 13 years of cancer registration information held by the NZCCR. Because a small number of children with cancer, such as those who died within a few days of diagnosis, may not have been referred to a paediatric oncology centre, the NZCCR was also matched with the NZCR and the National Mortality Collection in 2011. The NZCCR thanks the Ministry of Health and the NZCR for their collaboration in this submission to ensure complete case ascertainment.

PUBLICATIONS

Sullivan M, Ballantine K (2014). The incidence of childhood cancer in New Zealand 2000–2009: the first outcome analysis of the New Zealand Children's Cancer Registry. Auckland, New Zealand: National Child Cancer Network.

Sullivan M, Ballantine K (2014). Childhood cancer survival in New Zealand 2000–2009: the first outcome analysis of the New Zealand Children's Cancer Registry. Auckland, New Zealand: National Child Cancer Network.

POPULATION AT RISK

Official intercensal estimates were provided in the requested detail for both ethnic groups (Māori and Non-Māori). See also New Zealand, above.

EDITORS' COMMENTS

In this paediatric cancer registry, registration focused on the age range 0–14 years during the reporting period. Therefore, data for age groups 15–19 years and 0–19 years are not shown in the tables. Unlike in the NZCR, non-residents diagnosed in New Zealand were not included in the NZCCR. Overall incidence rates were slightly higher in the NZCCR than in the NZCR, partly because non-malignant CNS tumours are included in the NZCCR (Table A.9). However, the rates reported for Māori are a little lower in the NZCCR than in the NZCR; this difference may be influenced by the way Māori ethnicity is assigned in the two registries or may be due to the inclusion of Māori non-residents in the NZCR. A sex ratio of 1.5 reflects, in particular, much higher rates in boys than in girls in the Māori population (Table A.9); no similar excess in boys was noted in the NZCR data. Pilocytic astrocytoma was coded with uncertain behaviour. Laterality was complete for all cases of interest in non-Māori people and for gonadal tumours in non-Māori people, but the low number of cases of gonadal tumours did not enable tabulation of this information in Chapter 13 of the IICC-3 book. Skin carcinomas were registered, but their registration may be incomplete. See also the editors' comments for New Zealand and for the New Zealand Cancer Registry, above.

NEW ZEALAND, paediatric (2000-2012)

	Age group (years)	Males	Females
Person-years	0	397 220	378 420
	1-4	1 564 550	1 487 710
	5-9	1 951 690	1 853 940
	10-14	2 033 050	1 932 360
	0-14	5 946 510	5 652 430
Average annual population	0-14	457 424	434 802

Please consult the quality indicators for this registry

NEW ZEALAND, paediatric, Maori (2000-2012)

	Age group (years)	Males	Females
Person-years	0	110 260	103 970
	1-4	413 920	390 590
	5-9	480 200	454 340
	10-14	467 980	446 240
	0-14	1 472 360	1 395 140
Average annual population	0-14	113 258	107 318

Please consult the quality indicators for this registry

NEW ZEALAND, paediatric, Non-Maori (2000-2012)

	Age group (years)	Males	Females
Person-years	0	286 960	274 450
	1-4	1 150 630	1 097 120
	5-9	1 471 490	1 399 600
	10-14	1 565 070	1 486 120
	0-14	4 474 150	4 257 290
Average annual population	0-14	344 165	327 484

Please consult the quality indicators for this registry

NEW ZEALAND, paediatric (2000-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	40	280	163	124	**607**	34.3	100.0	51.6	91.7	42.8	31.3	**55.3**	788	99.8	0.2
	a. Lymphoid	17	234	132	81	**464**	26.2	76.4	21.9	76.7	34.7	20.4	**42.5**	603	100.0	0.0
	b. Acute myeloid	16	32	22	36	**106**	6.0	17.5	20.6	10.5	5.8	9.1	**9.4**	137	99.1	0.9
	c. CMD	1	2	2	3	**8**	0.5	1.3	1.3	0.7	0.5	0.8	**0.7**	10	100.0	0.0
	d. MDS & other	4	8	2	1	**15**	0.8	2.5	5.2	2.6	0.5	0.3	**1.5**	20	100.0	0.0
	e. Unspecified	2	4	5	3	**14**	0.8	2.3	2.6	1.3	1.3	0.8	**1.3**	18	100.0	0.0
II	LYMPHOMA & RELATED	6	21	53	83	**163**	9.2	100.0	7.7	6.9	13.9	20.9	**13.3**	210	100.0	0.0
	a. Hodgkin	0	2	15	35	**52**	2.9	31.9	-	0.7	3.9	8.8	**4.0**	66	100.0	0.0
	b. Non-Hodgkin except BL	0	10	21	42	**73**	4.1	44.8	-	3.3	5.5	10.6	**5.9**	94	100.0	0.0
	c. Burkitt (BL)	0	4	13	5	**22**	1.2	13.5	-	1.3	3.4	1.3	**1.9**	29	100.0	0.0
	d. Lymphoreticular	6	5	3	1	**15**	0.8	9.2	7.7	1.6	0.8	0.3	**1.4**	20	100.0	0.0
	e. Unspecified	0	0	1	0	**1**	0.1	0.6	-	-	0.3	-	**0.1**	1	100.0	0.0
III	CNS NEOPLASMS †	22	118	128	109	**377**	21.3	100.0	28.4	38.7	33.6	27.5	**33.0**	488	85.1	0.0
	a. Ependymoma	4	16	9	9	**38**	2.1	10.1	5.2	5.2	2.4	2.3	**3.4**	49	97.4	0.0
	b. Astrocytoma	7	47	60	47	**161**	9.1	42.7	9.0	15.4	15.8	11.9	**14.0**	209	88.8	0.0
	c. CNS embryonal	6	25	32	17	**80**	4.5	21.2	7.7	8.2	8.4	4.3	**7.1**	104	100.0	0.0
	d. Other gliomas	2	15	17	16	**50**	2.8	13.3	2.6	4.9	4.5	4.0	**4.3**	65	34.0	0.0
	e. Other specified	2	14	10	19	**45**	2.5	11.9	2.6	4.6	2.6	4.8	**3.9**	58	97.8	0.0
	f. Unspecified CNS	1	1	0	1	**3**	0.2	0.8	1.3	0.3	-	0.3	**0.3**	4	0.0	0.0
IV	NEUROBLASTOMA	49	53	19	5	**126**	7.1	100.0	63.2	17.4	5.0	1.3	**12.3**	164	99.2	0.0
	a. (Ganglio)neuroblastoma	49	53	19	3	**124**	7.0	98.4	63.2	17.4	5.0	0.8	**12.1**	162	99.2	0.0
	b. Peripheral nervous	0	0	0	2	**2**	0.1	1.6	-	-	-	0.5	**0.1**	3	100.0	0.0
V	RETINOBLASTOMA	16	37	3	1	**57**	3.2	100.0	20.6	12.1	0.8	0.3	**5.7**	74	86.0	0.0
VI	RENAL TUMOURS	14	53	11	5	**83**	4.7	100.0	18.0	17.4	2.9	1.3	**8.1**	108	97.6	0.0
	a. Nephroblastoma	14	53	11	3	**81**	4.6	97.6	18.0	17.4	2.9	0.8	**7.9**	106	97.5	0.0
	b. Renal carcinoma	0	0	0	2	**2**	0.1	2.4	-	-	-	0.5	**0.1**	3	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	6	9	6	1	**22**	1.2	100.0	7.7	2.9	1.6	0.3	**2.1**	29	81.8	0.0
	a. Hepatoblastoma	5	8	2	0	**15**	0.8	68.2	6.4	2.6	0.5	-	**1.5**	20	80.0	0.0
	b. Hepatic carcinoma	1	1	4	1	**7**	0.4	31.8	1.3	0.3	1.1	0.3	**0.6**	9	85.7	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	0	5	25	67	**97**	5.5	100.0	-	1.6	6.6	16.9	**7.5**	124	99.0	0.0
	a. Osteosarcoma	0	1	11	36	**48**	2.7	49.5	-	0.3	2.9	9.1	**3.7**	61	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	**1**	0.1	1.0	-	-	-	0.3	**0.1**	1	100.0	0.0
	c. Ewing & related	0	3	13	25	**41**	2.3	42.3	-	1.0	3.4	6.3	**3.2**	53	100.0	0.0
	d. Other specified	0	1	1	3	**5**	0.3	5.2	-	0.3	0.3	0.8	**0.4**	6	80.0	0.0
	e. Unspecified	0	0	0	2	**2**	0.1	2.1	-	-	-	0.5	**0.1**	3	100.0	0.0
IX	SOFT TISSUE SARCOMA	12	33	29	39	**113**	6.4	100.0	15.5	10.8	7.6	9.8	**9.9**	146	100.0	0.0
	a. Rhabdomyosarcoma	4	24	17	12	**57**	3.2	50.4	5.2	7.9	4.5	3.0	**5.2**	74	100.0	0.0
	b. Fibrosarcoma	4	0	2	2	**8**	0.5	7.1	5.2	-	0.5	0.5	**0.7**	10	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	3	6	7	19	**35**	2.0	31.0	3.9	2.0	1.8	4.8	**2.9**	45	100.0	0.0
	e. Unspecified	1	3	3	6	**13**	0.7	11.5	1.3	1.0	0.8	1.5	**1.1**	17	100.0	0.0
X	GERM CELL TUMOURS	20	10	8	31	**69**	3.9	100.0	25.8	3.3	2.1	7.8	**6.0**	89	95.7	0.0
	a. CNS germ cell ‡	0	2	5	17	**24**	1.4	34.8	-	0.7	1.3	4.3	**1.9**	31	91.7	0.0
	b. Other extragonadal	13	4	1	2	**20**	1.1	29.0	16.8	1.3	0.3	0.5	**2.0**	26	100.0	0.0
	c. Gonadal germ cell	7	4	2	12	**25**	1.4	36.2	9.0	1.3	0.5	3.0	**2.2**	32	96.0	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	0	6	6	39	**51**	2.9	100.0	-	2.0	1.6	9.8	**4.0**	65	96.1	0.0
	a. Adrenocortical	0	0	1	0	**1**	0.1	2.0	-	-	0.3	-	**0.1**	1	100.0	0.0
	b. Thyroid	0	2	0	6	**8**	0.5	15.7	-	0.7	-	1.5	**0.6**	10	100.0	0.0
	c. Nasopharyngeal	0	0	0	2	**2**	0.1	3.9	-	-	-	0.5	**0.1**	3	100.0	0.0
	d. Melanoma	0	2	1	15	**18**	1.0	35.3	-	0.7	0.3	3.8	**1.4**	23	88.9	0.0
	e. Skin carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	f. Other & unspecified	0	2	4	16	**22**	1.2	43.1	-	0.7	1.1	4.0	**1.7**	28	100.0	0.0
XII	OTHER & UNSPECIFIED	1	2	1	0	**4**	0.2	100.0	1.3	0.7	0.3	-	**0.4**	5	75.0	0.0
	a. Other specified	0	2	1	0	**3**	0.2	75.0	-	0.7	0.3	-	**0.3**	4	100.0	0.0
	b. Other unspecified	1	0	0	0	**1**	0.1	25.0	1.3	-	-	-	**0.1**	1	0.0	0.0
	TOTAL	186	627	452	504	**1769**	100.0	100.0	239.8	205.4	118.8	127.1	**157.4**	2291	95.5	0.1

† includes 153 non-malignant ‡ includes 2 non-malignant

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NEW ZEALAND, paediatric, Maori (2000-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	8	52	36	27	**123**	34.2	100.0	37.3	64.6	38.5	29.5	**43.8**	635	99.2	0.8
	a. Lymphoid	0	38	25	16	**79**	21.9	64.2	-	47.2	26.8	17.5	**28.1**	408	100.0	0.0
	b. Acute myeloid	7	11	8	9	**35**	9.7	28.5	32.7	13.7	8.6	9.8	**12.5**	180	97.1	2.9
	c. CMD	0	0	0	1	**1**	0.3	0.8	-	-	-	1.1	**0.3**	5	100.0	0.0
	d. MDS & other	1	1	1	0	**3**	0.8	2.4	4.7	1.2	1.1	-	**1.1**	15	100.0	0.0
	e. Unspecified	0	2	2	1	**5**	1.4	4.1	-	2.5	2.1	1.1	**1.8**	26	100.0	0.0
II	LYMPHOMA & RELATED	1	8	9	13	**31**	8.6	100.0	4.7	9.9	9.6	14.2	**10.7**	163	100.0	0.0
	a. Hodgkin	0	1	5	6	**12**	3.3	38.7	-	1.2	5.4	6.6	**4.0**	64	100.0	0.0
	b. Non-Hodgkin except BL	0	3	3	6	**12**	3.3	38.7	-	3.7	3.2	6.6	**4.1**	64	100.0	0.0
	c. Burkitt (BL)	0	2	1	1	**4**	1.1	12.9	-	2.5	1.1	1.1	**1.4**	21	100.0	0.0
	d. Lymphoreticular	1	2	0	0	**3**	0.8	9.7	4.7	2.5	-	-	**1.1**	15	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
III	CNS NEOPLASMS †	1	27	28	18	**74**	20.6	100.0	4.7	33.6	30.0	19.7	**26.0**	386	89.2	0.0
	a. Ependymoma	0	3	2	1	**6**	1.7	8.1	-	3.7	2.1	1.1	**2.1**	31	83.3	0.0
	b. Astrocytoma	0	9	11	7	**27**	7.5	36.5	-	11.2	11.8	7.7	**9.4**	141	88.9	0.0
	c. CNS embryonal	1	9	10	4	**24**	6.7	32.4	4.7	11.2	10.7	4.4	**8.5**	124	100.0	0.0
	d. Other gliomas	0	4	2	2	**8**	2.2	10.8	-	5.0	2.1	2.2	**2.8**	41	50.0	0.0
	e. Other specified	0	2	3	4	**9**	2.5	12.2	-	2.5	3.2	4.4	**3.1**	48	100.0	0.0
	f. Unspecified CNS	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
IV	NEUROBLASTOMA	10	11	3	3	**27**	7.5	100.0	46.7	13.7	3.2	3.3	**10.0**	136	100.0	0.0
	a. (Ganglio)neuroblastoma	10	11	3	1	**25**	6.9	92.6	46.7	13.7	3.2	1.1	**9.3**	125	100.0	0.0
	b. Peripheral nervous	0	0	0	2	**2**	0.6	7.4	-	-	-	2.2	**0.6**	11	100.0	0.0
V	RETINOBLASTOMA	4	9	0	0	**13**	3.6	100.0	18.7	11.2	-	-	**4.9**	64	69.2	0.0
VI	RENAL TUMOURS	2	7	0	1	**10**	2.8	100.0	9.3	8.7	-	1.1	**3.7**	50	90.0	0.0
	a. Nephroblastoma	2	7	0	0	**9**	2.5	90.0	9.3	8.7	-	-	**3.4**	44	88.9	0.0
	b. Renal carcinoma	0	0	0	1	**1**	0.3	10.0	-	-	-	1.1	**0.3**	5	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	1	3	0	1	**5**	1.4	100.0	4.7	3.7	-	1.1	**1.8**	25	80.0	0.0
	a. Hepatoblastoma	1	2	0	0	**3**	0.8	60.0	4.7	2.5	-	-	**1.1**	15	100.0	0.0
	b. Hepatic carcinoma	0	1	0	1	**2**	0.6	40.0	-	1.2	-	1.1	**0.7**	10	50.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	0	0	7	13	**20**	5.6	100.0	-	-	7.5	14.2	**6.5**	109	100.0	0.0
	a. Osteosarcoma	0	0	3	6	**9**	2.5	45.0	-	-	3.2	6.6	**2.9**	49	100.0	0.0
	b. Chondrosarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Ewing & related	0	0	4	5	**9**	2.5	45.0	-	-	4.3	5.5	**3.0**	49	100.0	0.0
	d. Other specified	0	0	0	2	**2**	0.6	10.0	-	-	-	2.2	**0.6**	11	100.0	0.0
	e. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
IX	SOFT TISSUE SARCOMA	0	5	6	12	**23**	6.4	100.0	-	6.2	6.4	13.1	**7.8**	122	100.0	0.0
	a. Rhabdomyosarcoma	0	4	3	4	**11**	3.1	47.8	-	5.0	3.2	4.4	**3.8**	58	100.0	0.0
	b. Fibrosarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	0	1	3	7	**11**	3.1	47.8	-	1.2	3.2	7.7	**3.6**	59	100.0	0.0
	e. Unspecified	0	0	0	1	**1**	0.3	4.3	-	-	-	1.1	**0.3**	5	100.0	0.0
X	GERM CELL TUMOURS	8	2	2	10	**22**	6.1	100.0	37.3	2.5	2.1	10.9	**7.7**	114	95.5	0.0
	a. CNS germ cell ‡	0	1	1	6	**8**	2.2	36.4	-	1.2	1.1	6.6	**2.6**	43	100.0	0.0
	b. Other extragonadal	6	0	0	1	**7**	1.9	31.8	28.0	-	-	1.1	**2.6**	35	100.0	0.0
	c. Gonadal germ cell	2	1	1	3	**7**	1.9	31.8	9.3	1.2	1.1	3.3	**2.4**	36	85.7	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	0	2	0	8	**10**	2.8	100.0	-	2.5	-	8.8	**3.3**	54	100.0	0.0
	a. Adrenocortical	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	b. Thyroid	0	1	0	3	**4**	1.1	40.0	-	1.2	-	3.3	**1.3**	21	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	**1**	0.3	10.0	-	-	-	1.1	**0.3**	5	100.0	0.0
	d. Melanoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Skin carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	f. Other & unspecified	0	1	0	4	**5**	1.4	50.0	-	1.2	-	4.4	**1.7**	27	100.0	0.0
XII	OTHER & UNSPECIFIED	0	1	1	0	**2**	0.6	100.0	-	1.2	1.1	-	**0.7**	10	100.0	0.0
	a. Other specified	0	1	1	0	**2**	0.6	100.0	-	1.2	1.1	-	**0.7**	10	100.0	0.0
	b. Other unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	TOTAL	35	127	92	106	**360**	100.0	100.0	163.4	157.9	98.4	115.9	**127.0**	1867	95.6	0.3

† includes 26 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this registry

NEW ZEALAND, paediatric, Non-Maori (2000-2012)

		Number of cases					Percentage		Incidence rates per million person-years						MV	DCO
		Age group (years)					0-14		Age-specific				ASR	Cumulative	%	%
		0	1-4	5-9	10-14	0-14	All	Group	0	1-4	5-9	10-14	0-14	0-14	0-14	0-14
I	LEUKAEMIA	32	228	127	97	**484**	34.4	100.0	57.0	101.4	44.2	31.8	**59.3**	843	100.0	0.0
	a. Lymphoid	17	196	107	65	**385**	27.3	79.5	30.3	87.2	37.3	21.3	**47.6**	672	100.0	0.0
	b. Acute myeloid	9	21	14	27	**71**	5.0	14.7	16.0	9.3	4.9	8.8	**8.3**	122	100.0	0.0
	c. CMD	1	2	2	2	**7**	0.5	1.4	1.8	0.9	0.7	0.7	**0.8**	12	100.0	0.0
	d. MDS & other	3	7	1	1	**12**	0.9	2.5	5.3	3.1	0.3	0.3	**1.6**	21	100.0	0.0
	e. Unspecified	2	2	3	2	**9**	0.6	1.9	3.6	0.9	1.0	0.7	**1.1**	16	100.0	0.0
II	LYMPHOMA & RELATED	5	13	44	70	**132**	9.4	100.0	8.9	5.8	15.3	22.9	**14.1**	223	100.0	0.0
	a. Hodgkin	0	1	10	29	**40**	2.8	30.3	-	0.4	3.5	9.5	**4.0**	67	100.0	0.0
	b. Non-Hodgkin except BL	0	7	18	36	**61**	4.3	46.2	-	3.1	6.3	11.8	**6.4**	103	100.0	0.0
	c. Burkitt (BL)	0	2	12	4	**18**	1.3	13.6	-	0.9	4.2	1.3	**2.0**	31	100.0	0.0
	d. Lymphoreticular	5	3	3	1	**12**	0.9	9.1	8.9	1.3	1.0	0.3	**1.5**	21	100.0	0.0
	e. Unspecified	0	0	1	0	**1**	0.1	0.8	-	-	0.3	-	**0.1**	2	100.0	0.0
III	CNS NEOPLASMS †	21	91	100	91	**303**	21.5	100.0	37.4	40.5	34.8	29.8	**35.3**	523	84.2	0.0
	a. Ependymoma	4	13	7	8	**32**	2.3	10.6	7.1	5.8	2.4	2.6	**3.9**	56	100.0	0.0
	b. Astrocytoma	7	38	49	40	**134**	9.5	44.2	12.5	16.9	17.1	13.1	**15.5**	231	88.8	0.0
	c. CNS embryonal	5	16	22	13	**56**	4.0	18.5	8.9	7.1	7.7	4.3	**6.6**	97	100.0	0.0
	d. Other gliomas	2	11	15	14	**42**	3.0	13.9	3.6	4.9	5.2	4.6	**4.8**	72	31.0	0.0
	e. Other specified	2	12	7	15	**36**	2.6	11.9	3.6	5.3	2.4	4.9	**4.1**	62	97.2	0.0
	f. Unspecified CNS	1	1	0	1	**3**	0.2	1.0	1.8	0.4	-	0.3	**0.4**	5	0.0	0.0
IV	NEUROBLASTOMA	39	42	16	2	**99**	7.0	100.0	69.5	18.7	5.6	0.7	**13.1**	175	99.0	0.0
	a. (Ganglio)neuroblastoma	39	42	16	2	**99**	7.0	100.0	69.5	18.7	5.6	0.7	**13.1**	175	99.0	0.0
	b. Peripheral nervous	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
V	RETINOBLASTOMA	12	28	3	1	**44**	3.1	100.0	21.4	12.5	1.0	0.3	**5.9**	78	90.9	0.0
VI	RENAL TUMOURS	12	46	11	4	**73**	5.2	100.0	21.4	20.5	3.8	1.3	**9.6**	129	98.6	0.0
	a. Nephroblastoma	12	46	11	3	**72**	5.1	98.6	21.4	20.5	3.8	1.0	**9.5**	127	98.6	0.0
	b. Renal carcinoma	0	0	0	1	**1**	0.1	1.4	-	-	-	0.3	**0.1**	2	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VII	HEPATIC TUMOURS	5	6	6	0	**17**	1.2	100.0	8.9	2.7	2.1	-	**2.2**	30	82.4	0.0
	a. Hepatoblastoma	4	6	2	0	**12**	0.9	70.6	7.1	2.7	0.7	-	**1.6**	21	75.0	0.0
	b. Hepatic carcinoma	1	0	4	0	**5**	0.4	29.4	1.8	-	1.4	-	**0.6**	9	100.0	0.0
	c. Unspecified	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
VIII	BONE TUMOURS	0	5	18	54	**77**	5.5	100.0	-	2.2	6.3	17.7	**7.8**	129	98.7	0.0
	a. Osteosarcoma	0	1	8	30	**39**	2.8	50.6	-	0.4	2.8	9.8	**3.9**	65	100.0	0.0
	b. Chondrosarcoma	0	0	0	1	**1**	0.1	1.3	-	-	-	0.3	**0.1**	2	100.0	0.0
	c. Ewing & related	0	3	9	20	**32**	2.3	41.6	-	1.3	3.1	6.6	**3.3**	54	100.0	0.0
	d. Other specified	0	1	1	1	**3**	0.2	3.9	-	0.4	0.3	0.3	**0.3**	5	66.7	0.0
	e. Unspecified	0	0	0	2	**2**	0.1	2.6	-	-	-	0.7	**0.2**	3	100.0	0.0
IX	SOFT TISSUE SARCOMA	12	28	23	27	**90**	6.4	100.0	21.4	12.5	8.0	8.8	**10.7**	155	100.0	0.0
	a. Rhabdomyosarcoma	4	20	14	8	**46**	3.3	51.1	7.1	8.9	4.9	2.6	**5.6**	80	100.0	0.0
	b. Fibrosarcoma	4	0	2	2	**8**	0.6	8.9	7.1	-	0.7	0.7	**1.0**	14	100.0	0.0
	c. Kaposi sarcoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	d. Other specified	3	5	4	12	**24**	1.7	26.7	5.3	2.2	1.4	3.9	**2.7**	41	100.0	0.0
	e. Unspecified	1	3	3	5	**12**	0.9	13.3	1.8	1.3	1.0	1.6	**1.4**	21	100.0	0.0
X	GERM CELL TUMOURS	12	8	6	21	**47**	3.3	100.0	21.4	3.6	2.1	6.9	**5.4**	80	95.7	0.0
	a. CNS germ cell ‡	0	1	4	11	**16**	1.1	34.0	-	0.4	1.4	3.6	**1.6**	27	87.5	0.0
	b. Other extragonadal	7	4	1	1	**13**	0.9	27.7	12.5	1.8	0.3	0.3	**1.7**	23	100.0	0.0
	c. Gonadal germ cell	5	3	1	9	**18**	1.3	38.3	8.9	1.3	0.3	2.9	**2.1**	31	100.0	0.0
	d. Gonadal carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	e. Unspecified gonadal	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
XI	CARCINOMA & MELANOMA	0	4	6	31	**41**	2.9	100.0	-	1.8	2.1	10.2	**4.2**	68	95.1	0.0
	a. Adrenocortical	0	0	1	0	**1**	0.1	2.4	-	-	0.3	-	**0.1**	2	100.0	0.0
	b. Thyroid	0	1	0	3	**4**	0.3	9.8	-	0.4	-	1.0	**0.4**	7	100.0	0.0
	c. Nasopharyngeal	0	0	0	1	**1**	0.1	2.4	-	-	-	0.3	**0.1**	2	100.0	0.0
	d. Melanoma	0	2	1	15	**18**	1.3	43.9	-	0.9	0.3	4.9	**1.8**	30	88.9	0.0
	e. Skin carcinoma	0	0	0	0	**0**	-	-	-	-	-	-	**-**	-	-	-
	f. Other & unspecified	0	1	4	12	**17**	1.2	41.5	-	0.4	1.4	3.9	**1.7**	28	100.0	0.0
XII	OTHER & UNSPECIFIED	1	1	0	0	**2**	0.1	100.0	1.8	0.4	-	-	**0.3**	4	50.0	0.0
	a. Other specified	0	1	0	0	**1**	0.1	50.0	-	0.4	-	-	**0.1**	2	100.0	0.0
	b. Other unspecified	1	0	0	0	**1**	0.1	50.0	1.8	-	-	-	**0.1**	2	0.0	0.0
	TOTAL	151	500	360	398	**1409**	100.0	100.0	269.0	222.4	125.4	130.4	**168.0**	2438	95.5	0.0

† includes 127 non-malignant ‡ includes 1 non-malignant

Please consult the quality indicators for this registry

Chapter 7. Incidence by main diagnostic groups

Table 7.1. All neoplasms: numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	1658	96.3	112.1	79.8	2640	107.1	120.6	93.2	109.4	83.9	92.6	144.4
BOTSWANA (1999-2007)	312	54.5	57.4	51.5	450	59.7	60.9	58.5	50.9	58.3	55.1	77.7
CAMEROON, Yaoundé (2004-2006)	298	125.0	149.6	101.9	373	124.5	144.0	106.1	91.1	152.9	139.4	122.8
EGYPT, Gharbiah (1999-2010)	1812	122.5	142.4	101.7	2597	127.2	146.4	107.1	148.3	111.6	100.4	143.2
FRANCE, Réunion (1990-2011)	459	106.2	111.3	100.9	657	113.3	123.4	102.8	132.0	90.2	89.5	137.6
KENYA, 2 registries (2000-2012)	1165	108.5	129.1	88.1	1620	118.7	143.4	95.7	92.8	108.2	129.7	154.0
LIBYA, Benghazi (2003-2008)	318	110.1	123.3	96.4	420	108.2	119.1	96.8	139.8	100.6	81.1	101.5
MALI, Bamako (2005-2014)	1158	159.3	191.4	129.4	1470	150.9	184.3	121.5	172.5	151.2	150.8	121.9
MAURITIUS (2001-2013)	369	101.1	113.7	88.1	551	109.4	124.5	93.8	127.5	80.8	88.2	137.9
MOROCCO, 2 registries (2005-2012)	1146	129.3	150.3	107.8	1688	137.8	156.6	118.6	147.2	115.8	120.5	167.0
SOUTH AFRICA, paediatric (1998-2012)	9694	45.6	50.7	40.5	-	-	-	-	62.5	39.4	29.9	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	285	78.3	88.3	68.0	-	-	-	-	123.4	59.4	39.2	-
SOUTH AFRICA, paediatric, Black (1998-2012)	6984	39.0	43.4	34.5	-	-	-	-	52.1	34.6	26.4	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	1302	71.5	78.4	64.4	-	-	-	-	101.0	61.3	43.4	-
SOUTH AFRICA, paediatric, White (1998-2012)	1122	100.6	110.1	90.6	-	-	-	-	157.0	73.5	55.4	-
TUNISIA, 2 registries (1993-2007)	1830	97.8	111.8	83.1	2712	104.3	116.3	91.7	107.2	90.6	93.4	126.6
UGANDA, Kyadondo (1996-2013)	1877	139.4	168.8	113.0	2494	138.9	166.5	115.0	119.4	165.0	137.5	137.3
ZIMBABWE, Harare, African (1995-2013)	1082	126.3	145.2	108.4	1454	126.2	147.9	106.7	121.8	126.1	132.5	125.8
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	18067	128.1	140.6	114.9	-	-	-	-	167.0	103.7	103.5	-
ARGENTINA, 6 registries (1991-2013)	2951	137.5	147.4	127.1	4071	140.4	152.0	128.3	171.6	114.9	116.9	150.5
BRAZIL, 5 registries (1995-2012)	2603	145.2	154.9	135.2	3858	151.0	162.3	139.7	180.6	127.2	118.0	171.1
CHILE, paediatric (2007-2011)	2380	131.5	143.4	119.2	-	-	-	-	173.0	105.5	105.3	-
CHILE, 4 registries (1998-2012)	630	146.3	168.9	122.9	909	150.3	177.4	122.1	211.9	104.9	104.9	164.2
COLOMBIA, 4 registries (1992-2013)	2537	149.6	159.7	139.2	3537	152.3	166.0	138.6	185.6	129.1	124.4	161.6
COSTA RICA (1993-2012)	3112	133.9	142.6	124.8	4555	144.6	154.9	133.8	164.4	112.7	117.0	181.4
CUBA (2000-2012)	3411	130.2	141.3	118.4	4741	129.7	139.0	120.0	169.7	101.6	109.2	128.3
ECUADOR, 5 registries (1993-2013)	3018	141.7	152.9	130.2	4145	144.2	157.0	131.4	180.5	121.8	112.1	152.9
FRANCE, 3 registries (1990-2012)	343	111.0	127.3	94.3	493	117.9	132.1	103.2	134.6	89.5	103.6	141.5
HONDURAS, Francisco Morazán (2002-2012)	488	95.1	106.2	83.7	676	102.1	112.1	91.9	97.3	77.7	111.5	126.0
JAMAICA, Kingston and St Andrew (1982-2012)	433	76.1	74.5	77.6	616	79.3	79.4	79.2	94.4	65.2	63.8	90.3
MEXICO, Mexico City, paediatric (1997-2013)	1560	134.7	145.7	123.2	-	-	-	-	172.5	106.9	115.1	-
PERU, Lima (2010-2012)	1052	153.1	162.9	143.0	1498	156.7	167.8	145.3	198.4	122.2	127.2	168.9
PERU, Trujillo (1990-2002)	252	107.1	123.0	91.0	348	107.6	122.3	93.2	118.2	106.2	93.2	109.7
USA, Puerto Rico (1992-2012)	2188	125.7	136.4	114.4	3218	133.8	142.2	125.0	160.3	96.4	111.9	161.8
URUGUAY (1993-2012)	2114	142.4	158.1	126.0	2930	145.7	160.2	130.7	184.6	114.6	116.9	157.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	18309	164.9	173.0	156.3	27396	176.4	184.5	168.0	229.3	119.5	129.3	216.3
USA (1998-2012)	146015	166.9	176.2	157.2	216741	179.6	187.5	171.4	225.9	123.2	136.8	223.5
USA, API (1998-2012)	5596	127.1	136.7	117.1	7965	133.1	141.1	124.9	172.5	94.4	102.8	154.0
USA, Black (1998-2012)	18286	126.4	132.1	120.4	26339	133.3	137.3	129.1	160.3	96.0	114.9	157.0
USA, Hispanic White (1998-2012)	27854	167.3	175.7	158.4	38677	176.7	185.9	167.1	219.9	127.7	141.0	209.4
USA, Native American (1998-2012)	1233	87.8	94.6	80.7	1849	95.3	99.5	91.0	122.3	61.7	70.7	121.1
USA, White NH (1998-2012)	88962	176.0	186.1	165.3	135752	190.9	199.6	181.8	242.9	127.8	140.3	242.5
USA, NPCR (1998-2012)	139841	167.1	176.4	157.4	207568	179.8	187.6	171.7	226.2	123.3	137.0	223.7
USA, SEER 18 (1993-2012)	44741	161.3	170.9	151.3	65217	172.9	182.3	162.9	219.5	119.2	130.6	212.5
USA, Hawaii, Hawaiian (1993-2012)	226	141.2	164.5	116.5	317	150.4	172.8	126.6	171.3	119.9	124.6	182.1
ASIA												
BAHRAIN (1998-2012)	366	118.8	136.8	99.9	481	120.2	132.2	107.8	150.2	89.1	109.9	125.2
CHINA, 6 registries (1990-2013)	7064	131.9	143.3	119.5	11188	135.0	144.7	124.6	180.7	93.6	109.4	145.7
CHINA, Hong Kong (1990-2013)	3397	145.7	159.3	131.0	5105	149.8	161.2	137.6	209.0	97.9	114.3	164.2
INDIA, 7 registries (1990-2013)	16240	96.9	116.6	75.4	22670	97.9	115.4	78.4	112.3	90.1	84.0	101.2
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	360	99.8	119.9	79.0	618	111.7	130.0	92.7	93.0	97.1	111.9	152.6
ISRAEL (1990-2012)	6229	152.0	166.3	137.0	9022	169.3	180.2	157.8	188.2	123.4	135.6	228.7
ISRAEL, Jews (1990-2012)	4636	155.6	169.5	140.9	6886	175.2	186.0	163.8	188.8	128.4	141.4	242.8
ISRAEL, Non-Jews (1990-2012)	1593	142.4	157.6	126.4	2136	151.8	162.9	140.2	186.6	110.2	119.3	184.4
JAPAN, 8 registries (1990-2013)	7755	134.3	142.9	125.2	10565	130.2	138.3	121.6	190.4	97.7	100.1	116.0
JORDAN, Jordanians (2000-2012)	2698	101.0	113.6	87.7	3757	108.1	118.3	97.3	123.3	87.0	86.7	132.5
REPUBLIC OF KOREA (1999-2012)	16312	135.9	145.3	125.5	24079	141.6	147.5	135.1	188.1	93.7	113.1	161.1
KUWAIT (1994-2012)	1360	112.8	128.3	96.6	1798	117.8	129.6	105.5	142.0	87.1	102.5	135.0
KUWAIT, Kuwaitis (1994-2012)	797	112.3	130.2	93.7	1070	119.7	130.9	108.0	142.4	81.9	105.9	145.1
KUWAIT, Non-Kuwaitis (1994-2012)	563	113.6	125.7	100.8	728	115.3	127.7	101.8	141.4	94.6	97.6	121.2
LEBANON (2008-2010)	505	141.2	157.8	123.6	765	156.5	174.9	137.1	150.0	143.8	126.5	209.4
PAKISTAN, Karachi (1995-2002)	545	94.3	115.1	72.3	840	119.1	138.5	98.2	68.7	97.9	124.5	204.6
PAKISTAN, Lahore (2008-2012)	1406	75.6	92.8	57.4	1891	78.8	96.1	60.5	79.1	69.2	78.1	89.9
PHILIPPINES, 2 registries (1993-2012)	8826	118.3	131.2	104.8	12052	121.9	133.5	110.1	146.6	98.2	102.9	134.4
QATAR (2002-2014)	301	102.4	100.4	104.6	430	115.7	110.5	122.9	117.0	78.2	109.8	161.6
SAUDI ARABIA, Riyadh (1994-2012)	3921	118.2	130.0	106.1	5317	127.7	137.5	117.7	150.3	94.5	101.7	160.6
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	3167	115.1	127.8	102.2	4347	124.8	134.7	114.6	147.0	93.4	96.9	157.9
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	754	133.3	140.9	125.2	970	143.2	152.5	133.3	165.6	100.2	127.1	177.4
THAILAND, 6 registries (1993-2013)	4260	111.4	121.7	100.5	6155	112.7	121.0	104.0	143.3	84.6	98.6	117.3
TURKEY, paediatric (2009-2011)	5251	96.5	107.6	84.7	-	-	-	-	132.7	77.5	69.3	-
TURKEY, 8 registries (1992-2012)	6000	157.2	170.6	143.2	8663	163.8	175.8	151.2	207.1	122.5	129.4	186.3
VIET NAM, Ho Chi Minh City (1995-2013)	2718	116.0	126.9	104.2	3552	106.5	115.3	97.1	165.4	86.2	83.0	73.9
EUROPE												
AUSTRIA (1990-2012)	4578	154.0	163.9	143.5	6848	165.2	178.6	151.1	201.6	118.4	130.1	203.7
BELARUS, paediatric (1990-2014)	6863	157.0	162.7	151.0	10294	164.5	166.0	162.9	186.1	126.2	152.6	190.3
BELGIUM (2004-2013)	3426	191.6	204.1	178.5	5201	211.1	223.2	198.5	246.3	138.9	177.2	278.3
BULGARIA (1990-2013)	3533	120.8	135.7	105.2	5274	124.6	138.7	109.6	153.6	100.2	100.1	137.4
CROATIA (2001-2014)	1738	193.9	218.5	167.9	2572	202.9	223.8	180.8	261.1	146.1	157.4	233.9
CYPRUS, South-West (1998-2012)	360	166.6	182.8	149.5	615	193.8	202.1	185.2	199.5	131.1	162.3	287.6
CZECH REPUBLIC (1990-2012)	6301	165.7	180.8	149.9	9642	173.5	187.9	158.4	224.3	123.7	134.3	200.5
ESTONIA (1990-2012)	819	146.6	152.1	140.8	1239	156.1	163.2	148.6	193.1	109.0	126.3	188.7

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of any neoplasm in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.1. All neoplasms: numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	22584	157.6	167.9	146.7	-	-	-	-	208.0	121.5	130.4	-
FRANCE, 13 registries (1993-2012)	4822	158.4	172.7	143.2	7204	171.2	183.5	158.3	207.1	119.2	136.8	215.4
GERMANY, paediatric (1996-2012)	30770	158.5	170.5	145.8	-	-	-	-	218.5	122.0	119.0	-
GERMANY, 6 Eastern states (2001-2007)	1839	141.2	150.3	131.5	3230	150.9	162.4	138.8	193.0	106.6	110.6	184.5
GERMANY, 5 Western registries (1994-2012)	7471	157.5	169.7	144.6	11480	170.4	183.8	156.1	208.7	117.4	133.9	214.5
HUNGARY, paediatric (1991-2014)	5705	149.6	161.5	137.0	-	-	-	-	208.1	115.4	109.5	-
ICELAND (1990-2014)	228	141.3	160.1	121.6	376	170.3	193.2	146.4	176.7	101.6	138.2	270.4
IRELAND (1994-2012)	2473	152.8	162.1	143.1	3781	168.0	177.6	158.0	203.6	115.7	126.3	220.4
ITALY, 2 paediatric registries (1998-2011)	1610	195.4	212.3	177.6	2414	214.3	233.0	194.5	259.2	135.7	176.8	279.4
ITALY, Piedmont, paediatric (1990-2011)	2178	190.0	206.5	172.6	-	-	-	-	249.1	139.5	167.3	-
ITALY, 26 registries (1992-2013)	7517	186.1	198.7	172.7	11663	206.2	218.1	193.6	228.7	148.8	170.7	275.4
LITHUANIA (2000-2012)	880	133.5	133.3	133.7	1400	140.3	142.0	138.7	194.8	91.6	98.3	163.9
MALTA (1994-2013)	247	177.7	191.1	163.5	352	179.8	194.8	163.9	222.1	148.8	150.6	187.0
THE NETHERLANDS (1993-2013)	9227	154.5	166.5	141.8	13816	170.7	183.2	157.5	201.6	118.4	131.7	226.5
NORWAY (1990-2013)	3410	165.2	173.7	156.2	5090	181.9	192.1	171.1	224.2	118.8	137.9	239.5
POLAND (2001-2013)	10205	132.8	142.2	122.9	16155	140.3	150.9	129.1	181.7	100.4	103.6	166.0
PORTUGAL (1991-2012)	4339	164.6	178.3	150.1	6448	173.8	186.0	161.0	210.0	130.2	142.3	205.7
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	1176	139.8	144.4	135.0	-	-	-	-	183.7	110.8	113.6	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	1545	141.1	138.7	143.6	2285	142.1	140.7	143.7	198.5	105.0	104.9	145.5
SLOVAKIA (1990-2009)	2955	145.8	157.5	133.5	4574	154.7	169.4	139.3	197.9	110.9	114.9	185.5
SLOVAKIA, paediatric (2000-2012)	1626	144.6	152.3	136.6	-	-	-	-	193.2	112.0	116.1	-
SLOVENIA (1991-2012)	971	144.2	151.0	137.0	1535	155.9	165.5	145.7	198.9	97.5	123.1	196.1
SPAIN, 2 paediatric registries (1991-2013)	7497	159.2	174.0	143.6	-	-	-	-	210.0	126.9	127.6	-
SPAIN, selected regions, paediatric (2000-2013)	5293	155.1	171.8	137.5	-	-	-	-	199.5	127.8	126.2	-
SPAIN, Valencia, paediatric (1991-2010)	2204	171.3	182.0	160.0	-	-	-	-	241.1	124.4	130.4	-
SPAIN, 11 registries (1990-2013)	5081	164.3	179.9	148.0	7839	174.6	190.5	158.0	214.8	127.0	138.5	210.2
SWEDEN (1990-2011)	5284	155.3	163.7	146.6	7557	162.2	170.6	153.4	214.2	115.2	121.5	185.9
SWITZERLAND, paediatric (1990-2013)	4481	159.2	172.9	144.6	-	-	-	-	210.4	124.1	129.9	-
SWITZERLAND, 7 registries (1990-2013)	1798	173.1	189.5	155.8	2665	187.7	202.5	172.1	220.9	133.3	153.6	237.9
UKRAINE (2002-2012)	10079	139.6	151.9	126.6	16358	146.8	155.4	137.6	189.8	109.2	106.4	171.6
UK (2000-2011)	17942	140.5	150.6	130.0	26346	149.5	161.4	137.1	189.8	105.2	114.1	180.4
UK, England and Wales, paediatric (1991-2010)	27799	145.8	156.0	135.1	-	-	-	-	193.7	111.6	120.0	-
OCEANIA												
AUSTRALIA (1992-2014)	13190	154.9	165.6	143.5	20508	175.1	187.8	161.7	213.6	109.7	126.7	244.9
AUSTRALIA, 3 registries, Indigenous (1992-2014)	249	105.4	105.5	105.3	336	112.4	113.6	111.1	137.6	79.8	90.9	136.3
FRANCE, 2 registries (1990-2013)	376	127.0	133.6	119.9	523	132.0	138.9	124.6	159.1	110.8	102.2	149.1
NEW ZEALAND (1993-2012)	2606	152.6	162.2	142.5	3871	167.0	176.3	157.2	208.0	111.5	124.2	216.5
NEW ZEALAND, Maori (1993-2012)	570	133.2	143.5	122.3	813	148.4	164.2	132.2	180.6	95.4	112.0	200.9
NEW ZEALAND, Pacific peoples (1993-2012)	286	186.8	201.9	170.8	394	199.5	201.7	196.8	219.4	165.7	166.7	243.5
NEW ZEALAND, Other (1993-2012)	1750	155.7	164.1	146.9	2664	169.8	177.7	161.4	217.8	110.3	123.3	218.2
NEW ZEALAND, paediatric (2000-2012)	1769	157.4	166.0	148.4	-	-	-	-	212.4	118.8	127.1	-
NEW ZEALAND, paediatric, Maori (2000-2012)	360	127.0	148.7	104.0	-	-	-	-	159.0	98.4	115.9	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	1409	168.0	172.1	163.8	-	-	-	-	231.7	125.4	130.4	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of any neoplasm in a dataset
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Table 7.2. Leukaemias, myeloproliferative diseases, and myelodysplastic diseases (I): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	390	23.2	27.9	18.3	519	22.2	26.7	17.6	28.4	23.7	15.7	19.0
BOTSWANA (1999-2007)	50	8.7	9.6	7.7	72	9.5	10.2	8.8	6.7	11.0	8.6	12.4
CAMEROON, Yaoundé (2004-2006)	18	7.6	9.6	5.7	21	7.0	8.2	5.8	7.6	5.1	10.4	4.9
EGYPT, Gharbiah (1999-2010)	474	32.2	37.6	26.6	648	32.1	38.3	25.6	40.2	28.5	25.7	31.7
FRANCE, Réunion (1990-2011)	147	34.3	38.7	29.8	187	32.9	37.7	27.8	45.8	27.8	26.2	27.8
KENYA, 2 registries (2000-2012)	216	20.1	23.3	17.0	264	19.2	22.4	16.3	15.5	22.1	24.0	16.2
LIBYA, Benghazi (2003-2008)	97	33.9	33.5	34.3	116	30.5	30.3	30.7	46.3	30.4	21.3	18.9
MALI, Bamako (2005-2014)	71	9.7	13.1	6.7	86	8.9	13.0	5.3	2.9	15.1	12.9	5.9
MAURITIUS (2001-2013)	126	35.4	41.3	29.3	171	35.1	42.4	27.5	49.1	29.8	23.2	34.1
MOROCCO, 2 registries (2005-2012)	186	21.0	27.4	14.4	268	22.0	28.9	14.9	22.5	22.0	17.9	25.3
SOUTH AFRICA, paediatric (1998-2012)	2448	11.4	13.0	9.8	-	-	-	-	14.1	10.9	8.3	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	133	37.6	44.3	30.6	-	-	-	-	64.5	30.1	10.0	-
SOUTH AFRICA, paediatric, Black (1998-2012)	1540	8.4	9.7	7.1	-	-	-	-	8.9	8.9	7.3	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	389	21.3	24.1	18.6	-	-	-	-	29.9	18.3	13.3	-
SOUTH AFRICA, paediatric, White (1998-2012)	386	35.2	38.3	31.9	-	-	-	-	58.1	25.2	15.7	-
TUNISIA, 2 registries (1993-2007)	477	25.7	28.5	22.8	612	24.3	27.1	21.3	28.3	26.1	21.7	19.4
UGANDA, Kyadondo (1996-2013)	141	10.4	13.3	7.9	181	10.0	13.0	7.6	6.3	13.3	12.5	8.9
ZIMBABWE, Harare, African (1995-2013)	143	16.8	21.9	11.9	179	15.7	20.9	11.0	14.7	16.8	19.5	12.2
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	6757	48.1	52.2	43.9	-	-	-	-	64.0	40.6	35.4	-
ARGENTINA, 6 registries (1991-2013)	979	45.9	48.2	43.4	1184	41.8	44.0	39.4	58.8	39.8	35.5	27.5
BRAZIL, 5 registries (1995-2012)	816	46.4	50.2	42.5	1001	41.6	46.3	36.9	61.5	44.3	28.5	25.2
CHILE, paediatric (2007-2011)	961	53.8	59.6	47.8	-	-	-	-	74.0	46.1	35.6	-
CHILE, 4 registries (1998-2012)	261	62.1	72.4	51.4	307	54.2	64.1	43.9	97.1	46.5	32.7	27.1
COLOMBIA, 4 registries (1992-2013)	975	58.4	62.0	54.6	1224	54.3	59.4	49.2	76.7	53.8	39.0	40.3
COSTA RICA (1993-2012)	1251	55.5	58.8	52.0	1490	49.8	54.9	44.4	79.0	48.7	31.7	30.0
CUBA (2000-2012)	1014	39.6	44.2	34.7	1224	35.2	40.0	30.1	54.9	34.5	24.8	20.3
ECUADOR, 5 registries (1993-2013)	1318	62.5	65.3	59.6	1622	57.7	62.1	53.3	83.6	56.0	41.6	41.3
FRANCE, 3 registries (1990-2012)	110	36.0	45.3	26.5	142	34.7	43.9	25.3	45.2	33.3	26.8	30.2
HONDURAS, Francisco Morazán (2002-2012)	187	36.7	42.7	30.7	232	35.3	40.7	29.7	41.5	36.0	31.3	30.2
JAMAICA, Kingston and St Andrew (1982-2012)	109	19.0	19.1	18.8	133	17.4	18.3	16.5	21.0	19.1	16.1	11.8
MEXICO, Mexico City, paediatric (1997-2013)	706	61.6	66.2	56.8	-	-	-	-	83.8	51.6	43.1	-
PERU, Lima (2010-2012)	426	62.9	67.0	58.6	539	58.4	64.5	52.1	90.1	47.8	43.4	42.8
PERU, Trujillo (1990-2002)	99	42.5	47.5	37.6	128	40.4	47.3	33.9	52.8	37.6	34.3	33.1
USA, Puerto Rico (1992-2012)	682	40.1	43.6	36.5	852	37.1	40.7	33.4	57.3	30.5	27.9	26.7
URUGUAY (1993-2012)	654	44.7	51.2	37.9	800	41.0	46.7	34.9	62.4	36.5	30.1	28.1
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	5884	54.6	58.2	50.9	6963	48.1	52.0	44.1	86.5	40.9	27.5	25.7
USA (1998-2012)	44596	52.3	56.1	48.3	54132	47.3	51.6	42.8	80.0	39.5	29.5	30.1
USA, API (1998-2012)	1988	45.8	49.7	41.7	2373	41.1	45.3	36.8	68.0	36.5	26.4	25.0
USA, Black (1998-2012)	4380	30.7	34.0	27.4	5496	28.7	31.8	25.5	42.2	23.5	23.5	21.8
USA, Hispanic White (1998-2012)	10515	63.6	67.7	59.4	12649	58.6	63.9	53.0	91.1	51.2	40.9	41.3
USA, Native American (1998-2012)	443	32.1	35.0	29.2	562	30.2	32.8	27.5	48.7	23.8	19.3	23.4
USA, White NH (1998-2012)	26101	53.5	57.3	49.4	31696	48.0	52.2	43.5	84.7	39.4	27.4	29.0
USA, NPCR (1998-2012)	42644	52.3	56.1	48.2	51775	47.3	51.6	42.8	79.9	39.5	29.5	30.2
USA, SEER 18 (1993-2012)	14724	54.3	58.2	50.2	17767	49.2	53.4	44.7	82.8	41.1	30.9	31.6
USA, Hawaii, Hawaiian (1993-2012)	80	50.8	52.2	49.4	90	43.9	43.9	43.8	71.4	41.2	34.0	20.0
ASIA												
BAHRAIN (1998-2012)	132	43.4	50.1	36.3	157	39.7	45.5	33.7	61.8	33.2	30.2	27.2
CHINA, 6 registries (1990-2013)	2571	49.1	54.2	43.6	3424	44.8	49.9	39.5	70.3	38.4	32.7	30.1
CHINA, Hong Kong (1990-2013)	1167	51.5	56.4	46.2	1426	45.5	50.3	40.4	78.8	36.2	32.0	24.9
INDIA, 7 registries (1990-2013)	6019	36.3	44.2	27.7	7630	33.8	41.3	25.6	43.7	35.1	27.9	25.3
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	164	47.4	57.9	36.4	215	43.5	53.0	33.7	48.7	55.1	37.1	30.2
ISRAEL (1990-2012)	1552	38.1	42.1	33.9	1888	35.7	40.1	31.1	50.7	33.1	26.9	27.5
ISRAEL, Jews (1990-2012)	1132	38.3	42.4	34.0	1385	35.8	40.6	30.8	50.6	34.3	26.5	27.3
ISRAEL, Non-Jews (1990-2012)	420	37.6	41.4	33.6	503	35.5	38.8	32.0	50.9	30.0	28.3	28.2
JAPAN, 8 registries (1990-2013)	2555	44.6	46.8	42.2	3199	40.5	43.4	37.5	63.4	36.7	28.1	26.6
JORDAN, Jordanians (2000-2012)	868	32.7	36.8	28.3	1085	31.4	35.7	26.9	41.8	28.7	24.9	27.2
REPUBLIC OF KOREA (1999-2012)	5555	46.8	51.5	41.7	7130	43.6	48.5	38.3	66.1	36.4	32.7	32.7
KUWAIT (1994-2012)	523	43.5	48.1	38.7	680	44.6	47.9	41.1	57.3	30.2	39.8	48.4
KUWAIT, Kuwaitis (1994-2012)	310	43.7	49.5	37.7	404	45.1	48.1	42.1	57.5	28.1	42.7	50.0
KUWAIT, Non-Kuwaitis (1994-2012)	213	43.1	46.0	40.0	276	43.8	47.5	39.6	56.9	33.1	35.7	46.3
LEBANON (2008-2010)	168	48.2	53.2	42.9	203	43.7	49.7	37.4	57.0	51.6	32.8	28.2
PAKISTAN, Karachi (1995-2002)	152	26.7	33.7	19.2	202	28.5	34.2	22.3	27.4	27.9	24.4	34.7
PAKISTAN, Lahore (2008-2012)	499	27.0	34.2	19.4	554	23.2	29.6	16.5	30.1	23.4	27.0	10.2
PHILIPPINES, 2 registries (1993-2012)	4170	56.0	64.2	47.5	5030	51.5	59.3	43.6	72.3	53.0	37.8	35.8
QATAR (2002-2014)	81	27.6	27.6	27.5	104	27.8	29.5	25.5	37.2	25.1	17.5	28.8
SAUDI ARABIA, Riyadh (1994-2012)	1424	43.2	47.7	38.5	1706	40.8	46.1	35.2	60.1	36.0	28.6	32.4
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	1123	41.1	46.3	35.7	1351	38.7	44.8	32.4	56.5	34.7	27.5	30.5
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	301	53.2	54.5	51.8	355	51.2	52.9	49.4	76.2	42.4	34.5	44.3
THAILAND, 6 registries (1993-2013)	1668	44.6	50.1	38.7	2055	39.9	45.0	34.6	62.1	36.4	30.2	24.0
TURKEY, paediatric (2009-2011)	1790	33.2	36.5	29.7	-	-	-	-	47.9	26.7	20.9	-
TURKEY, 8 registries (1992-2012)	1971	53.3	59.2	47.2	2382	47.8	53.3	42.0	81.1	40.1	31.0	28.8
VIET NAM, Ho Chi Minh City (1995-2013)	1025	43.8	47.1	40.4	1191	37.3	40.3	34.1	63.3	34.6	28.3	14.7
EUROPE												
AUSTRIA (1990-2012)	1428	49.4	54.5	44.0	1717	44.1	49.3	38.7	73.1	39.6	28.7	25.9
BELARUS, paediatric (1990-2014)	1833	44.4	46.9	41.9	2255	39.7	43.0	36.3	65.1	36.7	25.6	23.4
BELGIUM (2004-2013)	858	49.1	53.7	44.3	1054	45.0	49.9	39.8	72.4	35.8	32.8	30.7
BULGARIA (1990-2013)	1233	43.4	48.7	37.8	1474	37.9	42.6	33.0	60.4	38.4	26.3	19.0
CROATIA (2001-2014)	528	60.3	69.7	50.5	615	52.2	60.6	43.5	89.7	45.9	37.2	24.4
CYPRUS, South-West (1998-2012)	120	58.0	67.9	47.5	156	54.1	60.0	47.7	79.8	52.4	35.0	40.6
CZECH REPUBLIC (1990-2012)	1751	47.7	52.6	42.6	2144	42.3	47.3	37.0	73.8	35.0	27.0	23.6
ESTONIA (1990-2012)	229	42.4	39.7	45.4	287	38.7	37.2	40.4	64.6	30.0	26.8	26.1

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of leukaemia in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.2. Leukaemias, myeloproliferative diseases, and myelodysplastic diseases (I): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	6443	45.6	49.3	41.8	-	-	-	-	65.2	37.5	28.5	-
FRANCE, paediatric, haematological malignancies (1990-1999)	4640	43.4	47.3	39.3	-	-	-	-	63.6	36.1	24.6	-
FRANCE, 13 registries (1993-2012)	1342	45.2	49.0	41.2	1658	41.5	45.5	37.2	67.0	37.3	25.0	28.6
GERMANY, paediatric (1996-2012)	10336	54.6	58.7	50.2	-	-	-	-	82.0	43.2	30.5	-
GERMANY, 6 Eastern states (2001-2007)	632	50.0	54.0	45.9	816	44.3	48.5	39.7	76.5	37.7	28.4	24.4
GERMANY, 5 Western registries (1994-2012)	2428	52.9	57.8	47.6	2981	47.6	52.7	42.2	77.8	41.3	32.5	29.6
GREECE, paediatric, haematological neoplasms (1996-2014)	1609	54.4	59.9	48.7	-	-	-	-	85.2	41.4	27.8	-
HUNGARY, paediatric (1991-2014)	1625	43.6	48.2	38.7	-	-	-	-	64.5	37.2	22.8	-
ICELAND (1990-2014)	66	42.6	43.9	41.2	80	38.7	40.4	37.0	70.3	27.7	22.1	25.6
IRELAND (1994-2012)	760	48.1	49.4	46.7	917	43.2	44.3	42.1	72.9	36.3	28.1	26.5
ITALY, 2 paediatric registries (1998-2011)	476	58.9	63.3	54.2	578	53.6	57.7	49.2	86.9	44.8	37.2	35.4
ITALY, Piedmont, paediatric (1990-2011)	683	60.9	65.1	56.5	-	-	-	-	89.1	48.1	37.7	-
ITALY, 26 registries (1992-2013)	2304	58.4	63.3	53.1	2803	52.7	58.1	47.0	81.3	50.7	36.3	33.1
LITHUANIA (2000-2012)	322	51.2	49.4	53.2	410	45.9	44.9	47.0	79.8	42.9	22.3	27.7
MALTA (1994-2013)	83	60.7	70.3	50.6	101	54.2	65.3	42.5	77.8	58.7	40.0	32.1
THE NETHERLANDS (1993-2013)	2847	48.8	55.2	42.1	3355	43.5	49.3	37.3	73.7	37.5	28.2	25.1
NORWAY (1990-2013)	1024	50.8	52.2	49.2	1200	45.0	47.0	42.8	80.4	36.2	27.5	25.1
POLAND (2001-2013)	3118	42.0	45.7	38.1	3861	37.2	41.0	33.2	64.3	32.8	22.6	20.7
PORTUGAL (1991-2012)	1158	44.6	49.0	39.9	1400	39.9	43.5	36.1	59.6	40.0	29.6	23.6
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	353	44.8	49.1	40.2	-	-	-	-	73.3	31.4	21.5	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	491	45.7	45.9	45.5	586	39.7	40.4	38.9	66.5	40.2	24.2	18.7
SLOVAKIA (1990-2009)	800	40.8	46.4	34.8	994	36.6	42.0	30.9	61.0	32.0	23.6	22.2
SLOVAKIA, paediatric (2000-2012)	484	44.4	49.6	39.0	-	-	-	-	64.7	36.7	25.9	-
SLOVENIA (1991-2012)	274	42.8	41.6	44.0	361	40.0	40.3	39.6	70.9	26.5	23.2	30.2
SPAIN, 2 paediatric registries (1991-2013)	2233	48.0	53.0	42.6	-	-	-	-	68.3	40.3	29.3	-
SPAIN, selected regions, paediatric (2000-2013)	1588	46.8	52.4	40.9	-	-	-	-	64.0	40.7	30.6	-
SPAIN, Valencia, paediatric (1991-2010)	645	51.8	55.5	47.9	-	-	-	-	81.0	39.5	26.5	-
SPAIN, 11 registries (1990-2013)	1511	50.3	56.6	43.7	1867	45.1	51.0	38.8	73.5	40.5	30.2	27.1
SWEDEN (1990-2011)	1729	52.0	54.9	49.0	2001	45.3	48.4	42.2	81.9	37.8	28.1	22.2
SWITZERLAND, paediatric (1990-2013)	1464	53.4	61.6	44.7	-	-	-	-	80.7	41.8	29.8	-
SWITZERLAND, 7 registries (1990-2013)	551	54.8	63.9	45.1	628	47.2	55.1	38.9	85.7	39.1	30.9	21.1
UKRAINE (2002-2012)	3354	47.9	54.4	41.1	4328	43.1	48.9	37.1	70.1	41.9	25.2	26.6
UK (2000-2011)	5753	46.3	50.5	41.9	6881	41.3	45.8	36.6	71.0	34.8	26.0	24.2
UK, England and Wales, paediatric (1991-2010)	8718	46.9	51.0	42.5	-	-	-	-	71.7	35.7	26.2	-
OCEANIA												
AUSTRALIA (1992-2014)	4625	55.5	59.1	51.6	5580	50.2	54.5	45.6	85.2	42.1	30.5	32.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	87	37.0	33.7	40.6	106	35.4	33.7	37.2	53.2	28.7	24.8	29.8
FRANCE, 2 registries (1990-2013)	124	43.0	48.5	37.1	152	39.7	46.5	32.5	64.4	32.1	26.5	28.4
NEW ZEALAND (1993-2012)	926	55.1	59.9	50.2	1126	50.4	56.3	44.3	82.4	42.7	32.5	34.2
NEW ZEALAND, Maori (1993-2012)	197	46.3	53.4	38.9	246	45.0	53.3	36.5	68.0	35.1	29.9	40.5
NEW ZEALAND, Pacific peoples (1993-2012)	109	71.5	80.2	62.4	137	69.6	80.3	58.6	88.1	76.0	44.3	63.1
NEW ZEALAND, Other (1993-2012)	620	56.5	59.9	52.9	743	50.4	55.0	45.6	87.6	41.1	32.1	29.4
NEW ZEALAND, paediatric (2000-2012)	607	55.3	59.0	51.3	-	-	-	-	83.6	42.8	31.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	123	43.8	52.9	34.2	-	-	-	-	58.9	38.5	29.5	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	484	59.3	61.5	57.1	-	-	-	-	92.6	44.2	31.8	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of leukaemia in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.3. Lymphomas and reticuloendothelial neoplasms (II): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	310	17.3	23.7	10.6	563	21.8	25.9	17.4	13.0	17.9	22.2	37.2
BOTSWANA (1999-2007)	45	7.8	10.1	5.4	64	8.4	11.1	5.7	5.7	10.0	8.1	10.7
CAMEROON, Yaoundé (2004-2006)	202	84.6	100.9	69.2	234	77.4	89.6	65.8	49.9	119.8	91.9	52.4
EGYPT, Gharbiah (1999-2010)	470	31.3	44.6	17.4	673	32.6	44.7	19.9	32.6	35.0	25.5	37.0
FRANCE, Réunion (1990-2011)	52	11.1	10.6	11.6	99	16.0	16.9	15.0	6.2	9.5	19.5	32.7
KENYA, 2 registries (2000-2012)	304	28.4	37.6	19.2	388	28.4	37.6	19.6	17.2	36.5	34.2	28.4
LIBYA, Benghazi (2003-2008)	53	17.7	22.9	12.3	80	19.8	22.5	16.9	11.8	25.1	17.2	26.9
MALI, Bamako (2005-2014)	232	31.9	44.1	20.7	285	29.3	42.5	18.1	10.0	40.7	51.1	20.7
MAURITIUS (2001-2013)	42	10.6	14.2	6.9	74	13.7	18.8	8.4	6.9	11.8	14.2	24.3
MOROCCO, 2 registries (2005-2012)	187	20.2	26.5	13.7	338	26.1	31.7	20.4	12.4	25.8	24.4	46.5
SOUTH AFRICA, paediatric (1998-2012)	1357	6.1	8.5	3.7	-	-	-	-	4.7	7.7	6.1	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	34	8.2	10.0	6.4	-	-	-	-	4.8	10.0	10.7	-
SOUTH AFRICA, paediatric, Black (1998-2012)	1017	5.5	7.7	3.3	-	-	-	-	4.5	6.8	5.3	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	172	9.0	12.7	5.3	-	-	-	-	6.9	12.6	7.9	-
SOUTH AFRICA, paediatric, White (1998-2012)	134	10.5	14.5	6.3	-	-	-	-	5.3	14.2	13.2	-
TUNISIA, 2 registries (1993-2007)	333	16.8	22.3	11.1	558	20.3	25.2	15.2	10.5	21.7	19.9	32.3
UGANDA, Kyadondo (1996-2013)	688	51.0	62.6	40.8	793	44.8	56.0	35.3	30.7	79.8	46.1	23.4
ZIMBABWE, Harare, African (1995-2013)	156	18.5	25.4	12.0	218	19.1	26.1	12.7	10.4	22.5	25.0	21.0
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	2148	14.6	19.2	9.8	-	-	-	-	12.3	15.3	16.9	-
ARGENTINA, 6 registries (1991-2013)	430	19.2	23.7	14.6	645	21.4	25.3	17.3	16.3	20.6	21.6	28.9
BRAZIL, 5 registries (1995-2012)	361	18.9	26.0	11.6	642	23.3	29.9	16.5	13.9	20.3	23.9	38.3
CHILE, paediatric (2007-2011)	235	12.1	16.4	7.5	-	-	-	-	8.0	14.3	15.0	-
CHILE, 4 registries (1998-2012)	71	15.4	22.8	7.7	117	18.0	25.4	10.3	13.5	17.3	15.8	27.1
COLOMBIA, 4 registries (1992-2013)	359	20.3	27.5	12.9	528	21.9	28.9	14.8	17.4	23.4	20.7	27.3
COSTA RICA (1993-2012)	413	16.7	21.8	11.3	681	20.5	24.8	16.0	11.2	18.7	21.7	33.7
CUBA (2000-2012)	618	22.6	30.7	13.9	919	24.0	31.1	16.5	21.7	22.4	23.9	29.0
ECUADOR, 5 registries (1993-2013)	417	19.0	24.1	13.8	606	20.5	25.8	15.1	17.7	21.2	18.3	25.6
FRANCE, 3 registries (1990-2012)	33	9.8	14.0	5.4	60	13.3	16.3	10.2	4.9	8.6	17.6	25.5
HONDURAS, Francisco Morazán (2002-2012)	61	11.5	15.6	7.3	78	11.5	15.4	7.4	5.0	10.4	21.3	11.4
JAMAICA, Kingston and St Andrew (1982-2012)	65	10.5	13.2	7.8	101	12.1	15.6	8.8	5.2	11.4	16.6	17.8
MEXICO, Mexico City, paediatric (1997-2013)	178	14.8	19.7	9.7	-	-	-	-	13.5	14.4	16.9	-
PERU, Lima (2010-2012)	117	16.4	21.8	10.7	165	16.8	21.7	11.7	14.4	16.7	18.7	18.2
PERU, Trujillo (1990-2002)	42	17.3	23.2	11.4	53	16.3	20.2	12.2	15.1	16.8	20.8	12.6
USA, Puerto Rico (1992-2012)	254	13.4	18.2	8.3	506	19.3	23.5	14.9	8.1	13.5	20.2	39.6
URUGUAY (1993-2012)	297	18.8	24.7	12.6	481	22.5	27.1	17.8	13.4	22.5	21.9	35.5
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	2065	16.9	21.4	12.1	4500	26.1	30.5	21.4	11.1	15.0	26.7	58.0
USA (1998-2012)	15285	16.1	20.3	11.8	30783	23.5	27.5	19.4	10.9	14.8	24.5	49.0
USA, API (1998-2012)	618	13.4	17.1	9.6	1080	17.2	20.7	13.6	11.0	12.5	17.7	30.0
USA, Black (1998-2012)	2122	13.4	16.7	9.9	4128	19.2	22.6	15.6	6.9	12.2	23.2	39.1
USA, Hispanic White (1998-2012)	2895	16.9	20.9	12.8	4790	21.4	25.2	17.3	13.4	16.3	22.3	36.7
USA, Native American (1998-2012)	118	8.0	11.1	4.8	201	9.9	12.1	7.5	8.4	5.2	10.6	16.3
USA, White NH (1998-2012)	9100	16.3	20.5	11.8	19759	25.0	29.1	20.7	10.7	14.7	25.4	55.2
USA, NPCR (1998-2012)	14620	16.1	20.3	11.8	29457	23.5	27.5	19.4	11.0	14.8	24.5	49.0
USA, SEER 18 (1993-2012)	4805	16.0	20.1	11.8	9493	23.4	27.2	19.3	10.3	15.0	24.8	48.7
USA, Hawaii, Hawaiian (1993-2012)	27	15.9	24.0	7.4	40	18.2	24.7	11.3	7.1	18.7	24.5	26.0
ASIA												
BAHRAIN (1998-2012)	53	16.6	21.9	10.9	92	22.4	26.0	18.6	11.1	19.9	20.2	42.5
CHINA, 6 registries (1990-2013)	559	9.5	12.4	6.4	1134	11.9	14.9	8.7	7.9	8.7	12.4	20.3
CHINA, Hong Kong (1990-2013)	282	11.1	14.5	7.5	549	14.4	18.3	10.3	11.1	10.2	12.3	25.7
INDIA, 7 registries (1990-2013)	2432	13.6	19.6	7.0	3426	14.1	19.8	7.7	8.8	17.9	15.3	15.6
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	44	10.6	15.1	6.0	96	15.2	20.3	9.8	2.7	8.4	23.7	30.7
ISRAEL (1990-2012)	1098	26.1	32.5	19.4	1956	36.0	40.4	31.4	18.8	28.4	33.3	70.2
ISRAEL, Jews (1990-2012)	782	25.5	31.8	18.9	1466	36.4	40.7	31.9	18.8	27.2	32.5	73.8
ISRAEL, Non-Jews (1990-2012)	316	27.7	34.3	20.7	490	34.7	39.4	29.8	18.8	31.3	35.5	59.1
JAPAN, 8 registries (1990-2013)	711	11.6	14.4	8.6	1071	12.3	15.2	9.3	10.9	11.5	12.6	14.9
JORDAN, Jordanians (2000-2012)	412	14.8	19.3	10.0	735	20.5	22.7	18.3	9.6	16.9	19.3	40.4
REPUBLIC OF KOREA (1999-2012)	1841	14.5	18.0	10.6	2834	15.8	19.7	11.6	14.9	12.6	15.9	20.6
KUWAIT (1994-2012)	313	26.0	31.9	19.9	424	27.8	33.0	22.5	33.3	22.0	20.6	34.2
KUWAIT, Kuwaitis (1994-2012)	179	25.2	30.2	20.0	244	27.3	30.7	23.8	31.2	21.4	21.4	34.5
KUWAIT, Non-Kuwaitis (1994-2012)	134	27.1	34.2	19.6	180	28.6	36.0	20.6	36.3	22.9	19.5	33.8
LEBANON (2008-2010)	89	22.1	28.1	15.8	196	36.5	44.7	27.9	6.6	31.8	32.0	86.2
PAKISTAN, Karachi (1995-2002)	119	20.2	29.5	10.4	170	23.7	33.3	13.1	9.0	26.9	27.9	35.4
PAKISTAN, Lahore (2008-2012)	266	13.7	20.1	6.9	351	14.1	20.6	7.3	7.7	19.6	15.0	15.8
PHILIPPINES, 2 registries (1993-2012)	626	8.3	10.1	6.4	1007	10.0	11.9	8.0	6.9	7.5	10.9	15.9
QATAR (2002-2014)	65	22.0	26.7	16.9	109	29.4	33.0	25.6	19.0	20.1	28.0	55.1
SAUDI ARABIA, Riyadh (1994-2012)	642	18.7	23.4	13.9	1052	25.1	29.1	21.0	10.7	20.0	27.9	47.2
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	533	18.6	23.2	14.0	893	25.3	28.8	21.7	10.2	20.8	27.4	48.2
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	109	19.2	24.5	13.5	159	24.1	30.7	17.0	13.1	16.0	30.8	41.1
THAILAND, 6 registries (1993-2013)	413	10.2	12.8	7.5	686	11.7	14.8	8.6	8.6	10.4	12.1	16.9
TURKEY, paediatric (2009-2011)	867	14.9	21.0	8.4	-	-	-	-	10.6	17.3	17.9	-
TURKEY, 8 registries (1992-2012)	867	21.3	28.0	14.3	1330	23.8	30.4	16.9	16.1	24.7	24.5	32.4
VIET NAM, Ho Chi Minh City (1995-2013)	281	11.5	14.5	8.2	370	10.7	13.4	7.9	10.5	12.5	11.8	7.9
EUROPE												
AUSTRIA (1990-2012)	518	15.8	20.5	10.9	1049	23.0	27.7	18.0	8.7	15.7	25.4	47.6
BELARUS, paediatric (1990-2014)	849	18.1	24.5	11.3	1736	25.1	29.9	20.0	12.5	18.6	24.8	49.2
BELGIUM (2004-2013)	500	26.9	33.3	20.3	942	36.5	42.6	30.1	23.6	24.9	33.6	69.3
BULGARIA (1990-2013)	564	18.1	24.6	11.3	938	20.7	26.2	14.8	14.9	19.5	20.8	29.5
CROATIA (2001-2014)	223	23.1	30.5	15.3	415	30.1	35.9	23.9	19.8	19.7	31.4	53.8
CYPRUS, South-West (1998-2012)	59	23.8	32.5	14.7	139	38.8	41.5	35.8	4.4	30.4	42.4	90.2
CZECH REPUBLIC (1990-2012)	843	20.2	28.0	12.0	1739	27.8	34.3	20.9	14.6	20.1	28.0	53.8
ESTONIA (1990-2012)	106	17.1	21.6	12.3	224	25.2	29.4	20.7	10.1	17.6	25.8	53.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of lymphoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.3. Lymphomas and reticuloendothelial neoplasms (II): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	2568	16.4	21.2	11.4	-	-	-	-	7.9	15.8	28.5	-
FRANCE, paediatric, haematological malignancies (1990-1999)	1643	13.7	17.7	9.6	-	-	-	-	7.1	14.9	21.3	-
FRANCE, 13 registries (1993-2012)	661	20.0	25.2	14.5	1272	27.9	30.8	24.8	11.3	18.3	33.4	55.3
GERMANY, paediatric (1996-2012)	3442	15.4	20.2	10.4	-	-	-	-	6.8	16.6	25.7	-
GERMANY, 6 Eastern states (2001-2007)	215	14.8	17.8	11.6	585	22.5	24.5	20.4	8.4	14.7	23.3	49.1
GERMANY, 5 Western registries (1994-2012)	912	16.8	21.5	11.8	1854	24.4	28.7	19.8	7.9	18.0	27.4	50.4
GREECE, paediatric, haematological neoplasms (1996-2014)	532	15.7	22.0	9.2	-	-	-	-	8.2	17.2	24.1	-
HUNGARY, paediatric (1991-2014)	648	15.0	20.0	9.7	-	-	-	-	8.0	15.8	23.4	-
ICELAND (1990-2014)	21	12.5	19.9	4.7	58	24.9	36.4	12.9	7.2	18.5	12.9	67.6
IRELAND (1994-2012)	259	14.7	18.3	10.8	575	23.3	26.6	19.9	7.8	13.4	25.3	53.2
ITALY, 2 paediatric registries (1998-2011)	197	22.0	30.6	12.8	460	37.6	44.3	30.5	9.8	18.6	41.9	91.4
ITALY, Piedmont, paediatric (1990-2011)	263	20.9	29.3	12.0	-	-	-	-	10.6	17.3	38.6	-
ITALY, 26 registries (1992-2013)	1123	25.7	31.9	19.2	2346	38.2	44.0	32.1	13.1	23.3	45.4	81.2
LITHUANIA (2000-2012)	109	14.1	16.4	11.8	250	21.0	24.0	17.8	11.4	10.1	22.3	44.4
MALTA (1994-2013)	32	21.8	32.0	11.0	63	29.3	38.8	19.2	22.9	12.6	30.5	55.2
THE NETHERLANDS (1993-2013)	1069	16.8	21.6	11.7	2167	25.2	29.0	21.2	11.0	15.8	25.5	54.2
NORWAY (1990-2013)	348	15.9	21.3	10.2	693	23.4	28.2	18.3	11.6	13.7	24.1	49.2
POLAND (2001-2013)	1282	14.8	18.8	10.6	2727	20.6	23.4	17.6	8.8	15.2	22.4	40.3
PORTUGAL (1991-2012)	646	22.8	28.5	16.9	1265	31.3	36.7	25.6	15.7	22.2	33.0	60.4
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	147	14.5	18.7	10.0	-	-	-	-	5.2	13.0	28.4	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	220	18.4	21.6	15.0	455	24.6	26.5	22.7	13.7	15.9	27.4	46.2
SLOVAKIA (1990-2009)	413	18.5	21.9	14.8	771	23.5	25.8	21.1	13.5	20.8	22.5	41.0
SLOVAKIA, paediatric (2000-2012)	196	15.4	18.7	11.9	-	-	-	-	9.3	15.1	23.9	-
SLOVENIA (1991-2012)	137	18.2	24.4	11.7	279	25.2	29.2	21.0	11.6	17.4	27.9	49.4
SPAIN, 2 paediatric registries (1991-2013)	937	18.9	25.5	11.8	-	-	-	-	11.3	20.3	27.3	-
SPAIN, selected regions, paediatric (2000-2013)	673	19.0	25.8	11.8	-	-	-	-	9.5	22.6	27.7	-
SPAIN, Valencia, paediatric (1991-2010)	264	18.8	25.2	12.0	-	-	-	-	16.7	14.3	26.5	-
SPAIN, 11 registries (1990-2013)	694	20.6	26.9	14.0	1479	29.4	36.1	22.4	14.0	19.8	30.2	59.8
SWEDEN (1990-2011)	485	13.2	17.9	8.2	999	19.7	23.6	15.6	7.8	13.8	19.6	42.0
SWITZERLAND, paediatric (1990-2013)	550	18.0	22.6	13.1	-	-	-	-	11.3	16.3	28.7	-
SWITZERLAND, 7 registries (1990-2013)	230	20.9	27.9	13.6	466	30.8	34.4	26.9	14.7	20.1	30.1	64.8
UKRAINE (2002-2012)	1230	15.6	20.4	10.5	2868	22.2	25.9	18.2	13.6	13.4	20.8	44.8
UK (2000-2011)	1972	14.0	18.7	9.1	4093	21.1	25.5	16.5	7.2	13.6	23.5	45.5
UK, England and Wales, paediatric (1991-2010)	2782	13.4	18.0	8.6	-	-	-	-	6.9	13.4	22.1	-
OCEANIA												
AUSTRALIA (1992-2014)	1499	16.3	21.8	10.5	3052	24.3	29.5	18.9	10.3	15.3	25.4	52.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	28	11.6	16.2	6.8	43	14.2	18.7	9.5	8.1	15.0	12.4	23.5
FRANCE, 2 registries (1990-2013)	41	12.8	16.4	9.0	62	14.7	17.6	11.6	6.0	16.5	17.7	21.3
NEW ZEALAND (1993-2012)	243	13.1	16.5	9.6	471	19.0	22.4	15.4	6.6	14.2	20.6	39.0
NEW ZEALAND, Maori (1993-2012)	56	12.8	17.4	7.9	87	15.7	18.3	12.9	10.2	14.0	14.9	25.6
NEW ZEALAND, Pacific peoples (1993-2012)	20	12.7	13.7	11.7	32	16.0	16.7	15.2	7.2	17.5	14.8	27.1
NEW ZEALAND, Other (1993-2012)	167	13.1	16.2	9.9	352	20.1	23.9	16.1	5.1	13.8	23.2	44.2
NEW ZEALAND, paediatric (2000-2012)	163	13.3	16.6	9.8	-	-	-	-	7.1	13.9	20.9	-
NEW ZEALAND, paediatric, Maori (2000-2012)	31	10.7	15.6	5.5	-	-	-	-	8.8	9.6	14.2	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	132	14.1	16.8	11.2	-	-	-	-	6.4	15.3	22.9	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of lymphoma in a dataset
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Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.4. CNS and miscellaneous intracranial and intraspinal neoplasms (III): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	224	12.9	14.5	11.1	313	12.9	14.0	11.7	11.8	14.3	12.6	13.1
BOTSWANA (1999-2007)	32	5.3	6.2	4.4	38	4.9	5.8	3.9	1.5	7.4	8.1	3.4
CAMEROON, Yaoundé (2004-2006)	*4*	*1.7*	*1.7*	*1.6*	*5*	*1.7*	*1.3*	*2.0*	*2.2*	*2.5*	*0.0*	*1.6*
EGYPT, Gharbiah (1999-2010)	276	18.3	18.1	18.5	352	17.3	17.9	16.7	18.1	20.6	15.9	13.9
FRANCE, Réunion (1990-2011)	65	15.1	17.6	12.5	80	14.1	16.4	11.6	17.8	17.6	8.7	10.4
KENYA, 2 registries (2000-2012)	71	6.6	6.5	6.7	89	6.5	6.6	6.5	5.1	6.5	8.8	6.1
LIBYA, Benghazi (2003-2008)	47	15.9	16.3	15.5	56	14.4	16.1	12.5	16.7	14.7	16.2	9.0
MALI, Bamako (2005-2014)	22	3.0	3.6	2.4	27	2.8	3.4	2.2	2.9	3.8	2.4	2.0
MAURITIUS (2001-2013)	42	11.4	9.3	13.6	61	12.1	10.9	13.3	12.9	12.6	8.2	14.4
MOROCCO, 2 registries (2005-2012)	173	19.3	24.5	13.9	207	17.3	21.4	13.2	17.1	24.4	16.6	10.5
SOUTH AFRICA, paediatric (1998-2012)	1300	6.0	6.4	5.7	-	-	-	-	6.9	7.1	3.7	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	34	8.7	8.1	9.3	-	-	-	-	8.9	9.3	7.8	-
SOUTH AFRICA, paediatric, Black (1998-2012)	850	4.7	4.9	4.5	-	-	-	-	5.1	5.6	3.1	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	245	13.2	14.5	11.9	-	-	-	-	14.4	17.2	7.3	-
SOUTH AFRICA, paediatric, White (1998-2012)	171	15.4	17.0	13.8	-	-	-	-	23.2	14.2	6.4	-
TUNISIA, 2 registries (1993-2007)	274	14.5	16.4	12.5	358	14.0	15.4	12.5	12.9	19.0	11.7	12.1
UGANDA, Kyadondo (1996-2013)	46	3.4	3.3	3.5	56	3.2	3.4	3.0	3.0	4.0	3.3	2.2
ZIMBABWE, Harare, African (1995-2013)	109	12.9	13.7	12.2	133	11.8	14.1	10.0	8.5	15.3	16.1	8.1
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	3396	23.8	26.4	21.1	-	-	-	-	27.0	24.5	18.9	-
ARGENTINA, 6 registries (1991-2013)	520	24.0	27.0	20.9	630	21.9	24.6	19.2	26.3	26.1	18.8	14.8
BRAZIL, 5 registries (1995-2012)	451	24.8	25.5	24.1	577	23.1	23.6	22.6	26.0	27.6	20.1	17.2
CHILE, paediatric (2007-2011)	373	20.4	22.4	18.2	-	-	-	-	23.8	19.7	16.6	-
CHILE, 4 registries (1998-2012)	105	24.3	26.8	21.7	127	21.8	23.9	19.5	35.4	15.9	18.8	12.9
COLOMBIA, 4 registries (1992-2013)	434	25.2	25.3	25.0	537	23.3	24.4	22.2	27.5	25.1	22.2	16.6
COSTA RICA (1993-2012)	430	18.4	18.7	18.2	523	16.9	17.0	16.8	20.5	20.7	13.2	11.7
CUBA (2000-2012)	565	21.1	23.0	19.1	679	18.8	20.4	17.1	23.0	21.0	18.7	11.0
ECUADOR, 5 registries (1993-2013)	385	17.9	18.0	17.9	478	16.7	17.1	16.4	19.9	20.6	12.3	12.6
FRANCE, 3 registries (1990-2012)	66	21.7	22.9	20.5	84	20.6	21.9	19.3	28.5	18.1	16.6	17.0
HONDURAS, Francisco Morazán (2002-2012)	80	15.3	14.4	16.3	99	14.8	13.9	15.6	11.1	16.8	19.4	12.7
JAMAICA, Kingston and St Andrew (1982-2012)	61	10.5	8.0	13.1	80	10.3	9.0	11.6	10.0	14.0	7.5	9.4
MEXICO, Mexico City, paediatric (1997-2013)	221	18.9	19.9	17.8	-	-	-	-	21.8	19.2	14.6	-
PERU, Lima (2010-2012)	212	30.2	29.5	31.0	284	29.6	28.4	30.8	30.6	33.3	26.4	27.3
PERU, Trujillo (1990-2002)	39	16.2	21.0	11.4	51	15.7	19.6	11.7	10.1	27.2	12.3	13.7
USA, Puerto Rico (1992-2012)	466	26.5	30.5	22.4	599	25.3	28.7	21.7	30.2	26.5	21.6	20.9
URUGUAY (1993-2012)	382	25.6	27.5	23.5	443	22.5	24.5	20.4	30.5	25.6	19.0	11.8
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	3688	32.5	34.2	30.7	4730	30.8	32.1	29.3	37.5	31.5	26.9	24.8
USA (1998-2012)	35402	39.8	41.6	37.8	46710	38.9	39.7	37.9	45.1	38.6	33.9	35.7
USA, API (1998-2012)	1103	24.8	25.7	24.0	1438	24.1	24.5	23.7	29.0	24.7	19.3	21.8
USA, Black (1998-2012)	4502	30.8	31.8	29.9	5924	30.1	30.1	30.1	34.0	31.6	25.8	27.7
USA, Hispanic White (1998-2012)	5687	33.9	34.9	32.9	7294	33.3	33.2	33.4	38.7	33.0	28.6	31.1
USA, Native American (1998-2012)	266	18.3	19.9	16.7	384	19.4	19.9	18.9	18.5	19.0	17.3	23.2
USA, White NH (1998-2012)	22844	44.1	46.5	41.6	30331	42.9	44.5	41.3	50.6	42.2	37.8	38.8
USA, NPCR (1998-2012)	34047	40.0	41.8	38.1	45089	39.2	40.0	38.3	45.1	38.8	34.3	36.5
USA, SEER 18 (1993-2012)	9247	33.0	34.9	31.1	11202	30.2	32.0	28.3	39.3	32.5	25.3	20.3
USA, Hawaii, Hawaiian (1993-2012)	49	30.3	39.0	21.0	58	27.5	35.5	19.1	30.3	33.7	26.4	18.0
ASIA												
BAHRAIN (1998-2012)	59	18.8	20.4	17.0	71	17.5	19.1	15.7	18.4	15.2	23.2	13.1
CHINA, 6 registries (1990-2013)	1202	21.6	22.8	20.4	1707	20.8	22.2	19.2	22.6	22.5	19.3	17.8
CHINA, Hong Kong (1990-2013)	545	22.5	24.4	20.5	704	20.9	23.1	18.6	25.3	24.4	16.8	15.3
INDIA, 7 registries (1990-2013)	2217	12.8	15.2	10.2	2838	12.1	14.2	9.9	11.3	14.9	12.4	9.8
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	45	12.0	13.5	10.3	85	14.6	17.3	11.8	6.2	14.9	16.3	23.7
ISRAEL (1990-2012)	1281	31.0	34.3	27.6	1593	29.8	32.3	27.1	33.1	31.3	28.0	25.5
ISRAEL, Jews (1990-2012)	991	33.0	36.1	29.7	1218	31.1	33.4	28.5	33.8	34.3	30.4	24.5
ISRAEL, Non-Jews (1990-2012)	290	25.8	29.6	21.9	375	26.5	29.5	23.4	31.3	23.4	21.2	28.9
JAPAN, 8 registries (1990-2013)	1574	26.4	27.6	25.1	2012	24.5	25.4	23.6	29.4	25.9	22.8	18.1
JORDAN, Jordanians (2000-2012)	477	17.6	20.2	14.9	558	15.9	18.2	13.5	17.5	21.5	13.6	10.1
REPUBLIC OF KOREA (1999-2012)	2260	18.3	19.7	16.7	2908	17.2	18.7	15.6	21.1	18.1	14.9	13.4
KUWAIT (1994-2012)	133	11.0	12.1	9.9	185	12.1	12.4	11.8	12.1	9.7	11.0	16.0
KUWAIT, Kuwaitis (1994-2012)	87	12.2	14.0	10.4	122	13.7	14.2	13.1	14.5	9.2	12.5	18.6
KUWAIT, Non-Kuwaitis (1994-2012)	46	9.2	9.3	9.1	63	9.9	10.0	9.9	8.7	10.2	8.8	12.5
LEBANON (2008-2010)	74	21.0	24.4	17.4	91	19.3	21.7	16.8	24.7	18.3	19.0	13.7
PAKISTAN, Karachi (1995-2002)	77	13.0	14.1	11.9	108	14.9	17.0	12.6	4.5	17.8	19.2	21.5
PAKISTAN, Lahore (2008-2012)	172	9.0	11.3	6.6	241	9.9	12.1	7.5	7.4	10.1	10.1	12.8
PHILIPPINES, 2 registries (1993-2012)	896	11.8	13.7	9.9	1070	10.8	12.7	8.9	9.3	15.2	11.4	7.3
QATAR (2002-2014)	41	13.9	12.4	15.5	50	13.3	12.4	14.1	17.2	14.0	9.3	11.3
SAUDI ARABIA, Riyadh (1994-2012)	523	15.6	18.3	12.8	613	14.4	16.9	11.8	15.7	17.7	12.9	10.4
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	430	15.5	18.1	12.9	500	14.1	16.5	11.7	17.1	17.6	11.1	9.4
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	93	16.2	19.7	12.6	113	16.3	19.5	12.9	9.4	18.6	22.8	16.4
THAILAND, 6 registries (1993-2013)	606	15.3	16.8	13.8	754	13.9	15.4	12.4	14.8	17.2	14.1	9.2
TURKEY, paediatric (2009-2011)	753	13.7	14.2	13.1	-	-	-	-	15.5	15.7	8.9	-
TURKEY, 8 registries (1992-2012)	1168	29.7	30.3	29.1	1629	30.3	30.1	30.4	30.4	31.1	27.3	32.3
VIET NAM, Ho Chi Minh City (1995-2013)	288	11.9	13.6	10.0	365	10.7	12.2	9.2	11.6	12.5	11.5	6.8
EUROPE												
AUSTRIA (1990-2012)	1079	35.8	34.7	36.9	1356	33.3	33.7	33.0	41.3	34.0	30.5	24.9
BELARUS, paediatric (1990-2014)	1437	33.0	35.2	30.7	1744	29.4	31.3	27.4	36.1	34.2	27.5	17.0
BELGIUM (2004-2013)	844	46.9	49.4	44.3	1093	45.1	47.8	42.3	53.9	43.1	41.7	39.0
BULGARIA (1990-2013)	564	18.8	20.0	17.5	760	18.1	19.5	16.6	19.8	19.5	16.8	15.5
CROATIA (2001-2014)	415	45.5	49.3	41.6	573	45.2	48.5	41.8	53.6	42.0	38.7	44.3
CYPRUS, South-West (1998-2012)	52	25.2	20.8	29.9	64	22.6	20.1	25.2	35.5	22.1	15.0	13.5
CZECH REPUBLIC (1990-2012)	1323	34.0	37.5	30.4	1674	31.1	34.6	27.5	38.1	33.8	28.9	21.1
ESTONIA (1990-2012)	227	39.6	44.8	34.1	302	38.3	42.6	33.7	44.3	35.1	38.3	33.7

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of CNS tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.4. CNS and miscellaneous intracranial and intraspinal neoplasms (III): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	5426	37.4	39.7	35.1	-	-	-	-	43.2	36.6	30.8	-
FRANCE, 13 registries (1993-2012)	1071	34.6	38.7	30.2	1316	31.8	35.4	28.0	37.5	34.8	30.3	22.2
GERMANY, paediatric (1996-2012)	7199	36.1	38.7	33.4	-	-	-	-	41.2	36.4	29.1	-
GERMANY, 6 Eastern states (2001-2007)	295	22.5	22.5	22.5	406	20.8	21.1	20.5	24.8	24.7	17.1	14.7
GERMANY, 5 Western registries (1994-2012)	1553	32.4	34.8	29.8	1974	30.1	32.2	28.0	38.7	29.9	26.7	22.5
GREECE, paediatric, CNS tumours (2010-2014)	251	32.0	36.1	27.7	-	-	-	-	41.9	33.2	17.5	-
HUNGARY, paediatric (1991-2014)	1460	37.1	39.8	34.4	-	-	-	-	42.1	36.4	31.3	-
ICELAND (1990-2014)	70	42.2	46.7	37.5	88	40.1	46.6	33.2	39.7	35.1	53.4	32.9
IRELAND (1994-2012)	643	39.0	42.4	35.4	875	39.0	43.9	33.9	42.3	38.3	35.3	39.1
ITALY, 2 paediatric registries (1998-2011)	409	49.2	52.1	46.1	509	46.0	49.5	42.2	58.0	43.3	44.0	34.7
ITALY, Piedmont, paediatric (1990-2011)	543	46.6	50.1	42.8	-	-	-	-	49.7	46.6	42.4	-
ITALY, 26 registries (1992-2013)	1554	38.3	39.5	36.9	2042	37.0	37.6	36.3	42.2	38.8	32.5	32.4
LITHUANIA (2000-2012)	151	22.1	23.1	21.0	219	21.9	23.4	20.4	27.3	18.8	18.7	21.4
MALTA (1994-2013)	45	31.4	28.6	34.3	53	27.5	26.1	29.1	32.1	31.4	30.5	14.2
THE NETHERLANDS (1993-2013)	2063	34.0	34.5	33.4	2681	33.2	33.5	32.8	36.7	34.3	29.9	30.5
NORWAY (1990-2013)	1016	48.6	51.3	45.8	1374	49.1	50.7	47.4	56.6	45.1	41.7	51.0
POLAND (2001-2013)	1984	25.2	27.1	23.3	2741	24.3	26.2	22.3	28.6	25.3	20.8	21.1
PORTUGAL (1991-2012)	978	37.0	41.0	32.7	1235	34.3	38.0	30.4	43.9	34.9	30.0	25.1
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	270	31.5	30.4	32.6	-	-	-	-	30.7	37.6	25.8	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	294	26.7	26.0	27.5	352	23.3	23.1	23.5	33.8	25.4	18.8	11.4
SLOVAKIA (1990-2009)	682	32.9	35.8	29.9	916	31.5	34.3	28.7	39.2	30.3	27.5	26.8
SLOVAKIA, paediatric (2000-2012)	363	31.7	34.8	28.3	-	-	-	-	35.4	32.5	25.7	-
SLOVENIA (1991-2012)	193	28.3	33.0	23.5	249	26.3	31.5	20.9	34.3	26.1	22.8	19.5
SPAIN, 2 paediatric registries (1991-2013)	1710	36.0	38.0	33.9	-	-	-	-	40.9	36.1	29.3	-
SPAIN, selected regions, paediatric (2000-2013)	1175	34.3	36.1	32.4	-	-	-	-	39.4	34.3	27.5	-
SPAIN, Valencia, paediatric (1991-2010)	535	40.4	43.2	37.5	-	-	-	-	45.5	40.6	33.4	-
SPAIN, 11 registries (1990-2013)	1061	33.9	36.7	31.0	1432	32.6	34.9	30.2	38.6	33.8	27.8	28.3
SWEDEN (1990-2011)	1368	39.3	42.1	36.4	1729	37.1	39.0	35.1	43.5	37.7	35.4	29.5
SWITZERLAND, paediatric (1990-2013)	984	34.2	36.1	32.3	-	-	-	-	35.9	38.1	27.8	-
SWITZERLAND, 7 registries (1990-2013)	396	37.3	40.5	33.9	502	35.4	38.4	32.3	36.2	40.8	34.9	29.1
UKRAINE (2002-2012)	1749	23.6	25.3	21.7	2380	22.2	23.8	20.5	25.0	25.1	20.0	17.2
UK (2000-2011)	3988	30.8	32.2	29.2	4908	28.3	29.9	26.6	34.4	31.7	24.8	19.8
UK, England and Wales, paediatric (1991-2010)	7049	36.3	37.9	34.6	-	-	-	-	39.5	36.5	31.8	-
OCEANIA												
AUSTRALIA (1992-2014)	2171	25.3	26.7	23.8	2681	23.5	24.8	22.1	31.3	24.6	18.2	17.1
AUSTRALIA, 3 registries, Indigenous (1992-2014)	45	18.9	19.5	18.3	52	17.1	19.2	14.9	20.8	22.4	12.4	11.0
FRANCE, 2 registries (1990-2013)	72	23.6	21.6	25.8	80	20.1	18.5	21.9	19.1	36.9	14.7	8.1
NEW ZEALAND (1993-2012)	441	25.5	26.6	24.4	537	23.5	24.2	22.7	29.6	26.0	19.6	16.4
NEW ZEALAND, Maori (1993-2012)	96	22.3	21.4	23.3	109	19.7	19.5	19.9	25.4	24.5	15.7	10.7
NEW ZEALAND, Pacific peoples (1993-2012)	49	32.0	30.7	33.3	58	29.4	25.8	33.0	36.0	37.0	21.1	20.3
NEW ZEALAND, Other (1993-2012)	296	25.8	27.8	23.7	370	24.0	25.5	22.4	30.4	25.0	20.7	17.7
NEW ZEALAND, paediatric (2000-2012)	377	33.0	33.9	32.1	-	-	-	-	36.6	33.6	27.5	-
NEW ZEALAND, paediatric, Maori (2000-2012)	74	26.0	30.4	21.4	-	-	-	-	27.5	30.0	19.7	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	303	35.3	34.9	35.7	-	-	-	-	39.9	34.8	29.8	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of CNS tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.5. Neuroblastoma and other peripheral nervous cell tumours (IV): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	112	7.2	8.1	6.3	118	5.8	6.6	4.9	14.8	3.3	1.5	0.9
BOTSWANA (1999-2007)	*7*	*1.4*	*0.8*	*2.0*	*8*	*1.2*	*0.6*	*1.8*	*3.6*	*0.0*	*0.0*	*0.6*
CAMEROON, Yaoundé (2004-2006)	*1*	*0.4*	*0.9*	*0.0*	*1*	*0.3*	*0.7*	*0.0*	*1.1*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	138	10.4	11.7	9.0	143	8.3	9.1	7.3	20.0	6.7	1.7	0.9
FRANCE, Réunion (1990-2011)	31	7.8	8.6	7.1	33	6.4	7.0	5.8	16.4	3.4	1.3	1.4
KENYA, 2 registries (2000-2012)	22	2.0	2.0	2.0	22	1.6	1.5	1.6	3.0	2.0	0.7	0.0
LIBYA, Benghazi (2003-2008)	22	8.1	8.5	7.6	24	6.7	7.1	6.3	15.7	5.2	1.0	2.0
MALI, Bamako (2005-2014)	22	3.0	3.3	2.8	22	2.3	2.6	2.1	5.0	2.5	1.0	0.0
MAURITIUS (2001-2013)	*15*	*4.7*	*6.9*	*2.4*	*16*	*3.8*	*5.4*	*2.2*	*9.5*	*3.1*	*0.0*	*0.8*
MOROCCO, 2 registries (2005-2012)	79	9.6	12.0	7.1	83	7.7	9.5	5.9	17.1	6.5	2.9	1.2
SOUTH AFRICA, paediatric (1998-2012)	533	2.7	2.9	2.4	-	-	-	-	5.7	1.1	0.4	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*17*	*5.1*	*5.4*	*4.8*	-	-	-	-	*11.3*	*2.3*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	349	2.1	2.2	1.9	-	-	-	-	4.2	1.0	0.3	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	82	4.8	5.5	4.1	-	-	-	-	10.8	1.3	0.8	-
SOUTH AFRICA, paediatric, White (1998-2012)	85	8.5	9.6	7.4	-	-	-	-	19.5	2.8	0.2	-
TUNISIA, 2 registries (1993-2007)	126	7.9	9.1	6.7	133	6.4	7.2	5.4	17.0	3.3	0.9	1.0
UGANDA, Kyadondo (1996-2013)	*11*	*0.8*	*0.9*	*0.8*	*11*	*0.7*	*0.7*	*0.6*	*1.2*	*0.9*	*0.2*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	19	2.2	2.8	1.6	21	1.8	2.5	1.2	3.4	1.5	1.3	0.7
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	1062	8.2	8.4	7.9	-	-	-	-	17.9	2.9	1.2	-
ARGENTINA, 6 registries (1991-2013)	166	8.7	8.6	8.7	173	6.9	7.1	6.8	19.3	2.9	0.9	0.9
BRAZIL, 5 registries (1995-2012)	140	8.8	8.5	9.1	145	6.9	6.8	7.1	18.9	3.1	1.5	0.7
CHILE, paediatric (2007-2011)	97	6.1	6.3	5.8	-	-	-	-	13.4	2.3	0.4	-
CHILE, 4 registries (1998-2012)	*16*	*4.2*	*5.4*	*3.0*	*16*	*3.3*	*4.2*	*2.3*	*9.2*	*2.0*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	61	4.1	4.5	3.6	65	3.3	3.7	2.9	8.9	1.4	0.7	0.6
COSTA RICA (1993-2012)	82	4.0	4.6	3.4	86	3.2	3.6	2.8	9.0	1.4	0.4	0.5
CUBA (2000-2012)	199	8.7	9.5	7.8	208	6.9	7.6	6.2	18.9	3.1	1.2	0.9
ECUADOR, 5 registries (1993-2013)	41	2.0	1.8	2.2	44	1.6	1.5	1.8	3.3	1.0	1.4	0.4
FRANCE, 3 registries (1990-2012)	20	6.8	7.9	5.7	20	5.3	6.1	4.4	10.8	5.7	2.8	0.0
HONDURAS, Francisco Morazán (2002-2012)	*8*	*1.7*	*2.0*	*1.3*	*8*	*1.3*	*1.6*	*1.0*	*3.3*	*1.2*	*0.0*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	37	7.0	9.2	4.8	40	5.8	7.6	3.9	13.1	5.2	1.0	1.5
MEXICO, Mexico City, paediatric (1997-2013)	36	3.5	2.9	4.2	-	-	-	-	8.0	1.2	0.0	-
PERU, Lima (2010-2012)	*12*	*2.0*	*1.9*	*2.0*	*12*	*1.5*	*1.5*	*1.6*	*5.1*	*0.0*	*0.0*	*0.0*
PERU, Trujillo (1990-2002)	*4*	*1.8*	*1.7*	*2.0*	*4*	*1.4*	*1.3*	*1.5*	*3.8*	*0.0*	*1.2*	*0.0*
USA, Puerto Rico (1992-2012)	134	8.7	8.2	9.2	137	6.9	6.6	7.1	18.6	4.2	0.6	0.5
URUGUAY (1993-2012)	148	11.2	11.0	11.3	155	9.0	8.8	9.1	24.8	3.7	1.3	1.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	1385	14.0	14.1	13.9	1414	11.0	11.0	10.9	31.6	4.5	1.1	0.7
USA (1998-2012)	9852	12.5	13.1	11.9	10096	9.9	10.4	9.4	28.6	3.5	1.2	0.8
USA, API (1998-2012)	328	8.0	8.6	7.4	341	6.4	6.8	6.0	18.5	2.4	0.3	0.8
USA, Black (1998-2012)	1270	9.8	10.3	9.3	1317	7.8	8.2	7.5	21.6	3.5	1.3	0.9
USA, Hispanic White (1998-2012)	1337	8.4	8.7	8.1	1363	6.7	6.9	6.4	19.4	2.1	0.9	0.5
USA, Native American (1998-2012)	69	5.5	4.1	7.0	72	4.4	3.3	5.5	13.2	1.0	0.2	0.6
USA, White NH (1998-2012)	6611	14.9	15.6	14.0	6762	11.7	12.3	11.1	34.1	4.0	1.3	0.8
USA, NPCR (1998-2012)	9436	12.6	13.2	11.9	9665	9.9	10.4	9.4	28.6	3.5	1.2	0.8
USA, SEER 18 (1993-2012)	2988	11.8	12.1	11.5	3071	9.4	9.6	9.1	26.6	3.7	1.3	0.9
USA, Hawaii, Hawaiian (1993-2012)	*12*	*8.3*	*9.4*	*7.1*	*14*	*7.3*	*9.0*	*5.5*	*21.4*	*0.0*	*0.0*	*4.0*
ASIA												
BAHRAIN (1998-2012)	28	9.6	11.2	7.9	28	7.5	8.7	6.1	19.4	5.7	1.0	0.0
CHINA, 6 registries (1990-2013)	401	8.8	9.7	7.8	412	6.9	7.6	6.1	19.1	3.3	1.2	0.4
CHINA, Hong Kong (1990-2013)	207	10.6	11.5	9.6	212	8.3	9.1	7.5	23.5	3.2	1.5	0.5
INDIA, 7 registries (1990-2013)	549	3.7	4.2	3.2	575	3.0	3.3	2.6	7.2	2.1	0.9	0.4
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*8*	*2.6*	*3.1*	*2.1*	*8*	*2.0*	*2.4*	*1.6*	*4.4*	*2.8*	*0.0*	*0.0*
ISRAEL (1990-2012)	573	14.8	15.3	14.2	591	11.8	12.2	11.4	33.2	5.1	0.9	1.5
ISRAEL, Jews (1990-2012)	412	14.7	15.4	14.0	426	11.8	12.2	11.3	32.8	5.4	0.9	1.5
ISRAEL, Non-Jews (1990-2012)	161	14.9	14.9	14.8	165	11.8	12.0	11.6	34.0	4.5	0.9	1.4
JAPAN, 8 registries (1990-2013)	798	15.8	16.8	14.7	815	12.4	13.1	11.7	37.2	3.5	0.8	0.7
JORDAN, Jordanians (2000-2012)	156	6.3	6.3	6.4	157	4.9	5.0	4.9	14.3	1.6	0.9	0.1
REPUBLIC OF KOREA (1999-2012)	1144	11.4	11.7	11.1	1187	9.0	9.3	8.8	26.5	2.9	0.8	0.9
KUWAIT (1994-2012)	61	5.1	5.7	4.5	87	5.7	5.7	5.8	7.2	2.7	4.9	8.0
KUWAIT, Kuwaitis (1994-2012)	38	5.4	6.9	3.8	54	6.1	6.5	5.6	7.2	3.8	4.6	8.5
KUWAIT, Non-Kuwaitis (1994-2012)	23	4.7	3.9	5.5	33	5.3	4.5	6.1	7.0	1.2	5.4	7.3
LEBANON (2008-2010)	33	10.6	12.3	8.8	35	8.6	9.9	7.2	19.0	7.9	2.3	1.6
PAKISTAN, Karachi (1995-2002)	*10*	*1.8*	*1.7*	*1.9*	*10*	*1.4*	*1.3*	*1.5*	*3.0*	*1.5*	*0.6*	*0.0*
PAKISTAN, Lahore (2008-2012)	28	1.7	1.6	1.8	28	1.3	1.2	1.4	3.3	1.1	0.2	0.0
PHILIPPINES, 2 registries (1993-2012)	209	2.9	3.2	2.6	219	2.3	2.6	2.1	5.3	1.7	1.0	0.4
QATAR (2002-2014)	*19*	*6.6*	*6.1*	*7.2*	*19*	*5.1*	*4.7*	*5.5*	*14.5*	*2.0*	*1.2*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	198	6.3	6.1	6.4	204	5.0	4.9	5.1	14.2	2.0	0.4	0.7
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	168	6.5	6.3	6.6	172	5.1	5.1	5.1	15.0	1.8	0.3	0.5
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	30	5.3	5.2	5.5	32	4.5	4.0	5.0	10.8	3.1	0.6	1.6
THAILAND, 6 registries (1993-2013)	159	4.7	4.6	4.8	165	3.7	3.7	3.8	9.9	2.2	0.6	0.4
TURKEY, paediatric (2009-2011)	423	8.6	9.3	7.8	-	-	-	-	19.5	2.7	0.6	-
TURKEY, 8 registries (1992-2012)	373	11.2	11.2	11.2	382	8.8	8.9	8.8	25.9	2.9	0.9	0.6
VIET NAM, Ho Chi Minh City (1995-2013)	170	7.7	7.7	7.6	172	6.0	6.1	5.9	15.6	4.3	0.9	0.2
EUROPE												
AUSTRIA (1990-2012)	350	13.5	14.9	12.0	362	10.7	11.8	9.6	31.3	3.5	0.7	1.1
BELARUS, paediatric (1990-2014)	341	9.2	9.4	9.1	359	7.4	7.5	7.2	20.3	3.2	1.2	1.0
BELGIUM (2004-2013)	226	13.9	15.6	12.1	232	11.0	12.4	9.5	31.3	4.0	1.8	0.9
BULGARIA (1990-2013)	184	7.3	7.4	7.1	199	5.9	6.2	5.6	15.5	2.9	1.1	1.2
CROATIA (2001-2014)	106	13.5	13.0	13.9	108	10.6	10.2	10.9	30.0	4.8	0.9	0.6
CYPRUS, South-West (1998-2012)	27	14.9	17.4	12.2	28	11.8	13.5	9.9	34.0	4.1	1.2	1.1
CZECH REPUBLIC (1990-2012)	483	14.5	15.3	13.7	504	11.5	12.2	10.8	32.3	4.6	1.8	1.3
ESTONIA (1990-2012)	51	10.2	11.0	9.3	55	8.3	9.1	7.4	21.3	2.1	4.3	1.8

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of neuroblastoma or other peripheral nervous cell tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.5. Neuroblastoma and other peripheral nervous cell tumours (IV): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1870	14.4	14.9	13.8	-	-	-	-	32.6	4.3	1.3	-
FRANCE, 13 registries (1993-2012)	393	14.4	16.0	12.7	403	11.3	12.7	10.0	32.9	3.4	1.9	0.9
GERMANY, paediatric (1996-2012)	2330	13.9	15.0	12.8	-	-	-	-	33.0	2.8	0.9	-
GERMANY, 6 Eastern states (2001-2007)	132	11.5	11.1	11.9	138	9.1	8.7	9.5	27.1	2.5	0.6	0.8
GERMANY, 5 Western registries (1994-2012)	498	12.4	14.2	10.6	512	9.8	11.1	8.4	28.7	3.0	1.2	0.7
HUNGARY, paediatric (1991-2014)	570	17.1	18.4	15.9	-	-	-	-	40.0	3.9	1.4	-
ICELAND (1990-2014)	*9*	*6.2*	*6.6*	*5.7*	*9*	*4.8*	*5.1*	*4.4*	*14.4*	*1.8*	*0.0*	*0.0*
IRELAND (1994-2012)	164	11.2	11.7	10.5	170	8.9	9.3	8.4	25.0	3.8	0.9	1.0
ITALY, 2 paediatric registries (1998-2011)	143	19.0	19.6	18.4	149	15.2	15.7	14.7	43.3	6.4	0.7	2.1
ITALY, Piedmont, paediatric (1990-2011)	179	17.3	18.6	16.0	-	-	-	-	39.1	5.4	1.5	-
ITALY, 26 registries (1992-2013)	545	14.9	15.8	14.0	556	11.7	12.3	11.0	32.7	5.6	1.5	0.7
LITHUANIA (2000-2012)	56	9.9	9.4	10.4	59	7.9	7.3	8.5	21.3	3.1	2.1	0.9
MALTA (1994-2013)	*17*	*14.2*	*10.9*	*17.8*	*17*	*11.0*	*8.4*	*13.8*	*29.8*	*8.4*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	445	8.3	8.7	7.8	454	6.5	6.8	6.1	19.2	1.9	0.7	0.4
NORWAY (1990-2013)	175	9.3	9.4	9.2	182	7.4	7.4	7.4	21.8	2.1	0.6	1.0
POLAND (2001-2013)	690	10.2	10.8	9.5	715	8.1	8.6	7.5	22.2	3.6	1.5	0.7
PORTUGAL (1991-2012)	334	14.2	15.0	13.4	344	11.2	11.9	10.6	32.0	4.1	1.8	1.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	72	9.8	8.8	10.8	-	-	-	-	18.7	6.9	1.1	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	95	9.6	7.4	12.0	101	7.7	5.8	9.8	22.5	2.0	1.0	1.2
SLOVAKIA (1990-2009)	201	11.7	11.3	12.1	210	9.3	9.0	9.5	26.4	3.1	1.6	1.0
SLOVAKIA, paediatric (2000-2012)	125	13.0	11.6	14.5	-	-	-	-	29.3	4.2	1.1	-
SLOVENIA (1991-2012)	52	9.1	8.9	9.4	52	7.1	6.9	7.3	21.8	2.2	0.0	0.0
SPAIN, 2 paediatric registries (1991-2013)	646	14.8	15.2	14.4	-	-	-	-	34.6	3.5	0.9	-
SPAIN, selected regions, paediatric (2000-2013)	455	14.0	14.0	13.9	-	-	-	-	32.1	3.9	1.0	-
SPAIN, Valencia, paediatric (1991-2010)	191	17.3	18.6	15.9	-	-	-	-	42.2	2.5	0.6	-
SPAIN, 11 registries (1990-2013)	379	14.1	14.3	13.8	399	11.3	11.4	11.1	32.5	3.9	0.9	1.5
SWEDEN (1990-2011)	293	9.4	9.9	9.0	301	7.5	7.9	7.0	21.2	2.9	1.0	0.7
SWITZERLAND, paediatric (1990-2013)	293	11.7	11.3	12.1	-	-	-	-	27.7	1.8	1.4	-
SWITZERLAND, 7 registries (1990-2013)	119	12.8	11.3	14.4	121	10.0	9.0	11.1	30.3	2.3	1.1	0.5
UKRAINE (2002-2012)	599	9.3	10.0	8.5	658	7.5	8.1	7.0	19.0	4.3	1.7	1.6
UK (2000-2011)	1116	9.7	10.0	9.4	1160	7.7	7.9	7.5	21.8	3.1	1.0	0.9
UK, England and Wales, paediatric (1991-2010)	1651	9.6	10.0	9.1	-	-	-	-	21.8	2.9	0.7	-
OCEANIA												
AUSTRALIA (1992-2014)	911	11.8	12.6	10.9	929	9.3	9.9	8.6	27.1	3.1	1.0	0.6
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*16*	*7.0*	*7.7*	*6.2*	*16*	*5.4*	*6.0*	*4.8*	*13.9*	*2.5*	*2.8*	*0.0*
FRANCE, 2 registries (1990-2013)	22	8.2	8.2	8.2	22	6.4	6.4	6.3	18.1	1.9	2.0	0.0
NEW ZEALAND (1993-2012)	181	11.5	11.5	11.4	187	9.1	9.2	9.1	24.8	4.1	1.9	1.0
NEW ZEALAND, Maori (1993-2012)	45	10.9	11.2	10.5	46	8.6	9.1	8.2	22.9	4.2	2.2	0.8
NEW ZEALAND, Pacific peoples (1993-2012)	*9*	*6.3*	*5.4*	*7.2*	*9*	*4.9*	*4.2*	*5.6*	*16.2*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Other (1993-2012)	127	12.5	12.5	12.4	132	9.9	9.9	9.9	26.9	4.6	2.0	1.2
NEW ZEALAND, paediatric (2000-2012)	126	12.3	12.2	12.4	-	-	-	-	26.6	5.0	1.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	27	10.0	12.1	7.7	-	-	-	-	20.6	3.2	3.3	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	99	13.1	12.3	14.0	-	-	-	-	28.8	5.6	0.7	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Table 7.6. Retinoblastoma (V): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	27	1.8	1.0	2.6	28	1.4	0.9	2.0	3.8	0.9	0.0	0.1
BOTSWANA (1999-2007)	22	4.4	4.8	4.0	22	3.4	3.7	3.1	10.8	0.5	0.0	0.0
CAMEROON, Yaoundé (2004-2006)	*14*	*5.9*	*6.1*	*5.7*	*14*	*4.5*	*4.7*	*4.4*	*11.9*	*2.5*	*1.5*	*0.0*
EGYPT, Gharbiah (1999-2010)	27	2.2	1.8	2.6	27	1.7	1.4	2.0	5.5	0.2	0.0	0.0
FRANCE, Réunion (1990-2011)	*13*	*3.4*	*3.6*	*3.3*	*13*	*2.7*	*2.8*	*2.5*	*8.9*	*0.0*	*0.0*	*0.0*
KENYA, 2 registries (2000-2012)	78	7.0	8.3	5.8	78	5.4	6.4	4.5	16.0	2.3	0.3	0.0
LIBYA, Benghazi (2003-2008)	*14*	*5.2*	*5.8*	*4.7*	*14*	*4.1*	*4.5*	*3.6*	*11.8*	*2.1*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	208	28.7	30.0	27.5	208	22.2	23.2	21.3	58.3	15.1	4.3	0.0
MAURITIUS (2001-2013)	*10*	*3.3*	*1.3*	*5.4*	*10*	*2.6*	*1.0*	*4.2*	*8.6*	*0.0*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	72	9.2	9.7	8.7	72	7.1	7.5	6.7	21.8	2.1	0.3	0.0
SOUTH AFRICA, paediatric (1998-2012)	643	3.3	3.6	3.0	-	-	-	-	7.7	0.8	0.1	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*7*	*2.2*	*3.1*	*1.3*	-	-	-	-	*5.6*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	549	3.3	3.7	2.9	-	-	-	-	7.7	0.9	0.1	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	54	3.3	3.1	3.4	-	-	-	-	8.3	0.2	0.0	-
SOUTH AFRICA, paediatric, White (1998-2012)	33	3.4	3.2	3.6	-	-	-	-	8.5	0.0	0.2	-
TUNISIA, 2 registries (1993-2007)	55	3.6	4.1	3.0	55	2.8	3.1	2.3	8.2	1.1	0.0	0.0
UGANDA, Kyadondo (1996-2013)	82	6.4	6.6	6.2	82	5.0	5.1	4.8	14.2	2.3	0.5	0.0
ZIMBABWE, Harare, African (1995-2013)	87	9.6	11.7	7.6	87	7.5	9.1	5.9	21.4	4.1	0.0	0.0
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	624	4.9	5.1	4.8	-	-	-	-	11.8	1.0	0.1	-
ARGENTINA, 6 registries (1991-2013)	85	4.5	4.4	4.7	85	3.5	3.4	3.6	11.2	0.7	0.0	0.0
BRAZIL, 5 registries (1995-2012)	63	4.0	3.3	4.8	64	3.1	2.5	3.8	9.2	1.3	0.2	0.1
CHILE, paediatric (2007-2011)	79	5.0	4.9	5.1	-	-	-	-	11.9	1.3	0.0	-
CHILE, 4 registries (1998-2012)	*14*	*3.8*	*4.3*	*3.2*	*14*	*2.9*	*3.3*	*2.5*	*9.2*	*0.7*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	94	6.5	7.3	5.7	94	5.0	5.6	4.4	15.8	1.2	0.0	0.0
COSTA RICA (1993-2012)	87	4.4	3.7	5.0	87	3.4	2.9	3.9	10.5	0.9	0.0	0.0
CUBA (2000-2012)	90	4.0	3.6	4.3	91	3.1	2.8	3.4	9.3	0.6	0.7	0.1
ECUADOR, 5 registries (1993-2013)	135	7.2	8.2	6.2	135	5.6	6.3	4.8	17.7	1.1	0.0	0.0
FRANCE, 3 registries (1990-2012)	*10*	*3.8*	*6.0*	*1.5*	*10*	*2.9*	*4.6*	*1.2*	*9.8*	*0.0*	*0.0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	21	4.4	4.9	3.9	21	3.4	3.8	3.0	9.4	2.3	0.0	0.0
JAMAICA, Kingston and St Andrew (1982-2012)	31	6.2	6.2	6.1	32	4.9	4.8	4.9	14.7	1.0	0.5	0.5
MEXICO, Mexico City, paediatric (1997-2013)	46	4.6	4.9	4.3	-	-	-	-	11.7	0.2	0.0	-
PERU, Lima (2010-2012)	37	6.0	5.0	7.0	37	4.6	3.9	5.4	14.0	1.7	0.0	0.0
PERU, Trujillo (1990-2002)	*10*	*4.7*	*4.7*	*4.8*	*10*	*3.7*	*3.6*	*3.7*	*10.1*	*2.6*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	44	3.0	3.0	2.9	44	2.3	2.4	2.2	7.2	0.3	0.2	0.0
URUGUAY (1993-2012)	69	5.3	6.2	4.4	69	4.1	4.8	3.4	12.6	1.3	0.0	0.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	463	4.8	4.9	4.7	464	3.7	3.8	3.7	12.0	0.4	0.1	0.0
USA (1998-2012)	3735	4.9	4.8	4.9	3743	3.8	3.8	3.8	12.2	0.4	0.0	0.0
USA, API (1998-2012)	170	4.2	4.1	4.4	170	3.3	3.1	3.4	10.5	0.4	0.1	0.0
USA, Black (1998-2012)	640	5.1	5.3	4.9	641	4.0	4.1	3.8	12.9	0.4	0.0	0.0
USA, Hispanic White (1998-2012)	895	5.7	5.8	5.6	896	4.4	4.5	4.3	14.2	0.5	0.2	0.0
USA, Native American (1998-2012)	26	2.1	2.4	1.8	27	1.7	1.9	1.4	5.0	0.4	0.0	0.2
USA, White NH (1998-2012)	1865	4.3	4.2	4.4	1869	3.3	3.3	3.4	10.8	0.4	0.0	0.0
USA, NPCR (1998-2012)	3575	4.9	4.8	4.9	3582	3.8	3.8	3.8	12.2	0.4	0.0	0.0
USA, SEER 18 (1993-2012)	1270	5.2	5.3	5.0	1272	4.0	4.1	3.9	12.9	0.4	0.1	0.0
USA, Hawaii, Hawaiian (1993-2012)	*8*	*5.5*	*5.4*	*5.7*	*8*	*4.3*	*4.2*	*4.4*	*14.3*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*6*	*2.0*	*2.7*	*1.4*	*7*	*1.8*	*2.1*	*1.6*	*3.7*	*1.9*	*0.0*	*1.1*
CHINA, 6 registries (1990-2013)	248	5.7	6.2	5.2	248	4.5	4.8	4.0	14.4	0.5	0.0	0.0
CHINA, Hong Kong (1990-2013)	122	6.7	7.2	6.0	122	5.2	5.6	4.7	16.9	0.2	0.1	0.0
INDIA, 7 registries (1990-2013)	599	4.3	4.9	3.6	600	3.3	3.8	2.8	9.8	1.4	0.1	0.0
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*2*	*0.7*	*0.7*	*0.7*	*2*	*0.5*	*0.5*	*0.5*	*1.8*	*0.0*	*0.0*	*0.0*
ISRAEL (1990-2012)	151	3.9	4.0	3.8	151	3.0	3.1	3.0	9.5	0.7	0.1	0.0
ISRAEL, Jews (1990-2012)	109	3.9	4.0	3.9	109	3.0	3.1	3.0	9.5	0.7	0.1	0.0
ISRAEL, Non-Jews (1990-2012)	42	3.9	4.2	3.6	42	3.0	3.2	2.8	9.6	0.5	0.0	0.0
JAPAN, 8 registries (1990-2013)	252	5.1	5.1	5.1	252	3.9	3.9	3.9	12.6	0.6	0.0	0.0
JORDAN, Jordanians (2000-2012)	104	4.3	5.1	3.5	104	3.3	3.9	2.7	10.2	1.0	0.0	0.0
REPUBLIC OF KOREA (1999-2012)	448	4.6	4.9	4.4	448	3.6	3.8	3.4	11.6	0.4	0.0	0.0
KUWAIT (1994-2012)	*14*	*1.2*	*1.5*	*0.9*	*14*	*0.9*	*1.1*	*0.7*	*1.6*	*0.5*	*1.4*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*10*	*1.4*	*1.4*	*1.5*	*10*	*1.1*	*1.1*	*1.1*	*1.9*	*0.4*	*1.9*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*4*	*0.8*	*1.6*	*0.0*	*4*	*0.6*	*1.2*	*0.0*	*1.1*	*0.6*	*0.7*	*0.0*
LEBANON (2008-2010)	*11*	*3.7*	*2.8*	*4.6*	*11*	*2.9*	*2.2*	*3.6*	*7.6*	*2.4*	*0.0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*15*	*2.7*	*2.5*	*3.0*	*15*	*2.1*	*2.0*	*2.3*	*5.0*	*2.5*	*0.0*	*0.0*
PAKISTAN, Lahore (2008-2012)	81	5.1	5.5	4.6	82	4.0	4.4	3.6	11.7	1.7	0.0	0.2
PHILIPPINES, 2 registries (1993-2012)	495	6.9	7.3	6.5	497	5.4	5.6	5.1	16.5	1.4	0.3	0.1
QATAR (2002-2014)	*1*	*0.4*	*0.7*	*0.0*	*1*	*0.3*	*0.5*	*0.0*	*0.9*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	211	6.8	6.3	7.2	211	5.2	4.9	5.6	16.6	0.7	0.3	0.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	165	6.4	5.9	7.0	165	5.0	4.6	5.4	15.9	0.6	0.2	0.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	46	8.3	8.4	8.2	46	6.4	6.5	6.4	20.1	1.0	0.6	0.0
THAILAND, 6 registries (1993-2013)	133	4.1	3.9	4.3	133	3.2	3.0	3.3	9.9	0.7	0.1	0.0
TURKEY, paediatric (2009-2011)	171	3.5	4.0	3.0	-	-	-	-	8.6	0.5	0.1	-
TURKEY, 8 registries (1992-2012)	137	4.2	4.3	4.0	138	3.2	3.4	3.1	10.0	0.8	0.1	0.1
VIET NAM, Ho Chi Minh City (1995-2013)	125	5.8	6.7	4.8	125	4.5	5.2	3.8	14.1	1.1	0.0	0.0
EUROPE												
AUSTRIA (1990-2012)	47	1.8	2.2	1.5	47	1.4	1.7	1.2	4.6	0.2	0.0	0.0
BELARUS, paediatric (1990-2014)	150	4.2	4.0	4.5	150	3.3	3.1	3.5	10.5	0.5	0.0	0.0
BELGIUM (2004-2013)	104	6.6	6.8	6.3	104	5.1	5.2	4.9	16.2	0.8	0.0	0.0
BULGARIA (1990-2013)	68	2.8	3.2	2.4	68	2.2	2.4	1.9	6.8	0.5	0.0	0.0
CROATIA (2001-2014)	25	3.2	4.6	1.8	25	2.5	3.5	1.4	7.8	0.6	0.0	0.0
CYPRUS, South-West (1998-2012)	*1*	*0.6*	*1.1*	*0.0*	*1*	*0.4*	*0.9*	*0.0*	*1.5*	*0.0*	*0.0*	*0.0*
CZECH REPUBLIC (1990-2012)	139	4.3	4.4	4.3	139	3.3	3.4	3.3	10.9	0.2	0.1	0.0
ESTONIA (1990-2012)	*15*	*3.3*	*3.0*	*3.6*	*15*	*2.5*	*2.3*	*2.8*	*8.4*	*0.0*	*0.0*	*0.0*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of retinoblastoma in a dataset
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Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.6. Retinoblastoma (V): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	644	5.1	4.9	5.2	-	-	-	-	12.6	0.5	0.0	-
FRANCE, 13 registries (1993-2012)	126	4.7	5.3	4.2	126	3.7	4.1	3.2	12.1	0.1	0.1	0.0
GERMANY, paediatric (1996-2012)	671	4.1	4.3	3.9	-	-	-	-	10.2	0.4	0.1	-
GERMANY, 6 Eastern states (2001-2007)	40	3.5	4.0	2.8	41	2.7	3.1	2.3	8.4	0.2	0.4	0.1
GERMANY, 5 Western registries (1994-2012)	147	3.8	4.0	3.5	147	2.9	3.1	2.7	9.2	0.5	0.1	0.0
HUNGARY, paediatric (1991-2014)	129	4.0	4.1	3.8	-	-	-	-	9.8	0.5	0.0	-
ICELAND (1990-2014)	*4*	*2.8*	*2.7*	*2.9*	*4*	*2.2*	*2.1*	*2.2*	*7.2*	*0.0*	*0.0*	*0.0*
IRELAND (1994-2012)	64	4.5	4.5	4.5	64	3.5	3.5	3.5	11.4	0.2	0.0	0.0
ITALY, 2 paediatric registries (1998-2011)	34	4.6	5.6	3.6	34	3.6	4.3	2.8	12.0	0.0	0.0	0.0
ITALY, Piedmont, paediatric (1990-2011)	54	5.4	6.2	4.5	-	-	-	-	13.6	0.3	0.0	-
ITALY, 26 registries (1992-2013)	156	4.4	4.2	4.6	157	3.4	3.3	3.6	11.2	0.1	0.1	0.1
LITHUANIA (2000-2012)	*13*	*2.4*	*3.0*	*1.9*	*13*	*1.9*	*2.3*	*1.4*	*5.9*	*0.4*	*0.0*	*0.0*
MALTA (1994-2013)	*8*	*6.9*	*6.9*	*6.9*	*8*	*5.3*	*5.3*	*5.3*	*16.0*	*2.1*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	261	4.9	5.3	4.5	261	3.8	4.1	3.5	11.9	0.9	0.0	0.0
NORWAY (1990-2013)	85	4.6	4.2	5.0	85	3.5	3.2	3.9	11.4	0.4	0.0	0.0
POLAND (2001-2013)	239	3.6	3.3	4.0	239	2.8	2.5	3.1	8.6	0.9	0.0	0.0
PORTUGAL (1991-2012)	116	5.1	5.7	4.4	116	4.0	4.4	3.4	12.9	0.3	0.0	0.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	29	4.1	3.1	5.3	-	-	-	-	9.7	1.2	0.0	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	42	4.3	4.8	3.8	43	3.4	3.7	3.1	11.0	0.0	0.2	0.2
SLOVAKIA (1990-2009)	58	3.5	3.7	3.3	58	2.7	2.9	2.5	8.6	0.6	0.0	0.0
SLOVAKIA, paediatric (2000-2012)	34	3.6	3.1	4.2	-	-	-	-	9.0	0.3	0.2	-
SLOVENIA (1991-2012)	22	3.9	4.9	3.0	22	3.1	3.8	2.3	10.2	0.0	0.0	0.0
SPAIN, 2 paediatric registries (1991-2013)	215	5.0	5.1	4.9	-	-	-	-	12.1	0.8	0.1	-
SPAIN, selected regions, paediatric (2000-2013)	161	5.0	5.2	4.8	-	-	-	-	12.4	0.5	0.1	-
SPAIN, Valencia, paediatric (1991-2010)	54	4.9	4.7	5.0	-	-	-	-	11.4	1.4	0.0	-
SPAIN, 11 registries (1990-2013)	107	4.1	4.3	3.8	107	3.1	3.4	2.9	10.1	0.4	0.1	0.0
SWEDEN (1990-2011)	148	4.9	3.6	6.2	148	3.8	2.8	4.8	12.1	0.5	0.1	0.0
SWITZERLAND, paediatric (1990-2013)	124	5.0	4.5	5.6	-	-	-	-	12.2	0.7	0.1	-
SWITZERLAND, 7 registries (1990-2013)	41	4.5	4.2	4.7	41	3.5	3.3	3.6	11.0	0.6	0.0	0.0
UKRAINE (2002-2012)	239	3.9	4.1	3.5	242	3.0	3.2	2.8	9.3	0.7	0.1	0.1
UK (2000-2011)	510	4.5	4.5	4.5	512	3.5	3.5	3.5	11.3	0.5	0.1	0.0
UK, England and Wales, paediatric (1991-2010)	793	4.7	4.6	4.7	-	-	-	-	11.6	0.5	0.1	-
OCEANIA												
AUSTRALIA (1992-2014)	350	4.6	5.2	3.9	351	3.6	4.1	3.1	11.5	0.5	0.0	0.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*5*	*2.2*	*1.8*	*2.8*	*5*	*1.7*	*1.4*	*2.1*	*5.8*	*0.0*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*10*	*3.8*	*3.7*	*3.9*	*11*	*3.2*	*3.3*	*3.0*	*9.1*	*1.0*	*0.0*	*1.0*
NEW ZEALAND (1993-2012)	96	6.3	6.2	6.3	96	4.8	4.8	4.9	15.5	0.7	0.2	0.0
NEW ZEALAND, Maori (1993-2012)	23	5.7	4.3	7.1	23	4.4	3.3	5.5	14.6	0.0	0.0	0.0
NEW ZEALAND, Pacific peoples (1993-2012)	*13*	*9.0*	*12.2*	*5.7*	*13*	*7.0*	*9.4*	*4.4*	*23.4*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Other (1993-2012)	60	6.1	6.1	6.1	60	4.7	4.7	4.7	14.6	1.0	0.2	0.0
NEW ZEALAND, paediatric (2000-2012)	57	5.7	5.6	5.8	-	-	-	-	13.8	0.8	0.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*13*	*4.9*	*5.2*	*4.7*	-	-	-	-	*12.8*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	44	5.9	5.7	6.2	-	-	-	-	14.2	1.0	0.3	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of retinoblastoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.7. Renal tumours (VI): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	131	8.3	8.1	8.6	135	6.6	6.3	6.8	15.7	5.3	2.0	0.6
BOTSWANA (1999-2007)	23	4.3	3.2	5.4	25	3.6	2.5	4.7	7.2	3.7	1.1	1.1
CAMEROON, Yaoundé (2004-2006)	*12*	*5.0*	*6.9*	*3.2*	*12*	*3.9*	*5.4*	*2.5*	*7.6*	*5.1*	*1.5*	*0.0*
EGYPT, Gharbiah (1999-2010)	88	6.6	6.4	6.7	94	5.3	5.4	5.3	12.2	4.4	1.5	1.1
FRANCE, Réunion (1990-2011)	38	9.4	7.5	11.3	44	8.2	6.8	9.7	16.4	8.1	1.3	4.2
KENYA, 2 registries (2000-2012)	103	9.3	7.4	11.3	106	7.5	5.9	9.0	15.3	9.1	1.7	1.0
LIBYA, Benghazi (2003-2008)	20	7.4	9.4	5.3	22	6.2	7.3	5.0	13.8	6.3	0.0	2.0
MALI, Bamako (2005-2014)	191	26.3	28.7	24.0	200	21.1	23.5	19.0	39.4	26.9	8.1	3.5
MAURITIUS (2001-2013)	*19*	*6.1*	*4.9*	*7.3*	*19*	*4.7*	*3.8*	*5.6*	*13.8*	*1.6*	*0.7*	*0.0*
MOROCCO, 2 registries (2005-2012)	102	12.5	9.9	15.1	105	9.9	7.9	11.9	21.5	11.3	1.6	0.9
SOUTH AFRICA, paediatric (1998-2012)	1247	6.2	6.1	6.3	-	-	-	-	12.4	3.6	0.8	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*16*	*4.8*	*4.0*	*5.7*	-	-	-	-	*11.3*	*0.8*	*0.7*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	1017	6.0	5.9	6.0	-	-	-	-	11.8	3.6	0.8	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	127	7.4	6.7	8.2	-	-	-	-	15.6	3.5	0.8	-
SOUTH AFRICA, paediatric, White (1998-2012)	87	8.6	7.9	9.3	-	-	-	-	18.4	4.3	0.2	-
TUNISIA, 2 registries (1993-2007)	129	7.9	8.1	7.8	133	6.3	6.4	6.2	15.6	5.1	0.9	0.6
UGANDA, Kyadondo (1996-2013)	143	11.0	12.9	9.3	153	9.1	10.4	7.8	20.9	7.0	2.4	2.2
ZIMBABWE, Harare, African (1995-2013)	132	14.9	13.8	16.0	138	12.0	11.4	12.6	25.4	12.7	3.4	2.0
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	845	6.4	6.2	6.7	-	-	-	-	12.9	3.6	1.0	-
ARGENTINA, 6 registries (1991-2013)	140	7.2	6.5	7.8	150	5.8	5.2	6.5	14.4	3.8	1.2	1.3
BRAZIL, 5 registries (1995-2012)	155	9.6	9.1	10.0	161	7.6	7.2	8.0	19.2	5.1	1.7	0.8
CHILE, paediatric (2007-2011)	95	5.8	4.3	7.5	-	-	-	-	12.2	2.6	0.9	-
CHILE, 4 registries (1998-2012)	27	6.8	5.1	8.6	28	5.4	3.9	6.9	13.5	3.3	1.8	0.6
COLOMBIA, 4 registries (1992-2013)	113	7.5	6.8	8.1	120	6.0	5.7	6.4	15.0	4.6	0.5	1.1
COSTA RICA (1993-2012)	123	5.7	5.5	6.0	127	4.6	4.3	4.8	10.5	3.4	2.0	0.5
CUBA (2000-2012)	170	7.3	6.6	8.0	189	6.1	5.4	6.8	14.9	3.5	1.4	1.8
ECUADOR, 5 registries (1993-2013)	127	6.5	6.8	6.2	131	5.2	5.4	4.8	13.1	3.8	0.7	0.5
FRANCE, 3 registries (1990-2012)	17	5.9	4.9	7.0	22	5.7	5.5	5.9	10.8	3.8	1.8	4.7
HONDURAS, Francisco Morazán (2002-2012)	23	4.8	4.1	5.6	23	3.7	3.2	4.3	11.1	0.6	1.3	0.0
JAMAICA, Kingston and St Andrew (1982-2012)	42	8.2	5.4	11.1	45	6.7	4.4	9.0	17.3	4.7	0.0	1.5
MEXICO, Mexico City, paediatric (1997-2013)	55	5.1	5.2	4.9	-	-	-	-	9.1	3.4	1.5	-
PERU, Lima (2010-2012)	44	7.0	5.9	8.2	46	5.6	4.7	6.5	15.7	2.6	0.4	0.8
PERU, Trujillo (1990-2002)	*7*	*3.2*	*3.6*	*2.8*	*7*	*2.5*	*2.8*	*2.2*	*5.0*	*3.9*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	121	7.7	7.5	8.0	134	6.5	6.1	6.8	15.7	3.8	1.4	2.0
URUGUAY (1993-2012)	87	6.5	6.9	6.1	90	5.2	5.3	5.0	13.8	2.9	0.8	0.6
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	997	9.8	8.7	10.9	1057	7.9	7.1	8.8	19.6	5.7	1.3	1.4
USA (1998-2012)	7651	9.5	8.9	10.2	8149	7.7	7.2	8.3	19.1	5.4	1.3	1.6
USA, API (1998-2012)	176	4.3	4.0	4.5	191	3.5	3.4	3.6	9.1	1.7	0.6	1.0
USA, Black (1998-2012)	1447	10.9	10.2	11.6	1572	9.0	8.5	9.5	20.8	7.0	2.1	2.4
USA, Hispanic White (1998-2012)	1163	7.3	6.6	8.0	1217	5.9	5.3	6.5	14.9	3.9	0.8	1.0
USA, Native American (1998-2012)	63	4.9	3.9	6.0	69	4.1	3.1	5.1	10.9	1.9	0.4	1.2
USA, White NH (1998-2012)	4592	10.0	9.5	10.6	4874	8.1	7.6	8.6	20.3	5.6	1.2	1.5
USA, NPCR (1998-2012)	7394	9.6	9.0	10.3	7874	7.8	7.3	8.4	19.3	5.5	1.3	1.6
USA, SEER 18 (1993-2012)	2337	9.1	8.5	9.8	2480	7.4	6.9	7.9	18.3	5.3	1.1	1.5
USA, Hawaii, Hawaiian (1993-2012)	*1*	*0.7*	*1.3*	*0.0*	*2*	*1.0*	*1.0*	*0.9*	*1.8*	*0.0*	*0.0*	*2.0*
ASIA												
BAHRAIN (1998-2012)	24	8.3	8.1	8.6	24	6.5	6.2	6.7	18.4	2.8	1.0	0.0
CHINA, 6 registries (1990-2013)	215	4.7	4.7	4.6	238	3.8	3.9	3.7	9.9	1.8	0.8	0.8
CHINA, Hong Kong (1990-2013)	88	4.4	4.4	4.3	97	3.6	3.7	3.4	9.2	1.6	1.0	0.9
INDIA, 7 registries (1990-2013)	731	5.0	5.5	4.4	781	4.1	4.5	3.6	9.9	3.0	0.7	0.8
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*14*	*4.2*	*5.3*	*3.2*	*16*	*3.6*	*4.1*	*3.0*	*8.0*	*0.9*	*3.0*	*1.2*
ISRAEL (1990-2012)	284	7.2	7.0	7.5	300	5.9	5.7	6.1	14.8	4.1	0.7	1.3
ISRAEL, Jews (1990-2012)	213	7.5	7.4	7.7	228	6.2	6.2	6.2	15.1	4.5	0.7	1.6
ISRAEL, Non-Jews (1990-2012)	71	6.5	5.9	7.1	72	5.1	4.6	5.7	14.0	2.9	0.6	0.3
JAPAN, 8 registries (1990-2013)	194	3.7	3.9	3.5	209	3.0	3.1	3.0	8.0	1.2	0.8	0.6
JORDAN, Jordanians (2000-2012)	137	5.4	4.7	6.1	142	4.3	3.7	5.0	9.7	4.4	0.8	0.6
REPUBLIC OF KOREA (1999-2012)	555	5.4	5.3	5.5	611	4.4	4.4	4.5	11.6	2.2	0.6	1.2
KUWAIT (1994-2012)	76	6.4	8.3	4.3	89	5.8	7.3	4.3	9.6	4.0	4.7	4.0
KUWAIT, Kuwaitis (1994-2012)	37	5.3	7.9	2.6	46	5.2	6.8	3.5	8.8	2.9	3.3	4.8
KUWAIT, Non-Kuwaitis (1994-2012)	39	7.9	9.0	6.7	43	6.8	7.9	5.6	10.8	5.4	6.7	2.9
LEBANON (2008-2010)	18	6.0	4.0	8.2	21	5.2	3.4	7.1	12.3	3.2	0.8	2.4
PAKISTAN, Karachi (1995-2002)	*18*	*3.2*	*4.6*	*1.8*	*19*	*2.7*	*3.8*	*1.4*	*5.0*	*3.6*	*0.6*	*0.7*
PAKISTAN, Lahore (2008-2012)	61	3.8	3.9	3.6	64	3.0	3.2	2.8	8.0	2.0	0.0	0.6
PHILIPPINES, 2 registries (1993-2012)	353	4.9	5.2	4.6	380	4.0	4.3	3.8	10.1	2.1	0.9	1.1
QATAR (2002-2014)	*15*	*5.2*	*3.4*	*7.2*	*17*	*4.6*	*2.6*	*6.9*	*11.8*	*2.0*	*0.0*	*2.5*
SAUDI ARABIA, Riyadh (1994-2012)	196	6.2	5.2	7.1	201	4.9	4.2	5.7	13.0	3.0	0.6	0.6
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	168	6.4	5.4	7.4	173	5.1	4.3	5.9	13.4	3.2	0.7	0.7
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	28	5.0	4.2	5.8	28	3.9	3.3	4.5	11.2	2.1	0.0	0.0
THAILAND, 6 registries (1993-2013)	115	3.4	3.3	3.5	129	2.8	2.6	3.1	7.3	1.3	0.6	0.9
TURKEY, paediatric (2009-2011)	284	5.7	4.9	6.5	-	-	-	-	11.3	3.4	0.6	-
TURKEY, 8 registries (1992-2012)	267	7.8	7.8	7.8	280	6.2	6.2	6.3	15.8	4.4	0.9	0.9
VIET NAM, Ho Chi Minh City (1995-2013)	163	7.3	7.6	7.1	169	5.8	6.0	5.6	15.0	3.8	1.1	0.5
EUROPE												
AUSTRIA (1990-2012)	243	9.1	8.3	9.9	261	7.4	6.6	8.2	18.5	4.8	1.2	1.6
BELARUS, paediatric (1990-2014)	358	9.5	8.9	10.0	385	7.7	7.1	8.3	18.4	6.0	1.3	1.5
BELGIUM (2004-2013)	149	9.0	8.7	9.4	160	7.4	7.1	7.7	18.5	4.3	1.6	1.7
BULGARIA (1990-2013)	175	6.7	7.5	5.9	188	5.5	6.1	4.8	13.0	4.1	1.2	1.0
CROATIA (2001-2014)	98	12.3	14.6	9.9	110	10.3	12.2	8.3	26.6	4.5	1.8	3.4
CYPRUS, South-West (1998-2012)	18	9.8	9.6	9.9	20	8.1	8.4	7.7	22.2	1.4	2.5	2.3
CZECH REPUBLIC (1990-2012)	355	10.5	9.0	12.0	382	8.5	7.3	9.7	21.2	6.1	1.1	1.6
ESTONIA (1990-2012)	53	10.5	9.6	11.5	57	8.6	7.7	9.5	19.6	8.3	1.0	1.8

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of renal tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.7. Renal tumours (VI): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1270	9.6	8.9	10.3	-	-	-	-	19.6	5.4	0.9	-
FRANCE, 13 registries (1993-2012)	278	10.0	9.5	10.5	299	8.2	7.7	8.6	20.7	5.4	0.9	1.9
GERMANY, paediatric (1996-2012)	1718	9.9	9.0	10.8	-	-	-	-	20.1	5.4	1.1	-
GERMANY, 6 Eastern states (2001-2007)	123	10.4	10.2	10.6	136	8.4	8.4	8.5	18.9	8.2	1.4	1.7
GERMANY, 5 Western registries (1994-2012)	380	9.2	8.2	10.2	397	7.3	6.5	8.2	18.7	4.8	1.2	0.9
HUNGARY, paediatric (1991-2014)	302	8.8	8.3	9.4	-	-	-	-	18.2	4.5	1.1	-
ICELAND (1990-2014)	*9*	*6.2*	*9.6*	*2.6*	*9*	*4.8*	*7.4*	*2.1*	*14.4*	*1.8*	*0.0*	*0.0*
IRELAND (1994-2012)	130	8.7	7.1	10.5	133	6.9	5.7	8.2	18.1	4.8	0.7	0.5
ITALY, 2 paediatric registries (1998-2011)	73	9.6	10.3	9.0	76	7.7	8.0	7.4	21.1	3.9	0.7	1.0
ITALY, Piedmont, paediatric (1990-2011)	96	9.1	9.5	8.8	-	-	-	-	18.5	4.9	1.2	-
ITALY, 26 registries (1992-2013)	337	9.0	8.2	9.9	352	7.2	6.6	7.9	17.4	5.9	1.3	1.0
LITHUANIA (2000-2012)	60	10.5	8.7	12.3	70	8.8	7.3	10.4	21.8	4.4	2.1	3.2
MALTA (1994-2013)	*18*	*14.4*	*15.8*	*13.0*	*19*	*11.6*	*12.2*	*10.9*	*27.5*	*8.4*	*3.8*	*1.8*
THE NETHERLANDS (1993-2013)	544	9.9	9.7	10.0	564	7.9	7.7	8.1	20.4	5.3	0.9	1.0
NORWAY (1990-2013)	160	8.2	7.0	9.5	166	6.5	5.6	7.5	15.6	5.1	1.7	0.9
POLAND (2001-2013)	687	10.0	9.1	11.0	747	8.1	7.4	8.9	20.2	5.5	1.4	1.7
PORTUGAL (1991-2012)	228	9.5	8.2	10.8	246	7.7	6.9	8.6	18.6	5.4	1.8	1.8
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	70	9.5	7.8	11.4	-	-	-	-	19.1	5.4	1.4	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	107	10.5	9.5	11.5	115	8.5	7.7	9.3	20.4	5.6	2.7	1.6
SLOVAKIA (1990-2009)	162	9.1	7.8	10.6	175	7.4	6.4	8.4	17.9	6.2	0.6	1.5
SLOVAKIA, paediatric (2000-2012)	100	10.2	7.1	13.4	-	-	-	-	20.3	6.9	0.5	-
SLOVENIA (1991-2012)	62	10.7	10.5	10.9	63	8.4	8.2	8.6	24.1	3.9	0.4	0.3
SPAIN, 2 paediatric registries (1991-2013)	359	8.1	8.0	8.3	-	-	-	-	17.1	3.8	0.9	-
SPAIN, selected regions, paediatric (2000-2013)	263	8.0	7.9	8.2	-	-	-	-	17.2	3.4	0.9	-
SPAIN, Valencia, paediatric (1991-2010)	96	8.3	8.2	8.5	-	-	-	-	16.9	4.8	0.8	-
SPAIN, 11 registries (1990-2013)	237	8.7	8.6	8.7	257	7.1	7.0	7.1	18.7	3.5	1.0	1.5
SWEDEN (1990-2011)	282	9.0	8.7	9.3	297	7.2	6.9	7.6	19.0	4.2	1.0	1.2
SWITZERLAND, paediatric (1990-2013)	232	8.9	7.9	10.0	-	-	-	-	17.1	6.1	1.1	-
SWITZERLAND, 7 registries (1990-2013)	80	8.2	7.7	8.7	89	6.9	6.3	7.5	14.1	7.1	1.4	2.5
UKRAINE (2002-2012)	695	10.8	10.1	11.7	754	8.8	8.0	9.6	22.6	5.4	1.3	1.6
UK (2000-2011)	1057	9.1	8.5	9.6	1107	7.3	6.8	7.7	18.9	4.4	1.2	1.1
UK, England and Wales, paediatric (1991-2010)	1514	8.6	8.1	9.2	-	-	-	-	17.8	4.2	1.2	-
OCEANIA												
AUSTRALIA (1992-2014)	715	9.0	8.3	9.8	758	7.3	6.7	8.0	18.3	5.0	1.2	1.4
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*11*	*4.7*	*5.1*	*4.4*	*11*	*3.7*	*3.9*	*3.4*	*8.1*	*3.7*	*1.4*	*0.0*
FRANCE, 2 registries (1990-2013)	24	8.7	8.1	9.4	24	6.8	6.3	7.3	17.1	3.9	2.9	0.0
NEW ZEALAND (1993-2012)	132	8.4	7.7	9.1	142	6.9	6.3	7.4	18.0	3.2	1.2	1.7
NEW ZEALAND, Maori (1993-2012)	23	5.6	5.7	5.6	27	5.1	5.1	5.1	14.0	0.0	0.7	3.3
NEW ZEALAND, Pacific peoples (1993-2012)	*8*	*5.5*	*6.6*	*4.3*	*9*	*4.8*	*6.1*	*3.3*	*12.6*	*1.9*	*0.0*	*2.3*
NEW ZEALAND, Other (1993-2012)	101	9.8	8.6	11.1	106	7.9	6.9	9.0	20.5	4.6	1.5	1.2
NEW ZEALAND, paediatric (2000-2012)	83	8.1	7.2	9.0	-	-	-	-	17.5	2.9	1.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*10*	*3.7*	*4.3*	*3.1*	-	-	-	-	*8.8*	*0.0*	*1.1*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	73	9.6	8.2	11.1	-	-	-	-	20.6	3.8	1.3	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of renal tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.8. Hepatic tumours (VII): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*13*	*0.8*	*1.0*	*0.7*	*16*	*0.8*	*0.9*	*0.7*	*1.9*	*0.2*	*0.2*	*0.4*
BOTSWANA (1999-2007)	*5*	*1.0*	*1.2*	*0.7*	*8*	*1.1*	*1.2*	*1.1*	*2.1*	*0.0*	*0.5*	*1.7*
CAMEROON, Yaoundé (2004-2006)	*4*	*1.7*	*3.5*	*0.0*	*7*	*2.4*	*3.4*	*1.4*	*0.0*	*2.5*	*3.0*	*4.9*
EGYPT, Gharbiah (1999-2010)	17	1.3	1.6	1.1	20	1.1	1.4	0.9	2.9	0.4	0.2	0.5
FRANCE, Réunion (1990-2011)	*9*	*2.2*	*3.4*	*0.9*	*9*	*1.7*	*2.6*	*0.7*	*4.1*	*0.7*	*1.3*	*0.0*
KENYA, 2 registries (2000-2012)	*6*	*0.6*	*0.8*	*0.4*	*14*	*1.1*	*2.0*	*0.3*	*0.2*	*0.0*	*1.7*	*2.7*
LIBYA, Benghazi (2003-2008)	*5*	*1.8*	*2.8*	*0.8*	*5*	*1.4*	*2.2*	*0.6*	*3.9*	*0.0*	*1.0*	*0.0*
MALI, Bamako (2005-2014)	20	2.8	4.0	1.7	35	3.5	4.9	2.2	3.9	1.3	2.9	5.9
MAURITIUS (2001-2013)	*2*	*0.7*	*0.7*	*0.7*	*2*	*0.5*	*0.5*	*0.5*	*1.7*	*0.0*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*11*	*1.3*	*1.6*	*1.1*	*11*	*1.0*	*1.2*	*0.8*	*2.7*	*0.0*	*1.0*	*0.0*
SOUTH AFRICA, paediatric (1998-2012)	194	0.9	1.1	0.8	-	-	-	-	1.6	0.5	0.5	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*7*	*2.0*	*2.7*	*1.3*	-	-	-	-	*4.0*	*0.8*	*0.7*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	143	0.8	0.9	0.7	-	-	-	-	1.3	0.4	0.6	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	25	1.5	1.5	1.4	-	-	-	-	3.0	0.8	0.2	-
SOUTH AFRICA, paediatric, White (1998-2012)	*19*	*1.9*	*2.2*	*1.5*	-	-	-	-	*4.3*	*0.5*	*0.2*	-
TUNISIA, 2 registries (1993-2007)	24	1.3	1.8	0.7	27	1.1	1.6	0.6	1.5	0.8	1.5	0.4
UGANDA, Kyadondo (1996-2013)	17	1.2	1.4	1.1	37	2.0	2.5	1.6	1.0	0.7	2.1	4.4
ZIMBABWE, Harare, African (1995-2013)	23	2.7	2.9	2.5	37	3.2	3.9	2.5	2.3	1.9	4.2	4.7
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	258	1.9	2.2	1.6	-	-	-	-	3.8	0.6	0.9	-
ARGENTINA, 6 registries (1991-2013)	32	1.6	2.0	1.1	34	1.3	1.7	0.9	2.9	0.5	0.9	0.3
BRAZIL, 5 registries (1995-2012)	31	1.8	1.9	1.8	42	1.8	1.8	1.8	3.4	0.8	0.9	1.5
CHILE, paediatric (2007-2011)	49	3.0	3.4	2.5	-	-	-	-	6.2	1.3	0.6	-
CHILE, 4 registries (1998-2012)	*15*	*4.1*	*5.4*	*2.8*	*15*	*3.2*	*4.2*	*2.2*	*10.6*	*0.0*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	31	2.0	2.3	1.7	34	1.6	1.7	1.5	3.6	0.9	1.0	0.5
COSTA RICA (1993-2012)	50	2.3	2.6	1.9	64	2.1	2.6	1.7	3.8	1.0	1.6	1.8
CUBA (2000-2012)	32	1.3	1.4	1.2	41	1.2	1.3	1.1	2.4	0.3	0.9	0.9
ECUADOR, 5 registries (1993-2013)	66	3.3	4.2	2.4	75	2.8	3.6	2.0	6.1	1.5	1.5	1.2
FRANCE, 3 registries (1990-2012)	*3*	*1.1*	*0.7*	*1.4*	*4*	*1.0*	*0.6*	*1.5*	*2.0*	*1.0*	*0.0*	*0.9*
HONDURAS, Francisco Morazán (2002-2012)	20	3.9	6.5	1.2	36	5.4	8.7	2.1	3.9	0.6	7.5	10.7
JAMAICA, Kingston and St Andrew (1982-2012)	*6*	*1.2*	*0.4*	*2.1*	*11*	*1.5*	*1.2*	*1.8*	*3.1*	*0.0*	*0.0*	*2.5*
MEXICO, Mexico City, paediatric (1997-2013)	34	3.3	3.8	2.7	-	-	-	-	7.3	1.0	0.5	-
PERU, Lima (2010-2012)	22	3.3	4.3	2.2	33	3.5	4.6	2.4	5.1	2.6	1.7	4.2
PERU, Trujillo (1990-2002)	*5*	*2.4*	*1.8*	*3.0*	*7*	*2.3*	*1.9*	*2.8*	*5.0*	*1.3*	*0.0*	*2.3*
USA, Puerto Rico (1992-2012)	27	1.7	2.2	1.0	29	1.4	1.9	0.8	3.0	0.7	1.0	0.3
URUGUAY (1993-2012)	20	1.4	1.6	1.3	23	1.2	1.3	1.2	2.6	1.0	0.4	0.6
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	288	2.8	3.4	2.2	330	2.4	2.9	1.9	5.9	0.9	0.9	1.0
USA (1998-2012)	2427	3.0	3.5	2.5	2851	2.6	3.0	2.2	6.4	0.8	0.9	1.3
USA, API (1998-2012)	159	3.8	5.0	2.6	189	3.4	4.4	2.3	8.0	1.3	1.1	2.0
USA, Black (1998-2012)	258	1.9	2.3	1.6	319	1.8	2.1	1.5	3.8	0.7	0.8	1.2
USA, Hispanic White (1998-2012)	556	3.5	4.0	2.9	625	3.0	3.4	2.6	7.3	1.0	1.2	1.3
USA, Native American (1998-2012)	30	2.3	3.1	1.6	33	1.9	2.6	1.2	5.0	0.8	0.4	0.6
USA, White NH (1998-2012)	1354	3.0	3.4	2.5	1604	2.6	2.9	2.3	6.4	0.7	0.9	1.3
USA, NPCR (1998-2012)	2296	3.0	3.5	2.5	2705	2.6	3.0	2.2	6.3	0.8	0.9	1.4
USA, SEER 18 (1993-2012)	822	3.2	3.8	2.5	950	2.8	3.3	2.2	6.7	1.0	1.0	1.3
USA, Hawaii, Hawaiian (1993-2012)	*5*	*3.5*	*5.4*	*1.4*	*5*	*2.7*	*4.2*	*1.1*	*8.9*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*2*	*0.6*	*0.7*	*0.6*	*2*	*0.5*	*0.5*	*0.5*	*0.9*	*0.0*	*1.0*	*0.0*
CHINA, 6 registries (1990-2013)	235	4.8	5.3	4.2	321	4.4	5.1	3.6	9.2	1.3	2.7	3.0
CHINA, Hong Kong (1990-2013)	115	5.3	6.1	4.4	159	5.0	6.1	3.9	9.5	1.8	3.4	4.2
INDIA, 7 registries (1990-2013)	243	1.7	1.9	1.4	279	1.4	1.6	1.2	3.4	0.7	0.4	0.6
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*6*	*1.6*	*0.8*	*2.5*	*6*	*1.3*	*0.7*	*1.9*	*1.8*	*0.9*	*2.2*	*0.0*
ISRAEL (1990-2012)	73	1.8	2.2	1.5	85	1.7	1.9	1.4	3.6	0.7	0.9	1.0
ISRAEL, Jews (1990-2012)	53	1.9	2.4	1.2	63	1.7	2.2	1.2	3.7	0.6	0.8	1.1
ISRAEL, Non-Jews (1990-2012)	20	1.8	1.4	2.2	22	1.6	1.2	1.9	3.4	0.8	0.9	0.7
JAPAN, 8 registries (1990-2013)	196	3.8	4.4	3.1	209	3.1	3.6	2.5	8.4	0.9	0.8	0.5
JORDAN, Jordanians (2000-2012)	35	1.4	1.3	1.5	45	1.4	1.5	1.3	2.8	0.5	0.5	1.3
REPUBLIC OF KOREA (1999-2012)	362	3.4	3.7	3.1	450	3.1	3.4	2.7	7.0	1.2	1.1	1.8
KUWAIT (1994-2012)	16	1.3	0.8	1.9	27	1.8	1.7	1.9	1.8	1.0	1.1	3.4
KUWAIT, Kuwaitis (1994-2012)	*12*	*1.7*	*1.1*	*2.3*	*18*	*2.0*	*1.8*	*2.3*	*2.3*	*1.3*	*1.4*	*3.2*
KUWAIT, Non-Kuwaitis (1994-2012)	*4*	*0.8*	*0.4*	*1.3*	*9*	*1.5*	*1.5*	*1.3*	*1.1*	*0.6*	*0.7*	*3.7*
LEBANON (2008-2010)	*3*	*1.0*	*0.7*	*1.2*	*3*	*0.7*	*0.6*	*0.9*	*1.9*	*0.0*	*0.8*	*0.0*
PAKISTAN, Karachi (1995-2002)	*5*	*0.9*	*1.4*	*0.4*	*6*	*0.9*	*1.4*	*0.3*	*1.5*	*1.0*	*0.0*	*0.7*
PAKISTAN, Lahore (2008-2012)	*6*	*0.4*	*0.2*	*0.5*	*9*	*0.4*	*0.3*	*0.5*	*0.7*	*0.3*	*0.0*	*0.6*
PHILIPPINES, 2 registries (1993-2012)	234	3.2	3.7	2.7	297	3.1	3.7	2.4	5.5	1.7	1.8	2.6
QATAR (2002-2014)	*5*	*1.7*	*0.7*	*2.9*	*5*	*1.4*	*0.5*	*2.2*	*3.6*	*0.0*	*1.2*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	64	2.0	2.6	1.4	74	1.8	2.2	1.4	4.2	0.5	0.8	1.2
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	50	1.9	2.4	1.4	59	1.7	2.1	1.4	4.0	0.5	0.6	1.2
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*14*	*2.5*	*3.5*	*1.5*	*15*	*2.1*	*2.7*	*1.5*	*4.7*	*0.5*	*1.9*	*0.8*
THAILAND, 6 registries (1993-2013)	92	2.6	3.2	1.9	126	2.5	3.1	1.8	4.6	1.1	1.5	2.1
TURKEY, paediatric (2009-2011)	84	1.7	2.0	1.3	-	-	-	-	3.5	0.6	0.5	-
TURKEY, 8 registries (1992-2012)	67	2.0	2.2	1.8	78	1.7	1.8	1.6	4.2	0.6	0.4	0.8
VIET NAM, Ho Chi Minh City (1995-2013)	73	3.2	3.9	2.4	108	3.2	4.3	2.1	5.4	2.2	1.4	3.1
EUROPE												
AUSTRIA (1990-2012)	40	1.5	2.2	0.7	49	1.3	1.9	0.7	2.8	1.0	0.3	0.8
BELARUS, paediatric (1990-2014)	76	1.9	2.3	1.5	92	1.7	1.9	1.4	3.8	0.7	0.9	0.9
BELGIUM (2004-2013)	30	1.8	1.7	1.9	34	1.5	1.5	1.6	3.8	0.5	0.6	0.6
BULGARIA (1990-2013)	41	1.5	1.7	1.3	55	1.4	1.6	1.2	2.9	0.4	0.9	1.1
CROATIA (2001-2014)	23	2.9	3.8	1.9	26	2.4	3.2	1.6	6.5	0.0	1.2	0.8
CYPRUS, South-West (1998-2012)	*4*	*1.9*	*2.8*	*0.9*	*5*	*1.7*	*2.7*	*0.7*	*1.5*	*4.1*	*0.0*	*1.1*
CZECH REPUBLIC (1990-2012)	94	2.7	3.4	2.1	108	2.3	2.8	1.8	5.8	0.6	1.0	0.8
ESTONIA (1990-2012)	*12*	*2.3*	*2.0*	*2.8*	*14*	*2.0*	*1.7*	*2.3*	*4.5*	*1.0*	*1.0*	*0.9*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of hepatic tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.8. Hepatic tumours (VII): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	246	1.8	2.1	1.6	-	-	-	-	3.7	0.7	0.6	-
FRANCE, 13 registries (1993-2012)	53	1.9	2.2	1.5	70	1.8	2.0	1.6	3.9	0.7	0.6	1.5
GERMANY, paediatric (1996-2012)	361	2.1	2.5	1.6	-	-	-	-	4.3	0.6	0.7	-
GERMANY, 6 Eastern states (2001-2007)	22	1.9	2.9	0.7	28	1.6	2.5	0.7	3.9	0.7	0.4	0.8
GERMANY, 5 Western registries (1994-2012)	99	2.4	2.6	2.1	116	2.0	2.2	1.9	5.1	0.5	0.9	0.9
HUNGARY, paediatric (1991-2014)	84	2.5	2.6	2.3	-	-	-	-	5.5	0.6	0.5	-
ICELAND (1990-2014)	*3*	*1.8*	*3.5*	*0.0*	*4*	*1.8*	*3.5*	*0.0*	*1.8*	*0.0*	*3.7*	*1.8*
IRELAND (1994-2012)	31	2.1	2.5	1.7	39	1.9	2.1	1.8	4.7	0.5	0.4	1.3
ITALY, 2 paediatric registries (1998-2011)	24	3.0	4.4	1.6	26	2.5	3.5	1.4	5.3	1.4	1.8	0.7
ITALY, Piedmont, paediatric (1990-2011)	27	2.5	2.7	2.3	-	-	-	-	5.4	0.5	1.0	-
ITALY, 26 registries (1992-2013)	82	2.2	2.8	1.6	95	1.9	2.4	1.4	4.7	0.7	0.6	0.9
LITHUANIA (2000-2012)	*9*	*1.2*	*1.8*	*0.6*	*11*	*1.1*	*1.6*	*0.6*	*1.5*	*0.4*	*1.8*	*0.6*
MALTA (1994-2013)	*3*	*2.7*	*5.2*	*0.0*	*3*	*2.1*	*4.0*	*0.0*	*6.9*	*0.0*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	134	2.4	2.7	2.0	156	2.1	2.4	1.8	4.7	1.3	0.6	1.1
NORWAY (1990-2013)	56	2.9	3.2	2.6	67	2.6	2.7	2.5	6.3	0.6	1.0	1.6
POLAND (2001-2013)	152	2.2	2.6	1.7	195	2.0	2.3	1.6	4.5	0.6	0.8	1.2
PORTUGAL (1991-2012)	48	2.0	2.1	1.9	54	1.7	1.8	1.5	3.8	1.0	0.6	0.6
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*18*	*2.5*	*3.4*	*1.5*	-	-	-	-	*5.6*	*0.4*	*0.6*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	18	1.8	2.4	1.3	22	1.6	1.9	1.2	4.3	0.6	0.0	0.8
SLOVAKIA (1990-2009)	42	2.3	2.7	2.0	52	2.1	2.4	1.7	4.8	0.7	0.9	1.1
SLOVAKIA, paediatric (2000-2012)	31	2.9	3.4	2.4	-	-	-	-	5.1	1.3	1.8	-
SLOVENIA (1991-2012)	*13*	*2.2*	*2.1*	*2.4*	*13*	*1.7*	*1.6*	*1.8*	*5.1*	*0.4*	*0.4*	*0.0*
SPAIN, 2 paediatric registries (1991-2013)	99	2.2	2.6	1.8	-	-	-	-	4.6	0.8	0.6	-
SPAIN, selected regions, paediatric (2000-2013)	73	2.2	2.9	1.4	-	-	-	-	4.5	1.0	0.6	-
SPAIN, Valencia, paediatric (1991-2010)	26	2.2	1.7	2.8	-	-	-	-	5.0	0.2	0.8	-
SPAIN, 11 registries (1990-2013)	60	2.1	2.7	1.5	79	2.0	2.6	1.3	4.3	0.8	0.8	1.4
SWEDEN (1990-2011)	79	2.5	3.2	1.8	89	2.1	2.7	1.5	5.5	0.7	0.6	0.8
SWITZERLAND, paediatric (1990-2013)	54	2.0	2.6	1.4	-	-	-	-	3.8	0.7	1.1	-
SWITZERLAND, 7 registries (1990-2013)	26	2.7	3.3	1.9	35	2.6	3.2	2.0	5.1	0.8	1.4	2.5
UKRAINE (2002-2012)	159	2.5	2.9	2.0	198	2.1	2.6	1.7	5.4	0.6	0.6	1.1
UK (2000-2011)	262	2.2	2.4	2.1	321	2.0	2.2	1.9	4.8	0.5	0.8	1.3
UK, England and Wales, paediatric (1991-2010)	319	1.8	2.0	1.6	-	-	-	-	3.8	0.4	0.7	-
OCEANIA												
AUSTRALIA (1992-2014)	217	2.7	3.1	2.4	241	2.3	2.6	2.0	5.8	0.8	0.9	0.8
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*4*	*1.7*	*1.7*	*1.8*	*4*	*1.4*	*1.3*	*1.4*	*3.5*	*1.2*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*7*	*2.5*	*2.5*	*2.4*	*9*	*2.4*	*2.8*	*1.9*	*4.0*	*1.9*	*1.0*	*2.0*
NEW ZEALAND (1993-2012)	41	2.5	2.9	2.1	51	2.4	2.8	1.9	4.9	1.2	0.9	1.7
NEW ZEALAND, Maori (1993-2012)	*7*	*1.7*	*1.9*	*1.5*	*9*	*1.7*	*1.9*	*1.5*	*3.8*	*0.0*	*0.7*	*1.7*
NEW ZEALAND, Pacific peoples (1993-2012)	*5*	*3.3*	*3.9*	*2.6*	*6*	*3.0*	*4.0*	*2.0*	*3.6*	*3.9*	*2.1*	*2.3*
NEW ZEALAND, Other (1993-2012)	29	2.8	3.2	2.3	36	2.5	3.0	2.0	5.6	1.3	0.7	1.7
NEW ZEALAND, paediatric (2000-2012)	22	2.1	2.3	1.9	-	-	-	-	3.9	1.6	0.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*5*	*1.8*	*1.5*	*2.2*	-	-	-	-	*3.9*	*0.0*	*1.1*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*17*	*2.2*	*2.6*	*1.8*	-	-	-	-	*3.9*	*2.1*	*0.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of hepatic tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.9. Malignant bone tumours (VIII): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	127	6.6	7.9	5.3	247	9.1	11.0	7.1	2.3	5.1	14.1	17.7
BOTSWANA (1999-2007)	20	3.2	2.5	3.9	41	5.2	5.5	4.8	0.5	2.1	8.1	11.8
CAMEROON, Yaoundé (2004-2006)	*4*	*1.7*	*0.8*	*2.5*	*13*	*4.6*	*6.7*	*2.6*	*0.0*	*2.5*	*3.0*	*14.7*
EGYPT, Gharbiah (1999-2010)	91	5.3	5.2	5.5	172	7.5	8.3	6.6	1.5	5.1	10.7	14.8
FRANCE, Réunion (1990-2011)	27	5.6	6.5	4.7	44	7.0	8.7	5.3	1.4	6.1	10.8	11.8
KENYA, 2 registries (2000-2012)	55	5.3	6.2	4.4	131	9.9	12.9	7.3	0.7	3.4	13.5	25.7
LIBYA, Benghazi (2003-2008)	16	5.0	6.0	4.0	22	5.2	6.4	4.0	2.0	3.1	11.1	6.0
MALI, Bamako (2005-2014)	61	8.4	7.8	9.0	97	9.7	11.2	8.6	5.0	5.0	16.7	14.1
MAURITIUS (2001-2013)	19	4.5	7.5	1.5	27	4.9	7.2	2.5	0.9	6.3	7.5	6.1
MOROCCO, 2 registries (2005-2012)	85	8.7	9.5	8.0	163	12.2	13.8	10.6	3.0	8.2	16.9	24.0
SOUTH AFRICA, paediatric (1998-2012)	390	1.6	1.8	1.5	-	-	-	-	0.4	1.4	3.6	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*13*	*2.8*	*1.7*	*4.0*	-	-	-	-	*0.0*	*2.3*	*7.1*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	269	1.4	1.5	1.2	-	-	-	-	0.3	1.1	3.0	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	41	2.0	1.7	2.2	-	-	-	-	0.3	1.9	4.3	-
SOUTH AFRICA, paediatric, White (1998-2012)	67	5.0	5.4	4.6	-	-	-	-	1.9	5.1	9.1	-
TUNISIA, 2 registries (1993-2007)	124	5.7	6.1	5.2	221	7.5	8.2	6.9	0.9	5.1	12.8	13.9
UGANDA, Kyadondo (1996-2013)	69	4.9	5.2	4.6	129	6.8	8.1	5.8	1.2	4.0	10.9	13.3
ZIMBABWE, Harare, African (1995-2013)	50	6.0	6.2	5.8	94	8.0	8.9	7.2	2.3	3.4	14.0	14.9
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	877	5.6	5.8	5.3	-	-	-	-	1.3	5.1	11.7	-
ARGENTINA, 6 registries (1991-2013)	157	6.4	7.3	5.5	245	7.6	9.3	5.9	1.5	5.2	14.3	11.8
BRAZIL, 5 registries (1995-2012)	146	7.1	7.3	7.0	289	9.9	11.6	8.3	2.2	7.1	13.8	19.5
CHILE, paediatric (2007-2011)	129	6.1	5.8	6.5	-	-	-	-	1.7	5.6	12.7	-
CHILE, 4 registries (1998-2012)	26	5.1	5.6	4.6	53	7.6	9.3	5.7	2.1	4.6	9.7	15.9
COLOMBIA, 4 registries (1992-2013)	110	5.5	5.9	5.1	207	7.8	9.2	6.5	0.4	5.2	12.7	15.7
COSTA RICA (1993-2012)	114	4.2	3.9	4.6	232	6.6	7.0	6.2	0.4	3.4	10.3	14.8
CUBA (2000-2012)	166	5.3	5.2	5.4	302	7.1	7.2	6.9	1.4	3.5	12.5	13.1
ECUADOR, 5 registries (1993-2013)	141	5.8	6.7	4.8	235	7.3	8.5	6.1	0.6	4.9	13.7	12.8
FRANCE, 3 registries (1990-2012)	18	5.2	6.5	3.9	29	6.4	8.8	3.9	2.0	3.8	11.1	10.4
HONDURAS, Francisco Morazán (2002-2012)	25	4.6	5.1	4.1	48	7.0	8.9	5.2	0.6	2.9	11.9	15.4
JAMAICA, Kingston and St Andrew (1982-2012)	16	2.4	1.2	3.6	40	4.5	4.6	4.5	0.0	2.1	6.0	11.8
MEXICO, Mexico City, paediatric (1997-2013)	84	6.5	6.4	6.7	-	-	-	-	2.3	6.1	12.6	-
PERU, Lima (2010-2012)	45	5.9	6.5	5.2	77	7.3	8.8	5.7	1.3	5.1	12.8	12.1
PERU, Trujillo (1990-2002)	11	4.3	4.1	4.5	21	5.9	8.1	4.0	0.0	7.8	6.1	11.4
USA, Puerto Rico (1992-2012)	103	5.1	4.7	5.6	175	6.5	7.0	6.0	1.1	5.0	10.7	11.3
URUGUAY (1993-2012)	124	7.4	7.8	6.9	195	8.8	10.4	7.1	1.8	7.3	14.8	13.7
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	812	6.3	6.3	6.4	1430	8.2	8.9	7.5	1.9	5.9	12.7	14.7
USA (1998-2012)	6155	6.1	6.2	6.1	10766	8.0	8.8	7.2	1.4	5.5	13.2	14.6
USA, API (1998-2012)	226	4.7	4.7	4.6	401	6.2	6.7	5.6	1.2	4.6	9.4	11.4
USA, Black (1998-2012)	789	4.7	4.5	5.0	1390	6.3	6.8	5.8	0.8	4.3	10.6	11.7
USA, Hispanic White (1998-2012)	1130	6.4	6.4	6.3	1847	8.1	8.8	7.2	1.4	5.4	14.1	13.9
USA, Native American (1998-2012)	62	3.8	4.7	2.9	105	4.9	5.3	4.5	0.6	4.0	8.0	8.5
USA, White NH (1998-2012)	3829	6.4	6.5	6.4	6809	8.5	9.3	7.5	1.5	5.8	13.7	15.4
USA, NPCR (1998-2012)	5869	6.1	6.1	6.1	10277	8.0	8.8	7.2	1.4	5.4	13.2	14.6
USA, SEER 18 (1993-2012)	1937	6.2	6.5	5.8	3346	8.1	9.3	6.8	1.4	5.6	13.1	14.6
USA, Hawaii, Hawaiian (1993-2012)	15	8.7	10.1	7.2	22	9.9	12.2	7.5	0.0	16.9	11.3	14.0
ASIA												
BAHRAIN (1998-2012)	18	5.4	7.0	3.7	28	6.7	8.8	4.4	1.8	2.8	13.1	10.9
CHINA, 6 registries (1990-2013)	342	5.2	5.4	4.9	630	6.3	6.9	5.7	1.4	4.7	10.7	10.2
CHINA, Hong Kong (1990-2013)	172	5.9	6.1	5.6	277	6.8	7.2	6.4	2.1	4.7	12.2	10.1
INDIA, 7 registries (1990-2013)	991	5.2	5.8	4.5	1888	7.2	8.4	5.8	2.3	4.1	10.2	14.1
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	19	4.4	4.6	4.1	44	6.7	7.8	5.6	0.9	1.9	11.9	14.8
ISRAEL (1990-2012)	303	7.0	8.4	5.5	531	9.6	12.0	7.2	1.8	6.6	14.4	18.7
ISRAEL, Jews (1990-2012)	230	7.2	8.3	6.1	419	10.2	12.3	8.0	1.4	6.6	15.6	20.4
ISRAEL, Non-Jews (1990-2012)	73	6.4	8.6	4.0	112	7.9	11.0	4.6	2.9	6.6	10.7	13.2
JAPAN, 8 registries (1990-2013)	309	4.5	4.9	4.0	556	5.8	6.8	4.6	0.8	3.8	10.1	10.2
JORDAN, Jordanians (2000-2012)	141	4.9	5.3	4.5	267	7.4	8.6	6.1	1.6	4.8	9.4	15.8
REPUBLIC OF KOREA (1999-2012)	963	6.6	6.7	6.5	1627	8.2	9.2	7.2	2.3	5.5	13.8	13.8
KUWAIT (1994-2012)	*12*	*1.0*	*1.1*	*0.9*	*16*	*1.1*	*1.3*	*0.8*	*1.3*	*1.0*	*0.5*	*1.2*
KUWAIT, Kuwaitis (1994-2012)	*5*	*0.7*	*0.6*	*0.9*	*9*	*1.0*	*1.1*	*0.9*	*0.8*	*0.8*	*0.5*	*2.1*
KUWAIT, Non-Kuwaitis (1994-2012)	*7*	*1.4*	*2.0*	*0.9*	*7*	*1.1*	*1.5*	*0.7*	*2.2*	*1.2*	*0.7*	*0.0*
LEBANON (2008-2010)	30	7.5	9.6	5.3	63	11.8	15.9	7.5	3.8	6.4	13.7	26.6
PAKISTAN, Karachi (1995-2002)	43	7.3	7.8	6.7	79	11.3	11.5	11.0	1.0	3.0	20.4	25.0
PAKISTAN, Lahore (2008-2012)	116	5.7	6.5	4.9	205	8.1	10.0	6.2	1.8	4.8	11.8	16.5
PHILIPPINES, 2 registries (1993-2012)	541	7.0	7.2	6.8	997	9.7	11.2	8.2	1.7	4.6	16.6	19.0
QATAR (2002-2014)	18	6.1	5.8	6.4	24	6.4	6.8	5.7	0.0	3.0	17.5	7.5
SAUDI ARABIA, Riyadh (1994-2012)	201	5.8	6.3	5.3	340	8.1	9.9	6.2	1.9	5.3	11.6	16.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	155	5.3	6.2	4.5	270	7.6	9.7	5.5	1.6	5.1	10.6	15.4
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	46	8.1	6.8	9.5	70	10.7	11.3	10.1	3.3	6.2	16.7	19.7
THAILAND, 6 registries (1993-2013)	193	4.3	4.3	4.3	347	5.5	6.0	4.9	1.1	3.2	9.8	9.5
TURKEY, paediatric (2009-2011)	263	4.2	4.2	4.3	-	-	-	-	1.1	4.3	8.2	-
TURKEY, 8 registries (1992-2012)	278	6.2	6.0	6.5	535	8.9	9.7	8.1	1.7	5.2	13.5	18.0
VIET NAM, Ho Chi Minh City (1995-2013)	97	3.7	3.8	3.6	201	4.9	5.2	4.7	0.6	3.3	8.2	9.2
EUROPE												
AUSTRIA (1990-2012)	264	7.7	8.4	7.0	443	9.6	11.1	8.0	1.9	6.9	16.3	16.1
BELARUS, paediatric (1990-2014)	281	5.4	5.2	5.6	511	7.1	7.7	6.4	1.0	4.9	11.9	12.8
BELGIUM (2004-2013)	165	8.2	8.5	7.9	282	10.5	11.4	9.5	1.5	7.2	18.3	18.3
BULGARIA (1990-2013)	203	5.8	5.3	6.3	392	7.8	8.1	7.6	1.4	4.7	12.8	14.9
CROATIA (2001-2014)	112	11.0	12.0	9.9	186	13.2	13.5	12.8	4.1	12.0	19.0	20.8
CYPRUS, South-West (1998-2012)	26	9.8	9.3	10.2	45	12.4	13.2	11.5	0.0	5.5	27.5	21.4
CZECH REPUBLIC (1990-2012)	283	6.3	7.0	5.6	502	7.9	9.1	6.5	1.9	6.0	12.6	13.1
ESTONIA (1990-2012)	33	5.2	4.4	5.9	72	7.9	8.2	7.7	1.7	6.2	8.6	17.5

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of malignant bone tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.9. Malignant bone tumours (VIII): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1069	6.6	6.8	6.5	-	-	-	-	1.3	6.6	13.8	-
FRANCE, 13 registries (1993-2012)	228	6.5	6.8	6.3	449	9.6	10.6	8.5	1.1	5.4	15.2	20.0
GERMANY, paediatric (1996-2012)	1352	5.8	6.0	5.7	-	-	-	-	1.5	5.2	12.3	-
GERMANY, 6 Eastern states (2001-2007)	123	8.0	7.2	8.8	235	9.5	9.7	9.4	2.7	6.5	16.7	14.9
GERMANY, 5 Western registries (1994-2012)	381	6.7	6.8	6.6	673	8.7	9.8	7.5	1.9	5.2	14.7	15.6
HUNGARY, paediatric (1991-2014)	288	6.4	6.4	6.4	-	-	-	-	1.7	6.9	12.1	-
ICELAND (1990-2014)	9	5.0	6.6	3.3	24	10.0	13.2	6.7	0.0	5.5	11.1	27.4
IRELAND (1994-2012)	104	5.7	6.6	4.7	186	7.5	9.2	5.8	1.3	5.1	12.2	13.8
ITALY, 2 paediatric registries (1998-2011)	64	6.9	5.8	8.0	110	8.9	9.5	8.3	0.7	5.0	17.2	16.0
ITALY, Piedmont, paediatric (1990-2011)	91	6.9	5.9	8.0	-	-	-	-	1.0	5.4	16.5	-
ITALY, 26 registries (1992-2013)	353	7.9	8.2	7.5	568	9.3	10.5	8.1	2.1	6.9	16.6	14.3
LITHUANIA (2000-2012)	44	5.2	4.7	5.7	88	7.2	8.1	6.2	2.0	3.9	11.0	13.9
MALTA (1994-2013)	12	7.4	8.5	6.2	20	8.9	10.5	7.3	0.0	12.6	11.4	14.2
THE NETHERLANDS (1993-2013)	472	7.1	7.2	7.0	812	9.3	9.9	8.6	1.8	7.0	14.3	16.8
NORWAY (1990-2013)	140	6.1	6.0	6.1	244	8.0	8.5	7.6	1.0	5.1	13.9	14.8
POLAND (2001-2013)	533	5.8	5.9	5.8	992	7.4	8.3	6.4	2.2	4.7	12.0	12.8
PORTUGAL (1991-2012)	189	6.3	5.8	6.8	353	8.5	9.0	7.9	1.7	5.8	13.0	16.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	67	6.6	6.9	6.2	-	-	-	-	2.6	5.4	13.2	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	62	4.8	5.0	4.5	115	6.0	6.5	5.6	1.1	3.6	11.0	10.4
SLOVAKIA (1990-2009)	171	6.7	7.1	6.4	300	8.6	9.9	7.1	1.6	4.8	15.8	14.8
SLOVAKIA, paediatric (2000-2012)	99	7.0	7.2	6.8	-	-	-	-	1.1	4.2	17.8	-
SLOVENIA (1991-2012)	36	4.3	3.2	5.5	82	7.0	6.7	7.2	0.0	4.4	10.1	16.0
SPAIN, 2 paediatric registries (1991-2013)	429	8.4	9.4	7.3	-	-	-	-	2.2	8.1	16.8	-
SPAIN, selected regions, paediatric (2000-2013)	301	8.4	9.7	6.9	-	-	-	-	2.2	7.9	17.1	-
SPAIN, Valencia, paediatric (1991-2010)	128	8.4	8.6	8.1	-	-	-	-	2.1	8.9	16.2	-
SPAIN, 11 registries (1990-2013)	329	9.1	9.4	8.8	534	10.6	12.0	9.0	2.4	7.5	19.8	15.6
SWEDEN (1990-2011)	196	5.1	4.8	5.4	387	7.5	8.6	6.3	1.2	5.2	10.2	15.6
SWITZERLAND, paediatric (1990-2013)	204	6.4	6.0	6.7	-	-	-	-	1.3	6.7	12.8	-
SWITZERLAND, 7 registries (1990-2013)	92	8.0	7.9	8.1	154	10.0	10.5	9.6	2.3	8.2	15.5	17.0
UKRAINE (2002-2012)	472	5.4	5.2	5.6	939	7.0	7.5	6.6	1.3	4.8	11.6	12.8
UK (2000-2011)	836	5.7	5.8	5.5	1477	7.5	8.6	6.4	1.1	5.2	12.3	13.8
UK, England and Wales, paediatric (1991-2010)	1129	5.2	5.2	5.2	-	-	-	-	0.8	4.7	11.6	-
OCEANIA												
AUSTRALIA (1992-2014)	557	5.8	5.8	5.9	1019	8.0	9.0	6.9	1.8	4.7	12.4	15.5
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*7*	*2.8*	*1.6*	*4.1*	*11*	*3.6*	*4.0*	*3.2*	*0.0*	*0.0*	*9.6*	*6.3*
FRANCE, 2 registries (1990-2013)	26	7.9	10.3	5.3	51	11.8	15.2	8.3	3.0	6.8	15.7	25.3
NEW ZEALAND (1993-2012)	147	7.6	7.8	7.5	266	10.5	11.1	9.9	1.7	6.5	16.9	20.4
NEW ZEALAND, Maori (1993-2012)	33	7.3	6.4	8.2	63	11.2	11.7	10.8	0.6	7.0	16.4	24.8
NEW ZEALAND, Pacific peoples (1993-2012)	27	16.9	20.9	12.6	35	17.1	19.2	14.9	5.4	9.7	40.1	18.0
NEW ZEALAND, Other (1993-2012)	87	6.7	6.7	6.6	168	9.5	9.9	9.1	1.6	5.9	14.3	19.3
NEW ZEALAND, paediatric (2000-2012)	97	7.5	7.8	7.2	-	-	-	-	1.3	6.6	16.9	-
NEW ZEALAND, paediatric, Maori (2000-2012)	20	6.5	6.4	6.7	-	-	-	-	0.0	7.5	14.2	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	77	7.8	8.3	7.3	-	-	-	-	1.8	6.3	17.7	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of malignant bone tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.10. Soft tissue and other extraosseous sarcomas (IX): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	89	5.3	6.2	4.4	139	5.8	6.5	5.1	7.7	3.6	4.1	7.4
BOTSWANA (1999-2007)	68	11.7	11.9	11.5	95	12.5	12.2	12.7	7.2	17.3	11.3	15.2
CAMEROON, Yaoundé (2004-2006)	25	10.5	11.2	9.8	38	12.9	13.3	12.6	10.8	8.9	11.9	21.3
EGYPT, Gharbiah (1999-2010)	113	7.5	8.7	6.1	197	9.2	10.0	8.4	8.4	5.7	8.1	15.3
FRANCE, Réunion (1990-2011)	32	7.4	7.6	7.2	51	8.7	9.9	7.4	8.9	6.1	6.7	13.2
KENYA, 2 registries (2000-2012)	148	13.8	18.5	9.3	192	14.1	18.4	10.0	11.6	11.3	19.6	14.9
LIBYA, Benghazi (2003-2008)	17	5.8	6.6	5.0	28	7.0	7.8	6.2	6.9	5.2	5.1	10.9
MALI, Bamako (2005-2014)	64	8.8	12.2	5.6	88	8.9	11.9	6.2	7.9	6.7	12.4	9.4
MAURITIUS (2001-2013)	30	8.0	7.9	8.2	44	8.6	8.8	8.4	9.5	4.7	9.7	10.6
MOROCCO, 2 registries (2005-2012)	86	9.7	11.5	8.0	133	10.8	12.9	8.7	12.1	6.9	9.7	14.5
SOUTH AFRICA, paediatric (1998-2012)	977	4.6	5.3	3.8	-	-	-	-	5.7	4.4	3.2	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*14*	*4.2*	*5.4*	*2.9*	-	-	-	-	*8.9*	*2.3*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	812	4.5	5.3	3.7	-	-	-	-	5.4	4.7	3.0	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	88	4.7	4.6	4.7	-	-	-	-	5.6	2.9	5.4	-
SOUTH AFRICA, paediatric, White (1998-2012)	63	5.7	6.9	4.4	-	-	-	-	10.1	2.0	3.9	-
TUNISIA, 2 registries (1993-2007)	91	4.9	6.0	3.8	164	6.2	7.0	5.3	6.4	2.9	5.3	10.5
UGANDA, Kyadondo (1996-2013)	490	36.2	48.0	25.3	693	38.2	48.4	29.1	28.4	40.6	41.6	45.2
ZIMBABWE, Harare, African (1995-2013)	264	31.0	37.0	25.3	360	31.4	38.7	24.8	24.5	38.9	30.9	32.5
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	1087	7.6	8.4	6.8	-	-	-	-	8.9	6.3	7.3	-
ARGENTINA, 6 registries (1991-2013)	176	8.2	8.6	7.8	251	8.6	8.9	8.3	10.1	7.0	7.0	10.1
BRAZIL, 5 registries (1995-2012)	151	8.3	8.0	8.6	244	9.3	9.4	9.2	9.5	7.9	7.2	12.7
CHILE, paediatric (2007-2011)	166	9.1	10.2	8.0	-	-	-	-	11.9	7.2	7.6	-
CHILE, 4 registries (1998-2012)	39	8.1	9.9	6.2	55	8.4	10.2	6.4	5.7	7.3	12.1	9.4
COLOMBIA, 4 registries (1992-2013)	158	9.0	8.8	9.3	224	9.4	10.0	8.9	9.8	7.1	10.3	10.7
COSTA RICA (1993-2012)	142	5.9	6.2	5.6	227	7.0	7.5	6.5	6.2	4.1	7.6	10.7
CUBA (2000-2012)	167	6.4	5.8	7.2	237	6.5	6.4	6.6	8.9	4.8	5.0	6.8
ECUADOR, 5 registries (1993-2013)	134	6.1	6.4	5.8	200	6.7	7.3	6.2	6.7	4.1	7.6	9.0
FRANCE, 3 registries (1990-2012)	34	10.9	14.1	7.6	48	11.4	15.5	7.2	11.8	10.5	10.2	13.2
HONDURAS, Francisco Morazán (2002-2012)	20	4.0	3.5	4.4	36	5.5	5.5	5.5	5.5	1.7	4.4	10.7
JAMAICA, Kingston and St Andrew (1982-2012)	24	4.1	5.7	2.5	42	5.2	6.0	4.3	4.2	4.1	4.0	8.9
MEXICO, Mexico City, paediatric (1997-2013)	78	6.5	5.7	7.3	-	-	-	-	6.2	5.6	7.8	-
PERU, Lima (2010-2012)	56	8.2	9.2	7.1	84	8.7	9.9	7.5	11.0	6.0	6.8	10.6
PERU, Trujillo (1990-2002)	16	6.8	6.9	6.6	26	7.8	8.1	7.5	7.5	6.5	6.1	11.4
USA, Puerto Rico (1992-2012)	145	8.2	8.5	8.0	214	8.8	9.2	8.4	9.9	6.2	8.3	10.8
URUGUAY (1993-2012)	143	9.6	11.4	7.8	184	9.2	11.2	7.2	12.4	7.9	7.9	7.9
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	1151	10.1	10.4	9.7	1764	11.1	11.5	10.7	11.8	8.0	10.1	14.6
USA (1998-2012)	9288	10.3	11.1	9.5	14142	11.5	12.3	10.6	11.7	8.0	11.0	15.3
USA, API (1998-2012)	278	6.2	7.0	5.3	444	7.2	8.3	6.1	7.0	4.2	7.2	10.8
USA, Black (1998-2012)	1546	10.3	10.8	9.8	2390	11.7	12.5	10.9	10.4	7.9	12.8	16.5
USA, Hispanic White (1998-2012)	1624	9.6	10.1	9.1	2336	10.6	11.0	10.0	10.4	8.0	10.4	13.8
USA, Native American (1998-2012)	72	5.1	5.2	4.9	118	6.0	6.5	5.4	7.1	2.5	5.2	9.0
USA, White NH (1998-2012)	5491	10.6	11.5	9.6	8433	11.6	12.6	10.6	12.7	8.0	10.6	15.2
USA, NPCR (1998-2012)	8855	10.3	11.1	9.5	13491	11.4	12.3	10.5	11.8	8.0	11.0	15.3
USA, SEER 18 (1993-2012)	3001	10.5	11.4	9.6	4551	11.8	12.6	10.9	11.7	8.1	11.6	16.1
USA, Hawaii, Hawaiian (1993-2012)	13	7.6	5.8	9.4	23	10.4	8.9	12.0	3.6	5.6	15.1	20.0
ASIA												
BAHRAIN (1998-2012)	22	7.1	7.1	7.0	31	7.7	7.9	7.5	8.3	3.8	9.1	9.8
CHINA, 6 registries (1990-2013)	359	6.6	7.2	6.0	652	7.5	7.9	7.1	9.2	4.0	6.2	10.4
CHINA, Hong Kong (1990-2013)	202	8.6	9.0	8.2	342	9.7	9.9	9.5	12.5	5.4	7.1	13.5
INDIA, 7 registries (1990-2013)	790	4.8	5.6	3.8	1212	5.2	6.1	4.2	6.0	3.9	4.1	6.6
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	14	4.5	5.6	3.2	29	5.5	5.7	5.2	8.9	1.9	1.5	8.9
ISRAEL (1990-2012)	382	9.4	10.0	8.7	573	10.8	11.4	10.1	12.4	6.0	8.9	15.6
ISRAEL, Jews (1990-2012)	295	9.9	10.7	9.2	452	11.5	12.3	10.7	13.1	6.8	9.2	16.9
ISRAEL, Non-Jews (1990-2012)	87	7.8	8.3	7.3	121	8.6	8.9	8.3	10.8	3.9	8.1	11.5
JAPAN, 8 registries (1990-2013)	375	6.3	6.6	5.9	570	6.7	6.8	6.5	7.4	5.0	6.2	8.0
JORDAN, Jordanians (2000-2012)	167	6.3	7.1	5.5	225	6.5	7.5	5.5	8.6	4.5	5.3	7.3
REPUBLIC OF KOREA (1999-2012)	887	7.2	7.8	6.5	1408	8.0	8.7	7.2	9.3	4.6	7.4	10.8
KUWAIT (1994-2012)	95	7.9	9.4	6.3	128	8.4	9.8	6.9	9.4	6.9	6.9	10.2
KUWAIT, Kuwaitis (1994-2012)	49	6.9	8.6	5.2	74	8.3	10.4	6.2	8.4	5.9	6.0	13.3
KUWAIT, Non-Kuwaitis (1994-2012)	46	9.3	10.5	7.9	54	8.5	9.1	7.9	10.8	8.4	8.1	5.9
LEBANON (2008-2010)	41	11.7	13.9	9.4	52	11.1	12.2	9.9	13.3	14.3	6.9	8.9
PAKISTAN, Karachi (1995-2002)	33	5.7	5.7	5.7	62	8.9	10.5	7.1	3.5	5.6	8.7	20.1
PAKISTAN, Lahore (2008-2012)	67	3.6	4.1	3.1	118	4.9	5.7	4.1	3.8	3.7	3.2	9.5
PHILIPPINES, 2 registries (1993-2012)	399	5.3	5.1	5.6	577	5.8	5.7	6.0	6.5	4.0	5.3	7.4
QATAR (2002-2014)	28	9.4	9.8	9.0	40	10.7	10.9	10.5	6.3	10.0	12.9	15.0
SAUDI ARABIA, Riyadh (1994-2012)	209	6.3	7.8	4.7	315	7.6	8.4	6.8	7.7	5.1	5.8	12.2
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	169	6.1	8.1	4.1	259	7.4	8.5	6.4	7.3	5.4	5.4	12.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	40	7.1	6.3	8.0	56	8.5	8.1	8.9	9.4	3.6	8.0	13.1
THAILAND, 6 registries (1993-2013)	194	5.0	5.4	4.6	310	5.5	5.5	5.4	6.3	3.2	5.4	7.2
TURKEY, paediatric (2009-2011)	287	5.3	6.3	4.2	-	-	-	-	7.2	4.1	4.0	-
TURKEY, 8 registries (1992-2012)	333	8.6	9.6	7.5	523	9.6	10.4	8.8	10.2	6.6	8.5	13.3
VIET NAM, Ho Chi Minh City (1995-2013)	147	6.3	7.8	4.7	185	5.6	6.8	4.4	9.2	4.7	4.2	3.4
EUROPE												
AUSTRIA (1990-2012)	269	9.0	9.8	8.1	397	9.6	10.8	8.3	11.5	6.7	8.2	11.5
BELARUS, paediatric (1990-2014)	367	8.4	9.4	7.4	550	8.8	9.6	8.0	10.9	5.1	8.8	10.1
BELGIUM (2004-2013)	188	10.5	11.9	9.0	312	12.5	13.2	11.7	13.8	6.2	10.9	19.4
BULGARIA (1990-2013)	189	6.4	7.5	5.2	311	7.1	8.3	5.9	7.7	5.1	6.0	9.6
CROATIA (2001-2014)	105	12.0	13.2	10.8	147	12.0	13.7	10.2	17.7	10.0	6.6	11.8
CYPRUS, South-West (1998-2012)	21	9.6	11.5	7.6	32	10.2	11.9	8.5	11.8	5.5	11.2	12.4
CZECH REPUBLIC (1990-2012)	383	10.0	11.0	8.9	548	9.9	10.7	9.2	12.9	7.3	9.0	9.9
ESTONIA (1990-2012)	34	6.1	7.0	5.2	55	6.9	8.0	5.7	8.4	4.1	5.3	9.4

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of soft tissue sarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.10. Soft tissue and other extraosseous sarcomas (IX): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1421	9.8	11.3	8.2	-	-	-	-	11.8	8.3	8.9	-
FRANCE, 13 registries (1993-2012)	287	9.4	10.4	8.3	426	10.1	11.3	8.9	11.7	7.3	8.6	12.6
GERMANY, paediatric (1996-2012)	1824	9.2	9.9	8.5	-	-	-	-	11.8	7.2	8.1	-
GERMANY, 6 Eastern states (2001-2007)	110	8.3	9.6	7.1	198	9.1	10.3	7.8	10.9	6.2	7.3	11.7
GERMANY, 5 Western registries (1994-2012)	451	9.4	10.2	8.6	681	10.1	10.9	9.2	11.6	7.7	8.3	12.3
HUNGARY, paediatric (1991-2014)	315	8.3	8.9	7.6	-	-	-	-	11.8	5.8	6.3	-
ICELAND (1990-2014)	15	9.1	11.3	6.8	22	9.9	13.6	6.1	10.8	3.7	12.9	12.8
IRELAND (1994-2012)	158	9.7	11.1	8.2	232	10.3	11.1	9.4	11.8	8.4	8.3	12.5
ITALY, 2 paediatric registries (1998-2011)	78	9.3	8.7	9.9	129	11.2	11.6	10.8	10.9	6.4	10.4	17.7
ITALY, Piedmont, paediatric (1990-2011)	117	10.1	10.0	10.2	-	-	-	-	12.9	6.2	10.7	-
ITALY, 26 registries (1992-2013)	402	9.9	11.3	8.3	626	11.0	12.4	9.5	11.2	8.1	10.0	14.9
LITHUANIA (2000-2012)	55	8.5	10.0	6.8	84	8.6	10.1	7.0	13.9	3.5	6.7	9.1
MALTA (1994-2013)	12	8.1	9.6	6.6	24	11.1	12.1	10.1	6.9	8.4	9.5	21.4
THE NETHERLANDS (1993-2013)	549	9.2	10.1	8.2	864	10.6	11.9	9.3	11.8	7.5	7.6	15.5
NORWAY (1990-2013)	187	8.9	9.4	8.5	288	10.2	10.9	9.4	11.3	5.7	9.5	14.4
POLAND (2001-2013)	638	8.3	9.6	6.8	961	8.4	9.6	7.2	11.1	6.2	6.7	9.0
PORTUGAL (1991-2012)	259	9.8	10.4	9.0	408	10.8	11.8	9.8	12.1	7.6	9.1	14.5
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	67	8.0	9.4	6.6	-	-	-	-	11.2	5.8	6.3	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	85	7.9	7.4	8.3	140	8.5	8.7	8.3	11.8	5.9	4.9	10.8
SLOVAKIA (1990-2009)	189	9.3	9.4	9.2	272	9.4	9.7	9.0	12.5	7.2	7.3	9.5
SLOVAKIA, paediatric (2000-2012)	82	7.3	8.0	6.6	-	-	-	-	9.0	7.1	5.2	-
SLOVENIA (1991-2012)	65	9.3	11.9	6.5	93	9.4	11.7	7.0	9.7	8.7	9.3	9.7
SPAIN, 2 paediatric registries (1991-2013)	469	9.8	10.2	9.5	-	-	-	-	11.6	8.1	9.4	-
SPAIN, selected regions, paediatric (2000-2013)	322	9.4	10.3	8.3	-	-	-	-	10.5	7.7	9.7	-
SPAIN, Valencia, paediatric (1991-2010)	147	11.3	10.2	12.5	-	-	-	-	15.0	9.1	8.9	-
SPAIN, 11 registries (1990-2013)	318	10.2	11.3	9.0	556	12.0	13.3	10.5	12.2	8.6	9.2	18.1
SWEDEN (1990-2011)	346	10.0	11.0	9.0	498	10.6	11.2	9.9	12.7	7.4	9.4	12.4
SWITZERLAND, paediatric (1990-2013)	303	10.6	11.9	9.2	-	-	-	-	13.0	7.3	11.0	-
SWITZERLAND, 7 registries (1990-2013)	122	11.5	12.4	10.6	174	12.1	13.6	10.6	13.0	8.2	13.2	14.3
UKRAINE (2002-2012)	641	8.8	9.5	8.0	1087	9.5	10.2	8.9	11.8	6.1	7.7	12.2
UK (2000-2011)	1183	9.1	9.9	8.3	1680	9.5	10.3	8.6	11.3	6.8	8.8	10.7
UK, England and Wales, paediatric (1991-2010)	1830	9.5	10.4	8.4	-	-	-	-	11.2	7.7	9.1	-
OCEANIA												
AUSTRALIA (1992-2014)	820	9.4	10.2	8.6	1221	10.3	11.5	9.1	11.1	7.3	9.5	13.4
AUSTRALIA, 3 registries, Indigenous (1992-2014)	19	8.2	8.5	7.9	24	8.1	8.0	8.3	13.9	3.7	5.5	7.8
FRANCE, 2 registries (1990-2013)	14	4.3	3.4	5.3	27	6.3	5.3	7.4	2.0	4.9	6.9	13.2
NEW ZEALAND (1993-2012)	178	10.2	10.9	9.5	270	11.5	12.2	10.8	12.2	8.0	10.1	15.7
NEW ZEALAND, Maori (1993-2012)	39	8.8	9.8	7.8	68	12.2	14.6	9.8	6.4	6.3	14.9	24.0
NEW ZEALAND, Pacific peoples (1993-2012)	15	9.7	7.7	11.8	26	13.1	10.0	16.3	9.0	11.7	8.4	24.8
NEW ZEALAND, Other (1993-2012)	124	11.0	11.9	10.1	176	11.3	12.0	10.7	15.2	8.2	8.6	12.4
NEW ZEALAND, paediatric (2000-2012)	113	9.9	11.3	8.3	-	-	-	-	11.8	7.6	9.8	-
NEW ZEALAND, paediatric, Maori (2000-2012)	23	7.8	9.5	6.0	-	-	-	-	4.9	6.4	13.1	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	90	10.7	12.0	9.3	-	-	-	-	14.2	8.0	8.8	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of soft tissue sarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 7.11. Germ cell tumours, trophoblastic tumours, and neoplasms of gonads (X): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	25	1.4	1.3	1.6	57	2.2	1.8	2.6	1.7	0.7	1.8	4.7
BOTSWANA (1999-2007)	*8*	*1.4*	*0.8*	*2.0*	*14*	*1.8*	*0.6*	*3.1*	*1.5*	*0.5*	*2.2*	*3.4*
CAMEROON, Yaoundé (2004-2006)	*3*	*1.3*	*0.9*	*1.7*	*4*	*1.4*	*0.7*	*2.0*	*0.0*	*0.0*	*4.4*	*1.6*
EGYPT, Gharbiah (1999-2010)	43	2.9	2.2	3.6	76	3.6	2.3	5.0	4.0	1.2	3.3	6.0
FRANCE, Réunion (1990-2011)	19	4.3	3.2	5.4	38	6.3	6.2	6.4	3.4	6.1	3.4	13.2
KENYA, 2 registries (2000-2012)	10	0.9	0.4	1.5	22	1.6	0.4	2.7	1.2	0.8	0.7	4.1
LIBYA, Benghazi (2003-2008)	*3*	*1.1*	*1.5*	*0.6*	*6*	*1.5*	*1.6*	*1.4*	*2.0*	*0.0*	*1.0*	*3.0*
MALI, Bamako (2005-2014)	22	3.0	3.4	2.7	49	4.7	2.8	6.1	3.2	2.5	3.3	10.5
MAURITIUS (2001-2013)	18	4.8	5.1	4.5	34	6.4	7.3	5.6	6.0	1.6	6.7	12.1
MOROCCO, 2 registries (2005-2012)	19	2.3	1.7	3.0	34	2.8	1.7	3.9	4.7	0.0	1.6	4.6
SOUTH AFRICA, paediatric (1998-2012)	341	1.6	0.9	2.4	-	-	-	-	2.5	0.9	1.2	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*8*	*2.2*	*3.1*	*1.3*	-	-	-	-	*4.0*	*0.0*	*2.1*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	245	1.4	0.6	2.2	-	-	-	-	2.0	0.8	1.1	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	49	2.8	2.3	3.3	-	-	-	-	5.3	1.3	1.1	-
SOUTH AFRICA, paediatric, White (1998-2012)	38	3.3	2.8	3.8	-	-	-	-	4.8	2.3	2.5	-
TUNISIA, 2 registries (1993-2007)	32	1.6	0.9	2.4	68	2.4	1.7	3.2	1.7	0.6	2.6	5.2
UGANDA, Kyadondo (1996-2013)	22	1.6	1.1	2.0	56	2.9	1.4	4.1	1.2	0.7	3.1	7.6
ZIMBABWE, Harare, African (1995-2013)	17	1.9	0.4	3.4	38	3.1	0.5	5.3	2.8	0.7	2.1	7.1
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	615	4.2	4.1	4.4	-	-	-	-	5.0	1.9	5.8	-
ARGENTINA, 6 registries (1991-2013)	158	7.1	6.8	7.5	349	11.3	13.8	8.7	7.8	4.1	9.5	25.7
BRAZIL, 5 registries (1995-2012)	86	4.8	4.4	5.3	207	7.5	8.0	6.9	6.8	2.8	4.4	16.5
CHILE, paediatric (2007-2011)	119	6.2	7.1	5.4	-	-	-	-	7.0	3.1	8.7	-
CHILE, 4 registries (1998-2012)	27	6.2	8.1	4.3	93	13.6	21.3	5.5	9.9	2.0	6.1	38.8
COLOMBIA, 4 registries (1992-2013)	72	4.1	3.7	4.6	196	7.7	8.2	7.3	5.1	1.9	5.4	20.0
COSTA RICA (1993-2012)	110	4.5	3.3	5.7	325	9.6	10.8	8.3	4.5	1.6	7.7	27.0
CUBA (2000-2012)	107	4.0	2.4	5.7	185	4.8	2.7	7.0	5.4	2.2	4.3	7.5
ECUADOR, 5 registries (1993-2013)	112	5.2	5.7	4.8	282	9.2	10.2	8.3	7.0	2.9	5.5	23.1
FRANCE, 3 registries (1990-2012)	18	5.7	2.6	9.0	34	7.8	4.1	11.7	6.9	2.9	7.4	15.1
HONDURAS, Francisco Morazán (2002-2012)	17	3.2	1.9	4.4	31	4.6	3.0	6.1	1.1	1.2	8.1	9.4
JAMAICA, Kingston and St Andrew (1982-2012)	18	3.1	1.9	4.2	38	4.6	1.7	7.4	3.1	3.1	3.0	9.9
MEXICO, Mexico City, paediatric (1997-2013)	104	8.5	10.0	7.1	-	-	-	-	8.3	2.7	15.4	-
PERU, Lima (2010-2012)	35	5.1	6.9	3.3	79	7.7	10.0	5.4	8.1	1.3	5.5	16.7
PERU, Trujillo (1990-2002)	12	5.0	4.6	5.3	21	6.2	5.2	7.0	6.3	1.3	7.4	10.3
USA, Puerto Rico (1992-2012)	73	4.1	3.6	4.6	185	7.1	7.5	6.7	4.8	2.2	5.3	17.6
URUGUAY (1993-2012)	69	4.7	3.5	5.9	176	8.3	8.7	7.8	6.9	1.9	4.8	20.6
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	621	5.3	5.0	5.6	1760	10.2	12.8	7.5	6.4	2.2	7.5	27.1
USA (1998-2012)	4969	5.5	4.9	6.1	13500	10.3	12.5	8.1	6.9	2.6	7.0	27.0
USA, API (1998-2012)	328	7.2	7.4	7.0	631	10.0	11.2	8.8	7.9	3.6	10.3	19.7
USA, Black (1998-2012)	606	4.1	2.2	6.0	1241	6.0	3.6	8.3	4.8	2.2	5.2	12.4
USA, Hispanic White (1998-2012)	1106	6.5	6.4	6.6	3010	13.3	16.6	9.7	6.9	3.0	9.9	36.8
USA, Native American (1998-2012)	33	2.3	2.2	2.3	108	5.1	6.5	3.5	2.7	0.8	3.2	14.7
USA, White NH (1998-2012)	2731	5.3	4.8	5.7	8113	10.3	13.3	7.3	6.9	2.3	6.3	27.9
USA, NPCR (1998-2012)	4742	5.5	4.9	6.1	12849	10.3	12.4	8.1	6.8	2.6	7.0	26.8
USA, SEER 18 (1993-2012)	1664	5.8	5.4	6.3	4480	11.1	13.5	8.5	7.0	2.6	7.7	29.2
USA, Hawaii, Hawaiian (1993-2012)	7	4.6	7.6	1.4	29	13.5	19.0	7.6	8.9	1.9	1.9	44.0
ASIA												
BAHRAIN (1998-2012)	17	5.4	6.2	4.5	23	5.6	5.8	5.5	5.5	1.9	9.1	6.5
CHINA, 6 registries (1990-2013)	467	8.3	8.9	7.7	929	10.1	10.0	10.2	10.7	3.7	10.2	16.3
CHINA, Hong Kong (1990-2013)	283	11.6	13.2	9.8	573	15.2	15.7	14.7	15.7	4.5	13.9	27.9
INDIA, 7 registries (1990-2013)	473	2.8	2.2	3.4	965	3.9	2.6	5.4	3.6	1.1	3.6	7.7
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	16	4.5	3.5	5.5	41	6.8	5.0	8.6	5.3	2.8	5.2	14.8
ISRAEL (1990-2012)	158	3.8	2.5	5.3	352	6.5	6.5	6.6	4.3	2.0	5.1	15.9
ISRAEL, Jews (1990-2012)	122	4.0	2.3	5.8	291	7.2	7.3	7.1	4.4	2.0	5.8	18.2
ISRAEL, Non-Jews (1990-2012)	36	3.2	2.7	3.8	61	4.4	3.9	5.0	4.1	2.1	3.3	8.5
JAPAN, 8 registries (1990-2013)	527	8.6	8.7	8.5	936	10.5	10.7	10.2	9.3	5.8	10.8	16.9
JORDAN, Jordanians (2000-2012)	83	3.1	2.8	3.5	159	4.6	4.2	4.9	4.5	1.0	3.7	9.5
REPUBLIC OF KOREA (1999-2012)	1260	9.9	9.8	10.0	2243	12.2	11.2	13.4	11.1	5.5	13.1	20.4
KUWAIT (1994-2012)	40	3.3	3.4	3.2	51	3.3	3.6	3.1	4.0	1.5	4.4	3.4
KUWAIT, Kuwaitis (1994-2012)	25	3.5	3.6	3.5	35	3.9	4.4	3.4	4.6	1.7	4.2	5.3
KUWAIT, Non-Kuwaitis (1994-2012)	*15*	*3.0*	*3.1*	*2.9*	*16*	*2.5*	*2.4*	*2.6*	*3.3*	*1.2*	*4.7*	*0.7*
LEBANON (2008-2010)	*4*	*1.1*	*0.5*	*1.7*	*18*	*3.4*	*2.9*	*4.0*	*0.9*	*1.6*	*0.8*	*11.3*
PAKISTAN, Karachi (1995-2002)	19	3.4	1.8	5.1	38	5.6	2.5	9.0	3.5	1.0	5.8	13.2
PAKISTAN, Lahore (2008-2012)	43	2.4	1.7	3.1	79	3.3	2.2	4.6	3.3	0.8	2.9	6.7
PHILIPPINES, 2 registries (1993-2012)	352	4.7	4.3	5.2	675	6.7	4.7	8.6	6.5	2.2	5.3	13.5
QATAR (2002-2014)	15	5.1	3.4	7.1	25	6.8	3.6	11.1	3.6	2.0	10.5	12.5
SAUDI ARABIA, Riyadh (1994-2012)	105	3.2	2.7	3.7	185	4.5	3.8	5.2	4.2	1.4	3.8	9.2
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	91	3.3	2.7	3.9	161	4.7	3.8	5.5	3.9	1.4	4.5	9.4
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	14	2.5	2.4	2.6	24	3.8	4.0	3.5	5.1	1.5	0.0	8.2
THAILAND, 6 registries (1993-2013)	246	6.0	5.3	6.6	479	7.9	6.5	9.2	5.4	3.2	9.9	14.4
TURKEY, paediatric (2009-2011)	204	3.8	3.1	4.5	-	-	-	-	6.4	1.5	3.0	-
TURKEY, 8 registries (1992-2012)	214	5.6	5.0	6.3	494	8.8	9.9	7.6	8.4	2.0	5.9	19.6
VIET NAM, Ho Chi Minh City (1995-2013)	141	6.1	6.1	6.0	217	6.2	5.3	7.0	9.7	2.6	5.1	6.7
EUROPE												
AUSTRIA (1990-2012)	135	4.4	3.6	5.2	466	10.1	12.9	7.1	5.0	1.8	6.3	29.7
BELARUS, paediatric (1990-2014)	195	4.4	2.7	6.2	409	6.1	4.5	7.8	5.6	2.1	5.3	11.9
BELGIUM (2004-2013)	110	6.2	4.4	8.0	278	10.7	12.8	8.6	8.9	2.7	6.5	26.3
BULGARIA (1990-2013)	103	3.4	3.0	3.8	335	6.8	7.0	6.5	4.6	1.0	4.6	18.3
CROATIA (2001-2014)	43	4.3	3.9	4.8	140	9.5	13.6	5.1	3.1	3.2	7.3	27.2
CYPRUS, South-West (1998-2012)	9	4.1	3.6	4.6	41	11.3	14.7	7.7	5.9	0.0	6.2	36.1
CZECH REPUBLIC (1990-2012)	194	4.9	4.1	5.6	689	10.4	13.1	7.7	5.8	2.4	6.4	29.7
ESTONIA (1990-2012)	34	6.0	5.3	6.7	73	8.6	9.0	8.1	7.9	3.1	6.7	17.5

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of germ cell, trophoblastic or gonadal neoplasm in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.11. Germ cell tumours, trophoblastic tumours, and neoplasms of gonads (X): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	847	5.8	5.0	6.6	-	-	-	-	7.6	2.5	7.1	-
FRANCE, 13 registries (1993-2012)	148	4.8	4.2	5.5	420	9.3	11.4	7.1	6.5	2.1	5.6	24.6
GERMANY, paediatric (1996-2012)	979	4.9	4.1	5.7	-	-	-	-	6.5	2.3	5.7	-
GERMANY, 6 Eastern states (2001-2007)	45	3.4	3.9	2.7	261	9.0	13.6	4.2	5.5	0.5	3.7	28.7
GERMANY, 5 Western registries (1994-2012)	227	4.6	4.0	5.2	794	10.4	14.0	6.6	5.6	2.3	5.9	30.3
HUNGARY, paediatric (1991-2014)	139	3.5	2.6	4.5	-	-	-	-	4.6	1.7	4.1	-
ICELAND (1990-2014)	6	3.8	3.9	3.7	22	9.5	12.7	6.3	5.4	3.7	1.8	29.2
IRELAND (1994-2012)	75	4.6	4.3	4.8	220	9.0	11.4	6.5	6.0	2.6	4.9	24.4
ITALY, 2 paediatric registries (1998-2011)	50	6.1	6.4	5.9	127	10.8	14.2	7.1	9.5	2.1	6.1	26.8
ITALY, Piedmont, paediatric (1990-2011)	62	5.4	5.2	5.7	-	-	-	-	8.2	1.8	5.7	-
ITALY, 26 registries (1992-2013)	197	4.8	4.2	5.4	619	10.0	13.0	6.9	5.8	2.1	6.5	28.0
LITHUANIA (2000-2012)	26	3.8	2.6	5.0	67	5.9	5.1	6.7	5.5	1.8	3.9	12.9
MALTA (1994-2013)	*4*	*2.7*	*0.0*	*5.5*	*11*	*4.9*	*3.9*	*5.9*	*2.3*	*2.1*	*3.8*	*12.5*
THE NETHERLANDS (1993-2013)	313	5.2	4.5	5.9	943	11.0	15.2	6.7	6.8	2.2	6.4	31.1
NORWAY (1990-2013)	113	5.3	5.6	4.9	373	12.4	17.7	6.9	6.0	2.1	7.9	37.1
POLAND (2001-2013)	314	4.0	3.8	4.2	1285	9.2	12.4	5.9	5.5	1.7	4.4	27.1
PORTUGAL (1991-2012)	140	5.2	5.3	5.0	324	8.1	9.6	6.4	6.3	2.7	6.5	17.9
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	47	5.2	3.1	7.4	-	-	-	-	6.7	1.5	7.2	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	44	3.8	2.7	5.0	105	5.7	4.3	7.1	4.3	2.5	4.6	12.0
SLOVAKIA (1990-2009)	106	5.3	6.5	4.2	410	12.0	17.4	6.3	8.9	1.4	5.0	34.8
SLOVAKIA, paediatric (2000-2012)	77	6.5	6.2	6.9	-	-	-	-	9.0	1.6	8.8	-
SLOVENIA (1991-2012)	45	6.5	4.7	8.4	137	12.2	14.3	10.0	8.3	3.9	7.0	32.0
SPAIN, 2 paediatric registries (1991-2013)	223	4.6	4.4	4.8	-	-	-	-	5.5	2.5	5.9	-
SPAIN, selected regions, paediatric (2000-2013)	176	5.1	5.3	4.9	-	-	-	-	6.2	3.2	5.8	-
SPAIN, Valencia, paediatric (1991-2010)	47	3.3	2.2	4.4	-	-	-	-	3.3	0.7	6.1	-
SPAIN, 11 registries (1990-2013)	150	4.7	4.1	5.4	411	8.1	9.5	6.7	5.5	3.4	5.1	19.9
SWEDEN (1990-2011)	155	4.5	4.1	4.9	450	8.9	11.2	6.5	6.2	2.1	4.9	24.1
SWITZERLAND, paediatric (1990-2013)	133	4.6	4.8	4.4	-	-	-	-	5.9	1.9	5.9	-
SWITZERLAND, 7 registries (1990-2013)	53	5.0	5.2	4.8	155	10.2	13.8	6.4	6.8	0.8	7.3	28.0
UKRAINE (2002-2012)	354	4.8	3.6	6.0	868	6.8	5.4	8.4	6.4	2.5	5.0	14.0
UK (2000-2011)	581	4.4	4.0	4.8	1723	8.9	11.5	6.2	5.4	1.9	5.9	24.5
UK, England and Wales, paediatric (1991-2010)	942	4.8	4.3	5.4	-	-	-	-	6.2	2.2	6.0	-
OCEANIA												
AUSTRALIA (1992-2014)	493	5.7	5.7	5.7	1300	10.5	13.5	7.4	7.9	2.0	6.8	27.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	10	4.2	5.9	2.4	24	8.2	9.4	6.9	4.6	1.2	6.9	21.9
FRANCE, 2 registries (1990-2013)	14	5.0	4.9	5.0	32	8.0	9.2	6.7	9.1	1.0	3.9	18.3
NEW ZEALAND (1993-2012)	120	6.9	7.1	6.7	292	12.0	14.0	9.9	9.3	2.2	8.9	29.4
NEW ZEALAND, Maori (1993-2012)	34	7.9	8.7	7.0	86	15.8	20.8	10.7	10.8	2.1	10.5	43.0
NEW ZEALAND, Pacific peoples (1993-2012)	24	15.5	15.5	15.5	39	19.6	17.0	22.3	16.2	5.8	25.3	33.8
NEW ZEALAND, Other (1993-2012)	62	5.4	5.4	5.5	167	9.8	11.4	8.2	7.7	1.8	6.4	25.1
NEW ZEALAND, paediatric (2000-2012)	69	6.0	5.9	6.0	-	-	-	-	7.8	2.1	7.8	-
NEW ZEALAND, paediatric, Maori (2000-2012)	22	7.7	8.2	7.1	-	-	-	-	9.8	2.1	10.9	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	47	5.4	5.2	5.7	-	-	-	-	7.1	2.1	6.9	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.12. Other malignant epithelial neoplasms and malignant melanomas (XI): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	113	5.9	6.6	5.2	345	12.2	13.3	11.2	2.4	4.2	12.4	34.1
BOTSWANA (1999-2007)	29	4.9	5.7	4.2	58	7.5	6.9	8.1	3.1	5.8	6.5	16.3
CAMEROON, Yaoundé (2004-2006)	9	3.8	5.3	2.5	21	7.4	7.9	6.9	0.0	2.5	10.4	19.6
EGYPT, Gharbiah (1999-2010)	43	2.5	2.4	2.5	148	6.2	5.3	7.1	0.4	1.8	5.9	19.2
FRANCE, Réunion (1990-2011)	21	4.3	3.1	5.6	52	8.2	7.4	9.1	0.7	4.7	8.7	21.5
KENYA, 2 registries (2000-2012)	81	7.7	10.2	5.3	195	14.6	18.9	10.9	3.2	5.9	15.6	38.6
LIBYA, Benghazi (2003-2008)	17	5.7	8.5	2.8	36	8.7	11.4	5.8	4.9	6.3	6.1	18.9
MALI, Bamako (2005-2014)	40	5.5	7.4	3.7	102	9.7	11.5	8.0	2.1	5.9	9.5	24.2
MAURITIUS (2001-2013)	15	3.4	3.6	3.2	35	6.0	5.8	6.2	0.0	2.4	9.0	15.2
MOROCCO, 2 registries (2005-2012)	97	10.1	9.9	10.2	208	15.5	14.4	16.6	6.0	5.5	20.5	34.2
SOUTH AFRICA, paediatric (1998-2012)	216	0.9	0.9	1.0	-	-	-	-	0.5	0.7	1.7	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*2*	*0.5*	*0.5*	*0.5*	-	-	-	-	*0.0*	*1.5*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	153	0.8	0.8	0.8	-	-	-	-	0.4	0.6	1.5	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	23	1.1	1.2	1.0	-	-	-	-	0.5	0.6	2.5	-
SOUTH AFRICA, paediatric, White (1998-2012)	38	3.1	2.4	3.7	-	-	-	-	2.7	2.8	3.9	-
TUNISIA, 2 registries (1993-2007)	127	5.8	5.8	5.7	334	11.1	10.9	11.4	0.9	4.1	14.1	29.7
UGANDA, Kyadondo (1996-2013)	48	3.5	3.5	3.4	116	6.1	6.8	5.6	1.6	3.0	6.4	15.1
ZIMBABWE, Harare, African (1995-2013)	44	5.3	4.2	6.3	72	6.2	4.9	7.3	2.5	4.5	9.7	9.5
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	266	1.7	1.6	1.8	-	-	-	-	0.8	1.3	3.4	-
ARGENTINA, 6 registries (1991-2013)	75	3.2	2.8	3.6	250	7.7	6.0	9.5	1.4	3.0	5.7	23.5
BRAZIL, 5 registries (1995-2012)	149	7.5	7.3	7.7	412	13.9	11.9	15.7	4.8	5.1	13.8	35.8
CHILE, paediatric (2007-2011)	63	3.0	2.1	4.0	-	-	-	-	1.2	2.0	6.6	-
CHILE, 4 registries (1998-2012)	20	4.0	1.8	6.4	66	9.2	5.0	13.6	2.1	4.0	6.7	27.1
COLOMBIA, 4 registries (1992-2013)	97	5.1	4.1	6.0	243	9.2	7.0	11.4	2.5	2.9	10.8	23.6
COSTA RICA (1993-2012)	179	6.6	7.3	5.9	472	13.4	11.8	15.1	0.7	5.4	16.0	36.8
CUBA (2000-2012)	169	5.6	4.7	6.6	494	11.4	9.2	13.8	3.7	2.5	11.7	31.4
ECUADOR, 5 registries (1993-2013)	80	3.4	3.3	3.6	245	7.7	6.2	9.1	1.5	3.0	6.4	22.4
FRANCE, 3 registries (1990-2012)	12	3.4	1.6	5.2	35	7.5	3.3	11.8	1.0	1.0	9.2	21.7
HONDURAS, Francisco Morazán (2002-2012)	22	4.3	4.6	3.9	56	8.4	5.7	11.0	3.9	4.1	5.0	22.8
JAMAICA, Kingston and St Andrew (1982-2012)	17	2.5	2.4	2.6	41	4.6	3.9	5.2	0.0	0.5	8.0	11.8
MEXICO, Mexico City, paediatric (1997-2013)	*17*	*1.3*	*1.0*	*1.6*	-	-	-	-	*0.5*	*1.5*	*2.3*	-
PERU, Lima (2010-2012)	24	3.1	2.1	4.2	99	8.8	5.9	11.7	0.4	3.4	6.4	28.4
PERU, Trujillo (1990-2002)	*6*	*2.3*	*3.0*	*1.7*	*19*	*5.1*	*3.4*	*6.6*	*1.3*	*1.3*	*4.9*	*14.9*
USA, Puerto Rico (1992-2012)	88	4.2	3.8	4.7	276	9.9	6.1	13.9	0.5	2.0	11.6	29.5
URUGUAY (1993-2012)	89	5.2	3.9	6.5	241	10.6	8.0	13.3	1.0	3.3	12.9	29.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	755	5.9	4.5	7.3	2643	14.7	9.8	19.8	2.3	3.8	13.0	44.9
USA (1998-2012)	6028	6.1	4.8	7.3	20831	15.2	10.0	20.7	2.4	3.7	13.5	46.8
USA, API (1998-2012)	204	4.2	2.9	5.6	681	10.2	6.3	14.4	1.5	2.2	10.0	31.0
USA, Black (1998-2012)	626	3.8	3.3	4.3	1742	7.8	6.1	9.6	1.2	2.2	8.9	21.8
USA, Hispanic White (1998-2012)	836	4.7	3.4	6.1	2471	10.8	6.2	15.8	1.3	3.0	11.2	31.6
USA, Native American (1998-2012)	44	2.8	2.6	2.9	159	7.2	4.9	9.6	1.0	2.1	5.8	22.6
USA, White NH (1998-2012)	4079	6.9	5.6	8.4	14904	18.0	11.8	24.5	3.0	4.3	15.1	56.1
USA, NPCR (1998-2012)	5758	6.1	4.9	7.3	19795	15.1	9.9	20.6	2.5	3.7	13.5	46.4
USA, SEER 18 (1993-2012)	1794	5.7	4.2	7.2	6359	15.1	9.9	20.5	1.7	3.7	13.2	47.4
USA, Hawaii, Hawaiian (1993-2012)	9	5.3	4.3	6.3	26	11.7	10.3	13.3	3.6	1.9	11.3	34.0
ASIA												
BAHRAIN (1998-2012)	*2*	*0.6*	*0.0*	*1.2*	*15*	*3.6*	*0.5*	*7.0*	*0.0*	*0.9*	*1.0*	*14.2*
CHINA, 6 registries (1990-2013)	294	4.3	3.6	5.2	1115	9.9	7.6	12.4	1.2	2.8	10.2	29.0
CHINA, Hong Kong (1990-2013)	146	4.8	3.6	6.0	496	11.3	8.7	14.1	1.4	2.5	11.9	33.6
INDIA, 7 registries (1990-2013)	644	3.5	3.7	3.3	1565	6.0	5.7	6.3	2.4	3.0	5.5	14.5
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	11	3.0	4.6	1.3	36	5.6	6.1	5.1	1.8	3.7	3.7	14.8
ISRAEL (1990-2012)	248	5.7	5.1	6.4	814	14.9	11.1	18.8	2.0	3.1	13.7	46.3
ISRAEL, Jews (1990-2012)	203	6.4	5.6	7.2	685	16.6	12.5	21.0	2.0	3.3	15.6	52.0
ISRAEL, Non-Jews (1990-2012)	45	3.9	3.6	4.3	129	9.5	7.0	12.1	1.9	2.6	8.1	28.5
JAPAN, 8 registries (1990-2013)	174	2.5	2.2	2.8	595	5.9	4.7	7.1	0.8	1.6	5.9	17.4
JORDAN, Jordanians (2000-2012)	109	3.8	4.5	3.1	265	7.4	7.2	7.6	2.0	2.1	8.2	19.5
REPUBLIC OF KOREA (1999-2012)	702	4.7	3.1	6.4	2730	13.1	7.6	19.2	0.9	3.0	11.5	42.1
KUWAIT (1994-2012)	37	3.0	3.5	2.5	44	2.8	2.9	2.8	2.2	4.0	3.0	2.2
KUWAIT, Kuwaitis (1994-2012)	25	3.5	4.7	2.3	26	2.8	3.6	2.0	3.4	4.2	2.8	0.5
KUWAIT, Non-Kuwaitis (1994-2012)	*12*	*2.4*	*1.9*	*2.8*	*18*	*2.8*	*1.8*	*4.0*	*0.5*	*3.6*	*3.4*	*4.4*
LEBANON (2008-2010)	28	6.7	6.9	6.5	63	11.5	10.0	13.2	1.9	4.8	15.2	28.2
PAKISTAN, Karachi (1995-2002)	31	5.3	8.0	2.5	98	14.6	15.2	14.1	2.5	2.0	12.8	46.5
PAKISTAN, Lahore (2008-2012)	46	2.2	2.4	2.1	128	5.1	5.1	5.1	0.5	1.2	5.6	15.2
PHILIPPINES, 2 registries (1993-2012)	340	4.4	4.0	4.8	930	9.0	7.6	10.3	2.2	2.9	9.1	24.6
QATAR (2002-2014)	11	3.8	2.6	5.0	32	8.8	4.4	15.0	1.8	0.0	10.5	26.3
SAUDI ARABIA, Riyadh (1994-2012)	132	3.8	3.2	4.5	389	9.6	6.4	13.0	1.4	2.5	8.5	29.6
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	104	3.6	2.9	4.4	326	9.5	6.0	13.1	1.5	1.9	8.3	29.7
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	28	4.9	4.7	5.1	63	10.3	8.3	12.4	0.9	5.2	9.9	28.7
THAILAND, 6 registries (1993-2013)	250	6.0	6.0	6.1	640	10.1	9.0	11.2	5.1	3.4	10.2	24.1
TURKEY, paediatric (2009-2011)	116	1.8	1.9	1.7	-	-	-	-	0.6	0.8	4.5	-
TURKEY, 8 registries (1992-2012)	278	6.2	5.7	6.7	795	12.9	9.8	16.1	1.6	3.7	15.0	36.2
VIET NAM, Ho Chi Minh City (1995-2013)	87	3.4	2.8	4.0	288	6.6	5.3	7.9	1.9	1.6	7.4	17.8
EUROPE												
AUSTRIA (1990-2012)	165	4.7	3.4	6.0	633	13.1	9.6	16.7	0.6	3.5	11.5	42.0
BELARUS, paediatric (1990-2014)	960	18.1	13.8	22.5	2044	27.5	19.5	36.0	1.5	13.8	44.9	60.1
BELGIUM (2004-2013)	242	11.9	9.4	14.5	692	25.1	18.4	32.1	1.5	9.0	29.0	70.6
BULGARIA (1990-2013)	118	3.3	3.3	3.4	410	7.8	7.0	8.5	0.9	2.1	7.9	23.0
CROATIA (2001-2014)	49	4.5	2.6	6.5	203	13.2	7.1	19.6	0.7	2.3	12.1	43.2
CYPRUS, South-West (1998-2012)	19	7.1	4.6	9.9	79	20.8	13.9	28.0	0.0	4.1	20.0	67.7
CZECH REPUBLIC (1990-2012)	347	7.6	6.0	9.3	1058	15.5	10.5	20.8	2.2	5.9	16.9	42.7
ESTONIA (1990-2012)	20	2.9	2.2	3.6	77	8.0	6.4	9.6	0.6	0.5	8.6	25.6

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other malignant epithelial neoplasms or malignant melanoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.12. Other malignant epithelial neoplasms and malignant melanomas (XI): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	731	4.6	3.5	5.8	-	-	-	-	1.8	3.3	9.8	-
FRANCE, 13 registries (1993-2012)	226	6.5	5.2	7.9	741	15.5	11.4	19.9	1.8	4.3	15.4	46.6
GERMANY, paediatric (1996-2012)	521	2.3	1.9	2.6	-	-	-	-	0.9	1.7	4.8	-
GERMANY, 6 Eastern states (2001-2007)	73	4.7	4.0	5.4	342	11.7	9.2	14.3	1.6	3.2	10.4	35.7
GERMANY, 5 Western registries (1994-2012)	351	6.1	4.7	7.6	1287	16.0	11.7	20.6	1.8	3.7	14.6	50.1
HUNGARY, paediatric (1991-2014)	134	3.0	2.0	4.0	-	-	-	-	1.5	2.1	6.0	-
ICELAND (1990-2014)	16	9.2	5.4	13.2	56	23.5	12.2	35.4	5.4	3.7	20.3	73.1
IRELAND (1994-2012)	65	3.5	2.7	4.2	346	13.3	9.4	17.5	0.5	1.8	9.2	47.3
ITALY, 2 paediatric registries (1998-2011)	60	6.4	5.2	7.7	211	16.8	14.4	19.4	1.1	3.6	16.8	52.5
ITALY, Piedmont, paediatric (1990-2011)	61	4.6	3.7	5.6	-	-	-	-	0.5	2.8	12.0	-
ITALY, 26 registries (1992-2013)	328	7.2	5.7	8.9	1277	19.8	14.1	25.8	1.7	4.8	17.3	63.0
LITHUANIA (2000-2012)	25	2.9	2.7	3.0	112	8.4	6.0	10.9	1.0	1.3	7.1	27.4
MALTA (1994-2013)	12	6.9	3.5	10.5	32	13.3	8.1	18.9	0.0	4.2	19.1	35.6
THE NETHERLANDS (1993-2013)	508	7.7	6.5	8.9	1521	17.2	12.8	21.8	2.8	4.7	17.3	50.0
NORWAY (1990-2013)	91	3.9	3.3	4.6	392	12.7	9.1	16.5	1.0	2.1	9.9	42.9
POLAND (2001-2013)	330	3.5	2.7	4.4	1264	8.6	5.9	11.4	1.3	2.0	8.2	26.1
PORTUGAL (1991-2012)	220	7.3	6.2	8.5	658	15.3	11.2	19.5	1.9	5.9	16.0	42.7
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	36	3.4	3.7	3.0	-	-	-	-	0.7	2.3	8.0	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	76	6.4	4.7	8.3	237	12.1	10.9	13.4	6.7	3.4	9.5	31.7
SLOVAKIA (1990-2009)	108	4.4	4.3	4.5	383	10.5	8.8	12.3	1.9	3.1	9.2	31.5
SLOVAKIA, paediatric (2000-2012)	33	2.4	2.5	2.4	-	-	-	-	0.8	2.1	5.0	-
SLOVENIA (1991-2012)	68	8.1	5.2	11.1	178	14.9	10.6	19.4	1.4	3.9	21.7	38.2
SPAIN, 2 paediatric registries (1991-2013)	166	3.2	2.4	4.1	-	-	-	-	1.3	2.5	6.7	-
SPAIN, selected regions, paediatric (2000-2013)	100	2.8	2.0	3.7	-	-	-	-	1.2	2.5	5.3	-
SPAIN, Valencia, paediatric (1991-2010)	66	4.2	3.6	5.0	-	-	-	-	1.4	2.5	9.9	-
SPAIN, 11 registries (1990-2013)	222	6.2	4.7	7.8	696	13.0	8.8	17.3	2.7	4.5	12.9	36.1
SWEDEN (1990-2011)	166	4.2	2.8	5.7	601	11.3	7.6	15.2	0.9	2.4	10.7	35.6
SWITZERLAND, paediatric (1990-2013)	128	3.9	3.2	4.8	-	-	-	-	1.0	2.5	9.6	-
SWITZERLAND, 7 registries (1990-2013)	83	7.1	4.8	9.5	293	18.4	14.5	22.6	1.1	5.1	17.2	57.6
UKRAINE (2002-2012)	443	5.1	4.1	6.1	1737	11.9	9.2	14.6	2.1	3.0	11.3	35.4
UK (2000-2011)	571	3.9	3.2	4.6	2256	11.2	8.2	14.2	1.4	2.2	9.1	36.2
UK, England and Wales, paediatric (1991-2010)	947	4.4	3.8	5.1	-	-	-	-	1.5	3.1	9.8	-
OCEANIA												
AUSTRALIA (1992-2014)	767	7.8	6.3	9.5	3281	25.0	21.1	29.1	1.6	4.0	20.5	84.1
AUSTRALIA, 3 registries, Indigenous (1992-2014)	15	6.1	3.2	9.2	38	12.9	7.3	18.6	3.5	1.2	15.1	36.0
FRANCE, 2 registries (1990-2013)	16	5.0	3.6	6.4	47	10.9	5.9	16.1	3.0	2.9	9.8	31.4
NEW ZEALAND (1993-2012)	87	4.5	4.0	5.1	409	15.9	12.2	19.7	1.5	2.2	11.1	55.1
NEW ZEALAND, Maori (1993-2012)	12	2.7	1.8	3.6	43	7.8	5.1	10.7	1.3	1.4	6.0	25.6
NEW ZEALAND, Pacific peoples (1993-2012)	6	3.7	3.6	3.8	28	14.0	7.8	20.3	0.0	1.9	10.6	49.6
NEW ZEALAND, Other (1993-2012)	69	5.3	4.8	5.7	338	18.5	14.8	22.4	1.9	2.6	12.8	64.2
NEW ZEALAND, paediatric (2000-2012)	51	4.0	3.7	4.3	-	-	-	-	1.6	1.6	9.8	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*10*	*3.3*	*2.0*	*4.7*	-	-	-	-	*2.0*	*0.0*	*8.8*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	41	4.2	4.2	4.1	-	-	-	-	1.4	2.1	10.2	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other malignant epithelial neoplasms or malignant melanoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.13. Other and unspecified malignant neoplasms (XII): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	97	5.6	5.9	5.2	160	6.4	6.6	6.2	5.9	4.7	6.1	9.3
BOTSWANA (1999-2007)	*3*	*0.6*	*0.8*	*0.3*	*5*	*0.7*	*0.6*	*0.8*	*1.0*	*0.0*	*0.5*	*1.1*
CAMEROON, Yaoundé (2004-2006)	*2*	*0.8*	*1.7*	*0.0*	*3*	*1.0*	*2.1*	*0.0*	*0.0*	*1.3*	*1.5*	*1.6*
EGYPT, Gharbiah (1999-2010)	32	2.1	2.2	2.0	47	2.3	2.4	2.2	2.3	2.0	2.0	2.7
FRANCE, Réunion (1990-2011)	*5*	*1.2*	*0.9*	*1.5*	*7*	*1.2*	*1.0*	*1.5*	*2.1*	*0.0*	*1.3*	*1.4*
KENYA, 2 registries (2000-2012)	71	6.6	8.0	5.2	119	8.8	10.5	7.2	3.7	8.2	8.8	16.2
LIBYA, Benghazi (2003-2008)	*7*	*2.5*	*1.3*	*3.7*	*11*	*2.8*	*1.9*	*3.8*	*3.9*	*2.1*	*1.0*	*4.0*
MALI, Bamako (2005-2014)	205	28.2	33.9	22.7	271	27.7	33.5	22.3	31.9	25.6	26.3	25.8
MAURITIUS (2001-2013)	31	8.2	11.1	5.2	58	11.0	12.7	9.2	8.6	7.1	9.0	20.5
MOROCCO, 2 registries (2005-2012)	49	5.4	6.2	4.6	66	5.4	5.8	4.9	6.0	3.1	7.1	5.2
SOUTH AFRICA, paediatric (1998-2012)	48	0.2	0.3	0.2	-	-	-	-	0.3	0.2	0.1	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	40	0.2	0.3	0.2	-	-	-	-	0.3	0.2	0.2	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*7*	*0.4*	*0.4*	*0.3*	-	-	-	-	*0.5*	*0.6*	*0.0*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*1*	*0.1*	*0.0*	*0.2*	-	-	-	-	*0.3*	*0.0*	*0.0*	-
TUNISIA, 2 registries (1993-2007)	38	2.1	2.6	1.6	49	2.0	2.5	1.5	3.3	0.8	2.1	1.6
UGANDA, Kyadondo (1996-2013)	120	9.0	9.9	8.1	187	10.3	10.7	9.9	9.5	8.6	8.5	14.9
ZIMBABWE, Harare, African (1995-2013)	38	4.5	5.1	3.9	77	6.4	6.9	6.0	3.7	3.7	6.3	13.2
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	132	0.9	1.0	0.9	-	-	-	-	1.2	0.5	1.0	-
ARGENTINA, 6 registries (1991-2013)	33	1.5	1.6	1.4	75	2.4	2.7	2.2	1.7	1.2	1.6	5.6
BRAZIL, 5 registries (1995-2012)	54	3.1	3.4	2.8	74	3.1	3.3	2.8	5.3	1.7	2.0	2.7
CHILE, paediatric (2007-2011)	*14*	*0.8*	*0.8*	*0.8*	-	-	-	-	*1.7*	*0.0*	*0.6*	-
CHILE, 4 registries (1998-2012)	*9*	*2.2*	*1.4*	*3.0*	*18*	*2.9*	*2.6*	*3.1*	*3.5*	*1.3*	*1.2*	*5.3*
COLOMBIA, 4 registries (1992-2013)	33	2.0	1.4	2.7	65	2.7	2.3	3.1	2.9	1.7	1.1	5.2
COSTA RICA (1993-2012)	131	5.7	6.3	5.1	241	7.6	7.7	7.4	8.2	3.6	4.9	13.8
CUBA (2000-2012)	114	4.3	4.1	4.5	172	4.6	4.8	4.3	5.4	3.1	4.2	5.6
ECUADOR, 5 registries (1993-2013)	62	2.9	2.7	3.1	92	3.1	2.9	3.3	3.5	1.8	3.2	4.1
FRANCE, 3 registries (1990-2012)	*2*	*0.7*	*0.7*	*0.6*	*5*	*1.2*	*1.4*	*0.9*	*1.0*	*1.0*	*0.0*	*2.8*
HONDURAS, Francisco Morazán (2002-2012)	*4*	*0.8*	*0.8*	*0.7*	*8*	*1.2*	*1.6*	*0.9*	*1.1*	*0.0*	*1.3*	*2.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*7*	*1.3*	*1.8*	*0.8*	*13*	*1.7*	*2.3*	*1.1*	*2.6*	*0.0*	*1.0*	*3.0*
MEXICO, Mexico City, paediatric (1997-2013)	*1*	*0.1*	*0.0*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.3*	-
PERU, Lima (2010-2012)	22	3.0	2.6	3.4	43	4.1	3.9	4.3	2.5	1.7	5.1	8.0
PERU, Trujillo (1990-2002)	*1*	*0.5*	*1.0*	*0.0*	*1*	*0.4*	*0.7*	*0.0*	*1.3*	*0.0*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	51	2.9	2.7	3.1	67	2.8	2.6	3.1	3.9	1.5	3.2	2.5
URUGUAY (1993-2012)	32	2.1	2.4	1.7	73	3.4	3.3	3.5	2.4	0.8	3.1	7.9
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	200	1.8	1.8	1.9	341	2.2	2.1	2.3	2.8	0.8	1.6	3.4
USA (1998-2012)	627	0.7	0.7	0.7	1038	0.9	0.8	1.0	1.2	0.3	0.6	1.3
USA, API (1998-2012)	18	0.4	0.3	0.5	26	0.4	0.3	0.6	0.8	0.1	0.3	0.5
USA, Black (1998-2012)	100	0.7	0.7	0.7	179	0.9	0.8	1.0	0.9	0.5	0.7	1.5
USA, Hispanic White (1998-2012)	110	0.7	0.7	0.6	179	0.8	0.7	0.9	1.0	0.4	0.5	1.3
USA, Native American (1998-2012)	*7*	*0.5*	*0.4*	*0.7*	*11*	*0.6*	*0.4*	*0.8*	*1.0*	*0.0*	*0.4*	*0.8*
USA, White NH (1998-2012)	365	0.7	0.7	0.8	598	0.8	0.8	1.0	1.3	0.3	0.5	1.2
USA, NPCR (1998-2012)	605	0.7	0.7	0.7	1009	0.9	0.8	1.0	1.2	0.4	0.6	1.3
USA, SEER 18 (1993-2012)	152	0.6	0.4	0.7	246	0.6	0.5	0.8	0.8	0.3	0.5	1.0
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*3*	*1.0*	*1.3*	*0.6*	*3*	*0.7*	*1.0*	*0.5*	*0.9*	*0.9*	*1.0*	*0.0*
CHINA, 6 registries (1990-2013)	171	3.2	3.0	3.4	378	4.1	3.9	4.4	4.7	1.9	2.7	7.3
CHINA, Hong Kong (1990-2013)	68	2.8	2.7	2.9	148	3.9	3.6	4.2	2.8	3.2	2.2	7.7
INDIA, 7 registries (1990-2013)	552	3.3	3.8	2.7	911	3.8	4.3	3.4	4.0	2.8	3.0	5.6
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	17	4.4	5.1	3.7	40	6.5	7.1	5.8	2.7	3.7	7.4	13.6
ISRAEL (1990-2012)	126	3.1	3.0	3.1	188	3.5	3.4	3.7	3.9	2.4	2.7	5.1
ISRAEL, Jews (1990-2012)	94	3.1	3.1	3.2	144	3.6	3.4	3.9	3.6	2.7	3.0	5.4
ISRAEL, Non-Jews (1990-2012)	32	2.9	2.8	3.0	44	3.2	3.4	2.9	4.8	1.6	1.8	4.1
JAPAN, 8 registries (1990-2013)	90	1.6	1.5	1.6	141	1.7	1.7	1.7	2.2	1.1	1.2	2.1
JORDAN, Jordanians (2000-2012)	*9*	*0.4*	*0.2*	*0.5*	*15*	*0.4*	*0.3*	*0.6*	*0.6*	*0.1*	*0.2*	*0.8*
REPUBLIC OF KOREA (1999-2012)	335	3.1	3.2	2.9	503	3.2	3.1	3.2	5.8	1.3	1.4	3.5
KUWAIT (1994-2012)	40	3.3	2.7	3.9	53	3.4	3.0	3.9	2.2	3.7	4.1	4.0
KUWAIT, Kuwaitis (1994-2012)	20	2.8	1.9	3.7	28	3.1	2.2	4.1	1.9	2.1	4.6	4.3
KUWAIT, Non-Kuwaitis (1994-2012)	20	4.0	3.8	4.1	25	3.9	4.2	3.5	2.7	6.0	3.4	3.7
LEBANON (2008-2010)	*6*	*1.5*	*1.4*	*1.7*	*9*	*1.7*	*1.8*	*1.7*	*0.9*	*1.6*	*2.3*	*2.4*
PAKISTAN, Karachi (1995-2002)	23	4.0	4.3	3.6	33	4.6	5.7	3.5	3.0	5.1	4.1	6.9
PAKISTAN, Lahore (2008-2012)	21	1.1	1.3	0.8	32	1.3	1.6	0.9	0.7	0.3	2.4	2.0
PHILIPPINES, 2 registries (1993-2012)	211	2.8	3.3	2.4	373	3.7	4.2	3.2	3.7	2.0	2.6	6.8
QATAR (2002-2014)	*2*	*0.7*	*1.3*	*0.0*	*4*	*1.1*	*1.5*	*0.7*	*0.9*	*0.0*	*1.2*	*2.5*
SAUDI ARABIA, Riyadh (1994-2012)	16	0.5	0.4	0.6	27	0.7	0.6	0.7	0.7	0.4	0.4	1.3
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*11*	*0.4*	*0.4*	*0.4*	*18*	*0.5*	*0.5*	*0.5*	*0.5*	*0.4*	*0.2*	*0.9*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*5*	*0.9*	*0.7*	*1.1*	*9*	*1.4*	*1.3*	*1.6*	*1.4*	*0.0*	*1.2*	*3.3*
THAILAND, 6 registries (1993-2013)	191	5.2	5.9	4.4	331	5.9	6.5	5.4	8.2	2.5	4.1	8.7
TURKEY, paediatric (2009-2011)	*9*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.4*	*0.0*	*0.1*	-
TURKEY, 8 registries (1992-2012)	47	1.2	1.5	0.9	97	1.7	1.8	1.6	1.6	0.5	1.4	3.5
VIET NAM, Ho Chi Minh City (1995-2013)	121	5.3	5.2	5.3	161	4.9	5.2	4.6	8.6	3.1	3.2	3.5
EUROPE												
AUSTRIA (1990-2012)	40	1.4	1.5	1.3	68	1.6	1.6	1.7	2.2	0.8	1.0	2.5
BELARUS, paediatric (1990-2014)	16	0.4	0.4	0.3	59	0.8	0.9	0.7	0.4	0.3	0.4	2.4
BELGIUM (2004-2013)	*10*	*0.6*	*0.7*	*0.5*	*18*	*0.7*	*0.8*	*0.6*	*1.0*	*0.3*	*0.3*	*1.3*
BULGARIA (1990-2013)	91	3.3	3.5	3.1	144	3.5	3.8	3.2	5.6	1.9	1.8	4.2
CROATIA (2001-2014)	11	1.2	1.4	1.0	24	1.7	1.8	1.7	1.4	1.0	1.2	3.6
CYPRUS, South-West (1998-2012)	*4*	*2.0*	*1.6*	*2.4*	*5*	*1.8*	*1.2*	*2.3*	*3.0*	*1.4*	*1.2*	*1.1*
CZECH REPUBLIC (1990-2012)	106	2.9	2.5	3.4	155	2.9	2.7	3.1	4.9	1.7	1.7	2.9
ESTONIA (1990-2012)	*5*	*1.0*	*1.5*	*0.4*	*8*	*1.1*	*1.6*	*0.6*	*1.7*	*1.0*	*0.0*	*1.3*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other or unspecified malignant neoplasm in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 7.13. Other and unspecified malignant neoplasms (XII): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	49	0.4	0.3	0.5	-	-	-	-	0.7	0.2	0.2	-
FRANCE, 13 registries (1993-2012)	9	0.3	0.3	0.4	24	0.6	0.6	0.5	0.7	0.2	0.0	1.4
GERMANY, paediatric (1996-2012)	37	0.2	0.2	0.2	-	-	-	-	0.3	0.1	0.1	-
GERMANY, 6 Eastern states (2001-2007)	29	2.4	3.1	1.6	44	2.3	2.7	1.8	4.3	1.2	1.0	2.0
GERMANY, 5 Western registries (1994-2012)	44	1.0	1.1	0.9	64	1.0	1.0	1.0	1.7	0.5	0.6	1.1
HUNGARY, paediatric (1991-2014)	*11*	*0.3*	*0.2*	*0.3*	-	-	-	-	*0.4*	*0.0*	*0.4*	-
ICELAND (1990-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
IRELAND (1994-2012)	20	1.3	1.4	1.1	24	1.1	1.2	1.0	2.0	0.5	1.1	0.7
ITALY, 2 paediatric registries (1998-2011)	*2*	*0.3*	*0.3*	*0.3*	*5*	*0.4*	*0.4*	*0.5*	*0.7*	*0.0*	*0.0*	*1.0*
ITALY, Piedmont, paediatric (1990-2011)	*2*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.5*	*0.0*	*0.0*	-
ITALY, 26 registries (1992-2013)	136	3.4	3.6	3.3	222	4.0	3.9	4.0	5.3	1.8	2.8	5.7
LITHUANIA (2000-2012)	*10*	*1.7*	*1.5*	*2.0*	*17*	*1.8*	*1.9*	*1.8*	*3.5*	*0.9*	*0.4*	*2.2*
MALTA (1994-2013)	*1*	*0.6*	*0.0*	*1.1*	*1*	*0.4*	*0.0*	*0.9*	*0.0*	*0.0*	*1.9*	*0.0*
THE NETHERLANDS (1993-2013)	22	0.4	0.4	0.3	38	0.5	0.5	0.4	0.8	0.1	0.1	0.8
NORWAY (1990-2013)	15	0.8	0.9	0.6	26	0.9	1.0	0.9	1.3	0.6	0.3	1.6
POLAND (2001-2013)	238	3.1	2.8	3.4	428	3.6	3.4	3.8	4.5	1.8	2.7	5.3
PORTUGAL (1991-2012)	23	0.9	0.9	0.8	45	1.2	1.2	1.1	1.5	0.2	0.9	2.1
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*11*	*1.1*	*1.3*	*0.8*	*14*	*1.0*	*1.1*	*0.8*	*2.4*	*0.0*	*0.5*	*0.6*
SLOVAKIA (1990-2009)	23	1.2	0.6	1.8	33	1.2	0.6	1.7	1.7	0.7	0.9	1.1
SLOVAKIA, paediatric (2000-2012)	*2*	*0.2*	*0.0*	*0.4*	-	-	-	-	*0.3*	*0.0*	*0.2*	-
SLOVENIA (1991-2012)	*4*	*0.7*	*0.7*	*0.6*	*6*	*0.7*	*0.7*	*0.6*	*1.4*	*0.0*	*0.4*	*0.7*
SPAIN, 2 paediatric registries (1991-2013)	*11*	*0.2*	*0.3*	*0.2*	-	-	-	-	*0.4*	*0.1*	*0.2*	-
SPAIN, selected regions, paediatric (2000-2013)	*6*	*0.2*	*0.2*	*0.1*	-	-	-	-	*0.3*	*0.2*	*0.0*	-
SPAIN, Valencia, paediatric (1991-2010)	*5*	*0.4*	*0.4*	*0.3*	-	-	-	-	*0.5*	*0.0*	*0.6*	-
SPAIN, 11 registries (1990-2013)	13	0.4	0.3	0.5	22	0.5	0.5	0.4	0.5	0.2	0.5	0.7
SWEDEN (1990-2011)	37	1.1	0.7	1.7	57	1.3	0.9	1.7	2.2	0.4	0.5	1.6
SWITZERLAND, paediatric (1990-2013)	*12*	*0.4*	*0.4*	*0.4*	-	-	-	-	*0.5*	*0.1*	*0.6*	-
SWITZERLAND, 7 registries (1990-2013)	*5*	*0.5*	*0.4*	*0.6*	*7*	*0.5*	*0.4*	*0.6*	*0.6*	*0.3*	*0.6*	*0.5*
UKRAINE (2002-2012)	144	2.1	2.2	1.9	299	2.6	2.7	2.4	3.3	1.5	1.1	4.2
UK (2000-2011)	113	0.9	0.9	0.9	228	1.2	1.2	1.3	1.3	0.5	0.7	2.5
UK, England and Wales, paediatric (1991-2010)	125	0.7	0.7	0.7	-	-	-	-	1.1	0.3	0.5	-
OCEANIA												
AUSTRALIA (1992-2014)	65	0.8	0.8	0.8	95	0.9	0.8	0.9	1.6	0.3	0.3	1.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*2*	*0.9*	*0.9*	*0.9*	*2*	*0.7*	*0.7*	*0.7*	*2.3*	*0.0*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*6*	*2.2*	*2.2*	*2.0*	*6*	*1.7*	*1.7*	*1.6*	*4.0*	*1.0*	*1.0*	*0.0*
NEW ZEALAND (1993-2012)	14	0.8	1.0	0.6	24	1.0	0.9	1.2	1.4	0.5	0.5	1.7
NEW ZEALAND, Maori (1993-2012)	*5*	*1.2*	*1.4*	*1.0*	*6*	*1.1*	*1.5*	*0.8*	*2.5*	*0.7*	*0.0*	*0.8*
NEW ZEALAND, Pacific peoples (1993-2012)	*1*	*0.7*	*1.4*	*0.0*	*2*	*1.0*	*1.0*	*1.0*	*1.8*	*0.0*	*0.0*	*2.3*
NEW ZEALAND, Other (1993-2012)	*8*	*0.7*	*0.8*	*0.5*	*16*	*1.0*	*0.7*	*1.3*	*0.8*	*0.5*	*0.7*	*1.9*
NEW ZEALAND, paediatric (2000-2012)	*4*	*0.4*	*0.4*	*0.4*	-	-	-	-	*0.8*	*0.3*	*0.0*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*2*	*0.7*	*0.7*	*0.8*	-	-	-	-	*1.0*	*1.1*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*2*	*0.3*	*0.3*	*0.3*	-	-	-	-	*0.7*	*0.0*	*0.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other or unspecified malignant neoplasm in a dataset
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Please consult registry-specific background information and quality indicators

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Chapter 8. Incidence by selected diagnostic subgroups

Table 8.1. Lymphoid leukaemias (Ia): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	193	11.6	15.1	8.0	245	10.7	13.9	7.4	15.3	11.4	6.9	7.6
BOTSWANA (1999-2007)	29	5.1	6.3	4.0	39	5.3	6.1	4.4	5.1	7.4	2.7	5.6
CAMEROON, Yaoundé (2004-2006)	*4*	*1.7*	*0.9*	*2.4*	*4*	*1.3*	*0.7*	*1.9*	*1.1*	*1.3*	*3.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	313	21.7	24.9	18.3	396	20.2	24.3	15.9	29.3	19.8	13.7	15.1
FRANCE, Réunion (1990-2011)	109	25.7	29.0	22.2	126	22.6	26.2	18.8	35.6	22.4	16.1	11.8
KENYA, 2 registries (2000-2012)	148	13.7	17.0	10.5	166	12.0	15.1	9.1	11.8	15.6	14.2	6.1
LIBYA, Benghazi (2003-2008)	24	8.4	6.4	10.5	32	8.3	7.1	9.5	10.8	9.4	4.1	8.0
MALI, Bamako (2005-2014)	45	6.2	8.2	4.3	49	5.1	7.2	3.3	1.4	10.5	7.6	1.6
MAURITIUS (2001-2013)	42	11.6	13.2	10.0	50	10.4	10.9	9.9	14.6	11.8	7.5	6.1
MOROCCO, 2 registries (2005-2012)	128	14.6	19.9	9.2	168	14.1	18.9	9.2	17.1	14.8	11.0	12.3
SOUTH AFRICA, paediatric (1998-2012)	1638	7.7	9.2	6.1	-	-	-	-	9.9	7.5	4.9	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	113	32.2	38.9	25.4	-	-	-	-	56.5	27.0	5.7	-
SOUTH AFRICA, paediatric, Black (1998-2012)	923	5.1	6.1	4.0	-	-	-	-	5.5	5.5	4.1	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	287	15.8	19.1	12.5	-	-	-	-	22.7	14.3	8.4	-
SOUTH AFRICA, paediatric, White (1998-2012)	315	28.8	33.0	24.3	-	-	-	-	47.5	21.4	12.0	-
TUNISIA, 2 registries (1993-2007)	347	18.9	20.7	17.0	425	17.2	19.5	14.8	21.5	20.9	13.3	11.2
UGANDA, Kyadondo (1996-2013)	72	5.3	6.3	4.4	83	4.7	5.6	3.9	2.8	7.5	6.1	2.4
ZIMBABWE, Harare, African (1995-2013)	73	8.6	10.9	6.5	80	7.2	9.5	5.2	5.6	9.7	11.4	2.4
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	5287	37.8	41.4	34.1	-	-	-	-	51.1	33.1	25.3	-
ARGENTINA, 6 registries (1991-2013)	679	32.0	34.1	29.9	783	28.0	30.3	25.6	42.3	28.8	22.0	14.0
BRAZIL, 5 registries (1995-2012)	581	33.2	35.1	31.3	672	28.5	31.1	26.0	45.5	31.4	18.8	12.4
CHILE, paediatric (2007-2011)	739	41.7	45.4	37.9	-	-	-	-	58.8	37.1	24.2	-
CHILE, 4 registries (1998-2012)	196	46.9	53.3	40.2	218	39.2	44.9	33.4	73.0	39.2	20.6	12.9
COLOMBIA, 4 registries (1992-2013)	756	45.5	48.3	42.6	893	40.2	44.2	36.3	60.9	43.0	27.7	22.1
COSTA RICA (1993-2012)	1038	46.2	49.0	43.3	1206	40.6	44.6	36.3	66.6	42.1	23.7	21.1
CUBA (2000-2012)	723	28.5	31.9	24.9	826	24.4	27.8	20.7	41.2	25.2	15.4	9.9
ECUADOR, 5 registries (1993-2013)	1009	48.0	51.9	43.9	1192	42.8	47.6	37.9	64.8	44.5	29.4	24.8
FRANCE, 3 registries (1990-2012)	73	23.8	29.6	17.8	88	21.6	28.0	15.1	29.5	20.9	19.4	14.1
HONDURAS, Francisco Morazán (2002-2012)	155	30.6	35.9	25.1	182	27.8	33.7	21.8	36.5	29.0	24.4	18.1
JAMAICA, Kingston and St Andrew (1982-2012)	74	13.1	12.6	13.7	88	11.7	11.8	11.7	16.8	12.9	8.5	6.9
MEXICO, Mexico City, paediatric (1997-2013)	579	50.7	55.9	45.4	-	-	-	-	70.3	44.3	31.8	-
PERU, Lima (2010-2012)	291	42.8	47.1	38.3	366	39.6	45.8	33.2	59.9	32.5	31.5	28.4
PERU, Trujillo (1990-2002)	70	30.1	29.8	30.4	86	27.4	29.1	26.0	36.5	28.5	23.3	18.3
USA, Puerto Rico (1992-2012)	452	27.0	29.2	24.8	518	23.3	25.7	20.8	41.4	20.7	15.0	10.4
URUGUAY (1993-2012)	467	32.2	36.9	27.3	531	27.7	31.6	23.7	47.3	26.1	18.8	12.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	4557	42.6	46.6	38.4	5106	36.0	40.0	31.7	68.5	33.7	18.0	13.1
USA (1998-2012)	34308	40.4	43.7	37.0	39277	34.9	38.6	31.0	62.7	32.6	19.5	15.7
USA, API (1998-2012)	1470	34.0	36.7	31.3	1647	29.0	31.9	25.9	52.0	28.8	15.9	11.5
USA, Black (1998-2012)	2946	20.8	23.6	17.9	3402	18.1	21.0	15.2	28.8	17.6	13.7	8.9
USA, Hispanic White (1998-2012)	8297	50.3	53.8	46.6	9632	44.8	49.3	39.9	71.7	43.5	29.1	25.8
USA, Native American (1998-2012)	318	23.4	26.5	20.2	374	20.6	23.9	17.2	37.3	18.2	10.6	11.0
USA, White NH (1998-2012)	20385	42.0	45.3	38.6	23245	35.9	39.6	32.1	67.7	32.7	18.2	14.8
USA, NPCR (1998-2012)	32776	40.4	43.7	36.9	37535	34.8	38.6	30.9	62.6	32.6	19.5	15.7
USA, SEER 18 (1993-2012)	11462	42.5	45.8	39.0	13102	36.7	40.5	32.8	65.6	34.2	20.8	17.0
USA, Hawaii, Hawaiian (1993-2012)	59	37.8	32.8	43.1	62	30.6	27.2	34.4	53.5	39.4	15.1	6.0
ASIA												
BAHRAIN (1998-2012)	75	24.6	29.7	19.3	86	21.8	24.9	18.5	34.1	20.8	16.1	12.0
CHINA, 6 registries (1990-2013)	1709	33.7	37.5	29.6	2033	28.7	32.2	24.9	52.1	27.2	16.3	11.5
CHINA, Hong Kong (1990-2013)	804	36.3	39.9	32.4	902	30.2	33.7	26.6	57.9	27.5	17.2	9.4
INDIA, 7 registries (1990-2013)	4170	25.4	31.5	18.7	4957	22.4	28.0	16.2	31.3	25.3	17.5	12.4
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	106	30.3	38.9	21.5	130	26.7	33.8	19.3	28.3	37.4	25.2	14.2
ISRAEL (1990-2012)	1064	26.2	29.7	22.4	1230	23.4	27.2	19.4	35.5	24.7	15.5	13.6
ISRAEL, Jews (1990-2012)	790	26.8	30.4	23.1	912	23.8	27.6	19.7	36.0	26.0	15.4	13.2
ISRAEL, Non-Jews (1990-2012)	274	24.5	28.1	20.8	318	22.4	26.1	18.5	34.0	21.3	15.5	14.9
JAPAN, 8 registries (1990-2013)	1624	28.5	30.4	26.4	1896	24.6	26.9	22.2	40.6	25.1	15.9	11.2
JORDAN, Jordanians (2000-2012)	617	23.3	26.7	19.7	731	21.3	24.6	17.7	30.6	21.1	16.0	14.3
REPUBLIC OF KOREA (1999-2012)	3351	28.7	31.7	25.4	3904	24.8	27.7	21.6	42.6	22.7	16.9	11.5
KUWAIT (1994-2012)	380	31.6	34.0	29.1	494	32.4	33.9	30.8	40.7	21.8	30.2	35.1
KUWAIT, Kuwaitis (1994-2012)	226	31.9	35.8	27.9	291	32.5	34.6	30.3	42.3	20.2	31.1	34.5
KUWAIT, Non-Kuwaitis (1994-2012)	154	31.1	31.4	30.8	203	32.2	32.9	31.4	38.5	24.1	28.9	36.0
LEBANON (2008-2010)	126	35.9	38.3	33.3	145	31.2	34.6	27.7	38.9	45.3	21.3	15.3
PAKISTAN, Karachi (1995-2002)	110	19.4	24.9	13.5	126	17.5	22.8	11.8	21.4	21.8	14.0	11.1
PAKISTAN, Lahore (2008-2012)	352	19.2	24.4	13.6	384	16.2	20.8	11.3	22.4	16.5	17.9	5.9
PHILIPPINES, 2 registries (1993-2012)	2373	32.0	37.8	25.9	2637	27.2	32.6	21.8	43.1	31.3	17.9	11.0
QATAR (2002-2014)	64	21.8	23.7	19.7	75	20.0	21.7	18.1	28.1	20.1	15.2	13.8
SAUDI ARABIA, Riyadh (1994-2012)	1077	32.7	35.5	29.8	1236	29.5	33.1	25.8	47.2	28.1	18.5	18.3
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	850	31.2	35.3	26.9	977	28.0	32.8	23.1	44.6	27.1	17.8	17.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	227	40.1	36.6	43.8	259	37.0	34.8	39.3	59.4	33.1	22.2	26.3
THAILAND, 6 registries (1993-2013)	1007	27.0	30.7	23.2	1140	22.8	26.1	19.4	37.6	24.8	15.5	8.2
TURKEY, paediatric (2009-2011)	1411	26.4	29.6	23.1	-	-	-	-	40.0	21.1	14.3	-
TURKEY, 8 registries (1992-2012)	1494	41.0	45.9	35.8	1719	35.3	39.9	30.5	65.4	31.0	19.4	15.7
VIET NAM, Ho Chi Minh City (1995-2013)	531	22.7	24.2	21.1	597	18.9	20.5	17.3	32.2	19.0	14.1	5.8
EUROPE												
AUSTRIA (1990-2012)	1110	38.6	43.1	33.9	1275	33.3	37.8	28.5	58.0	33.3	18.9	14.8
BELARUS, paediatric (1990-2014)	1427	35.1	36.2	33.9	1625	29.7	31.5	27.7	53.8	29.3	16.6	11.0
BELGIUM (2004-2013)	655	37.7	42.8	32.4	756	32.8	37.6	27.8	57.4	28.9	21.4	15.8
BULGARIA (1990-2013)	916	32.5	36.2	28.6	1035	27.3	30.8	23.6	45.8	30.4	17.0	9.4
CROATIA (2001-2014)	440	50.5	58.8	41.8	492	42.4	49.5	34.9	76.1	39.8	28.4	14.6
CYPRUS, South-West (1998-2012)	91	44.5	50.8	37.8	112	39.8	44.4	35.0	66.5	34.5	26.2	23.7
CZECH REPUBLIC (1990-2012)	1348	37.2	41.4	32.9	1554	31.6	35.9	27.2	60.7	26.6	17.8	12.4
ESTONIA (1990-2012)	175	32.8	28.3	37.6	202	28.2	25.1	31.4	52.2	22.7	18.2	12.1

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of lymphoid leukaemia in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.1. Lymphoid leukaemias (Ia): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	5033	35.8	38.8	32.7	-	-	-	-	52.0	31.1	19.6	-
FRANCE, paediatric, haematological malignancies (1990-1999)	3641	34.2	37.9	30.2	-	-	-	-	50.7	29.5	17.4	-
FRANCE, 13 registries (1993-2012)	1022	34.5	37.9	30.9	1176	29.9	33.6	26.0	50.7	30.6	17.2	13.9
GERMANY, paediatric (1996-2012)	8124	43.3	46.9	39.4	-	-	-	-	66.6	35.6	20.7	-
GERMANY, 6 Eastern states (2001-2007)	500	40.0	43.5	36.2	610	34.2	38.2	30.1	63.0	30.2	20.0	14.6
GERMANY, 5 Western registries (1994-2012)	1866	41.1	45.1	36.8	2157	35.4	39.5	30.9	62.1	33.9	21.1	15.6
GREECE, paediatric, haematological neoplasms (1996-2014)	1389	47.2	52.8	41.4	-	-	-	-	75.5	36.0	22.0	-
HUNGARY, paediatric (1991-2014)	1324	35.9	39.7	31.9	-	-	-	-	54.7	31.9	15.2	-
ICELAND (1990-2014)	52	33.7	35.0	32.4	55	27.4	28.7	26.0	55.9	25.8	12.9	5.5
IRELAND (1994-2012)	596	37.9	39.4	36.2	673	32.3	34.0	30.4	58.4	29.5	19.8	13.0
ITALY, 2 paediatric registries (1998-2011)	388	48.6	52.3	44.6	445	42.1	45.9	38.1	77.0	37.6	22.9	19.8
ITALY, Piedmont, paediatric (1990-2011)	546	49.5	53.6	45.1	-	-	-	-	78.0	39.6	22.4	-
ITALY, 26 registries (1992-2013)	1845	47.1	51.4	42.5	2097	40.2	44.8	35.4	67.9	42.2	24.7	16.7
LITHUANIA (2000-2012)	256	41.1	40.2	42.1	300	35.0	34.9	35.1	64.0	37.2	14.9	13.9
MALTA (1994-2013)	62	46.1	53.1	38.7	70	38.9	46.6	30.8	64.1	41.9	26.7	14.2
THE NETHERLANDS (1993-2013)	2229	38.3	42.8	33.6	2512	32.8	37.1	28.3	58.2	31.6	19.3	14.0
NORWAY (1990-2013)	807	40.0	40.1	40.0	917	34.6	35.8	33.2	62.8	30.8	19.9	15.7
POLAND (2001-2013)	2484	33.8	36.6	30.9	2917	28.9	32.0	25.7	52.7	27.8	15.3	12.1
PORTUGAL (1991-2012)	828	32.3	36.6	27.9	951	27.8	31.5	23.9	46.4	29.3	17.0	12.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	281	36.2	38.8	33.4	-	-	-	-	61.7	24.9	14.6	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	401	37.6	38.4	36.9	450	31.3	32.4	30.2	55.0	35.7	16.6	9.6
SLOVAKIA (1990-2009)	620	32.0	37.3	26.6	713	27.2	32.0	22.3	50.0	24.9	16.0	10.7
SLOVAKIA, paediatric (2000-2012)	371	34.3	39.8	28.5	-	-	-	-	50.3	29.9	17.8	-
SLOVENIA (1991-2012)	222	35.2	35.2	35.3	268	30.9	31.8	29.9	61.2	22.2	15.1	16.0
SPAIN, 2 paediatric registries (1991-2013)	1737	37.4	41.7	32.8	-	-	-	-	53.8	32.8	20.7	-
SPAIN, selected regions, paediatric (2000-2013)	1241	36.6	41.5	31.4	-	-	-	-	50.8	33.1	21.7	-
SPAIN, Valencia, paediatric (1991-2010)	496	40.0	42.8	37.1	-	-	-	-	62.9	32.0	18.4	-
SPAIN, 11 registries (1990-2013)	1146	38.6	44.7	32.3	1339	33.3	38.7	27.6	59.2	31.9	18.8	14.7
SWEDEN (1990-2011)	1368	41.3	44.9	37.4	1519	34.8	38.0	31.4	64.8	32.2	20.0	12.4
SWITZERLAND, paediatric (1990-2013)	1165	42.7	49.1	36.1	-	-	-	-	66.5	33.8	20.9	-
SWITZERLAND, 7 registries (1990-2013)	423	42.1	47.4	36.6	461	35.0	39.8	29.9	65.9	32.0	21.7	10.4
UKRAINE (2002-2012)	2475	35.7	41.2	29.9	2974	30.7	35.5	25.7	52.7	33.0	16.1	13.6
UK (2000-2011)	4567	37.0	40.7	33.1	5193	31.7	35.5	27.7	57.9	28.9	18.0	13.4
UK, England and Wales, paediatric (1991-2010)	6811	36.8	40.4	33.1	-	-	-	-	57.7	28.9	17.7	-
OCEANIA												
AUSTRALIA (1992-2014)	3622	43.7	46.1	41.0	4110	37.5	40.7	34.2	68.4	34.6	20.6	16.3
AUSTRALIA, 3 registries, Indigenous (1992-2014)	51	21.8	18.5	25.1	60	20.0	19.9	20.2	32.4	18.7	11.0	14.1
FRANCE, 2 registries (1990-2013)	61	21.3	23.1	19.3	69	18.3	20.1	16.3	32.2	17.5	10.8	8.1
NEW ZEALAND (1993-2012)	710	42.5	47.5	37.3	810	36.8	42.2	31.2	64.9	34.5	21.5	17.1
NEW ZEALAND, Maori (1993-2012)	136	32.0	38.8	24.8	156	28.5	35.3	21.5	47.7	24.5	19.4	16.5
NEW ZEALAND, Pacific peoples (1993-2012)	78	51.5	56.6	46.1	89	45.5	52.9	37.8	70.1	56.5	21.1	24.8
NEW ZEALAND, Other (1993-2012)	496	45.4	49.8	40.9	565	38.9	43.6	34.0	71.4	35.2	22.2	16.5
NEW ZEALAND, paediatric (2000-2012)	464	42.5	46.8	38.0	-	-	-	-	65.6	34.7	20.4	-
NEW ZEALAND, paediatric, Maori (2000-2012)	79	28.1	35.1	20.8	-	-	-	-	37.3	26.8	17.5	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	385	47.6	51.1	43.9	-	-	-	-	75.8	37.3	21.3	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of lymphoid leukaemia in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.2. Acute myeloid leukaemias (Ib): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	90	5.2	5.1	5.3	132	5.4	5.7	5.2	5.0	5.8	4.7	6.2
BOTSWANA (1999-2007)	16	2.7	2.7	2.7	23	3.0	2.9	3.1	1.5	3.7	3.2	3.9
CAMEROON, Yaoundé (2004-2006)	*4*	*1.7*	*2.6*	*0.8*	*4*	*1.3*	*2.0*	*0.6*	*1.1*	*2.5*	*1.5*	*0.0*
EGYPT, Gharbiah (1999-2010)	81	5.3	6.4	4.2	131	6.2	7.1	5.2	5.5	4.6	5.9	9.1
FRANCE, Réunion (1990-2011)	27	6.0	6.4	5.7	36	6.1	6.5	5.7	6.2	3.4	8.7	6.3
KENYA, 2 registries (2000-2012)	30	2.8	2.3	3.4	47	3.5	2.8	4.1	1.6	2.5	4.7	5.8
LIBYA, Benghazi (2003-2008)	15	5.4	2.1	8.9	23	6.0	2.9	9.2	9.8	3.1	2.0	8.0
MALI, Bamako (2005-2014)	*10*	*1.4*	*1.4*	*1.3*	*13*	*1.3*	*1.7*	*1.0*	*0.4*	*2.1*	*1.9*	*1.2*
MAURITIUS (2001-2013)	14	4.0	4.7	3.2	24	4.8	6.3	3.2	6.0	2.4	3.0	7.6
MOROCCO, 2 registries (2005-2012)	40	4.5	4.8	4.0	73	5.7	7.2	4.2	4.4	4.5	4.5	10.2
SOUTH AFRICA, paediatric (1998-2012)	684	3.1	3.2	3.1	-	-	-	-	3.6	2.9	2.9	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	20	5.4	5.5	5.2	-	-	-	-	8.1	3.1	4.3	-
SOUTH AFRICA, paediatric, Black (1998-2012)	519	2.8	3.0	2.7	-	-	-	-	2.9	2.8	2.7	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	88	4.8	3.9	5.6	-	-	-	-	6.3	3.5	4.1	-
SOUTH AFRICA, paediatric, White (1998-2012)	57	5.2	4.0	6.4	-	-	-	-	9.1	2.8	2.7	-
TUNISIA, 2 registries (1993-2007)	115	6.0	6.7	5.2	162	6.1	6.5	5.7	5.7	4.9	7.5	6.7
UGANDA, Kyadondo (1996-2013)	*12*	*0.9*	*1.1*	*0.7*	*16*	*0.9*	*1.1*	*0.7*	*0.2*	*1.9*	*0.7*	*0.9*
ZIMBABWE, Harare, African (1995-2013)	39	4.5	5.2	3.9	56	4.8	5.8	3.9	5.1	4.1	4.2	5.7
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	1273	9.0	8.9	9.0	-	-	-	-	11.3	6.3	8.8	-
ARGENTINA, 6 registries (1991-2013)	173	7.9	7.6	8.3	213	7.4	7.1	7.7	9.2	6.3	8.1	5.4
BRAZIL, 5 registries (1995-2012)	145	8.0	9.1	6.8	205	8.0	9.3	6.7	8.7	8.1	6.9	8.2
CHILE, paediatric (2007-2011)	163	8.8	10.4	7.2	-	-	-	-	10.5	7.2	8.4	-
CHILE, 4 registries (1998-2012)	42	10.0	13.9	5.9	58	9.9	13.6	6.0	17.0	4.0	7.3	9.4
COLOMBIA, 4 registries (1992-2013)	133	7.9	8.1	7.6	191	8.2	8.4	7.9	10.0	6.4	6.7	9.4
COSTA RICA (1993-2012)	169	7.4	7.9	7.0	215	7.1	7.8	6.3	10.5	5.4	5.6	5.8
CUBA (2000-2012)	151	5.6	6.1	5.2	213	5.7	6.1	5.3	6.1	5.6	5.1	6.0
ECUADOR, 5 registries (1993-2013)	182	8.4	9.1	7.7	254	8.7	9.5	7.9	9.9	6.8	8.3	9.8
FRANCE, 3 registries (1990-2012)	21	6.5	8.0	5.0	28	6.5	7.9	5.1	4.9	7.6	7.4	6.6
HONDURAS, Francisco Morazán (2002-2012)	16	3.0	3.8	2.3	24	3.6	3.5	3.6	1.7	2.9	5.0	5.4
JAMAICA, Kingston and St Andrew (1982-2012)	25	4.0	4.4	3.6	34	4.1	4.6	3.7	2.1	4.1	6.5	4.4
MEXICO, Mexico City, paediatric (1997-2013)	108	9.2	8.8	9.6	-	-	-	-	11.2	6.1	10.1	-
PERU, Lima (2010-2012)	53	7.9	7.6	8.1	73	7.8	8.0	7.6	11.5	6.4	4.7	7.6
PERU, Trujillo (1990-2002)	19	8.1	11.9	4.4	26	8.1	11.4	4.8	11.3	3.9	8.6	8.0
USA, Puerto Rico (1992-2012)	112	6.1	6.8	5.3	177	7.0	7.5	6.5	5.5	4.7	8.4	10.2
URUGUAY (1993-2012)	127	8.4	9.8	7.0	169	8.4	9.7	6.9	10.2	6.3	8.4	8.1
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	823	7.4	7.2	7.6	1128	7.4	7.2	7.6	10.5	4.6	6.4	7.3
USA (1998-2012)	6785	7.8	8.1	7.5	9604	8.1	8.3	7.8	11.4	4.5	6.6	8.9
USA, API (1998-2012)	364	8.3	9.2	7.4	488	8.2	8.7	7.8	11.6	5.3	7.1	8.1
USA, Black (1998-2012)	998	6.9	7.0	6.9	1379	7.1	7.1	7.0	9.6	4.1	6.6	7.4
USA, Hispanic White (1998-2012)	1424	8.6	8.7	8.4	1916	8.8	9.1	8.5	12.3	4.7	7.9	9.5
USA, Native American (1998-2012)	84	5.8	5.5	6.1	124	6.3	5.7	6.8	6.9	3.6	6.8	7.9
USA, White NH (1998-2012)	3748	7.5	7.8	7.2	5478	7.8	8.1	7.5	11.2	4.4	6.0	9.0
USA, NPCR (1998-2012)	6499	7.8	8.1	7.6	9175	8.0	8.3	7.8	11.4	4.6	6.6	8.8
USA, SEER 18 (1993-2012)	2290	8.3	8.6	7.9	3204	8.6	8.8	8.3	12.0	4.8	7.2	9.5
USA, Hawaii, Hawaiian (1993-2012)	17	10.6	14.7	6.2	24	11.4	13.2	9.5	16.1	0.0	15.1	14.0
ASIA												
BAHRAIN (1998-2012)	21	7.1	8.5	5.6	29	7.4	8.9	5.9	12.9	2.8	4.0	8.7
CHINA, 6 registries (1990-2013)	276	4.7	5.2	4.2	499	5.4	5.9	4.9	4.4	4.0	6.1	7.9
CHINA, Hong Kong (1990-2013)	244	10.4	11.3	9.4	341	10.1	10.8	9.4	14.9	5.9	9.3	9.3
INDIA, 7 registries (1990-2013)	885	5.1	5.8	4.4	1303	5.5	6.2	4.7	5.3	4.6	5.6	6.6
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	21	5.7	5.7	5.6	33	6.0	6.8	5.2	4.4	5.6	7.4	7.1
ISRAEL (1990-2012)	275	6.7	6.9	6.4	371	7.0	7.2	6.7	8.0	4.9	7.0	7.9
ISRAEL, Jews (1990-2012)	199	6.6	6.7	6.6	281	7.1	7.3	7.0	7.8	5.0	6.9	8.8
ISRAEL, Non-Jews (1990-2012)	76	6.8	7.6	6.0	90	6.3	6.8	5.9	8.4	4.5	7.2	4.8
JAPAN, 8 registries (1990-2013)	629	10.9	11.1	10.6	863	10.6	10.8	10.4	15.5	7.8	8.3	9.7
JORDAN, Jordanians (2000-2012)	159	5.8	6.0	5.7	225	6.4	6.6	6.2	5.9	5.0	6.7	8.3
REPUBLIC OF KOREA (1999-2012)	1326	10.7	11.6	9.6	1906	11.0	11.8	10.1	12.7	8.6	10.4	12.0
KUWAIT (1994-2012)	82	6.8	7.9	5.7	106	7.0	7.9	6.0	9.6	5.0	5.2	7.4
KUWAIT, Kuwaitis (1994-2012)	50	7.1	8.3	5.8	66	7.4	7.8	6.9	9.1	5.0	6.5	8.5
KUWAIT, Non-Kuwaitis (1994-2012)	32	6.5	7.5	5.5	40	6.4	7.9	4.6	10.3	4.8	3.4	5.9
LEBANON (2008-2010)	29	8.3	9.0	7.7	38	8.1	8.7	7.4	11.4	4.0	9.1	7.2
PAKISTAN, Karachi (1995-2002)	28	4.9	6.4	3.3	48	6.9	7.0	6.9	5.0	3.0	7.0	13.9
PAKISTAN, Lahore (2008-2012)	51	2.7	3.1	2.4	57	2.4	2.7	2.0	3.0	2.2	3.0	1.1
PHILIPPINES, 2 registries (1993-2012)	872	11.6	12.6	10.6	1151	11.6	12.8	10.5	13.2	11.2	10.1	11.6
QATAR (2002-2014)	*11*	*3.8*	*2.7*	*4.9*	*19*	*5.2*	*5.4*	*4.5*	*6.3*	*3.0*	*1.2*	*10.0*
SAUDI ARABIA, Riyadh (1994-2012)	253	7.6	8.7	6.4	338	8.1	9.4	6.8	8.9	5.8	7.8	9.8
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	196	7.1	7.6	6.6	266	7.6	8.4	6.7	7.9	5.7	7.5	9.4
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	57	10.1	14.4	5.5	72	10.6	14.0	7.0	13.6	6.2	9.9	12.3
THAILAND, 6 registries (1993-2013)	270	7.1	8.1	6.2	386	7.2	7.8	6.5	9.9	4.8	6.0	7.2
TURKEY, paediatric (2009-2011)	324	5.7	6.1	5.4	-	-	-	-	6.2	5.0	5.9	-
TURKEY, 8 registries (1992-2012)	330	8.5	9.0	8.0	451	8.5	8.9	8.1	10.5	6.3	8.3	8.5
VIET NAM, Ho Chi Minh City (1995-2013)	189	8.0	7.9	8.0	241	7.2	7.1	7.3	10.1	6.3	7.0	4.6
EUROPE												
AUSTRIA (1990-2012)	222	7.5	8.0	7.1	304	7.5	7.8	7.2	10.9	4.2	6.8	7.4
BELARUS, paediatric (1990-2014)	282	6.4	7.4	5.3	438	6.9	7.8	5.9	7.0	5.5	6.5	8.7
BELGIUM (2004-2013)	116	6.6	5.7	7.5	170	7.0	6.5	7.6	9.7	3.7	5.7	8.5
BULGARIA (1990-2013)	142	4.8	5.5	4.0	187	4.5	4.9	4.1	5.8	3.5	4.8	3.6
CROATIA (2001-2014)	68	7.7	8.6	6.7	90	7.3	8.1	6.5	10.9	5.5	5.7	6.2
CYPRUS, South-West (1998-2012)	22	10.1	12.5	7.6	31	10.1	11.6	8.5	10.3	11.0	8.7	10.2
CZECH REPUBLIC (1990-2012)	266	6.9	6.9	6.9	377	6.9	6.9	6.8	8.8	5.2	6.2	6.7
ESTONIA (1990-2012)	35	5.9	7.3	4.5	56	6.7	7.8	5.5	5.6	4.7	7.7	9.4

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of acute myeloid leukaemia in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.2. Acute myeloid leukaemias (Ib): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	961	6.7	6.9	6.5	-	-	-	-	9.3	4.4	5.8	-
FRANCE, paediatric, haematological malignancies (1990-1999)	765	7.1	6.9	7.3	-	-	-	-	10.0	4.9	5.6	-
FRANCE, 13 registries (1993-2012)	205	6.9	6.9	7.0	306	7.4	7.4	7.5	11.2	3.8	4.7	9.1
GERMANY, paediatric (1996-2012)	1399	7.2	7.3	7.2	-	-	-	-	10.7	4.3	5.9	-
GERMANY, 6 Eastern states (2001-2007)	107	8.1	8.3	8.0	156	7.8	7.8	7.8	11.4	5.2	7.1	6.5
GERMANY, 5 Western registries (1994-2012)	322	6.9	7.1	6.8	454	7.0	7.1	6.8	10.4	4.2	5.5	7.1
GREECE, paediatric, haematological neoplasms (1996-2014)	182	6.0	5.5	6.5	-	-	-	-	8.5	4.2	4.7	-
HUNGARY, paediatric (1991-2014)	225	5.8	6.0	5.5	-	-	-	-	7.5	4.2	5.2	-
ICELAND (1990-2014)	*7*	*4.5*	*3.8*	*5.2*	*13*	*5.9*	*6.9*	*4.8*	*7.2*	*1.8*	*3.7*	*11.0*
IRELAND (1994-2012)	122	7.6	7.2	8.1	167	7.6	7.3	8.0	11.0	5.7	5.3	7.6
ITALY, 2 paediatric registries (1998-2011)	57	6.7	7.7	5.5	89	7.7	8.4	6.9	6.3	4.7	9.3	11.1
ITALY, Piedmont, paediatric (1990-2011)	98	8.2	8.6	7.7	-	-	-	-	8.2	5.2	11.5	-
ITALY, 26 registries (1992-2013)	315	7.7	8.0	7.3	451	8.0	8.5	7.5	8.4	6.3	8.3	9.0
LITHUANIA (2000-2012)	48	7.4	6.6	8.2	72	7.4	6.8	8.1	11.4	4.4	5.3	7.6
MALTA (1994-2013)	*11*	*7.5*	*9.1*	*5.7*	*19*	*9.0*	*11.8*	*6.1*	*4.6*	*12.6*	*5.7*	*14.2*
THE NETHERLANDS (1993-2013)	452	7.7	8.8	6.6	600	7.6	8.5	6.7	11.9	3.9	6.4	7.3
NORWAY (1990-2013)	165	8.2	9.0	7.3	202	7.5	8.1	6.9	13.5	4.8	4.9	5.3
POLAND (2001-2013)	472	6.2	6.7	5.6	709	6.3	6.8	5.7	9.1	3.7	5.1	6.6
PORTUGAL (1991-2012)	222	8.2	7.9	8.5	298	8.0	7.8	8.3	8.8	6.6	9.2	7.4
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	56	6.6	7.7	5.5	-	-	-	-	9.0	4.6	5.7	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	78	7.0	6.6	7.4	110	6.8	6.5	7.2	9.1	4.5	6.8	6.3
SLOVAKIA (1990-2009)	133	6.5	6.7	6.3	193	6.6	7.2	6.0	8.3	5.5	5.2	6.9
SLOVAKIA, paediatric (2000-2012)	77	6.8	6.9	6.8	-	-	-	-	9.0	5.5	5.4	-
SLOVENIA (1991-2012)	45	6.6	5.3	8.0	72	7.2	6.4	8.1	8.8	3.9	6.6	9.4
SPAIN, 2 paediatric registries (1991-2013)	410	8.7	9.5	7.9	-	-	-	-	11.9	6.2	7.3	-
SPAIN, selected regions, paediatric (2000-2013)	285	8.4	9.2	7.5	-	-	-	-	11.0	6.3	7.1	-
SPAIN, Valencia, paediatric (1991-2010)	125	9.8	10.6	8.9	-	-	-	-	14.5	6.1	7.5	-
SPAIN, 11 registries (1990-2013)	238	7.6	7.8	7.3	341	7.6	8.1	7.2	9.2	5.7	7.4	7.8
SWEDEN (1990-2011)	263	7.8	6.9	8.8	350	7.7	7.3	8.1	12.0	4.4	6.1	7.1
SWITZERLAND, paediatric (1990-2013)	211	7.6	8.9	6.1	-	-	-	-	10.8	5.4	5.7	-
SWITZERLAND, 7 registries (1990-2013)	80	7.9	9.6	6.1	101	7.4	8.7	6.1	13.0	3.1	6.5	5.8
UKRAINE (2002-2012)	469	6.4	7.0	5.9	705	6.4	6.9	5.9	8.6	4.8	5.3	6.4
UK (2000-2011)	938	7.4	7.8	6.9	1283	7.4	7.8	6.9	10.3	4.9	6.2	7.4
UK, England and Wales, paediatric (1991-2010)	1347	7.1	7.5	6.7	-	-	-	-	9.7	4.9	6.0	-
OCEANIA												
AUSTRALIA (1992-2014)	699	8.2	9.0	7.5	995	8.6	9.3	7.9	11.7	5.6	6.5	9.9
AUSTRALIA, 3 registries, Indigenous (1992-2014)	28	11.9	11.7	12.1	37	12.4	11.2	13.7	16.2	10.0	8.3	14.1
FRANCE, 2 registries (1990-2013)	37	12.7	16.0	9.1	50	12.8	17.3	8.0	18.1	8.7	9.8	13.2
NEW ZEALAND (1993-2012)	165	9.7	9.1	10.2	238	10.3	10.0	10.6	13.4	6.3	8.3	12.5
NEW ZEALAND, Maori (1993-2012)	48	11.3	10.4	12.1	67	12.3	12.1	12.4	15.9	8.4	8.2	15.7
NEW ZEALAND, Pacific peoples (1993-2012)	19	12.1	14.8	9.2	35	17.5	19.5	15.3	7.2	13.6	16.9	36.1
NEW ZEALAND, Other (1993-2012)	98	8.8	8.0	9.6	136	8.8	8.3	9.4	13.3	4.6	7.4	9.1
NEW ZEALAND, paediatric (2000-2012)	106	9.4	8.9	9.8	-	-	-	-	12.5	5.8	9.1	-
NEW ZEALAND, paediatric, Maori (2000-2012)	35	12.5	12.9	12.0	-	-	-	-	17.7	8.6	9.8	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	71	8.3	7.5	9.0	-	-	-	-	10.7	4.9	8.8	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of acute myeloid leukaemia in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 8.3. Chronic myeloproliferative diseases (Ic): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*5*	*0.3*	*0.4*	*0.3*	*18*	*0.7*	*0.6*	*0.7*	*0.7*	*0.2*	*0.0*	*1.9*
BOTSWANA (1999-2007)	*1*	*0.2*	*0.3*	*0.0*	*2*	*0.2*	*0.5*	*0.0*	*0.0*	*0.0*	*0.5*	*0.6*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	8	0.4	0.4	0.5	24	1.0	1.0	0.9	0.0	0.2	1.3	2.9
FRANCE, Réunion (1990-2011)	*4*	*0.9*	*0.9*	*0.8*	*13*	*2.1*	*1.7*	*2.5*	*0.7*	*0.7*	*1.3*	*6.3*
KENYA, 2 registries (2000-2012)	*9*	*0.9*	*1.1*	*0.6*	*17*	*1.3*	*1.7*	*0.9*	*0.2*	*0.8*	*1.7*	*2.7*
LIBYA, Benghazi (2003-2008)	*4*	*1.4*	*2.6*	*0.0*	*4*	*1.0*	*2.1*	*0.0*	*2.0*	*0.0*	*2.0*	*0.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*0.8*
MAURITIUS (2001-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*7*	*0.7*	*0.6*	*0.8*	*13*	*1.0*	*1.0*	*0.9*	*0.0*	*0.7*	*1.6*	*1.8*
SOUTH AFRICA, paediatric (1998-2012)	68	0.3	0.3	0.3	-	-	-	-	0.1	0.4	0.4	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	54	0.3	0.3	0.3	-	-	-	-	0.1	0.4	0.4	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*8*	*0.4*	*0.5*	*0.3*	-	-	-	-	*0.3*	*0.3*	*0.6*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*6*	*0.5*	*0.5*	*0.4*	-	-	-	-	*0.3*	*0.5*	*0.7*	-
TUNISIA, 2 registries (1993-2007)	*2*	*0.1*	*0.1*	*0.1*	*6*	*0.2*	*0.1*	*0.3*	*0.0*	*0.0*	*0.3*	*0.6*
UGANDA, Kyadondo (1996-2013)	*7*	*0.5*	*0.8*	*0.3*	*15*	*0.8*	*1.0*	*0.7*	*0.6*	*0.7*	*0.2*	*1.8*
ZIMBABWE, Harare, African (1995-2013)	*5*	*0.6*	*0.5*	*0.7*	*5*	*0.5*	*0.4*	*0.5*	*0.0*	*0.0*	*2.1*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	64	0.4	0.6	0.3	-	-	-	-	0.4	0.4	0.6	-
ARGENTINA, 6 registries (1991-2013)	12	0.5	0.7	0.4	25	0.8	0.9	0.7	0.4	0.5	0.7	1.7
BRAZIL, 5 registries (1995-2012)	14	0.8	1.1	0.5	33	1.2	1.6	0.8	0.8	0.7	0.8	2.6
CHILE, paediatric (2007-2011)	*12*	*0.6*	*0.8*	*0.4*	-	-	-	-	*0.3*	*0.5*	*1.0*	-
CHILE, 4 registries (1998-2012)	*5*	*1.0*	*0.9*	*1.1*	*9*	*1.3*	*1.2*	*1.4*	*0.7*	*0.0*	*2.4*	*2.4*
COLOMBIA, 4 registries (1992-2013)	14	0.8	0.9	0.6	31	1.2	1.5	1.0	0.5	0.5	1.3	2.7
COSTA RICA (1993-2012)	20	0.8	0.9	0.7	28	0.9	1.1	0.7	0.9	0.6	1.0	1.0
CUBA (2000-2012)	31	1.2	1.4	1.0	45	1.2	1.5	0.9	1.4	0.9	1.1	1.4
ECUADOR, 5 registries (1993-2013)	26	1.3	1.0	1.6	52	1.8	1.7	1.9	2.1	0.7	0.8	3.5
FRANCE, 3 registries (1990-2012)	*6*	*2.1*	*2.1*	*2.2*	*12*	*2.9*	*2.9*	*3.0*	*3.9*	*1.9*	*0.0*	*5.7*
HONDURAS, Francisco Morazán (2002-2012)	*4*	*0.7*	*1.1*	*0.4*	*8*	*1.2*	*1.2*	*1.2*	*0.0*	*1.2*	*1.3*	*2.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*6*	*1.1*	*1.7*	*0.4*	*6*	*0.8*	*1.3*	*0.3*	*1.6*	*0.5*	*1.0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	*10*	*0.9*	*0.8*	*0.9*	-	-	-	-	*1.0*	*0.7*	*0.8*	-
PERU, Lima (2010-2012)	16	2.4	1.8	3.0	24	2.5	1.9	3.1	3.8	0.9	2.1	3.0
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	36	2.1	2.5	1.7	54	2.3	2.7	1.9	3.0	1.8	1.3	2.8
URUGUAY (1993-2012)	11	0.8	1.1	0.4	27	1.3	1.8	0.8	1.2	0.4	0.6	3.1
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	191	1.7	1.7	1.8	307	2.0	2.0	2.0	2.7	0.9	1.4	2.8
USA (1998-2012)	1290	1.4	1.5	1.4	2414	1.9	2.0	1.8	1.7	0.9	1.8	3.6
USA, API (1998-2012)	61	1.3	1.3	1.3	111	1.7	2.1	1.3	1.0	0.9	2.2	3.3
USA, Black (1998-2012)	189	1.2	1.3	1.2	377	1.8	1.8	1.8	1.1	0.8	1.8	3.7
USA, Hispanic White (1998-2012)	277	1.7	1.7	1.6	471	2.1	2.3	1.9	2.3	0.9	1.7	3.8
USA, Native American (1998-2012)	10	0.7	0.7	0.7	22	1.1	0.9	1.2	0.8	0.2	1.0	2.4
USA, White NH (1998-2012)	709	1.3	1.4	1.3	1351	1.8	1.8	1.8	1.5	0.8	1.6	3.3
USA, NPCR (1998-2012)	1242	1.4	1.5	1.4	2332	1.9	2.0	1.9	1.7	0.9	1.8	3.6
USA, SEER 18 (1993-2012)	346	1.2	1.2	1.2	664	1.7	1.7	1.6	1.3	0.7	1.7	3.3
USA, Hawaii, Hawaiian (1993-2012)	*3*	*1.7*	*3.3*	*0.0*	*3*	*1.3*	*2.6*	*0.0*	*0.0*	*1.9*	*3.8*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*1*	*0.3*	*0.6*	*0.0*	*2*	*0.5*	*0.9*	*0.0*	*0.0*	*0.9*	*0.0*	*1.1*
CHINA, 6 registries (1990-2013)	37	0.6	0.7	0.5	75	0.7	0.9	0.6	0.2	0.7	1.0	1.3
CHINA, Hong Kong (1990-2013)	58	2.1	2.5	1.8	94	2.4	2.9	1.9	1.8	1.2	3.6	3.5
INDIA, 7 registries (1990-2013)	157	0.9	1.0	0.8	293	1.2	1.3	1.0	0.8	0.7	1.2	2.1
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*1*	*0.3*	*0.7*	*0.0*	*2*	*0.4*	*0.8*	*0.0*	*0.9*	*0.0*	*0.0*	*0.6*
ISRAEL (1990-2012)	54	1.3	1.2	1.5	98	1.8	1.8	1.9	1.8	0.9	1.2	3.6
ISRAEL, Jews (1990-2012)	38	1.3	1.2	1.4	67	1.7	1.9	1.5	1.8	1.0	0.9	3.1
ISRAEL, Non-Jews (1990-2012)	16	1.4	1.2	1.7	31	2.3	1.7	2.9	1.9	0.5	1.8	5.1
JAPAN, 8 registries (1990-2013)	80	1.3	1.5	1.1	142	1.6	1.9	1.2	1.2	1.3	1.4	2.6
JORDAN, Jordanians (2000-2012)	17	0.6	0.5	0.8	36	1.0	1.1	0.9	0.6	0.7	0.6	2.4
REPUBLIC OF KOREA (1999-2012)	230	1.8	2.1	1.5	470	2.5	3.2	1.7	1.8	1.5	2.1	5.0
KUWAIT (1994-2012)	*10*	*0.8*	*0.7*	*1.0*	*16*	*1.1*	*0.9*	*1.2*	*1.6*	*0.5*	*0.3*	*1.8*
KUWAIT, Kuwaitis (1994-2012)	*5*	*0.7*	*0.6*	*0.9*	*9*	*1.0*	*0.7*	*1.4*	*1.5*	*0.0*	*0.5*	*2.1*
KUWAIT, Non-Kuwaitis (1994-2012)	*5*	*1.0*	*0.8*	*1.3*	*7*	*1.1*	*1.2*	*1.0*	*1.6*	*1.2*	*0.0*	*1.5*
LEBANON (2008-2010)	*2*	*0.6*	*0.4*	*0.8*	*5*	*1.0*	*1.4*	*0.6*	*0.9*	*0.0*	*0.8*	*2.4*
PAKISTAN, Karachi (1995-2002)	*3*	*0.5*	*0.6*	*0.4*	*6*	*0.9*	*1.4*	*0.3*	*0.0*	*0.5*	*1.2*	*2.1*
PAKISTAN, Lahore (2008-2012)	*9*	*0.5*	*0.8*	*0.1*	*16*	*0.6*	*0.9*	*0.3*	*0.2*	*0.6*	*0.6*	*1.3*
PHILIPPINES, 2 registries (1993-2012)	171	2.3	2.5	2.1	250	2.5	2.8	2.3	3.2	1.8	1.6	3.3
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.6*	*0.9*	*0.0*	*0.0*	*0.0*	*0.0*	*2.5*
SAUDI ARABIA, Riyadh (1994-2012)	30	0.9	1.0	0.8	55	1.3	1.4	1.3	0.6	0.7	1.5	2.9
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	25	0.9	0.9	0.9	44	1.3	1.3	1.2	0.7	0.7	1.3	2.5
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*5*	*0.9*	*1.4*	*0.4*	*11*	*1.8*	*2.1*	*1.4*	*0.0*	*0.5*	*2.5*	*4.9*
THAILAND, 6 registries (1993-2013)	58	1.4	1.6	1.3	93	1.6	1.8	1.3	1.3	1.1	1.9	2.2
TURKEY, paediatric (2009-2011)	24	0.4	0.3	0.5	-	-	-	-	0.4	0.3	0.5	-
TURKEY, 8 registries (1992-2012)	33	0.8	0.7	0.9	66	1.1	1.2	1.1	0.4	0.8	1.3	2.3
VIET NAM, Ho Chi Minh City (1995-2013)	*10*	*0.4*	*0.5*	*0.3*	*16*	*0.4*	*0.5*	*0.3*	*0.5*	*0.4*	*0.4*	*0.5*
EUROPE												
AUSTRIA (1990-2012)	50	1.6	1.9	1.3	71	1.7	1.9	1.5	2.0	0.7	2.1	1.9
BELARUS, paediatric (1990-2014)	42	0.9	0.9	0.8	87	1.2	1.5	1.0	0.4	0.8	1.5	2.5
BELGIUM (2004-2013)	26	1.3	1.5	1.2	54	2.0	2.2	1.8	1.0	0.5	2.8	4.4
BULGARIA (1990-2013)	32	1.0	1.3	0.8	56	1.2	1.5	1.0	0.8	1.3	1.1	1.9
CROATIA (2001-2014)	*8*	*0.8*	*0.5*	*1.2*	*14*	*1.0*	*0.9*	*1.2*	*1.0*	*0.0*	*1.5*	*1.7*
CYPRUS, South-West (1998-2012)	*1*	*0.4*	*0.9*	*0.0*	*6*	*1.6*	*1.2*	*2.1*	*0.0*	*1.4*	*0.0*	*5.6*
CZECH REPUBLIC (1990-2012)	43	1.0	1.3	0.7	75	1.2	1.5	0.9	0.5	1.1	1.6	1.9
ESTONIA (1990-2012)	*4*	*0.7*	*1.0*	*0.4*	*11*	*1.3*	*1.6*	*1.0*	*1.1*	*0.5*	*0.5*	*3.1*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of chronic myeloproliferative disease in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.3. Chronic myeloproliferative diseases (Ic): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	131	0.8	0.8	0.8	-	-	-	-	0.4	0.6	1.6	-
FRANCE, paediatric, haematological malignancies (1990-1999)	63	0.5	0.6	0.4	-	-	-	-	0.2	0.7	0.8	-
FRANCE, 13 registries (1993-2012)	32	1.0	1.0	0.9	73	1.6	1.6	1.5	0.5	1.0	1.6	3.7
GERMANY, paediatric (1996-2012)	138	0.6	0.6	0.7	-	-	-	-	0.3	0.7	1.0	-
GERMANY, 6 Eastern states (2001-2007)	7	0.5	0.3	0.7	20	0.8	0.8	0.7	0.0	0.7	0.8	1.7
GERMANY, 5 Western registries (1994-2012)	39	0.7	0.7	0.8	105	1.3	1.4	1.3	0.3	0.7	1.3	3.5
GREECE, paediatric, haematological neoplasms (1996-2014)	*17*	*0.5*	*0.6*	*0.4*	-	-	-	-	*0.3*	*0.8*	*0.5*	-
HUNGARY, paediatric (1991-2014)	39	0.9	1.2	0.7	-	-	-	-	0.8	0.6	1.4	-
ICELAND (1990-2014)	*3*	*1.8*	*1.0*	*2.5*	*7*	*3.0*	*0.8*	*5.3*	*1.8*	*0.0*	*3.7*	*7.3*
IRELAND (1994-2012)	14	0.8	0.7	1.0	34	1.4	1.1	1.8	1.1	0.4	1.1	3.4
ITALY, 2 paediatric registries (1998-2011)	17	1.9	1.7	2.0	26	2.2	1.8	2.5	0.7	1.4	3.9	3.1
ITALY, Piedmont, paediatric (1990-2011)	20	1.6	1.5	1.6	-	-	-	-	0.5	1.8	2.7	-
ITALY, 26 registries (1992-2013)	69	1.6	1.9	1.3	144	2.4	2.7	2.1	1.6	1.0	2.4	5.0
LITHUANIA (2000-2012)	6	0.7	0.5	1.0	21	1.6	1.3	1.9	0.0	1.3	1.1	4.7
MALTA (1994-2013)	*5*	*3.8*	*5.6*	*1.8*	*6*	*3.3*	*5.1*	*1.4*	*6.9*	*0.0*	*3.8*	*1.8*
THE NETHERLANDS (1993-2013)	43	0.7	1.0	0.4	89	1.0	1.2	0.8	0.3	0.8	0.9	2.3
NORWAY (1990-2013)	15	0.7	1.0	0.4	37	1.2	1.3	1.2	0.8	0.1	1.1	3.1
POLAND (2001-2013)	60	0.7	0.9	0.5	106	0.8	0.9	0.7	0.4	0.6	1.2	1.3
PORTUGAL (1991-2012)	38	1.3	1.3	1.4	62	1.6	1.4	1.8	0.9	1.5	1.8	2.3
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*5*	*0.6*	*0.8*	*0.3*	-	-	-	-	*0.4*	*0.8*	*0.6*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*3*	*0.2*	*0.5*	*0.0*	*10*	*0.5*	*0.9*	*0.1*	*0.3*	*0.0*	*0.5*	*1.4*
SLOVAKIA (1990-2009)	25	1.1	1.3	0.9	50	1.5	1.7	1.4	1.1	0.8	1.5	2.9
SLOVAKIA, paediatric (2000-2012)	*10*	*0.8*	*0.4*	*1.3*	-	-	-	-	*1.1*	*0.0*	*1.4*	-
SLOVENIA (1991-2012)	*2*	*0.2*	*0.4*	*0.0*	*12*	*1.0*	*1.3*	*0.6*	*0.0*	*0.0*	*0.8*	*3.5*
SPAIN, 2 paediatric registries (1991-2013)	33	0.7	0.7	0.6	-	-	-	-	0.5	0.8	0.8	-
SPAIN, selected regions, paediatric (2000-2013)	24	0.7	0.6	0.8	-	-	-	-	0.6	0.7	0.8	-
SPAIN, Valencia, paediatric (1991-2010)	*9*	*0.7*	*1.0*	*0.3*	-	-	-	-	*0.5*	*0.9*	*0.6*	-
SPAIN, 11 registries (1990-2013)	33	1.0	1.2	0.7	74	1.5	1.7	1.2	0.7	0.9	1.5	3.1
SWEDEN (1990-2011)	24	0.7	0.7	0.6	54	1.1	1.1	1.0	0.5	0.6	0.9	2.5
SWITZERLAND, paediatric (1990-2013)	*18*	*0.6*	*0.6*	*0.5*	-	-	-	-	*0.2*	*0.5*	*1.1*	-
SWITZERLAND, 7 registries (1990-2013)	10	0.9	1.2	0.5	24	1.5	1.9	1.2	0.3	1.1	1.4	3.8
UKRAINE (2002-2012)	124	1.7	1.7	1.7	222	1.9	2.0	1.8	2.4	1.2	1.4	2.7
UK (2000-2011)	99	0.7	0.7	0.7	210	1.1	1.2	1.0	0.4	0.4	1.4	2.4
UK, England and Wales, paediatric (1991-2010)	167	0.8	0.9	0.7	-	-	-	-	0.5	0.6	1.5	-
OCEANIA												
AUSTRALIA (1992-2014)	155	1.8	1.9	1.6	278	2.3	2.6	2.0	2.2	1.0	2.1	4.1
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*5*	*2.1*	*2.5*	*1.6*	*6*	*2.0*	*2.0*	*2.0*	*2.3*	*0.0*	*4.1*	*1.6*
FRANCE, 2 registries (1990-2013)	*5*	*1.5*	*1.8*	*1.2*	*12*	*2.7*	*3.2*	*2.3*	*0.0*	*1.9*	*2.9*	*7.1*
NEW ZEALAND (1993-2012)	16	0.9	1.2	0.6	35	1.4	2.1	0.8	1.2	0.5	1.0	3.3
NEW ZEALAND, Maori (1993-2012)	*3*	*0.7*	*1.4*	*0.0*	*10*	*1.9*	*2.9*	*0.7*	*1.3*	*0.0*	*0.7*	*5.8*
NEW ZEALAND, Pacific peoples (1993-2012)	*4*	*2.6*	*2.6*	*2.7*	*4*	*2.0*	*2.0*	*2.1*	*3.6*	*1.9*	*2.1*	*0.0*
NEW ZEALAND, Other (1993-2012)	9	0.8	1.0	0.5	21	1.2	1.8	0.6	0.8	0.5	1.0	2.9
NEW ZEALAND, paediatric (2000-2012)	*8*	*0.7*	*0.5*	*0.9*	-	-	-	-	*0.8*	*0.5*	*0.8*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*1*	*0.3*	*0.6*	*0.0*	-	-	-	-	*0.0*	*0.0*	*1.1*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*7*	*0.8*	*0.5*	*1.2*	-	-	-	-	*1.1*	*0.7*	*0.7*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of chronic myeloproliferative disease in a dataset
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Please consult registry-specific background information and quality indicators

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Table 8.4. Hodgkin lymphomas (IIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	123	6.6	7.9	5.2	297	10.9	11.2	10.6	2.8	7.6	10.6	25.6
BOTSWANA (1999-2007)	15	2.5	3.7	1.3	24	3.1	4.4	1.8	1.5	2.1	4.3	5.1
CAMEROON, Yaoundé (2004-2006)	*9*	*3.8*	*6.1*	*1.6*	*11*	*3.7*	*5.5*	*2.0*	*2.2*	*2.5*	*7.4*	*3.3*
EGYPT, Gharbiah (1999-2010)	173	11.1	17.4	4.5	289	13.3	18.8	7.6	8.0	14.4	11.4	21.2
FRANCE, Réunion (1990-2011)	27	5.6	6.1	5.0	54	8.5	8.8	8.3	1.4	4.1	12.8	18.8
KENYA, 2 registries (2000-2012)	67	6.3	8.9	3.8	94	6.9	9.4	4.6	1.4	9.1	9.8	9.1
LIBYA, Benghazi (2003-2008)	21	6.7	8.9	4.4	41	9.6	11.2	8.0	1.0	9.4	11.1	19.9
MALI, Bamako (2005-2014)	48	6.6	11.9	1.8	66	6.7	11.9	2.2	1.1	7.1	13.4	7.0
MAURITIUS (2001-2013)	16	3.8	5.1	2.6	35	6.2	8.3	4.1	0.9	5.5	6.0	14.4
MOROCCO, 2 registries (2005-2012)	79	8.3	9.3	7.3	165	12.4	11.5	13.3	3.4	10.7	12.3	26.5
SOUTH AFRICA, paediatric (1998-2012)	470	2.0	3.1	1.0	-	-	-	-	0.8	2.9	2.8	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*15*	*3.4*	*4.9*	*1.9*	-	-	-	-	*0.8*	*3.9*	*6.4*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	356	1.9	2.9	0.9	-	-	-	-	0.8	2.6	2.4	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	55	2.8	3.7	1.9	-	-	-	-	0.9	4.2	3.6	-
SOUTH AFRICA, paediatric, White (1998-2012)	44	3.3	4.7	1.8	-	-	-	-	0.5	4.8	5.2	-
TUNISIA, 2 registries (1993-2007)	153	7.3	9.7	4.7	293	10.1	11.8	8.4	1.2	10.5	11.7	20.1
UGANDA, Kyadondo (1996-2013)	68	5.0	8.0	2.3	91	5.0	8.1	2.4	3.2	5.8	6.4	5.1
ZIMBABWE, Harare, African (1995-2013)	34	4.1	6.2	2.1	49	4.3	6.3	2.4	1.1	6.4	5.5	5.1
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	905	5.9	8.2	3.5	-	-	-	-	2.8	7.0	8.9	-
ARGENTINA, 6 registries (1991-2013)	150	6.4	8.8	3.8	277	8.8	10.2	7.2	2.4	7.7	10.2	17.1
BRAZIL, 5 registries (1995-2012)	150	7.3	10.3	4.2	327	11.1	13.2	8.9	1.5	8.4	13.8	24.1
CHILE, paediatric (2007-2011)	113	5.6	7.4	3.7	-	-	-	-	2.3	7.1	8.4	-
CHILE, 4 registries (1998-2012)	31	6.3	8.9	3.6	57	8.3	11.1	5.5	2.8	8.0	9.1	15.3
COLOMBIA, 4 registries (1992-2013)	104	5.5	8.1	2.8	188	7.3	9.9	4.7	2.0	6.9	8.6	13.6
COSTA RICA (1993-2012)	185	7.2	9.2	5.1	353	10.4	11.4	9.2	2.5	10.0	10.5	21.1
CUBA (2000-2012)	179	6.1	8.5	3.5	337	8.1	9.8	6.4	3.0	6.5	9.7	15.2
ECUADOR, 5 registries (1993-2013)	129	5.7	7.7	3.7	195	6.4	8.1	4.7	3.6	7.2	6.8	9.0
FRANCE, 3 registries (1990-2012)	14	4.0	6.2	1.7	32	6.9	9.0	4.8	1.0	2.9	9.2	17.0
HONDURAS, Francisco Morazán (2002-2012)	38	7.1	10.7	3.4	47	6.8	10.1	3.5	1.7	5.2	16.3	6.0
JAMAICA, Kingston and St Andrew (1982-2012)	13	2.1	2.3	1.8	26	3.0	3.6	2.5	0.5	2.6	3.5	6.4
MEXICO, Mexico City, paediatric (1997-2013)	44	3.4	5.2	1.6	-	-	-	-	1.3	3.4	6.3	-
PERU, Lima (2010-2012)	29	4.0	4.6	3.5	41	4.2	4.6	3.7	3.0	5.1	4.3	4.5
PERU, Trujillo (1990-2002)	*14*	*6.0*	*10.4*	*1.5*	*15*	*4.9*	*8.6*	*1.2*	*5.0*	*10.4*	*2.5*	*1.1*
USA, Puerto Rico (1992-2012)	129	6.5	9.0	4.0	295	10.9	12.7	9.0	2.3	6.3	12.4	26.1
URUGUAY (1993-2012)	110	6.6	8.8	4.2	214	9.6	10.5	8.7	1.6	7.3	12.3	20.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	764	5.7	6.7	4.7	2440	13.4	13.9	13.0	0.7	3.7	14.7	39.9
USA (1998-2012)	5078	5.0	6.0	4.0	15064	11.0	11.5	10.5	0.8	3.8	11.9	31.6
USA, API (1998-2012)	159	3.3	4.4	2.2	394	6.0	7.1	4.8	1.2	2.8	6.7	15.3
USA, Black (1998-2012)	771	4.6	5.7	3.5	1921	8.6	9.3	7.9	0.7	3.9	10.7	22.4
USA, Hispanic White (1998-2012)	996	5.7	7.1	4.1	2160	9.5	10.5	8.3	1.5	5.9	10.9	22.5
USA, Native American (1998-2012)	22	1.4	1.8	0.9	71	3.2	3.3	3.2	0.6	0.8	3.0	9.6
USA, White NH (1998-2012)	3018	4.9	5.7	4.1	10157	12.1	12.3	11.9	0.5	3.1	12.8	37.0
USA, NPCR (1998-2012)	4863	5.0	6.0	4.0	14431	11.0	11.5	10.5	0.8	3.8	11.9	31.6
USA, SEER 18 (1993-2012)	1630	5.1	6.1	4.2	4581	10.9	11.2	10.5	0.9	4.4	11.7	30.6
USA, Hawaii, Hawaiian (1993-2012)	*6*	*3.5*	*5.7*	*1.1*	*14*	*6.3*	*7.0*	*5.5*	*0.0*	*5.6*	*5.7*	*16.0*
ASIA												
BAHRAIN (1998-2012)	26	7.9	11.3	4.3	49	11.8	14.0	9.4	1.8	12.3	11.1	25.0
CHINA, 6 registries (1990-2013)	82	1.3	1.9	0.6	246	2.3	2.8	1.8	0.4	1.4	2.3	5.8
CHINA, Hong Kong (1990-2013)	43	1.5	2.2	0.7	133	3.1	3.8	2.4	0.7	1.3	2.8	8.7
INDIA, 7 registries (1990-2013)	1052	5.7	8.8	2.3	1484	5.9	8.8	2.7	2.1	8.9	7.0	6.8
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	18	4.0	6.1	1.8	42	6.3	8.4	4.1	0.0	0.9	12.6	14.2
ISRAEL (1990-2012)	384	8.9	10.5	7.2	961	17.5	17.4	17.6	2.4	9.3	17.1	47.2
ISRAEL, Jews (1990-2012)	271	8.5	10.1	6.9	735	17.9	17.7	18.0	2.1	7.8	17.9	50.1
ISRAEL, Non-Jews (1990-2012)	113	9.8	11.5	8.0	226	16.2	16.3	16.1	3.4	13.1	14.6	38.4
JAPAN, 8 registries (1990-2013)	55	0.8	1.1	0.6	178	1.8	2.0	1.6	0.2	1.1	1.3	5.1
JORDAN, Jordanians (2000-2012)	214	7.5	9.6	5.4	440	12.2	12.3	12.1	3.3	8.8	11.7	28.3
REPUBLIC OF KOREA (1999-2012)	167	1.1	1.5	0.8	399	2.0	2.4	1.4	0.4	0.9	2.4	4.8
KUWAIT (1994-2012)	169	14.1	18.6	9.3	218	14.3	17.3	11.1	19.2	11.6	9.9	15.1
KUWAIT, Kuwaitis (1994-2012)	92	13.0	17.0	8.9	120	13.5	15.5	11.3	18.7	10.1	8.8	14.9
KUWAIT, Non-Kuwaitis (1994-2012)	77	15.6	20.8	10.0	98	15.5	19.8	11.0	20.0	13.9	11.4	15.4
LEBANON (2008-2010)	41	9.6	11.7	7.4	104	18.9	21.1	16.5	0.0	11.9	19.8	50.7
PAKISTAN, Karachi (1995-2002)	68	11.4	17.4	5.0	79	10.6	16.1	4.6	2.5	17.2	16.9	7.6
PAKISTAN, Lahore (2008-2012)	132	6.8	10.5	2.9	175	7.1	10.2	3.7	3.7	11.2	6.1	8.0
PHILIPPINES, 2 registries (1993-2012)	84	1.1	1.4	0.8	208	2.0	2.5	1.6	0.2	1.2	2.2	5.2
QATAR (2002-2014)	33	11.1	13.6	8.5	65	17.7	20.0	15.0	6.3	8.0	21.0	40.1
SAUDI ARABIA, Riyadh (1994-2012)	331	9.6	11.8	7.2	601	14.4	16.1	12.7	3.2	9.4	18.1	31.1
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	280	9.7	12.2	7.1	518	14.7	16.3	13.0	3.4	9.7	18.0	31.8
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	51	9.0	9.9	8.0	83	12.9	14.7	10.8	2.3	7.7	19.1	26.3
THAILAND, 6 registries (1993-2013)	84	2.0	2.7	1.2	143	2.4	3.3	1.4	1.0	2.3	3.0	3.7
TURKEY, paediatric (2009-2011)	357	6.0	7.8	4.0	-	-	-	-	2.8	7.5	8.4	-
TURKEY, 8 registries (1992-2012)	321	7.6	9.5	5.6	559	9.6	11.6	7.5	3.9	8.3	11.6	16.7
VIET NAM, Ho Chi Minh City (1995-2013)	34	1.3	1.5	1.1	51	1.4	1.5	1.2	0.4	1.7	2.2	1.5
EUROPE												
AUSTRIA (1990-2012)	206	5.9	6.5	5.3	552	11.6	11.9	11.2	1.2	4.4	13.9	31.0
BELARUS, paediatric (1990-2014)	442	8.9	10.8	6.9	1165	15.9	16.7	15.2	4.4	7.3	16.7	40.1
BELGIUM (2004-2013)	133	6.6	8.0	5.1	415	15.0	15.8	14.2	0.8	5.5	15.4	44.2
BULGARIA (1990-2013)	264	8.2	11.4	4.8	519	10.9	13.1	8.5	4.7	9.8	11.0	20.1
CROATIA (2001-2014)	76	7.2	8.9	5.4	195	13.1	13.3	12.9	2.0	5.2	16.3	33.4
CYPRUS, South-West (1998-2012)	31	12.1	12.9	11.2	89	24.1	18.9	29.5	3.0	6.9	30.0	65.4
CZECH REPUBLIC (1990-2012)	344	7.8	10.1	5.3	991	14.7	16.0	13.4	3.0	6.8	15.1	38.8
ESTONIA (1990-2012)	37	5.7	7.4	3.8	127	13.5	14.8	12.1	1.7	5.2	11.5	40.4

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of Hodgkin lymphoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.4. Hodgkin lymphomas (IIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1092	6.6	7.5	5.7	-	-	-	-	0.7	4.4	17.0	-
FRANCE, paediatric, haematological malignancies (1990-1999)	642	5.1	6.2	4.1	-	-	-	-	1.3	4.4	11.1	-
FRANCE, 13 registries (1993-2012)	250	7.1	7.7	6.5	684	14.3	13.2	15.4	0.9	4.2	18.6	39.2
GERMANY, paediatric (1996-2012)	1473	6.2	7.4	5.0	-	-	-	-	1.1	4.9	14.6	-
GERMANY, 6 Eastern states (2001-2007)	100	6.2	6.1	6.2	358	12.5	11.2	13.8	0.9	3.7	15.9	34.2
GERMANY, 5 Western registries (1994-2012)	366	6.3	7.4	5.1	1011	12.6	13.0	12.3	0.9	4.9	14.9	34.5
GREECE, paediatric, haematological neoplasms (1996-2014)	218	6.1	7.5	4.7	-	-	-	-	1.4	5.4	13.2	-
HUNGARY, paediatric (1991-2014)	291	6.5	7.9	5.0	-	-	-	-	1.8	6.4	12.6	-
ICELAND (1990-2014)	8	4.6	6.9	2.2	36	15.1	20.6	9.3	0.0	9.2	5.5	51.1
IRELAND (1994-2012)	110	5.9	6.8	5.0	330	12.9	13.2	12.5	0.5	4.6	14.5	37.1
ITALY, 2 paediatric registries (1998-2011)	93	10.1	11.8	8.2	295	23.6	24.7	22.5	1.8	7.5	24.0	70.2
ITALY, Piedmont, paediatric (1990-2011)	111	8.5	10.9	5.9	-	-	-	-	1.5	7.0	19.4	-
ITALY, 26 registries (1992-2013)	475	10.3	11.6	9.0	1363	21.3	21.8	20.7	1.5	6.2	26.8	59.0
LITHUANIA (2000-2012)	46	5.8	6.0	5.6	145	11.5	11.2	11.9	4.0	4.4	9.9	31.2
MALTA (1994-2013)	11	6.8	12.1	1.1	30	12.8	18.7	6.7	4.6	0.0	17.2	33.8
THE NETHERLANDS (1993-2013)	361	5.3	5.9	4.7	1122	12.6	12.3	12.9	0.8	3.7	13.2	37.6
NORWAY (1990-2013)	118	5.1	6.7	3.5	344	11.2	12.0	10.3	1.0	4.0	11.9	32.2
POLAND (2001-2013)	551	5.9	7.0	4.9	1593	11.1	11.2	11.1	1.8	4.7	12.9	29.1
PORTUGAL (1991-2012)	264	8.7	9.2	8.2	709	16.5	17.2	15.7	1.4	7.6	19.6	43.4
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	78	7.2	8.5	5.8	-	-	-	-	1.9	3.5	18.4	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	79	6.2	6.7	5.7	264	13.0	12.0	14.1	2.9	3.9	13.2	36.4
SLOVAKIA (1990-2009)	182	7.5	8.6	6.3	445	12.6	12.2	13.0	2.7	7.2	14.2	30.1
SLOVAKIA, paediatric (2000-2012)	94	6.9	7.5	6.2	-	-	-	-	2.5	4.5	15.3	-
SLOVENIA (1991-2012)	58	7.2	8.3	6.1	162	13.7	13.1	14.4	2.3	5.7	15.5	36.2
SPAIN, 2 paediatric registries (1991-2013)	325	6.3	8.0	4.4	-	-	-	-	1.1	5.3	14.1	-
SPAIN, selected regions, paediatric (2000-2013)	249	6.9	9.2	4.4	-	-	-	-	1.1	6.1	15.4	-
SPAIN, Valencia, paediatric (1991-2010)	76	4.9	5.4	4.3	-	-	-	-	1.2	3.4	11.3	-
SPAIN, 11 registries (1990-2013)	244	6.6	7.7	5.5	775	14.2	15.4	13.0	0.9	5.2	15.8	40.5
SWEDEN (1990-2011)	170	4.3	5.4	3.2	533	10.0	10.2	9.9	0.6	3.1	10.7	29.7
SWITZERLAND, paediatric (1990-2013)	205	6.3	6.4	6.1	-	-	-	-	1.2	3.8	15.8	-
SWITZERLAND, 7 registries (1990-2013)	79	6.8	8.0	5.5	241	15.3	14.0	16.5	2.0	4.0	16.3	44.5
UKRAINE (2002-2012)	571	6.8	8.7	4.9	1840	13.1	13.9	12.3	4.1	5.4	12.2	34.7
UK (2000-2011)	873	5.9	7.4	4.3	2352	11.7	12.8	10.6	1.2	4.7	13.5	31.8
UK, England and Wales, paediatric (1991-2010)	1192	5.5	7.0	4.0	-	-	-	-	1.2	4.4	12.5	-
OCEANIA												
AUSTRALIA (1992-2014)	533	5.5	6.8	4.0	1548	11.9	12.5	11.2	0.6	4.3	13.2	34.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*9*	*3.6*	*5.5*	*1.6*	*17*	*5.6*	*6.3*	*4.9*	*0.0*	*6.2*	*5.5*	*12.5*
FRANCE, 2 registries (1990-2013)	17	5.3	7.9	2.5	22	5.2	7.5	2.8	2.0	7.8	6.9	5.1
NEW ZEALAND (1993-2012)	82	4.3	5.0	3.5	230	9.0	9.4	8.6	1.0	4.3	8.7	25.3
NEW ZEALAND, Maori (1993-2012)	14	3.1	3.1	3.2	32	5.8	5.0	6.6	0.6	5.6	3.7	14.9
NEW ZEALAND, Pacific peoples (1993-2012)	*6*	*3.9*	*5.1*	*2.6*	*13*	*6.6*	*8.0*	*5.1*	*3.6*	*5.8*	*2.1*	*15.8*
NEW ZEALAND, Other (1993-2012)	62	4.7	5.6	3.7	185	10.2	10.9	9.6	0.8	3.6	11.1	29.4
NEW ZEALAND, paediatric (2000-2012)	52	4.0	3.9	4.1	-	-	-	-	0.5	3.9	8.8	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*12*	*4.0*	*4.0*	*4.0*	-	-	-	-	*1.0*	*5.4*	*6.6*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	40	4.0	3.9	4.2	-	-	-	-	0.4	3.5	9.5	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of Hodgkin lymphoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.5. Non-Hodgkin lymphomas (except Burkitt lymphoma) (IIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	131	7.5	11.2	3.6	195	7.9	10.6	5.1	6.6	8.2	7.9	9.4
BOTSWANA (1999-2007)	20	3.4	3.4	3.4	29	3.8	4.2	3.4	1.5	6.3	2.7	5.1
CAMEROON, Yaoundé (2004-2006)	67	28.1	33.6	23.0	83	27.7	32.1	23.5	15.2	35.7	37.1	26.2
EGYPT, Gharbiah (1999-2010)	166	11.0	15.0	6.7	240	11.5	15.8	7.1	11.2	11.7	10.0	13.5
FRANCE, Réunion (1990-2011)	13	2.7	2.0	3.4	29	4.6	5.2	3.9	0.0	3.4	5.4	11.1
KENYA, 2 registries (2000-2012)	128	11.9	15.4	8.4	165	12.0	16.3	8.0	9.0	14.2	13.2	12.5
LIBYA, Benghazi (2003-2008)	*9*	*3.1*	*2.2*	*4.0*	*14*	*3.5*	*2.1*	*5.0*	*3.9*	*2.1*	*3.0*	*5.0*
MALI, Bamako (2005-2014)	47	6.5	9.3	4.0	63	6.4	9.3	4.0	1.8	6.3	12.9	6.3
MAURITIUS (2001-2013)	12	3.4	4.3	2.5	24	4.7	6.3	2.9	5.2	1.6	3.0	9.1
MOROCCO, 2 registries (2005-2012)	50	5.4	7.1	3.6	101	7.7	10.8	4.6	3.4	6.2	7.1	15.7
SOUTH AFRICA, paediatric (1998-2012)	519	2.3	2.9	1.7	-	-	-	-	1.7	3.0	2.5	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*12*	*2.9*	*2.8*	*3.0*	-	-	-	-	*0.8*	*5.4*	*2.8*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	395	2.1	2.6	1.6	-	-	-	-	1.6	2.5	2.3	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	56	2.9	4.2	1.6	-	-	-	-	1.4	5.5	2.1	-
SOUTH AFRICA, paediatric, White (1998-2012)	56	4.4	5.7	3.1	-	-	-	-	3.2	4.8	5.7	-
TUNISIA, 2 registries (1993-2007)	81	4.0	5.5	2.4	149	5.3	7.3	3.3	2.1	5.3	5.3	9.8
UGANDA, Kyadondo (1996-2013)	141	10.4	12.2	8.9	175	9.7	11.9	8.0	5.5	15.2	11.6	7.6
ZIMBABWE, Harare, African (1995-2013)	92	10.9	15.4	6.7	133	11.6	16.4	7.2	6.2	12.4	15.7	13.9
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	616	4.1	5.4	2.8	-	-	-	-	2.7	4.8	5.2	-
ARGENTINA, 6 registries (1991-2013)	155	6.9	8.0	5.9	216	7.2	8.4	6.0	6.0	7.4	7.7	8.2
BRAZIL, 5 registries (1995-2012)	107	5.8	7.3	4.4	186	7.0	9.1	4.8	6.5	5.3	5.7	10.8
CHILE, paediatric (2007-2011)	74	3.8	4.7	2.8	-	-	-	-	2.2	5.1	4.5	-
CHILE, 4 registries (1998-2012)	22	4.6	6.7	2.4	40	5.9	8.5	3.2	2.8	5.3	6.1	10.6
COLOMBIA, 4 registries (1992-2013)	119	6.7	8.0	5.3	187	7.7	9.2	6.1	5.6	7.2	7.5	11.0
COSTA RICA (1993-2012)	146	6.0	8.4	3.3	234	7.1	9.8	4.2	4.9	5.4	8.1	11.1
CUBA (2000-2012)	360	13.4	18.9	7.5	476	12.9	18.0	7.5	14.4	13.5	12.0	11.2
ECUADOR, 5 registries (1993-2013)	172	7.8	9.2	6.4	271	9.1	10.9	7.2	6.7	9.7	7.2	13.4
FRANCE, 3 registries (1990-2012)	14	4.2	4.7	3.6	22	4.9	4.9	5.0	2.0	4.8	6.5	7.5
HONDURAS, Francisco Morazán (2002-2012)	15	2.9	3.8	1.9	22	3.3	4.1	2.4	1.7	4.1	3.1	4.7
JAMAICA, Kingston and St Andrew (1982-2012)	42	6.7	8.8	4.6	63	7.5	9.8	5.3	2.6	6.7	12.0	10.4
MEXICO, Mexico City, paediatric (1997-2013)	85	7.0	9.2	4.7	-	-	-	-	6.0	7.3	8.1	-
PERU, Lima (2010-2012)	54	7.5	9.7	5.2	83	8.3	10.8	5.7	6.4	7.3	9.4	11.0
PERU, Trujillo (1990-2002)	18	7.3	7.3	7.3	27	8.0	6.8	9.0	6.3	5.2	11.0	10.3
USA, Puerto Rico (1992-2012)	76	4.0	5.2	2.8	145	5.6	6.8	4.3	2.5	4.8	5.3	10.8
URUGUAY (1993-2012)	81	5.1	5.9	4.3	124	5.8	6.7	4.9	3.7	6.3	5.8	8.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	759	6.4	8.2	4.5	1331	8.0	10.1	5.8	5.1	6.7	7.7	13.6
USA (1998-2012)	5892	6.2	7.7	4.7	10326	8.0	9.9	6.0	4.2	6.4	8.8	14.0
USA, API (1998-2012)	272	5.8	7.1	4.5	453	7.2	8.3	6.0	3.7	6.1	8.4	11.8
USA, Black (1998-2012)	965	6.1	7.6	4.5	1723	8.0	10.0	6.0	3.1	5.6	10.5	14.8
USA, Hispanic White (1998-2012)	1051	6.1	7.5	4.7	1641	7.3	9.0	5.5	4.2	6.3	8.4	11.4
USA, Native American (1998-2012)	49	3.1	4.7	1.6	75	3.6	4.9	2.2	1.7	2.5	5.8	5.1
USA, White NH (1998-2012)	3373	6.1	7.6	4.6	6140	8.0	9.9	6.0	4.4	6.3	8.2	14.3
USA, NPCR (1998-2012)	5617	6.2	7.7	4.7	9859	8.0	9.9	6.0	4.3	6.3	8.7	14.0
USA, SEER 18 (1993-2012)	1879	6.3	7.8	4.6	3274	8.1	10.1	6.1	3.9	6.3	9.4	14.5
USA, Hawaii, Hawaiian (1993-2012)	17	10.0	13.5	6.3	22	10.0	14.0	5.8	3.6	13.1	15.1	10.0
ASIA												
BAHRAIN (1998-2012)	11	3.4	3.7	3.1	21	5.1	5.2	4.9	1.8	2.8	6.0	10.9
CHINA, 6 registries (1990-2013)	192	3.1	3.6	2.6	385	4.0	4.7	3.2	1.9	3.1	4.8	6.8
CHINA, Hong Kong (1990-2013)	96	3.8	4.5	2.9	199	5.1	6.4	3.8	3.6	3.5	4.3	9.9
INDIA, 7 registries (1990-2013)	926	5.3	7.3	3.1	1346	5.6	7.6	3.3	4.4	6.0	5.7	6.6
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	9	2.4	3.1	1.7	20	3.3	4.2	2.4	0.9	3.7	3.0	6.5
ISRAEL (1990-2012)	336	8.0	9.5	6.4	555	10.2	11.9	8.5	5.6	9.6	9.3	17.9
ISRAEL, Jews (1990-2012)	238	7.8	9.3	6.1	407	10.1	11.9	8.3	5.4	9.6	8.9	18.2
ISRAEL, Non-Jews (1990-2012)	98	8.6	10.1	7.0	148	10.5	11.9	9.0	6.3	9.7	10.4	17.0
JAPAN, 8 registries (1990-2013)	334	5.3	6.3	4.2	501	5.6	6.8	4.4	3.9	5.3	7.1	6.9
JORDAN, Jordanians (2000-2012)	112	4.0	5.1	2.9	193	5.4	6.3	4.4	2.6	4.6	5.3	10.1
REPUBLIC OF KOREA (1999-2012)	797	5.9	7.1	4.5	1389	7.3	9.0	5.4	3.7	6.2	8.3	12.3
KUWAIT (1994-2012)	108	9.0	9.6	8.3	158	10.4	12.0	8.8	11.6	7.7	6.9	15.4
KUWAIT, Kuwaitis (1994-2012)	65	9.1	9.7	8.5	95	10.6	11.5	9.8	9.9	8.4	8.8	15.9
KUWAIT, Non-Kuwaitis (1994-2012)	43	8.8	9.5	8.0	63	10.1	12.6	7.3	14.1	6.6	4.0	14.7
LEBANON (2008-2010)	37	9.7	12.6	6.7	73	14.0	18.5	9.3	5.7	14.3	9.9	29.0
PAKISTAN, Karachi (1995-2002)	34	5.8	7.6	3.9	68	9.8	12.8	6.4	3.0	7.1	8.1	23.6
PAKISTAN, Lahore (2008-2012)	87	4.4	5.9	2.8	126	5.0	7.3	2.7	2.3	4.5	7.0	7.2
PHILIPPINES, 2 registries (1993-2012)	265	3.5	4.3	2.6	414	4.1	4.8	3.4	2.4	3.0	5.4	6.2
QATAR (2002-2014)	19	6.4	7.1	5.5	29	7.7	7.4	8.4	4.5	9.0	5.8	12.5
SAUDI ARABIA, Riyadh (1994-2012)	178	5.2	6.4	3.9	297	7.1	8.2	5.9	2.5	6.8	6.9	13.7
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	143	5.0	5.9	4.0	246	6.9	7.7	6.2	2.0	7.1	6.5	13.8
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	35	6.2	8.8	3.3	51	7.7	10.7	4.5	4.7	5.7	8.6	13.1
THAILAND, 6 registries (1993-2013)	185	4.4	5.2	3.6	334	5.5	6.5	4.5	2.7	4.7	6.4	9.2
TURKEY, paediatric (2009-2011)	262	4.4	6.0	2.8	-	-	-	-	3.0	4.7	6.1	-
TURKEY, 8 registries (1992-2012)	299	7.3	9.6	4.8	482	8.5	11.1	5.8	4.9	8.5	9.0	12.8
VIET NAM, Ho Chi Minh City (1995-2013)	152	6.2	7.6	4.7	212	6.0	7.2	4.7	5.4	6.4	7.1	5.3
EUROPE												
AUSTRIA (1990-2012)	166	5.2	7.1	3.2	298	6.7	9.1	4.2	3.8	5.2	7.1	11.8
BELARUS, paediatric (1990-2014)	197	4.4	6.0	2.7	334	5.1	6.8	3.3	3.8	5.0	4.5	7.6
BELGIUM (2004-2013)	108	5.7	7.1	4.2	226	8.6	10.4	6.7	3.4	6.2	8.1	18.5
BULGARIA (1990-2013)	190	6.0	7.6	4.4	290	6.5	8.2	4.6	4.7	6.5	7.3	7.9
CROATIA (2001-2014)	76	7.8	10.1	5.4	139	10.0	12.7	7.1	5.5	8.1	10.6	17.7
CYPRUS, South-West (1998-2012)	22	9.2	14.6	3.5	39	11.4	17.2	5.3	1.5	16.6	11.2	19.2
CZECH REPUBLIC (1990-2012)	288	6.9	9.8	4.0	476	7.9	10.9	4.8	4.8	7.7	9.0	11.3
ESTONIA (1990-2012)	40	6.5	7.9	5.1	62	7.3	8.9	5.6	4.5	6.7	9.1	9.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of non-Hodgkin lymphoma (except Burkitt lymphoma) in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.5. Non-Hodgkin lymphomas (except Burkitt lymphoma) (IIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	755	4.9	6.1	3.6	-	-	-	-	2.6	5.2	7.5	-
FRANCE, paediatric, haematological malignancies (1990-1999)	527	4.5	5.5	3.4	-	-	-	-	2.8	4.9	6.1	-
FRANCE, 13 registries (1993-2012)	204	6.2	8.0	4.3	350	7.8	9.3	6.2	3.7	6.6	9.1	13.2
GERMANY, paediatric (1996-2012)	1283	5.9	7.6	4.2	-	-	-	-	3.4	7.1	8.0	-
GERMANY, 6 Eastern states (2001-2007)	76	5.5	7.4	3.6	174	7.2	9.3	5.0	3.9	7.2	5.9	13.0
GERMANY, 5 Western registries (1994-2012)	320	6.1	7.9	4.2	548	7.5	9.6	5.2	3.5	7.7	7.8	12.2
GREECE, paediatric, haematological neoplasms (1996-2014)	175	5.2	7.2	3.0	-	-	-	-	2.0	7.1	7.2	-
HUNGARY, paediatric (1991-2014)	236	5.6	7.0	4.0	-	-	-	-	3.9	5.1	8.3	-
ICELAND (1990-2014)	*5*	*3.0*	*3.5*	*2.5*	*13*	*5.6*	*7.5*	*3.6*	*3.6*	*0.0*	*5.5*	*14.6*
IRELAND (1994-2012)	93	5.4	6.8	3.8	168	7.0	8.5	5.5	3.6	5.5	7.6	12.6
ITALY, 2 paediatric registries (1998-2011)	54	6.2	9.6	2.5	102	8.6	11.1	5.8	4.6	5.0	9.7	16.7
ITALY, Piedmont, paediatric (1990-2011)	77	6.2	9.5	2.8	-	-	-	-	3.9	5.2	10.5	-
ITALY, 26 registries (1992-2013)	320	7.4	9.4	5.2	592	9.8	12.4	7.0	3.8	8.2	11.3	18.1
LITHUANIA (2000-2012)	35	4.5	4.7	4.2	66	5.6	7.0	4.3	3.5	2.6	7.8	9.8
MALTA (1994-2013)	9	6.0	7.2	4.8	20	9.1	9.5	8.7	4.6	6.3	7.6	19.6
THE NETHERLANDS (1993-2013)	370	5.8	7.3	4.4	653	7.7	9.4	5.9	4.1	6.0	8.0	14.0
NORWAY (1990-2013)	123	5.6	7.1	4.1	206	7.0	8.6	5.4	4.0	5.2	8.2	11.8
POLAND (2001-2013)	387	4.6	5.9	3.2	658	5.3	6.5	3.9	2.9	5.6	5.7	7.6
PORTUGAL (1991-2012)	187	6.7	9.1	4.3	311	8.0	10.0	5.8	5.6	6.8	8.2	12.1
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	45	4.6	6.3	2.9	-	-	-	-	1.5	5.8	7.5	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	95	8.0	10.2	5.6	136	8.0	10.4	5.5	5.9	7.8	11.0	8.1
SLOVAKIA (1990-2009)	142	6.5	7.6	5.4	221	7.1	8.6	5.5	4.6	9.6	5.6	9.1
SLOVAKIA, paediatric (2000-2012)	83	6.9	8.8	4.9	-	-	-	-	5.1	8.7	7.2	-
SLOVENIA (1991-2012)	51	6.8	9.5	4.0	82	7.7	10.1	5.2	5.1	5.7	10.5	10.8
SPAIN, 2 paediatric registries (1991-2013)	320	6.5	8.3	4.6	-	-	-	-	4.3	7.3	8.6	-
SPAIN, selected regions, paediatric (2000-2013)	234	6.6	8.2	5.0	-	-	-	-	3.8	8.4	8.5	-
SPAIN, Valencia, paediatric (1991-2010)	86	6.1	8.3	3.8	-	-	-	-	5.7	4.3	8.7	-
SPAIN, 11 registries (1990-2013)	197	5.9	7.9	3.7	391	7.9	10.4	5.2	3.7	6.7	7.9	14.8
SWEDEN (1990-2011)	186	5.2	7.0	3.2	298	6.1	8.2	3.8	4.1	6.0	5.7	9.2
SWITZERLAND, paediatric (1990-2013)	179	5.9	8.0	3.7	-	-	-	-	3.7	6.5	8.2	-
SWITZERLAND, 7 registries (1990-2013)	86	7.8	9.9	5.7	150	10.0	11.9	8.0	5.1	9.1	10.1	17.6
UKRAINE (2002-2012)	314	4.0	5.4	2.5	611	4.9	6.5	3.2	3.3	3.9	5.1	8.1
UK (2000-2011)	671	4.9	6.3	3.4	1165	6.2	7.9	4.4	3.2	5.2	6.8	10.6
UK, England and Wales, paediatric (1991-2010)	1070	5.3	6.9	3.5	-	-	-	-	3.4	5.9	7.1	-
OCEANIA												
AUSTRALIA (1992-2014)	543	6.0	7.9	3.9	968	7.8	10.2	5.3	4.2	6.3	8.0	14.2
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*11*	*4.6*	*5.9*	*3.4*	*18*	*6.1*	*8.7*	*3.3*	*5.8*	*3.7*	*4.1*	*11.0*
FRANCE, 2 registries (1990-2013)	14	4.4	3.0	5.9	25	5.9	4.6	7.4	3.0	3.9	6.9	11.2
NEW ZEALAND (1993-2012)	106	5.7	7.1	4.1	164	6.6	8.2	4.9	2.4	5.6	10.1	9.9
NEW ZEALAND, Maori (1993-2012)	23	5.2	7.9	2.3	33	5.9	7.3	4.4	3.2	4.2	9.0	8.3
NEW ZEALAND, Pacific peoples (1993-2012)	*7*	*4.4*	*3.6*	*5.2*	*11*	*5.4*	*3.8*	*7.1*	*1.8*	*1.9*	*10.6*	*9.0*
NEW ZEALAND, Other (1993-2012)	76	6.0	7.2	4.6	120	7.0	9.0	4.9	2.1	6.6	10.4	10.5
NEW ZEALAND, paediatric (2000-2012)	73	5.9	7.6	4.1	-	-	-	-	2.6	5.5	10.6	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*12*	*4.1*	*7.3*	*0.7*	-	-	-	-	*2.9*	*3.2*	*6.6*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	61	6.4	7.6	5.2	-	-	-	-	2.5	6.3	11.8	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of non-Hodgkin lymphoma (except Burkitt lymphoma) in a dataset
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Please consult registry-specific background information and quality indicators

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Table 8.6. Burkitt lymphoma (IIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	19	1.2	1.9	0.4	23	1.0	1.7	0.4	1.7	1.3	0.3	0.6
BOTSWANA (1999-2007)	*3*	*0.6*	*1.2*	*0.0*	*3*	*0.5*	*0.9*	*0.0*	*1.5*	*0.0*	*0.0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	112	46.8	56.0	38.1	122	40.0	46.5	33.8	30.4	72.6	40.0	16.4
EGYPT, Gharbiah (1999-2010)	90	6.3	9.0	3.5	97	5.2	7.3	3.0	9.1	5.9	3.1	1.3
FRANCE, Réunion (1990-2011)	*5*	*1.2*	*2.0*	*0.4*	*8*	*1.4*	*2.5*	*0.3*	*2.1*	*0.7*	*0.7*	*2.1*
KENYA, 2 registries (2000-2012)	61	5.6	7.4	3.9	63	4.5	5.9	3.1	3.9	8.5	4.7	0.7
LIBYA, Benghazi (2003-2008)	*17*	*5.9*	*8.5*	*3.1*	*17*	*4.6*	*6.6*	*2.4*	*5.9*	*8.4*	*3.0*	*0.0*
MALI, Bamako (2005-2014)	96	13.1	15.5	10.9	99	10.5	12.4	8.6	4.7	21.0	15.8	1.2
MAURITIUS (2001-2013)	*3*	*0.7*	*1.0*	*0.4*	*3*	*0.6*	*0.8*	*0.3*	*0.0*	*1.6*	*0.7*	*0.0*
MOROCCO, 2 registries (2005-2012)	51	5.7	9.4	1.9	60	5.0	8.3	1.8	4.7	8.2	4.2	2.8
SOUTH AFRICA, paediatric (1998-2012)	354	1.7	2.5	0.9	-	-	-	-	2.2	1.8	0.8	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*7*	*1.9*	*2.3*	*1.6*	-	-	-	-	*3.2*	*0.8*	*1.4*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	252	1.4	2.1	0.7	-	-	-	-	2.0	1.5	0.5	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	61	3.3	4.8	1.8	-	-	-	-	4.5	2.9	2.2	-
SOUTH AFRICA, paediatric, White (1998-2012)	34	2.8	4.1	1.4	-	-	-	-	1.6	4.6	2.3	-
TUNISIA, 2 registries (1993-2007)	*14*	*0.8*	*0.9*	*0.6*	*15*	*0.6*	*0.8*	*0.5*	*0.7*	*1.3*	*0.3*	*0.1*
UGANDA, Kyadondo (1996-2013)	359	26.8	30.0	23.8	376	21.6	24.6	19.0	16.9	46.9	17.7	3.8
ZIMBABWE, Harare, African (1995-2013)	*17*	*2.0*	*2.6*	*1.4*	*18*	*1.6*	*2.2*	*1.1*	*1.4*	*3.4*	*1.3*	*0.3*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	368	2.6	3.7	1.4	-	-	-	-	2.6	2.8	2.2	-
ARGENTINA, 6 registries (1991-2013)	51	2.3	2.4	2.2	54	1.9	2.1	1.7	2.2	2.9	1.9	0.4
BRAZIL, 5 registries (1995-2012)	60	3.2	4.9	1.5	72	2.9	4.3	1.4	2.4	4.6	2.8	1.6
CHILE, paediatric (2007-2011)	38	2.0	3.5	0.5	-	-	-	-	2.2	2.0	1.9	-
CHILE, 4 registries (1998-2012)	*7*	*1.6*	*2.6*	*0.6*	*7*	*1.3*	*2.0*	*0.4*	*1.4*	*3.3*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	111	6.5	9.6	3.4	120	5.4	8.0	2.8	7.1	8.4	3.8	1.5
COSTA RICA (1993-2012)	51	2.1	2.6	1.7	56	1.8	2.1	1.5	2.1	2.0	2.3	0.6
CUBA (2000-2012)	29	1.1	1.3	0.9	32	0.9	1.1	0.8	1.3	1.1	0.8	0.3
ECUADOR, 5 registries (1993-2013)	34	1.6	2.7	0.5	40	1.4	2.4	0.4	1.9	2.0	0.7	0.8
FRANCE, 3 registries (1990-2012)	*5*	*1.6*	*3.2*	*0.0*	*5*	*1.2*	*2.5*	*0.0*	*2.0*	*1.0*	*1.8*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*7*	*1.4*	*1.1*	*1.6*	*7*	*1.1*	*0.9*	*1.3*	*1.7*	*1.2*	*1.3*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	*3*	*0.6*	*0.8*	*0.3*	*3*	*0.4*	*0.6*	*0.3*	*1.0*	*0.5*	*0.0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	24	1.9	2.3	1.6	-	-	-	-	1.0	2.9	2.0	-
PERU, Lima (2010-2012)	*14*	*2.0*	*3.1*	*0.9*	*15*	*1.7*	*2.6*	*0.7*	*2.1*	*2.6*	*1.3*	*0.4*
PERU, Trujillo (1990-2002)	*7*	*2.9*	*3.4*	*2.5*	*7*	*2.3*	*2.6*	*2.0*	*3.8*	*1.3*	*3.7*	*0.0*
USA, Puerto Rico (1992-2012)	32	1.8	2.9	0.7	38	1.6	2.7	0.5	2.1	1.5	1.8	0.9
URUGUAY (1993-2012)	61	4.0	6.2	1.8	66	3.3	5.2	1.4	3.7	6.5	1.7	1.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	313	2.6	4.1	1.1	408	2.5	4.0	1.0	1.9	3.2	2.9	2.3
USA (1998-2012)	2258	2.4	3.8	1.0	2939	2.4	3.7	1.0	1.6	3.2	2.6	2.2
USA, API (1998-2012)	89	2.0	2.9	0.9	119	2.0	2.9	0.9	1.5	2.6	1.8	2.0
USA, Black (1998-2012)	219	1.4	2.1	0.8	276	1.4	2.0	0.7	0.9	1.9	1.5	1.1
USA, Hispanic White (1998-2012)	308	1.8	2.6	1.0	385	1.7	2.5	0.9	1.7	2.1	1.7	1.5
USA, Native American (1998-2012)	15	1.0	1.7	0.3	21	1.0	1.6	0.5	0.8	0.8	1.4	1.2
USA, White NH (1998-2012)	1573	2.9	4.6	1.0	2073	2.8	4.5	1.1	1.8	3.9	3.2	2.6
USA, NPCR (1998-2012)	2153	2.4	3.8	1.0	2800	2.4	3.7	1.0	1.7	3.2	2.6	2.1
USA, SEER 18 (1993-2012)	691	2.3	3.7	0.9	911	2.3	3.7	1.0	1.6	3.0	2.6	2.3
USA, Hawaii, Hawaiian (1993-2012)	*2*	*1.2*	*2.4*	*0.0*	*2*	*1.0*	*1.9*	*0.0*	*1.8*	*0.0*	*1.9*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*9*	*2.9*	*3.6*	*2.1*	*11*	*2.7*	*3.3*	*2.1*	*2.8*	*3.8*	*2.0*	*2.2*
CHINA, 6 registries (1990-2013)	30	0.5	0.8	0.3	33	0.4	0.7	0.2	0.6	0.6	0.5	0.1
CHINA, Hong Kong (1990-2013)	45	1.8	2.7	0.7	62	1.7	2.6	0.8	1.6	1.8	2.0	1.6
INDIA, 7 registries (1990-2013)	104	0.6	0.8	0.4	109	0.5	0.7	0.3	0.6	0.8	0.4	0.1
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*4*	*0.9*	*1.4*	*0.4*	*4*	*0.7*	*1.1*	*0.3*	*0.0*	*0.9*	*2.2*	*0.0*
ISRAEL (1990-2012)	230	5.6	8.1	2.9	264	4.9	7.3	2.5	5.7	6.8	4.0	2.8
ISRAEL, Jews (1990-2012)	169	5.7	8.2	3.0	195	5.0	7.4	2.6	6.2	7.3	3.1	2.8
ISRAEL, Non-Jews (1990-2012)	61	5.4	8.0	2.6	69	4.8	7.3	2.2	4.3	5.5	6.6	2.7
JAPAN, 8 registries (1990-2013)	100	1.6	2.8	0.5	110	1.4	2.3	0.4	1.4	2.1	1.4	0.4
JORDAN, Jordanians (2000-2012)	66	2.4	3.8	1.0	72	2.1	3.1	1.0	2.4	3.2	1.7	0.8
REPUBLIC OF KOREA (1999-2012)	300	2.4	3.7	0.9	351	2.1	3.2	0.8	2.3	2.6	2.2	1.1
KUWAIT (1994-2012)	30	2.4	2.9	2.0	40	2.6	3.0	2.1	1.8	2.5	3.3	3.1
KUWAIT, Kuwaitis (1994-2012)	19	2.6	3.0	2.3	24	2.6	3.3	2.0	2.3	2.9	2.8	2.7
KUWAIT, Non-Kuwaitis (1994-2012)	*11*	*2.2*	*2.7*	*1.6*	*16*	*2.5*	*2.7*	*2.3*	*1.1*	*1.8*	*4.0*	*3.7*
LEBANON (2008-2010)	*7*	*1.7*	*2.4*	*1.0*	*8*	*1.5*	*2.2*	*0.8*	*0.0*	*4.0*	*1.5*	*0.8*
PAKISTAN, Karachi (1995-2002)	*10*	*1.8*	*2.9*	*0.7*	*10*	*1.4*	*2.2*	*0.6*	*3.0*	*1.0*	*1.2*	*0.0*
PAKISTAN, Lahore (2008-2012)	35	1.8	2.7	0.8	35	1.4	2.1	0.6	0.7	3.4	1.4	0.0
PHILIPPINES, 2 registries (1993-2012)	47	0.6	1.1	0.2	53	0.5	0.9	0.2	0.8	0.5	0.5	0.3
QATAR (2002-2014)	*8*	*2.8*	*3.4*	*2.1*	*8*	*2.1*	*2.6*	*1.6*	*5.4*	*2.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	109	3.3	4.4	2.1	121	2.8	3.8	1.8	3.8	3.4	2.4	1.4
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	88	3.2	4.2	2.1	99	2.8	3.7	1.8	3.3	3.6	2.4	1.5
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	21	3.7	5.2	2.2	22	3.1	4.4	1.7	6.1	2.6	1.9	0.8
THAILAND, 6 registries (1993-2013)	34	0.9	1.5	0.3	41	0.8	1.3	0.3	1.3	1.1	0.3	0.4
TURKEY, paediatric (2009-2011)	222	4.0	6.2	1.6	-	-	-	-	3.8	4.8	3.2	-
TURKEY, 8 registries (1992-2012)	164	4.2	5.7	2.5	180	3.5	4.8	2.1	3.8	5.7	3.0	1.1
VIET NAM, Ho Chi Minh City (1995-2013)	*11*	*0.5*	*0.8*	*0.2*	*12*	*0.4*	*0.6*	*0.1*	*0.7*	*0.5*	*0.1*	*0.1*
EUROPE												
AUSTRIA (1990-2012)	79	2.4	4.3	0.4	99	2.3	3.9	0.6	0.8	3.5	3.3	1.8
BELARUS, paediatric (1990-2014)	201	4.5	7.2	1.7	222	3.8	6.0	1.4	3.8	6.3	3.6	1.2
BELGIUM (2004-2013)	99	5.4	8.0	2.6	118	4.8	7.5	2.1	3.6	8.2	4.5	3.0
BULGARIA (1990-2013)	49	1.7	2.6	0.7	55	1.4	2.2	0.6	1.7	2.1	1.1	0.5
CROATIA (2001-2014)	28	2.9	4.6	1.1	34	2.6	4.1	1.1	2.0	3.6	3.3	1.7
CYPRUS, South-West (1998-2012)	*4*	*1.8*	*3.5*	*0.0*	*6*	*1.9*	*3.7*	*0.0*	*0.0*	*5.5*	*0.0*	*2.3*
CZECH REPUBLIC (1990-2012)	102	2.5	4.3	0.7	120	2.2	3.7	0.7	2.1	3.2	2.4	1.1
ESTONIA (1990-2012)	*15*	*2.4*	*4.1*	*0.7*	*17*	*2.1*	*3.3*	*0.7*	*0.6*	*4.7*	*2.4*	*0.9*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of Burkitt lymphoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.6. Burkitt lymphoma (IIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	619	4.1	6.7	1.4	-	-	-	-	2.9	6.0	3.8	-
FRANCE, paediatric, haematological malignancies (1990-1999)	466	4.0	6.0	2.0	-	-	-	-	2.9	5.5	3.9	-
FRANCE, 13 registries (1993-2012)	158	4.9	7.9	1.8	182	4.3	6.9	1.6	3.3	7.0	4.8	2.2
GERMANY, paediatric (1996-2012)	666	3.2	5.2	1.1	-	-	-	-	2.1	4.6	3.0	-
GERMANY, 6 Eastern states (2001-2007)	27	2.1	3.2	0.9	32	1.8	2.8	0.7	2.0	3.0	1.2	0.7
GERMANY, 5 Western registries (1994-2012)	156	3.0	4.6	1.3	198	2.8	4.4	1.1	1.6	4.3	3.4	2.2
GREECE, paediatric, haematological neoplasms (1996-2014)	139	4.4	7.3	1.5	-	-	-	-	4.8	4.7	3.7	-
HUNGARY, paediatric (1991-2014)	109	2.7	4.6	0.7	-	-	-	-	1.9	4.0	2.2	-
ICELAND (1990-2014)	*8*	*4.9*	*9.6*	*0.0*	*9*	*4.2*	*8.3*	*0.0*	*3.6*	*9.2*	*1.8*	*1.8*
IRELAND (1994-2012)	21	1.2	2.2	0.2	28	1.2	2.2	0.2	0.9	1.8	1.1	1.2
ITALY, 2 paediatric registries (1998-2011)	47	5.3	8.7	1.8	58	5.0	8.1	1.7	2.8	6.1	7.9	3.8
ITALY, Piedmont, paediatric (1990-2011)	70	5.7	8.6	2.7	-	-	-	-	4.4	4.9	8.5	-
ITALY, 26 registries (1992-2013)	196	4.6	7.0	2.1	224	4.0	6.1	1.9	2.9	6.4	5.0	1.9
LITHUANIA (2000-2012)	23	3.1	5.2	1.0	31	3.0	5.0	0.9	3.5	1.8	4.2	2.5
MALTA (1994-2013)	*6*	*3.9*	*7.6*	*0.0*	*6*	*3.0*	*5.9*	*0.0*	*2.3*	*4.2*	*5.7*	*0.0*
THE NETHERLANDS (1993-2013)	261	4.2	6.9	1.4	304	3.7	6.0	1.3	3.2	5.5	4.0	2.1
NORWAY (1990-2013)	56	2.6	4.4	0.6	78	2.7	4.6	0.7	1.7	3.0	3.3	3.1
POLAND (2001-2013)	181	2.2	3.4	0.9	230	2.0	3.1	0.9	1.3	3.4	2.1	1.4
PORTUGAL (1991-2012)	124	4.6	7.1	2.1	141	4.0	6.1	1.7	4.6	5.7	3.5	1.7
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	20	2.3	3.9	0.6	-	-	-	-	1.1	3.8	2.0	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*3*	*0.3*	*0.4*	*0.2*	*3*	*0.2*	*0.3*	*0.1*	*0.0*	*0.8*	*0.0*	*0.0*
SLOVAKIA (1990-2009)	42	2.0	3.2	0.8	50	1.8	2.7	0.7	1.9	2.8	1.2	0.9
SLOVAKIA, paediatric (2000-2012)	*16*	*1.3*	*2.0*	*0.6*	-	-	-	-	*0.8*	*1.8*	*1.4*	-
SLOVENIA (1991-2012)	25	3.6	5.9	1.2	31	3.3	5.5	1.0	3.2	5.7	1.9	2.1
SPAIN, 2 paediatric registries (1991-2013)	275	5.7	8.9	2.4	-	-	-	-	5.0	7.6	4.6	-
SPAIN, selected regions, paediatric (2000-2013)	185	5.3	8.3	2.3	-	-	-	-	4.3	8.1	3.7	-
SPAIN, Valencia, paediatric (1991-2010)	90	6.7	10.5	2.7	-	-	-	-	7.1	6.4	6.5	-
SPAIN, 11 registries (1990-2013)	171	5.3	8.5	2.0	210	4.8	7.6	1.8	4.8	6.3	4.9	3.0
SWEDEN (1990-2011)	55	1.5	2.4	0.5	72	1.5	2.3	0.6	0.8	2.4	1.5	1.4
SWITZERLAND, paediatric (1990-2013)	118	4.0	6.5	1.4	-	-	-	-	3.2	5.1	3.9	-
SWITZERLAND, 7 registries (1990-2013)	46	4.4	7.5	1.1	54	3.9	6.5	1.1	4.2	5.9	2.8	2.2
UKRAINE (2002-2012)	182	2.4	3.7	0.9	213	2.0	3.2	0.8	1.9	2.9	2.4	0.8
UK (2000-2011)	344	2.6	4.0	1.0	419	2.3	3.7	1.0	2.0	3.1	2.8	1.6
UK, England and Wales, paediatric (1991-2010)	453	2.3	3.6	0.9	-	-	-	-	1.8	2.8	2.3	-
OCEANIA												
AUSTRALIA (1992-2014)	259	2.9	4.8	0.9	328	2.8	4.5	0.9	2.1	3.8	2.9	2.3
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*7*	*2.9*	*4.8*	*0.8*	*7*	*2.2*	*3.7*	*0.6*	*1.2*	*5.0*	*2.8*	*0.0*
FRANCE, 2 registries (1990-2013)	*6*	*1.9*	*3.1*	*0.6*	*8*	*1.9*	*2.8*	*0.9*	*1.0*	*1.9*	*2.9*	*2.0*
NEW ZEALAND (1993-2012)	44	2.5	3.4	1.5	64	2.7	3.9	1.5	1.9	3.8	1.9	3.4
NEW ZEALAND, Maori (1993-2012)	*14*	*3.3*	*5.0*	*1.4*	*17*	*3.1*	*5.0*	*1.1*	*3.8*	*3.5*	*2.2*	*2.5*
NEW ZEALAND, Pacific peoples (1993-2012)	*7*	*4.5*	*5.0*	*3.9*	*8*	*4.0*	*4.9*	*3.0*	*1.8*	*9.7*	*2.1*	*2.3*
NEW ZEALAND, Other (1993-2012)	23	1.9	2.6	1.1	39	2.3	3.3	1.3	1.1	3.1	1.7	3.8
NEW ZEALAND, paediatric (2000-2012)	22	1.9	2.7	1.1	-	-	-	-	1.0	3.4	1.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*4*	*1.4*	*2.0*	*0.8*	-	-	-	-	*2.0*	*1.1*	*1.1*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*18*	*2.0*	*2.8*	*1.1*	-	-	-	-	*0.7*	*4.2*	*1.3*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of Burkitt lymphoma in a dataset
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Please consult registry-specific background information and quality indicators

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Table 8.7. Non-Hodgkin lymphomas, including Burkitt lymphoma (IIb, IIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	150	8.6	13.1	4.0	218	9.0	12.3	5.5	8.3	9.4	8.2	10.0
BOTSWANA (1999-2007)	23	4.0	4.6	3.4	32	4.2	5.1	3.4	3.1	6.3	2.7	5.1
CAMEROON, Yaoundé (2004-2006)	179	74.9	89.6	61.1	205	67.7	78.6	57.4	45.5	108.3	77.1	42.6
EGYPT, Gharbiah (1999-2010)	256	17.3	24.0	10.3	337	16.7	23.1	10.1	20.2	17.6	13.1	14.8
FRANCE, Réunion (1990-2011)	18	3.9	4.0	3.8	37	6.0	7.7	4.2	2.1	4.1	6.1	13.2
KENYA, 2 registries (2000-2012)	189	17.5	22.8	12.3	228	16.6	22.2	11.2	13.0	22.7	17.9	13.2
LIBYA, Benghazi (2003-2008)	26	9.0	10.7	7.2	31	8.1	8.7	7.4	9.8	10.5	6.1	5.0
MALI, Bamako (2005-2014)	143	19.6	24.8	14.9	162	16.9	21.7	12.6	6.4	27.3	28.6	7.4
MAURITIUS (2001-2013)	15	4.1	5.3	2.9	27	5.2	7.1	3.3	5.2	3.1	3.7	9.1
MOROCCO, 2 registries (2005-2012)	101	11.1	16.5	5.5	161	12.7	19.0	6.4	8.1	14.4	11.4	18.5
SOUTH AFRICA, paediatric (1998-2012)	873	4.0	5.4	2.6	-	-	-	-	3.9	4.8	3.3	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*19*	*4.8*	*5.0*	*4.5*	-	-	-	-	*4.0*	*6.2*	*4.3*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	647	3.5	4.7	2.3	-	-	-	-	3.6	4.1	2.8	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	117	6.2	9.0	3.4	-	-	-	-	5.9	8.4	4.3	-
SOUTH AFRICA, paediatric, White (1998-2012)	90	7.2	9.8	4.5	-	-	-	-	4.8	9.4	7.9	-
TUNISIA, 2 registries (1993-2007)	95	4.8	6.5	3.0	164	5.9	8.0	3.7	2.7	6.5	5.6	9.9
UGANDA, Kyadondo (1996-2013)	500	37.2	42.2	32.7	551	31.4	36.5	27.0	22.3	62.1	29.3	11.3
ZIMBABWE, Harare, African (1995-2013)	109	12.9	18.1	8.1	151	13.2	18.6	8.3	7.6	15.7	16.9	14.2
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	984	6.7	9.0	4.2	-	-	-	-	5.4	7.6	7.4	-
ARGENTINA, 6 registries (1991-2013)	206	9.3	10.4	8.1	270	9.1	10.5	7.7	8.2	10.3	9.5	8.6
BRAZIL, 5 registries (1995-2012)	167	9.1	12.2	5.9	258	9.8	13.4	6.2	8.8	9.9	8.4	12.4
CHILE, paediatric (2007-2011)	112	5.8	8.2	3.3	-	-	-	-	4.4	7.1	6.4	-
CHILE, 4 registries (1998-2012)	29	6.2	9.3	2.9	47	7.2	10.6	3.6	4.3	8.6	6.1	10.6
COLOMBIA, 4 registries (1992-2013)	230	13.2	17.6	8.7	307	13.1	17.2	8.8	12.7	15.6	11.3	12.4
COSTA RICA (1993-2012)	197	8.1	11.0	5.0	290	8.9	12.0	5.7	7.0	7.3	10.4	11.7
CUBA (2000-2012)	389	14.5	20.2	8.5	508	13.8	19.1	8.3	15.7	14.6	12.9	11.5
ECUADOR, 5 registries (1993-2013)	206	9.4	11.9	6.9	311	10.5	13.4	7.6	8.6	11.7	7.9	14.2
FRANCE, 3 registries (1990-2012)	19	5.8	7.9	3.6	27	6.2	7.3	5.0	3.9	5.7	8.3	7.5
HONDURAS, Francisco Morazán (2002-2012)	22	4.2	4.9	3.5	29	4.3	5.0	3.6	3.3	5.2	4.4	4.7
JAMAICA, Kingston and St Andrew (1982-2012)	45	7.3	9.6	4.9	66	8.0	10.4	5.5	3.7	7.2	12.0	10.4
MEXICO, Mexico City, paediatric (1997-2013)	109	8.9	11.5	6.3	-	-	-	-	7.0	10.2	10.1	-
PERU, Lima (2010-2012)	68	9.5	12.8	6.1	98	10.0	13.4	6.4	8.5	9.8	10.6	11.4
PERU, Trujillo (1990-2002)	25	10.3	10.7	9.8	34	10.3	9.4	11.0	10.1	6.5	14.7	10.3
USA, Puerto Rico (1992-2012)	108	5.9	8.1	3.5	183	7.2	9.5	4.8	4.6	6.3	7.0	11.8
URUGUAY (1993-2012)	142	9.2	12.1	6.1	190	9.2	11.9	6.3	7.3	12.9	7.5	9.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	1072	9.0	12.2	5.6	1739	10.6	14.1	6.8	7.0	10.0	10.6	15.9
USA (1998-2012)	8150	8.7	11.5	5.7	13265	10.4	13.5	7.0	5.9	9.5	11.5	16.2
USA, API (1998-2012)	361	7.8	10.1	5.4	572	9.1	11.3	6.9	5.2	8.7	10.2	13.7
USA, Black (1998-2012)	1184	7.5	9.7	5.3	1999	9.4	12.0	6.7	4.1	7.6	12.0	15.9
USA, Hispanic White (1998-2012)	1359	7.9	10.1	5.7	2026	9.1	11.5	6.4	5.9	8.4	10.1	12.9
USA, Native American (1998-2012)	64	4.1	6.4	1.8	96	4.6	6.5	2.7	2.5	3.3	7.2	6.3
USA, White NH (1998-2012)	4946	9.0	12.2	5.7	8213	10.8	14.3	7.0	6.2	10.2	11.4	16.9
USA, NPCR (1998-2012)	7770	8.7	11.5	5.7	12659	10.3	13.5	7.0	5.9	9.5	11.4	16.1
USA, SEER 18 (1993-2012)	2570	8.6	11.5	5.6	4185	10.5	13.7	7.0	5.5	9.3	12.1	16.8
USA, Hawaii, Hawaiian (1993-2012)	19	11.2	15.9	6.3	24	11.0	15.8	5.8	5.4	13.1	17.0	10.0
ASIA												
BAHRAIN (1998-2012)	20	6.3	7.3	5.1	32	7.8	8.5	7.0	4.6	6.6	8.1	13.1
CHINA, 6 registries (1990-2013)	222	3.7	4.4	2.9	418	4.4	5.4	3.4	2.5	3.7	5.2	6.9
CHINA, Hong Kong (1990-2013)	141	5.5	7.2	3.6	261	6.9	9.0	4.6	5.1	5.3	6.3	11.5
INDIA, 7 registries (1990-2013)	1030	5.9	8.2	3.4	1455	6.1	8.3	3.6	5.0	6.8	6.1	6.7
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	13	3.4	4.6	2.1	24	4.1	5.4	2.7	0.9	4.7	5.2	6.5
ISRAEL (1990-2012)	566	13.6	17.7	9.3	819	15.2	19.2	10.9	11.3	16.5	13.4	20.7
ISRAEL, Jews (1990-2012)	407	13.4	17.5	9.1	602	15.2	19.2	10.9	11.6	16.9	12.1	21.0
ISRAEL, Non-Jews (1990-2012)	159	14.0	18.1	9.6	217	15.3	19.1	11.2	10.6	15.3	17.0	19.7
JAPAN, 8 registries (1990-2013)	434	6.9	9.1	4.6	611	7.0	9.2	4.8	5.3	7.4	8.5	7.3
JORDAN, Jordanians (2000-2012)	178	6.4	8.9	3.9	265	7.4	9.4	5.4	5.0	7.7	7.0	10.9
REPUBLIC OF KOREA (1999-2012)	1097	8.2	10.8	5.4	1740	9.4	12.2	6.2	6.0	8.8	10.6	13.3
KUWAIT (1994-2012)	138	11.4	12.5	10.3	198	13.0	15.0	10.9	13.4	10.1	10.2	18.5
KUWAIT, Kuwaitis (1994-2012)	84	11.7	12.6	10.8	119	13.3	14.8	11.8	12.2	11.3	11.6	18.6
KUWAIT, Non-Kuwaitis (1994-2012)	54	10.9	12.2	9.6	79	12.6	15.3	9.6	15.2	8.4	8.1	18.4
LEBANON (2008-2010)	44	11.4	15.0	7.6	81	15.6	20.8	10.0	5.7	18.3	11.4	29.8
PAKISTAN, Karachi (1995-2002)	44	7.6	10.4	4.7	78	11.2	15.1	7.0	6.0	8.1	9.3	23.6
PAKISTAN, Lahore (2008-2012)	122	6.2	8.6	3.6	161	6.4	9.3	3.3	3.0	7.9	8.5	7.2
PHILIPPINES, 2 registries (1993-2012)	312	4.1	5.4	2.8	467	4.6	5.7	3.5	3.2	3.6	5.9	6.5
QATAR (2002-2014)	27	9.1	10.5	7.6	37	9.9	10.0	10.1	10.0	11.0	5.8	12.5
SAUDI ARABIA, Riyadh (1994-2012)	287	8.4	10.8	6.1	418	9.9	12.0	7.8	6.3	10.3	9.2	15.1
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	231	8.1	10.1	6.1	345	9.7	11.4	8.0	5.4	10.7	9.0	15.3
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	56	9.9	14.0	5.5	73	10.8	15.1	6.2	10.8	8.3	10.5	14.0
THAILAND, 6 registries (1993-2013)	219	5.3	6.7	3.9	375	6.3	7.8	4.7	4.0	5.8	6.6	9.7
TURKEY, paediatric (2009-2011)	484	8.4	12.2	4.3	-	-	-	-	6.8	9.6	9.3	-
TURKEY, 8 registries (1992-2012)	463	11.4	15.4	7.3	662	12.0	15.9	7.9	8.7	14.3	12.0	13.9
VIET NAM, Ho Chi Minh City (1995-2013)	163	6.7	8.4	4.8	224	6.4	7.9	4.8	6.1	6.9	7.2	5.4
EUROPE												
AUSTRIA (1990-2012)	245	7.6	11.4	3.6	397	8.9	12.9	4.8	4.6	8.7	10.4	13.6
BELARUS, paediatric (1990-2014)	398	8.9	13.2	4.3	556	8.9	12.8	4.7	7.5	11.3	8.1	8.8
BELGIUM (2004-2013)	207	11.0	15.1	6.8	344	13.4	17.8	8.7	7.0	14.4	12.7	21.5
BULGARIA (1990-2013)	239	7.7	10.1	5.1	345	7.9	10.4	5.2	6.4	8.6	8.4	8.4
CROATIA (2001-2014)	104	10.7	14.7	6.5	173	12.6	16.8	8.2	7.5	11.6	13.9	19.3
CYPRUS, South-West (1998-2012)	26	11.0	18.0	3.5	45	13.3	20.9	5.3	1.5	22.1	11.2	21.4
CZECH REPUBLIC (1990-2012)	390	9.5	14.0	4.7	596	10.1	14.5	5.5	6.9	10.9	11.4	12.4
ESTONIA (1990-2012)	55	9.0	11.9	5.8	79	9.4	12.2	6.4	5.1	11.4	11.5	10.8

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of non-Hodgkin lymphomas, including Burkitt lymphoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.7. Non-Hodgkin lymphomas, including Burkitt lymphoma (IIb, IIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1374	9.0	12.9	5.0	-	-	-	-	5.5	11.2	11.3	-
FRANCE, paediatric, haematological malignancies (1990-1999)	993	8.5	11.4	5.5	-	-	-	-	5.8	10.4	10.1	-
FRANCE, 13 registries (1993-2012)	362	11.2	15.9	6.2	532	12.1	16.2	7.8	7.0	13.6	13.9	15.4
GERMANY, paediatric (1996-2012)	1949	9.1	12.7	5.3	-	-	-	-	5.5	11.7	11.0	-
GERMANY, 6 Eastern states (2001-2007)	103	7.6	10.6	4.5	206	9.0	12.1	5.7	5.9	10.2	7.1	13.7
GERMANY, 5 Western registries (1994-2012)	476	9.1	12.5	5.4	746	10.3	14.0	6.3	5.1	11.9	11.2	14.4
GREECE, paediatric, haematological neoplasms (1996-2014)	314	9.6	14.5	4.4	-	-	-	-	6.8	11.8	10.9	-
HUNGARY, paediatric (1991-2014)	345	8.2	11.6	4.7	-	-	-	-	5.9	9.1	10.5	-
ICELAND (1990-2014)	13	7.9	13.1	2.5	22	9.8	15.8	3.6	7.2	9.2	7.4	16.4
IRELAND (1994-2012)	114	6.6	9.0	4.1	196	8.2	10.7	5.6	4.5	7.3	8.7	13.8
ITALY, 2 paediatric registries (1998-2011)	101	11.5	18.3	4.3	160	13.5	19.2	7.5	7.4	11.1	17.5	20.5
ITALY, Piedmont, paediatric (1990-2011)	147	11.9	18.1	5.4	-	-	-	-	8.2	10.1	18.9	-
ITALY, 26 registries (1992-2013)	516	12.0	16.5	7.4	816	13.8	18.5	8.9	6.7	14.6	16.3	19.9
LITHUANIA (2000-2012)	58	7.6	9.9	5.2	97	8.6	12.0	5.2	6.9	4.4	12.0	12.3
MALTA (1994-2013)	15	9.9	14.8	4.8	26	12.1	15.3	8.7	6.9	10.5	13.3	19.6
THE NETHERLANDS (1993-2013)	631	10.0	14.1	5.7	957	11.4	15.4	7.2	7.3	11.6	12.0	16.1
NORWAY (1990-2013)	179	8.2	11.5	4.7	284	9.7	13.2	6.1	5.7	8.2	11.5	15.0
POLAND (2001-2013)	568	6.8	9.3	4.1	888	7.3	9.6	4.8	4.2	9.0	7.8	8.9
PORTUGAL (1991-2012)	311	11.4	16.1	6.4	452	11.9	16.1	7.5	10.2	12.5	11.7	13.8
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	65	6.9	10.1	3.4	-	-	-	-	2.6	9.6	9.5	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	98	8.3	10.6	5.8	139	8.2	10.7	5.7	5.9	8.7	11.0	8.1
SLOVAKIA (1990-2009)	184	8.5	10.7	6.2	271	8.8	11.3	6.3	6.5	12.4	6.8	10.0
SLOVAKIA, paediatric (2000-2012)	99	8.2	10.7	5.5	-	-	-	-	5.9	10.6	8.6	-
SLOVENIA (1991-2012)	76	10.5	15.5	5.2	113	11.0	15.6	6.1	8.3	11.3	12.4	12.9
SPAIN, 2 paediatric registries (1991-2013)	595	12.2	17.1	7.0	-	-	-	-	9.2	14.9	13.2	-
SPAIN, selected regions, paediatric (2000-2013)	419	12.0	16.5	7.2	-	-	-	-	8.0	16.5	12.3	-
SPAIN, Valencia, paediatric (1991-2010)	176	12.8	18.8	6.5	-	-	-	-	12.9	10.7	15.2	-
SPAIN, 11 registries (1990-2013)	368	11.2	16.4	5.7	601	12.7	18.1	7.0	8.5	13.0	12.8	17.8
SWEDEN (1990-2011)	241	6.7	9.5	3.8	370	7.6	10.6	4.4	4.9	8.4	7.2	10.6
SWITZERLAND, paediatric (1990-2013)	297	9.9	14.4	5.1	-	-	-	-	6.9	11.6	12.1	-
SWITZERLAND, 7 registries (1990-2013)	132	12.2	17.4	6.8	204	13.9	18.4	9.1	9.3	15.0	12.9	19.8
UKRAINE (2002-2012)	496	6.4	9.2	3.5	824	7.0	9.7	4.0	5.2	6.8	7.5	9.0
UK (2000-2011)	1015	7.4	10.3	4.4	1584	8.5	11.5	5.3	5.1	8.3	9.5	12.2
UK, England and Wales, paediatric (1991-2010)	1523	7.5	10.5	4.4	-	-	-	-	5.2	8.7	9.4	-
OCEANIA												
AUSTRALIA (1992-2014)	802	8.9	12.7	4.8	1296	10.6	14.7	6.2	6.3	10.1	10.9	16.5
AUSTRALIA, 3 registries, Indigenous (1992-2014)	18	7.5	10.7	4.2	25	8.3	12.4	4.0	6.9	8.7	6.9	11.0
FRANCE, 2 registries (1990-2013)	20	6.3	6.1	6.5	33	7.8	7.4	8.3	4.0	5.8	9.8	13.2
NEW ZEALAND (1993-2012)	150	8.1	10.6	5.6	228	9.3	12.1	6.4	4.2	9.4	11.9	13.3
NEW ZEALAND, Maori (1993-2012)	37	8.4	12.9	3.7	50	9.0	12.2	5.5	7.0	7.7	11.2	10.7
NEW ZEALAND, Pacific peoples (1993-2012)	*14*	*8.8*	*8.6*	*9.1*	*19*	*9.4*	*8.7*	*10.1*	*3.6*	*11.7*	*12.7*	*11.3*
NEW ZEALAND, Other (1993-2012)	99	7.9	9.9	5.8	159	9.3	12.3	6.2	3.2	9.7	12.1	14.3
NEW ZEALAND, paediatric (2000-2012)	95	7.7	10.2	5.1	-	-	-	-	3.7	8.9	11.9	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*16*	*5.5*	*9.4*	*1.4*	-	-	-	-	*4.9*	*4.3*	7.7	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	79	8.4	10.4	6.3	-	-	-	-	3.2	10.4	13.1	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of non-Hodgkin lymphomas, including Burkitt lymphoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.8. Ependymomas and choroid plexus tumour (IIIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*6*	*0.4*	*0.1*	*0.6*	*8*	*0.4*	*0.2*	*0.5*	*0.9*	*0.0*	*0.2*	*0.3*
BOTSWANA (1999-2007)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.6*
CAMEROON, Yaoundé (2004-2006)	*1*	*0.4*	*0.0*	*0.8*	*1*	*0.3*	*0.0*	*0.6*	*0.0*	*1.3*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	23	1.6	1.2	2.0	29	1.5	1.2	1.8	2.1	2.0	0.6	1.1
FRANCE, Réunion (1990-2011)	*8*	*1.9*	*3.3*	*0.4*	*9*	*1.6*	*2.9*	*0.3*	*2.7*	*2.0*	*0.7*	*0.7*
KENYA, 2 registries (2000-2012)	*3*	*0.3*	*0.5*	*0.0*	*3*	*0.2*	*0.4*	*0.0*	*0.7*	*0.0*	*0.0*	*0.0*
LIBYA, Benghazi (2003-2008)	*3*	*1.0*	*0.6*	*1.4*	*3*	*0.8*	*0.4*	*1.1*	*1.0*	*0.0*	*2.0*	*0.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MAURITIUS (2001-2013)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*0.0*	*1.5*
MOROCCO, 2 registries (2005-2012)	29	3.4	4.9	1.8	34	3.0	4.1	1.8	4.4	3.8	1.6	1.5
SOUTH AFRICA, paediatric (1998-2012)	131	0.6	0.7	0.5	-	-	-	-	0.9	0.6	0.2	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*1*	*0.2*	*0.0*	*0.5*	-	-	-	-	*0.0*	*0.8*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	75	0.4	0.5	0.4	-	-	-	-	0.6	0.4	0.2	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	34	1.9	2.3	1.6	-	-	-	-	3.1	1.8	0.5	-
SOUTH AFRICA, paediatric, White (1998-2012)	21	1.9	2.4	1.4	-	-	-	-	2.7	2.3	0.5	-
TUNISIA, 2 registries (1993-2007)	26	1.4	1.9	0.9	33	1.3	1.7	0.9	1.7	1.4	1.0	1.0
UGANDA, Kyadondo (1996-2013)	*2*	*0.2*	*0.2*	*0.2*	*2*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*4*	*0.5*	*0.8*	*0.2*	*4*	*0.4*	*0.6*	*0.2*	*0.0*	*0.4*	*1.3*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	398	2.9	3.5	2.2	-	-	-	-	4.6	2.3	1.4	-
ARGENTINA, 6 registries (1991-2013)	65	3.2	3.7	2.7	74	2.8	3.4	2.2	5.6	2.5	0.9	1.2
BRAZIL, 5 registries (1995-2012)	47	2.8	2.8	2.7	59	2.5	2.5	2.5	4.8	2.0	1.1	1.6
CHILE, paediatric (2007-2011)	51	2.9	2.9	3.0	-	-	-	-	5.2	0.8	2.2	-
CHILE, 4 registries (1998-2012)	*16*	*4.1*	*5.5*	*2.6*	*18*	*3.4*	*4.5*	*2.3*	*8.5*	*1.3*	*1.2*	*1.2*
COLOMBIA, 4 registries (1992-2013)	47	2.8	2.8	2.7	56	2.5	2.6	2.3	3.3	2.9	2.0	1.5
COSTA RICA (1993-2012)	57	2.6	2.7	2.4	61	2.1	2.3	1.9	4.1	2.1	1.1	0.5
CUBA (2000-2012)	55	2.2	2.2	2.3	64	1.9	1.9	2.0	3.8	1.6	0.9	0.9
ECUADOR, 5 registries (1993-2013)	33	1.6	1.7	1.4	34	1.2	1.3	1.1	1.8	2.0	0.7	0.1
FRANCE, 3 registries (1990-2012)	*11*	*4.0*	*4.5*	*3.5*	*13*	*3.5*	*4.3*	*2.7*	*8.8*	*1.0*	*0.9*	*1.9*
HONDURAS, Francisco Morazán (2002-2012)	*10*	*2.0*	*1.9*	*2.1*	*12*	*1.8*	*1.8*	*1.9*	*2.2*	*2.9*	*0.6*	*1.3*
JAMAICA, Kingston and St Andrew (1982-2012)	*5*	*0.9*	*0.4*	*1.5*	*5*	*0.7*	*0.3*	*1.2*	*1.6*	*1.0*	*0.0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	34	2.9	2.7	3.1	-	-	-	-	3.6	2.7	2.3	-
PERU, Lima (2010-2012)	27	3.9	3.4	4.5	29	3.2	3.0	3.5	5.1	3.4	3.0	0.8
PERU, Trujillo (1990-2002)	*3*	*1.1*	*1.4*	*0.8*	*3*	*0.9*	*1.1*	*0.6*	*0.0*	*1.3*	*2.5*	*0.0*
USA, Puerto Rico (1992-2012)	51	3.1	3.5	2.6	61	2.7	3.1	2.3	4.6	2.8	1.3	1.6
URUGUAY (1993-2012)	63	4.2	5.7	2.7	68	3.5	4.6	2.3	5.7	2.3	4.4	1.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	379	3.6	4.0	3.1	446	3.1	3.5	2.8	6.2	1.9	1.8	1.6
USA (1998-2012)	3189	3.8	4.1	3.4	3929	3.4	3.7	3.1	6.1	2.5	2.1	2.3
USA, API (1998-2012)	110	2.6	2.8	2.3	141	2.4	2.5	2.3	4.3	1.9	1.1	2.0
USA, Black (1998-2012)	376	2.7	3.0	2.5	458	2.5	2.7	2.3	4.5	1.9	1.2	1.6
USA, Hispanic White (1998-2012)	621	3.8	4.1	3.5	740	3.4	3.7	3.2	6.0	2.6	2.2	2.3
USA, Native American (1998-2012)	27	2.0	2.5	1.5	35	1.9	2.5	1.3	3.6	1.3	0.8	1.6
USA, White NH (1998-2012)	1982	4.1	4.4	3.7	2469	3.7	4.1	3.3	6.6	2.5	2.4	2.5
USA, NPCR (1998-2012)	3069	3.8	4.1	3.4	3793	3.5	3.8	3.2	6.1	2.5	2.2	2.4
USA, SEER 18 (1993-2012)	834	3.1	3.4	2.8	986	2.8	3.0	2.5	5.1	2.1	1.6	1.6
USA, Hawaii, Hawaiian (1993-2012)	*3*	*2.0*	*1.3*	*2.7*	*5*	*2.4*	*1.9*	*3.0*	*3.6*	*1.9*	*0.0*	*4.0*
ASIA												
BAHRAIN (1998-2012)	*6*	*2.1*	*2.1*	*2.2*	*6*	*1.7*	*1.6*	*1.7*	*5.5*	*0.0*	*0.0*	*0.0*
CHINA, 6 registries (1990-2013)	110	2.2	1.9	2.5	143	2.0	1.8	2.1	3.6	1.8	0.9	1.2
CHINA, Hong Kong (1990-2013)	53	2.5	2.0	2.9	66	2.2	1.9	2.5	4.3	1.6	1.0	1.2
INDIA, 7 registries (1990-2013)	171	1.0	1.2	0.9	209	0.9	1.1	0.8	1.2	0.9	0.9	0.6
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*4*	*1.2*	*1.3*	*1.1*	*8*	*1.5*	*1.8*	*1.2*	*1.8*	*0.9*	*0.7*	*2.4*
ISRAEL (1990-2012)	142	3.5	3.8	3.2	165	3.2	3.4	2.9	5.7	2.1	2.3	1.9
ISRAEL, Jews (1990-2012)	108	3.7	3.7	3.7	125	3.3	3.3	3.2	5.7	2.2	2.6	1.8
ISRAEL, Non-Jews (1990-2012)	34	3.1	4.1	2.1	40	2.9	3.6	2.1	5.5	1.8	1.2	2.0
JAPAN, 8 registries (1990-2013)	158	2.9	2.9	2.8	167	2.3	2.3	2.3	5.2	1.5	1.3	0.4
JORDAN, Jordanians (2000-2012)	48	1.8	2.2	1.4	57	1.7	2.1	1.2	2.3	2.0	1.0	1.1
REPUBLIC OF KOREA (1999-2012)	241	2.2	2.2	2.1	289	1.9	2.0	1.8	3.7	1.5	0.8	1.0
KUWAIT (1994-2012)	*10*	*0.8*	*0.9*	*0.7*	*17*	*1.1*	*1.3*	*1.0*	*0.4*	*1.0*	*1.1*	*2.2*
KUWAIT, Kuwaitis (1994-2012)	*6*	*0.8*	*1.1*	*0.6*	*10*	*1.1*	*1.3*	*0.9*	*0.8*	*0.4*	*1.4*	*2.1*
KUWAIT, Non-Kuwaitis (1994-2012)	*4*	*0.8*	*0.8*	*0.8*	*7*	*1.1*	*1.2*	*1.0*	*0.0*	*1.8*	*0.7*	*2.2*
LEBANON (2008-2010)	*6*	*2.1*	*1.9*	*2.3*	*7*	*1.8*	*1.8*	*1.8*	*4.7*	*0.0*	*0.8*	*0.8*
PAKISTAN, Karachi (1995-2002)	*7*	*1.2*	*1.4*	*1.0*	*9*	*1.3*	*1.7*	*0.8*	*1.0*	*1.0*	*1.7*	*1.4*
PAKISTAN, Lahore (2008-2012)	27	1.5	1.6	1.4	36	1.5	1.8	1.3	2.0	1.4	1.0	1.7
PHILIPPINES, 2 registries (1993-2012)	42	0.6	0.8	0.3	49	0.5	0.7	0.3	0.5	0.5	0.7	0.3
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	55	1.7	1.9	1.5	64	1.5	1.7	1.3	2.6	1.1	1.1	1.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	43	1.6	1.5	1.7	50	1.4	1.4	1.5	2.6	1.3	0.6	0.9
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*12*	*2.1*	*3.8*	*0.4*	*14*	*2.0*	*3.3*	*0.7*	*2.3*	*0.5*	*3.7*	*1.6*
THAILAND, 6 registries (1993-2013)	38	1.0	1.0	1.0	44	0.9	0.9	0.9	1.4	0.7	0.9	0.4
TURKEY, paediatric (2009-2011)	100	1.9	1.9	1.9	-	-	-	-	3.4	1.1	0.9	-
TURKEY, 8 registries (1992-2012)	131	3.6	4.4	2.9	165	3.4	4.0	2.6	6.5	1.6	2.1	2.4
VIET NAM, Ho Chi Minh City (1995-2013)	*11*	*0.5*	*0.6*	*0.4*	*13*	*0.4*	*0.5*	*0.3*	*0.7*	*0.2*	*0.4*	*0.2*
EUROPE												
AUSTRIA (1990-2012)	99	3.4	3.5	3.3	111	2.9	3.1	2.7	5.2	1.8	2.7	1.1
BELARUS, paediatric (1990-2014)	110	2.7	3.0	2.4	133	2.4	2.6	2.1	4.6	1.5	1.6	1.3
BELGIUM (2004-2013)	89	5.3	4.8	5.8	110	4.8	4.7	5.0	10.0	1.7	2.9	3.3
BULGARIA (1990-2013)	35	1.2	1.1	1.3	54	1.3	1.2	1.4	1.7	0.7	1.1	1.5
CROATIA (2001-2014)	40	4.8	5.0	4.7	45	4.1	4.3	3.8	9.6	1.6	2.1	1.4
CYPRUS, South-West (1998-2012)	*5*	*2.9*	*2.2*	*3.5*	*5*	*2.2*	*1.7*	*2.7*	*7.4*	*0.0*	*0.0*	*0.0*
CZECH REPUBLIC (1990-2012)	165	4.5	4.5	4.4	201	3.9	4.0	3.9	6.8	3.1	2.8	2.2
ESTONIA (1990-2012)	30	5.9	7.5	4.3	32	4.8	6.0	3.5	11.2	3.6	1.4	0.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of ependymoma or choroid plexus tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.8. Ependymomas and choroid plexus tumour (IIIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	530	3.8	4.3	3.3	-	-	-	-	6.2	2.4	2.2	-
FRANCE, 13 registries (1993-2012)	94	3.2	3.6	2.8	113	2.9	3.3	2.4	5.2	2.6	1.3	1.7
GERMANY, paediatric (1996-2012)	705	3.8	4.1	3.6	-	-	-	-	6.7	2.0	2.0	-
GERMANY, 6 Eastern states (2001-2007)	37	2.9	3.1	2.7	51	2.7	2.6	2.7	5.2	0.7	2.2	1.9
GERMANY, 5 Western registries (1994-2012)	180	4.1	4.3	3.8	207	3.5	3.6	3.3	7.1	2.4	1.9	1.4
GREECE, paediatric, CNS tumours (2010-2014)	25	3.4	3.7	3.0	-	-	-	-	6.9	1.1	1.1	-
HUNGARY, paediatric (1991-2014)	156	4.3	4.7	3.8	-	-	-	-	7.4	2.4	2.2	-
ICELAND (1990-2014)	*3*	*1.7*	*2.2*	*1.1*	*4*	*1.7*	*2.5*	*0.8*	*0.0*	*1.8*	*3.7*	*1.8*
IRELAND (1994-2012)	49	3.1	4.0	2.1	63	2.9	3.7	2.1	4.7	2.2	1.9	2.4
ITALY, 2 paediatric registries (1998-2011)	50	6.3	7.1	5.5	61	5.8	6.0	5.6	11.3	3.2	3.2	3.8
ITALY, Piedmont, paediatric (1990-2011)	74	6.7	6.0	7.5	-	-	-	-	10.8	4.9	3.2	-
ITALY, 26 registries (1992-2013)	156	4.0	4.2	3.8	185	3.5	3.6	3.4	6.1	3.0	2.4	1.9
LITHUANIA (2000-2012)	*14*	*2.0*	*3.0*	*0.9*	*19*	*1.9*	*2.5*	*1.3*	*1.5*	*3.1*	*1.4*	*1.6*
MALTA (1994-2013)	*2*	*1.8*	*3.5*	*0.0*	*2*	*1.4*	*2.7*	*0.0*	*4.6*	*0.0*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	234	4.0	4.5	3.5	285	3.7	4.1	3.3	6.3	2.6	2.6	2.5
NORWAY (1990-2013)	84	4.2	4.2	4.3	101	3.8	3.9	3.8	7.7	2.3	1.9	2.4
POLAND (2001-2013)	226	3.0	3.4	2.6	300	2.8	3.1	2.5	4.7	2.1	1.9	2.1
PORTUGAL (1991-2012)	118	4.7	5.0	4.5	136	4.1	4.4	3.7	8.4	2.1	2.7	1.8
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	29	3.6	3.3	3.9	-	-	-	-	4.9	3.8	1.7	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	29	2.8	2.9	2.7	34	2.4	2.6	2.2	5.1	2.0	0.7	1.0
SLOVAKIA (1990-2009)	78	4.0	4.5	3.4	94	3.5	3.9	3.0	6.2	2.4	2.7	1.8
SLOVAKIA, paediatric (2000-2012)	33	2.9	4.3	1.3	-	-	-	-	3.7	1.8	2.9	-
SLOVENIA (1991-2012)	29	4.8	4.0	5.7	31	3.9	3.1	4.7	9.7	2.2	1.2	0.7
SPAIN, 2 paediatric registries (1991-2013)	197	4.3	4.7	3.8	-	-	-	-	6.7	2.7	2.7	-
SPAIN, selected regions, paediatric (2000-2013)	144	4.3	4.7	3.9	-	-	-	-	6.9	2.4	2.9	-
SPAIN, Valencia, paediatric (1991-2010)	53	4.2	4.9	3.4	-	-	-	-	6.2	3.4	2.4	-
SPAIN, 11 registries (1990-2013)	110	3.8	4.8	2.7	140	3.4	4.4	2.5	6.6	2.1	1.8	2.3
SWEDEN (1990-2011)	147	4.4	5.0	3.7	182	4.1	4.5	3.5	6.6	3.4	2.5	2.9
SWITZERLAND, paediatric (1990-2013)	98	3.7	4.1	3.4	-	-	-	-	7.0	2.2	1.1	-
SWITZERLAND, 7 registries (1990-2013)	47	4.7	5.1	4.2	59	4.4	4.7	4.0	7.4	4.0	2.0	3.3
UKRAINE (2002-2012)	158	2.2	2.5	2.0	194	2.0	2.1	1.8	2.9	2.3	1.2	1.0
UK (2000-2011)	379	3.1	3.4	2.8	432	2.7	2.9	2.4	5.1	2.2	1.3	1.1
UK, England and Wales, paediatric (1991-2010)	696	3.8	4.2	3.3	-	-	-	-	6.1	2.5	2.1	-
OCEANIA												
AUSTRALIA (1992-2014)	265	3.2	3.6	2.8	320	2.9	3.2	2.6	5.6	2.1	1.4	1.8
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*5*	*2.1*	*2.5*	*1.7*	*5*	*1.7*	*2.0*	*1.3*	*3.5*	*1.2*	*1.4*	*0.0*
FRANCE, 2 registries (1990-2013)	*7*	*2.5*	*1.4*	*3.7*	*7*	*1.9*	*1.1*	*2.9*	*4.0*	*2.9*	*0.0*	*0.0*
NEW ZEALAND (1993-2012)	48	2.9	3.1	2.6	58	2.6	2.9	2.3	4.1	2.9	1.2	1.7
NEW ZEALAND, Maori (1993-2012)	*9*	*2.1*	*3.2*	*1.0*	*10*	*1.8*	*2.9*	*0.8*	*3.2*	*2.1*	*0.7*	*0.8*
NEW ZEALAND, Pacific peoples (1993-2012)	*4*	*2.6*	*2.6*	*2.7*	*4*	*2.0*	*2.0*	*2.1*	*3.6*	*1.9*	*2.1*	*0.0*
NEW ZEALAND, Other (1993-2012)	35	3.2	3.1	3.3	44	2.9	2.9	3.0	4.5	3.3	1.2	2.1
NEW ZEALAND, paediatric (2000-2012)	38	3.4	3.6	3.3	-	-	-	-	5.2	2.4	2.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*6*	*2.1*	*3.5*	*0.7*	-	-	-	-	*2.9*	*2.1*	*1.1*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	32	3.9	3.6	4.2	-	-	-	-	6.1	2.4	2.6	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of ependymoma or choroid plexus tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.9. Astrocytomas (IIIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	54	3.0	3.5	2.6	79	3.2	3.4	2.9	1.9	4.0	3.4	3.7
BOTSWANA (1999-2007)	*10*	*1.6*	*2.0*	*1.3*	*13*	*1.7*	*2.0*	*1.3*	*0.5*	*1.6*	*3.2*	*1.7*
CAMEROON, Yaoundé (2004-2006)	*3*	*1.3*	*1.7*	*0.8*	*4*	*1.3*	*1.3*	*1.3*	*2.2*	*1.3*	*0.0*	*1.6*
EGYPT, Gharbiah (1999-2010)	80	5.2	4.3	6.2	117	5.5	5.1	6.0	4.2	6.5	5.0	6.8
FRANCE, Réunion (1990-2011)	*12*	*2.7*	*1.8*	*3.7*	*18*	*3.0*	*2.0*	*4.1*	*2.1*	*4.1*	*2.0*	*4.2*
KENYA, 2 registries (2000-2012)	15	1.4	1.0	1.9	21	1.5	0.9	2.1	0.5	2.0	2.0	2.0
LIBYA, Benghazi (2003-2008)	16	5.4	4.2	6.7	20	5.1	5.0	5.2	5.9	5.2	5.1	4.0
MALI, Bamako (2005-2014)	*3*	*0.4*	*0.8*	*0.0*	*5*	*0.5*	*1.0*	*0.0*	*0.4*	*0.8*	*0.0*	*0.8*
MAURITIUS (2001-2013)	*12*	*3.2*	*2.5*	*3.9*	*16*	*3.1*	*3.0*	*3.3*	*3.4*	*2.4*	*3.7*	*3.0*
MOROCCO, 2 registries (2005-2012)	44	4.7	5.1	4.3	58	4.6	5.1	4.2	2.4	6.9	5.5	4.3
SOUTH AFRICA, paediatric (1998-2012)	335	1.5	1.6	1.5	-	-	-	-	1.6	1.9	1.1	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*10*	*2.7*	*2.0*	*3.4*	-	-	-	-	*3.2*	*3.9*	*0.7*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	194	1.1	1.0	1.1	-	-	-	-	1.0	1.3	0.8	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	72	3.8	4.3	3.3	-	-	-	-	3.3	4.7	3.5	-
SOUTH AFRICA, paediatric, White (1998-2012)	59	5.3	5.5	5.1	-	-	-	-	7.5	5.3	2.3	-
TUNISIA, 2 registries (1993-2007)	114	6.0	6.7	5.2	161	6.1	6.8	5.5	5.0	7.5	5.6	6.7
UGANDA, Kyadondo (1996-2013)	*6*	*0.4*	*0.5*	*0.4*	*8*	*0.4*	*0.5*	*0.4*	*0.0*	*0.7*	*0.7*	*0.4*
ZIMBABWE, Harare, African (1995-2013)	23	2.7	3.7	1.9	29	2.6	3.7	1.6	1.4	3.4	3.8	2.0
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	952	6.6	7.0	6.2	-	-	-	-	7.2	6.6	5.9	-
ARGENTINA, 6 registries (1991-2013)	168	7.6	7.5	7.6	206	7.0	6.7	7.3	6.7	8.9	7.3	5.1
BRAZIL, 5 registries (1995-2012)	168	9.1	9.2	9.0	221	8.7	8.9	8.5	9.0	9.6	8.7	7.2
CHILE, paediatric (2007-2011)	99	5.3	5.5	5.0	-	-	-	-	4.9	6.1	4.9	-
CHILE, 4 registries (1998-2012)	33	7.5	5.6	9.3	41	6.8	5.9	7.8	9.9	4.6	7.3	4.7
COLOMBIA, 4 registries (1992-2013)	162	9.3	8.9	9.8	196	8.5	8.3	8.6	9.4	9.6	8.8	5.5
COSTA RICA (1993-2012)	122	5.1	5.2	5.1	160	5.1	4.9	5.2	5.3	5.2	4.9	4.8
CUBA (2000-2012)	200	7.2	7.6	6.8	241	6.5	6.8	6.1	6.7	6.3	8.9	4.0
ECUADOR, 5 registries (1993-2013)	146	6.7	6.4	7.1	198	6.8	6.7	6.9	6.4	9.0	4.6	7.1
FRANCE, 3 registries (1990-2012)	*16*	*5.2*	*5.3*	*5.2*	*19*	*4.7*	*5.3*	*4.0*	*5.9*	*6.7*	*2.8*	*2.8*
HONDURAS, Francisco Morazán (2002-2012)	28	5.3	4.1	6.4	35	5.1	4.1	6.2	2.2	5.2	9.4	4.7
JAMAICA, Kingston and St Andrew (1982-2012)	17	2.8	3.5	2.2	26	3.2	3.6	2.8	2.6	2.1	4.0	4.4
MEXICO, Mexico City, paediatric (1997-2013)	95	8.0	8.2	7.8	-	-	-	-	8.0	8.5	7.3	-
PERU, Lima (2010-2012)	43	6.0	5.2	6.8	55	5.7	5.3	6.1	4.7	7.3	6.4	4.5
PERU, Trujillo (1990-2002)	*13*	*5.2*	*8.2*	*2.1*	*16*	*4.8*	*6.4*	*3.1*	*1.3*	*9.1*	*6.1*	*3.4*
USA, Puerto Rico (1992-2012)	202	11.5	11.8	11.2	253	10.7	11.2	10.2	12.9	12.0	9.1	8.0
URUGUAY (1993-2012)	105	7.0	7.8	6.0	118	6.0	6.7	5.2	7.5	7.9	5.2	2.5
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	1394	12.1	12.3	11.9	1793	11.5	11.7	11.3	12.6	12.2	11.3	9.5
USA (1998-2012)	14938	16.7	17.1	16.3	18797	15.7	16.2	15.2	18.5	16.4	14.8	12.2
USA, API (1998-2012)	410	9.2	9.2	9.1	519	8.7	8.8	8.6	10.6	8.3	8.2	7.1
USA, Black (1998-2012)	1801	12.2	12.4	12.1	2262	11.5	11.8	11.2	12.8	12.7	11.0	9.0
USA, Hispanic White (1998-2012)	2114	12.6	12.9	12.2	2557	11.7	12.1	11.3	13.9	12.8	10.6	8.6
USA, Native American (1998-2012)	98	6.8	7.4	6.1	125	6.4	6.9	6.0	7.1	6.9	6.2	5.3
USA, White NH (1998-2012)	10070	19.4	19.9	18.9	12802	18.2	18.8	17.6	21.8	18.6	17.1	14.2
USA, NPCR (1998-2012)	14265	16.7	17.1	16.2	17978	15.7	16.2	15.2	18.4	16.4	14.7	12.3
USA, SEER 18 (1993-2012)	4475	15.8	15.8	15.7	5559	14.8	15.0	14.5	17.3	15.5	14.2	11.3
USA, Hawaii, Hawaiian (1993-2012)	27	16.0	18.7	13.2	32	14.6	17.1	12.1	7.1	20.6	22.6	10.0
ASIA												
BAHRAIN (1998-2012)	17	5.2	6.6	3.7	22	5.2	6.1	4.4	1.8	5.7	9.1	5.4
CHINA, 6 registries (1990-2013)	381	6.6	6.7	6.5	551	6.5	6.9	6.1	6.0	6.8	7.3	6.0
CHINA, Hong Kong (1990-2013)	219	8.7	9.7	7.6	301	8.5	9.8	7.1	8.0	10.0	8.1	7.9
INDIA, 7 registries (1990-2013)	716	4.1	4.8	3.2	980	4.1	4.8	3.3	3.3	4.3	4.8	4.2
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	16	3.9	4.8	3.0	26	4.4	5.3	3.4	0.9	3.7	8.2	5.9
ISRAEL (1990-2012)	479	11.5	11.9	11.0	602	11.2	11.4	10.9	10.0	11.2	13.7	10.1
ISRAEL, Jews (1990-2012)	379	12.4	13.0	11.8	471	11.9	12.4	11.3	10.3	12.9	14.7	9.9
ISRAEL, Non-Jews (1990-2012)	100	8.9	8.8	8.9	131	9.2	8.6	9.9	9.2	6.8	10.7	10.5
JAPAN, 8 registries (1990-2013)	417	6.8	6.5	7.1	542	6.4	6.5	6.3	6.0	7.2	7.3	5.2
JORDAN, Jordanians (2000-2012)	168	6.1	7.3	4.9	212	6.0	7.0	4.9	5.4	6.5	6.7	5.5
REPUBLIC OF KOREA (1999-2012)	453	3.5	3.5	3.4	653	3.6	3.6	3.6	3.1	3.3	4.2	4.1
KUWAIT (1994-2012)	52	4.3	4.8	3.8	74	4.9	5.1	4.7	5.6	3.2	3.8	6.8
KUWAIT, Kuwaitis (1994-2012)	35	5.0	5.2	4.7	50	5.6	5.5	5.8	7.2	2.9	4.2	8.0
KUWAIT, Non-Kuwaitis (1994-2012)	17	3.4	4.3	2.5	24	3.8	4.5	3.0	3.3	3.6	3.4	5.1
LEBANON (2008-2010)	26	7.5	10.8	4.1	32	6.9	9.4	4.3	9.5	7.2	5.3	4.8
PAKISTAN, Karachi (1995-2002)	39	6.5	6.4	6.6	56	7.7	8.2	7.2	0.5	8.6	12.2	11.8
PAKISTAN, Lahore (2008-2012)	52	2.7	3.2	2.2	82	3.4	3.8	2.9	2.2	3.3	2.9	5.6
PHILIPPINES, 2 registries (1993-2012)	191	2.5	2.7	2.4	258	2.6	2.8	2.4	2.0	2.7	3.0	2.8
QATAR (2002-2014)	16	5.4	4.6	6.4	20	5.3	5.0	5.6	5.4	5.0	5.8	5.0
SAUDI ARABIA, Riyadh (1994-2012)	105	3.1	3.5	2.7	139	3.3	3.8	2.7	2.9	2.8	3.7	3.9
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	86	3.1	3.6	2.5	117	3.3	3.9	2.7	3.3	2.5	3.4	4.1
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	19	3.3	3.0	3.6	22	3.1	3.4	2.8	0.9	4.1	5.6	2.5
THAILAND, 6 registries (1993-2013)	194	4.8	5.3	4.3	265	4.7	5.3	4.2	4.4	5.0	5.3	4.4
TURKEY, paediatric (2009-2011)	239	4.3	4.2	4.4	-	-	-	-	4.4	4.6	3.7	-
TURKEY, 8 registries (1992-2012)	361	9.1	8.4	9.7	481	8.9	8.7	9.1	8.2	10.4	8.8	8.4
VIET NAM, Ho Chi Minh City (1995-2013)	101	4.1	4.5	3.7	134	3.9	4.1	3.6	3.8	3.8	4.9	2.9
EUROPE												
AUSTRIA (1990-2012)	453	14.9	14.1	15.7	566	13.8	13.6	14.0	16.2	14.5	13.6	10.1
BELARUS, paediatric (1990-2014)	532	11.9	12.1	11.7	663	10.9	11.0	10.8	11.4	12.8	11.8	7.3
BELGIUM (2004-2013)	364	20.1	19.5	20.7	463	19.1	18.8	19.3	21.1	20.4	18.3	15.5
BULGARIA (1990-2013)	184	5.9	5.9	5.8	284	6.3	6.6	6.1	4.3	7.2	6.4	7.9
CROATIA (2001-2014)	111	11.9	12.1	11.6	143	11.2	11.0	11.5	11.9	11.3	12.4	9.0
CYPRUS, South-West (1998-2012)	15	7.2	8.1	6.1	20	6.8	7.8	5.8	10.3	4.1	6.2	5.6
CZECH REPUBLIC (1990-2012)	557	14.2	14.8	13.6	719	13.2	14.0	12.4	14.9	14.4	13.0	9.7
ESTONIA (1990-2012)	98	16.6	17.3	15.8	126	15.7	16.0	15.4	15.2	16.0	19.1	12.6

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of astrocytoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.9. Astrocytomas (IIIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1988	13.8	14.0	13.6	-	-	-	-	16.7	13.2	10.6	-
FRANCE, 13 registries (1993-2012)	386	12.4	13.3	11.5	466	11.3	12.1	10.3	13.4	11.9	11.8	7.2
GERMANY, paediatric (1996-2012)	3367	16.7	17.0	16.4	-	-	-	-	17.7	17.6	14.4	-
GERMANY, 6 Eastern states (2001-2007)	89	6.7	6.5	6.9	136	6.6	6.5	6.7	5.7	9.0	5.5	6.2
GERMANY, 5 Western registries (1994-2012)	645	13.0	12.4	13.6	858	12.6	12.2	13.1	13.3	11.8	13.9	11.4
GREECE, paediatric, CNS tumours (2010-2014)	82	10.3	10.7	10.0	-	-	-	-	12.0	11.5	6.7	-
HUNGARY, paediatric (1991-2014)	614	15.3	15.8	14.8	-	-	-	-	15.6	15.7	14.6	-
ICELAND (1990-2014)	34	21.1	17.2	25.3	46	21.3	21.3	21.3	25.2	20.3	16.6	21.9
IRELAND (1994-2012)	307	18.6	18.4	18.8	413	18.4	19.8	16.9	20.3	17.2	17.8	17.9
ITALY, 2 paediatric registries (1998-2011)	162	19.4	19.1	19.6	197	17.7	18.3	17.1	20.7	19.3	17.5	12.2
ITALY, Piedmont, paediatric (1990-2011)	216	18.3	20.7	15.9	-	-	-	-	18.0	18.4	18.7	-
ITALY, 26 registries (1992-2013)	530	13.0	12.9	13.1	665	12.1	12.1	12.1	13.7	14.3	10.7	9.0
LITHUANIA (2000-2012)	52	7.6	6.8	8.4	81	7.9	7.7	8.2	9.4	6.1	6.7	9.1
MALTA (1994-2013)	23	15.9	14.0	17.8	27	13.9	12.4	15.5	18.3	8.4	21.0	7.1
THE NETHERLANDS (1993-2013)	785	12.8	12.2	13.5	1012	12.5	12.2	12.7	12.6	13.9	11.8	11.2
NORWAY (1990-2013)	354	16.9	17.7	16.2	457	16.4	16.8	16.1	20.2	14.9	14.9	14.7
POLAND (2001-2013)	566	7.1	7.3	6.9	848	7.3	7.6	6.9	7.4	7.3	6.5	7.9
PORTUGAL (1991-2012)	407	15.3	16.4	14.1	516	14.2	15.2	13.2	17.0	15.1	13.1	10.6
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	117	13.5	11.8	15.3	-	-	-	-	13.1	15.0	12.3	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	107	9.7	9.9	9.5	133	8.7	8.9	8.4	13.1	7.5	7.6	5.1
SLOVAKIA (1990-2009)	281	13.2	13.4	12.9	393	13.1	13.6	12.6	13.5	12.9	13.1	12.8
SLOVAKIA, paediatric (2000-2012)	169	14.3	14.2	14.3	-	-	-	-	13.5	15.1	14.4	-
SLOVENIA (1991-2012)	82	11.4	12.8	10.0	107	10.8	13.2	8.2	9.7	12.2	12.8	8.7
SPAIN, 2 paediatric registries (1991-2013)	648	13.6	13.8	13.4	-	-	-	-	15.1	13.6	11.7	-
SPAIN, selected regions, paediatric (2000-2013)	426	12.4	12.4	12.4	-	-	-	-	13.6	12.7	10.4	-
SPAIN, Valencia, paediatric (1991-2010)	222	16.8	17.7	15.8	-	-	-	-	19.3	15.7	14.6	-
SPAIN, 11 registries (1990-2013)	420	13.3	12.6	14.0	580	13.0	12.6	13.5	14.2	13.1	12.2	12.2
SWEDEN (1990-2011)	557	15.8	16.0	15.7	703	15.0	14.7	15.2	16.0	15.5	15.9	11.9
SWITZERLAND, paediatric (1990-2013)	389	13.4	13.2	13.5	-	-	-	-	12.7	15.1	12.4	-
SWITZERLAND, 7 registries (1990-2013)	152	14.1	15.4	12.7	198	13.8	14.7	12.7	12.2	14.2	16.6	12.6
UKRAINE (2002-2012)	596	7.8	8.1	7.5	877	7.8	8.0	7.5	7.4	7.7	8.5	7.7
UK (2000-2011)	1980	15.1	14.8	15.4	2416	13.8	13.9	13.7	15.7	15.9	13.4	9.4
UK, England and Wales, paediatric (1991-2010)	3012	15.4	15.0	15.9	-	-	-	-	16.0	16.1	13.9	-
OCEANIA												
AUSTRALIA (1992-2014)	723	8.3	8.3	8.4	963	8.3	8.3	8.2	9.2	8.5	7.0	8.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*14*	*5.9*	*6.5*	*5.2*	*17*	*5.6*	*6.4*	*4.8*	*5.8*	*10.0*	*1.4*	*4.7*
FRANCE, 2 registries (1990-2013)	20	6.5	5.1	8.1	24	6.0	4.4	7.7	5.0	10.7	3.9	4.1
NEW ZEALAND (1993-2012)	154	8.9	6.9	11.0	194	8.4	7.0	9.9	10.9	6.8	8.5	6.8
NEW ZEALAND, Maori (1993-2012)	32	7.4	3.7	11.4	39	7.1	4.7	9.6	9.5	4.9	7.5	5.8
NEW ZEALAND, Pacific peoples (1993-2012)	*11*	*7.1*	*6.4*	*8.0*	*16*	*8.1*	*5.9*	*10.3*	*7.2*	*7.8*	*6.3*	*11.3*
NEW ZEALAND, Other (1993-2012)	111	9.7	8.1	11.3	139	9.0	8.0	10.1	12.0	7.4	9.1	6.7
NEW ZEALAND, paediatric (2000-2012)	161	14.0	11.5	16.6	-	-	-	-	14.1	15.8	11.9	-
NEW ZEALAND, paediatric, Maori (2000-2012)	27	9.4	6.9	12.1	-	-	-	-	8.8	11.8	7.7	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	134	15.5	13.0	18.1	-	-	-	-	16.0	17.1	13.1	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of astrocytoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.10. Intracranial and intraspinal embryonal tumours (IIIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	57	3.3	4.3	2.1	65	2.8	3.6	2.0	3.0	3.4	3.4	1.2
BOTSWANA (1999-2007)	*11*	*1.8*	*1.6*	*2.0*	*12*	*1.6*	*1.5*	*1.6*	*0.5*	*3.2*	*2.2*	*0.6*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	65	4.2	4.4	4.0	77	3.8	4.2	3.3	3.4	5.5	3.9	2.2
FRANCE, Réunion (1990-2011)	*14*	*3.5*	*3.9*	*3.0*	*16*	*3.0*	*3.3*	*2.6*	*6.2*	*2.7*	*0.7*	*1.4*
KENYA, 2 registries (2000-2012)	17	1.6	1.3	1.9	22	1.6	1.5	1.7	1.4	2.0	1.4	1.7
LIBYA, Benghazi (2003-2008)	*11*	*3.8*	*5.5*	*2.1*	*12*	*3.2*	*4.7*	*1.6*	*4.9*	*3.1*	*3.0*	*1.0*
MALI, Bamako (2005-2014)	*1*	*0.1*	*0.0*	*0.3*	*1*	*0.1*	*0.0*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*
MAURITIUS (2001-2013)	*12*	*3.6*	*3.0*	*4.2*	*14*	*3.1*	*2.6*	*3.6*	*6.0*	*3.1*	*0.7*	*1.5*
MOROCCO, 2 registries (2005-2012)	58	6.5	8.5	4.5	64	5.5	6.9	4.0	5.7	9.6	4.2	1.8
SOUTH AFRICA, paediatric (1998-2012)	299	1.4	1.6	1.2	-	-	-	-	2.0	1.3	0.8	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*10*	*2.5*	*1.9*	*3.1*	-	-	-	-	*2.4*	*2.3*	*2.8*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	186	1.0	1.2	0.9	-	-	-	-	1.5	0.9	0.6	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	57	3.1	3.1	3.1	-	-	-	-	3.6	3.9	1.6	-
SOUTH AFRICA, paediatric, White (1998-2012)	46	4.3	5.1	3.5	-	-	-	-	7.5	3.3	1.1	-
TUNISIA, 2 registries (1993-2007)	72	3.8	4.4	3.3	83	3.3	3.8	2.9	3.4	5.3	2.8	1.6
UGANDA, Kyadondo (1996-2013)	*4*	*0.3*	*0.5*	*0.2*	*4*	*0.2*	*0.4*	*0.1*	*0.6*	*0.2*	*0.0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*15*	*1.7*	*1.5*	*2.0*	*16*	*1.4*	*1.3*	*1.5*	*2.0*	*1.9*	*1.3*	*0.3*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	789	5.6	6.8	4.4	-	-	-	-	6.6	6.4	3.3	-
ARGENTINA, 6 registries (1991-2013)	128	6.0	7.3	4.7	141	5.1	6.2	4.0	7.7	6.3	3.6	1.7
BRAZIL, 5 registries (1995-2012)	117	6.3	6.6	5.9	134	5.4	5.7	5.1	4.9	8.6	5.5	2.3
CHILE, paediatric (2007-2011)	99	5.4	7.1	3.7	-	-	-	-	6.4	5.4	4.2	-
CHILE, 4 registries (1998-2012)	24	5.6	6.3	4.9	26	4.6	5.4	3.8	8.5	3.3	4.2	1.2
COLOMBIA, 4 registries (1992-2013)	101	6.0	6.4	5.5	113	5.1	5.6	4.6	7.2	5.8	4.4	1.9
COSTA RICA (1993-2012)	133	5.6	5.8	5.5	152	4.9	5.0	4.8	5.8	6.5	4.5	2.4
CUBA (2000-2012)	93	3.6	4.6	2.5	106	3.1	3.9	2.2	4.5	3.5	2.4	1.3
ECUADOR, 5 registries (1993-2013)	115	5.4	5.5	5.4	132	4.7	4.8	4.6	7.0	4.8	4.1	2.3
FRANCE, 3 registries (1990-2012)	*15*	*5.0*	*7.4*	*2.6*	*17*	*4.3*	*5.7*	*2.9*	*5.9*	*8.6*	*0.0*	*1.9*
HONDURAS, Francisco Morazán (2002-2012)	*13*	*2.6*	*3.9*	*1.2*	*14*	*2.1*	*3.3*	*0.9*	*3.3*	*2.3*	*1.9*	*0.7*
JAMAICA, Kingston and St Andrew (1982-2012)	19	3.3	2.1	4.5	24	3.1	2.5	3.7	2.6	6.2	1.0	2.5
MEXICO, Mexico City, paediatric (1997-2013)	63	5.5	7.5	3.4	-	-	-	-	7.3	4.9	3.8	-
PERU, Lima (2010-2012)	36	5.4	6.5	4.3	44	4.9	5.4	4.4	8.5	4.7	2.1	3.0
PERU, Trujillo (1990-2002)	*7*	*3.1*	*3.6*	*2.7*	*9*	*2.9*	*3.3*	*2.5*	*3.8*	*5.2*	*0.0*	*2.3*
USA, Puerto Rico (1992-2012)	119	6.9	8.8	4.9	138	6.0	7.4	4.5	8.5	6.5	5.1	3.0
URUGUAY (1993-2012)	79	5.4	6.2	4.5	89	4.6	5.2	3.9	6.7	6.0	2.9	1.9
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	842	7.6	8.9	6.2	941	6.4	7.7	5.1	9.9	7.8	4.4	2.4
USA (1998-2012)	6687	7.8	9.1	6.4	7585	6.7	7.8	5.4	10.7	7.4	4.3	2.8
USA, API (1998-2012)	254	5.8	6.6	5.0	284	4.9	5.5	4.4	7.5	6.6	2.6	2.0
USA, Black (1998-2012)	740	5.3	6.0	4.6	853	4.6	5.2	4.0	7.8	4.6	2.8	2.2
USA, Hispanic White (1998-2012)	1191	7.2	8.2	6.2	1345	6.3	7.2	5.3	10.4	6.6	3.7	3.0
USA, Native American (1998-2012)	50	3.6	3.7	3.5	62	3.3	3.4	3.1	4.2	4.6	1.6	2.4
USA, White NH (1998-2012)	4316	8.6	10.3	6.9	4895	7.4	8.8	5.9	11.7	8.3	4.9	3.0
USA, NPCR (1998-2012)	6400	7.8	9.0	6.4	7260	6.7	7.8	5.5	10.7	7.4	4.3	2.8
USA, SEER 18 (1993-2012)	2168	7.9	9.4	6.4	2443	6.8	8.0	5.5	11.1	7.4	4.2	2.9
USA, Hawaii, Hawaiian (1993-2012)	*14*	*9.0*	*13.6*	*4.1*	*15*	*7.4*	*11.5*	*3.2*	*12.5*	*11.2*	*1.9*	*2.0*
ASIA												
BAHRAIN (1998-2012)	*12*	*3.8*	*3.6*	*4.0*	*14*	*3.4*	*3.7*	*3.1*	*3.7*	*1.9*	*6.0*	*2.2*
CHINA, 6 registries (1990-2013)	253	4.6	5.2	4.0	312	4.1	4.5	3.6	4.7	5.8	3.2	2.1
CHINA, Hong Kong (1990-2013)	146	6.2	6.9	5.5	171	5.4	5.9	4.8	7.7	6.8	3.6	2.4
INDIA, 7 registries (1990-2013)	635	3.7	4.8	2.6	725	3.2	4.1	2.2	3.5	4.8	2.8	1.4
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*9*	*2.5*	*3.5*	*1.5*	*12*	*2.4*	*3.5*	*1.2*	*1.8*	*3.7*	*2.2*	*1.8*
ISRAEL (1990-2012)	268	6.5	8.7	4.2	298	5.6	7.5	3.7	7.4	8.0	3.8	2.5
ISRAEL, Jews (1990-2012)	207	6.9	8.9	4.9	231	6.0	7.6	4.3	7.7	8.3	4.4	2.6
ISRAEL, Non-Jews (1990-2012)	61	5.4	8.3	2.4	67	4.7	7.1	2.0	6.5	7.1	2.1	2.0
JAPAN, 8 registries (1990-2013)	271	4.7	5.6	3.8	309	4.0	4.7	3.3	6.2	4.5	2.8	1.6
JORDAN, Jordanians (2000-2012)	171	6.3	7.5	5.1	181	5.2	6.1	4.2	6.2	8.4	4.1	1.3
REPUBLIC OF KOREA (1999-2012)	800	6.6	7.6	5.5	925	5.7	6.6	4.8	8.3	6.7	4.3	2.6
KUWAIT (1994-2012)	49	4.0	4.0	4.0	65	4.2	3.8	4.7	4.5	3.7	3.8	4.9
KUWAIT, Kuwaitis (1994-2012)	33	4.6	4.9	4.3	46	5.1	5.0	5.3	5.0	4.2	4.6	6.9
KUWAIT, Non-Kuwaitis (1994-2012)	*16*	*3.2*	*2.8*	*3.7*	*19*	*3.0*	*2.1*	*4.0*	*3.8*	*3.0*	*2.7*	*2.2*
LEBANON (2008-2010)	25	6.8	6.9	6.7	29	6.0	6.4	5.6	5.7	9.5	5.3	3.2
PAKISTAN, Karachi (1995-2002)	*14*	*2.4*	*3.3*	*1.4*	*17*	*2.3*	*3.1*	*1.4*	*1.0*	*4.6*	*1.7*	*2.1*
PAKISTAN, Lahore (2008-2012)	32	1.7	2.2	1.2	37	1.6	2.0	1.0	1.7	2.6	0.8	0.9
PHILIPPINES, 2 registries (1993-2012)	321	4.2	5.1	3.4	352	3.6	4.4	2.8	3.6	5.6	3.6	1.3
QATAR (2002-2014)	*17*	*5.8*	*5.3*	*6.4*	*19*	*5.1*	*4.5*	*5.7*	*10.0*	*5.0*	*1.2*	*2.5*
SAUDI ARABIA, Riyadh (1994-2012)	251	7.5	9.1	5.8	274	6.4	7.7	5.1	7.7	9.7	4.6	2.6
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	210	7.6	9.4	5.7	227	6.4	7.8	4.9	8.4	9.6	4.2	2.3
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	41	7.1	7.7	6.5	47	6.6	7.1	6.2	4.7	10.3	6.8	4.9
THAILAND, 6 registries (1993-2013)	155	4.1	4.6	3.5	169	3.3	3.8	2.9	4.7	4.7	2.5	0.9
TURKEY, paediatric (2009-2011)	246	4.5	5.2	3.8	-	-	-	-	5.1	5.6	2.5	-
TURKEY, 8 registries (1992-2012)	265	6.8	8.0	5.6	307	5.9	6.9	4.9	7.1	8.0	5.1	2.9
VIET NAM, Ho Chi Minh City (1995-2013)	44	1.8	2.4	1.2	46	1.5	1.9	1.0	1.9	1.7	1.8	0.2
EUROPE												
AUSTRIA (1990-2012)	227	7.7	8.5	6.7	264	6.7	7.8	5.5	9.5	7.6	5.2	3.3
BELARUS, paediatric (1990-2014)	311	7.4	8.8	5.9	350	6.2	7.4	4.9	8.9	8.7	4.0	2.2
BELGIUM (2004-2013)	140	7.9	9.1	6.7	154	6.6	7.5	5.7	10.2	7.4	5.5	2.2
BULGARIA (1990-2013)	143	4.8	5.8	3.7	171	4.2	5.0	3.4	5.1	5.2	3.9	2.2
CROATIA (2001-2014)	79	8.8	10.8	6.7	92	7.6	9.5	5.7	10.6	9.4	5.7	3.6
CYPRUS, South-West (1998-2012)	*14*	*6.8*	*6.1*	*7.5*	*16*	*5.8*	*5.2*	*6.4*	*10.3*	*4.1*	*5.0*	*2.3*
CZECH REPUBLIC (1990-2012)	245	6.3	7.7	4.8	274	5.3	6.5	3.9	6.4	7.4	4.9	1.7
ESTONIA (1990-2012)	47	8.7	11.4	6.0	56	7.7	10.0	5.2	12.3	8.8	3.8	4.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of embryonal tumour of CNS in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.10. Intracranial and intraspinal embryonal tumours (IIIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1080	7.6	8.9	6.3	-	-	-	-	10.3	7.6	4.1	-
FRANCE, 13 registries (1993-2012)	235	7.8	9.3	6.2	262	6.6	8.0	5.1	9.8	8.5	4.2	2.4
GERMANY, paediatric (1996-2012)	1482	7.7	9.4	6.0	-	-	-	-	10.3	8.2	3.8	-
GERMANY, 6 Eastern states (2001-2007)	87	6.8	8.0	5.6	108	5.9	7.0	4.8	7.3	9.5	3.3	2.8
GERMANY, 5 Western registries (1994-2012)	333	7.2	8.9	5.5	373	6.1	7.6	4.6	9.9	7.6	3.3	2.1
GREECE, paediatric, CNS tumours (2010-2014)	85	11.0	13.7	8.2	-	-	-	-	16.8	9.7	4.8	-
HUNGARY, paediatric (1991-2014)	352	9.2	10.7	7.6	-	-	-	-	11.6	9.4	5.7	-
ICELAND (1990-2014)	*9*	*5.5*	*6.8*	*4.1*	*9*	*4.3*	*5.3*	*3.2*	*5.4*	*5.5*	*5.5*	*0.0*
IRELAND (1994-2012)	123	7.7	9.8	5.6	144	6.8	8.5	5.0	10.3	8.6	3.4	3.5
ITALY, 2 paediatric registries (1998-2011)	70	8.6	10.9	6.2	82	7.6	9.8	5.3	11.6	8.2	5.0	4.2
ITALY, Piedmont, paediatric (1990-2011)	96	8.4	11.0	5.6	-	-	-	-	9.5	9.6	5.5	-
ITALY, 26 registries (1992-2013)	265	6.6	7.8	5.4	312	5.8	6.8	4.8	7.8	7.6	4.0	3.1
LITHUANIA (2000-2012)	32	4.7	6.4	2.9	41	4.2	5.6	2.8	5.5	4.4	3.9	2.8
MALTA (1994-2013)	*11*	*7.8*	*6.1*	*9.6*	*14*	*7.3*	*6.3*	*8.3*	*6.9*	*12.6*	*3.8*	*5.3*
THE NETHERLANDS (1993-2013)	430	7.3	8.2	6.3	473	6.1	7.0	5.2	9.6	7.4	4.0	2.1
NORWAY (1990-2013)	179	8.7	10.1	7.1	213	7.8	9.2	6.4	10.3	10.3	4.6	4.8
POLAND (2001-2013)	584	7.4	8.9	5.8	682	6.4	7.6	5.1	8.1	8.0	5.9	2.7
PORTUGAL (1991-2012)	202	7.7	9.8	5.5	235	6.7	8.5	4.8	9.8	6.8	5.9	3.2
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	54	6.7	8.1	5.3	-	-	-	-	8.6	7.7	3.2	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	83	7.6	6.8	8.4	97	6.5	6.0	7.0	8.6	8.9	4.6	2.8
SLOVAKIA (1990-2009)	117	5.9	7.0	4.9	132	5.0	5.8	4.1	8.4	5.5	3.1	1.7
SLOVAKIA, paediatric (2000-2012)	78	7.2	8.7	5.7	-	-	-	-	10.7	6.6	3.4	-
SLOVENIA (1991-2012)	43	6.7	8.1	5.2	51	5.8	7.4	4.2	10.2	6.1	2.7	2.8
SPAIN, 2 paediatric registries (1991-2013)	382	8.2	9.7	6.5	-	-	-	-	10.6	8.4	4.6	-
SPAIN, selected regions, paediatric (2000-2013)	265	7.8	9.4	6.2	-	-	-	-	10.4	8.1	4.0	-
SPAIN, Valencia, paediatric (1991-2010)	117	9.0	10.7	7.3	-	-	-	-	11.2	9.1	6.1	-
SPAIN, 11 registries (1990-2013)	217	7.1	8.4	5.9	254	6.2	7.1	5.2	8.9	8.2	3.6	2.8
SWEDEN (1990-2011)	278	8.1	9.3	6.8	320	7.0	8.1	5.9	9.2	9.2	5.3	3.4
SWITZERLAND, paediatric (1990-2013)	220	7.9	9.7	5.9	-	-	-	-	9.4	10.0	3.4	-
SWITZERLAND, 7 registries (1990-2013)	92	8.9	10.5	7.2	107	7.8	9.2	6.4	10.5	11.0	4.5	4.1
UKRAINE (2002-2012)	396	5.5	6.4	4.4	460	4.6	5.5	3.7	5.8	6.7	3.6	1.7
UK (2000-2011)	820	6.4	7.7	5.1	942	5.5	6.6	4.5	7.5	6.9	4.4	2.6
UK, England and Wales, paediatric (1991-2010)	1314	6.9	8.2	5.6	-	-	-	-	8.8	7.1	4.2	-
OCEANIA												
AUSTRALIA (1992-2014)	623	7.4	8.4	6.3	686	6.2	7.0	5.3	9.8	7.2	4.2	2.1
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*15*	*6.3*	*7.3*	*5.3*	*15*	*4.9*	*5.7*	*4.1*	*8.1*	*6.2*	*4.1*	*0.0*
FRANCE, 2 registries (1990-2013)	23	7.4	8.7	6.0	24	6.0	7.2	4.7	4.0	14.6	3.9	1.0
NEW ZEALAND (1993-2012)	134	7.8	10.5	4.9	152	6.7	8.7	4.6	8.5	9.4	4.9	3.1
NEW ZEALAND, Maori (1993-2012)	39	9.1	10.9	7.2	42	7.6	8.8	6.3	9.5	12.6	4.5	2.5
NEW ZEALAND, Pacific peoples (1993-2012)	20	13.1	12.9	13.4	22	11.2	11.0	11.4	16.2	15.6	6.3	4.5
NEW ZEALAND, Other (1993-2012)	75	6.5	10.0	2.8	88	5.7	8.3	3.1	6.9	7.4	4.9	3.1
NEW ZEALAND, paediatric (2000-2012)	80	7.1	10.4	3.6	-	-	-	-	8.1	8.4	4.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	24	8.5	12.5	4.4	-	-	-	-	9.8	10.7	4.4	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	56	6.6	9.7	3.3	-	-	-	-	7.5	7.7	4.3	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of embryonal tumour of CNS in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.11. Other gliomas (IIId): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	25	1.4	1.3	1.6	34	1.4	1.4	1.4	1.4	1.6	1.3	1.3
BOTSWANA (1999-2007)	*4*	*0.7*	*0.6*	*0.7*	*5*	*0.6*	*0.5*	*0.8*	*0.0*	*1.1*	*1.1*	*0.6*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	22	1.4	1.4	1.5	24	1.2	1.2	1.2	1.1	2.0	1.3	0.4
FRANCE, Réunion (1990-2011)	20	4.5	4.9	4.0	24	4.1	4.7	3.4	3.4	6.1	4.0	2.8
KENYA, 2 registries (2000-2012)	*10*	*0.9*	*0.8*	*1.1*	*10*	*0.7*	*0.6*	*0.9*	*0.7*	*0.6*	*1.7*	*0.0*
LIBYA, Benghazi (2003-2008)	*3*	*0.9*	*0.6*	*1.3*	*3*	*0.7*	*0.4*	*1.0*	*0.0*	*1.0*	*2.0*	*0.0*
MALI, Bamako (2005-2014)	*2*	*0.3*	*0.3*	*0.3*	*4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.0*	*0.8*
MAURITIUS (2001-2013)	*5*	*1.3*	*0.5*	*2.1*	*7*	*1.3*	*1.1*	*1.6*	*0.9*	*1.6*	*1.5*	*1.5*
MOROCCO, 2 registries (2005-2012)	*12*	*1.4*	*2.0*	*0.7*	*15*	*1.3*	*1.7*	*0.8*	*1.7*	*1.4*	*1.0*	*0.9*
SOUTH AFRICA, paediatric (1998-2012)	260	1.2	1.1	1.3	-	-	-	-	1.2	1.7	0.7	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*5*	*1.3*	*1.1*	*1.4*	-	-	-	-	*0.8*	*2.3*	*0.7*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	187	1.0	0.9	1.2	-	-	-	-	1.0	1.5	0.6	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	43	2.3	2.7	2.0	-	-	-	-	2.2	3.5	1.1	-
SOUTH AFRICA, paediatric, White (1998-2012)	25	2.3	2.2	2.4	-	-	-	-	3.7	1.5	1.1	-
TUNISIA, 2 registries (1993-2007)	21	1.1	1.5	0.7	35	1.3	1.4	1.1	0.7	1.8	0.9	2.0
UGANDA, Kyadondo (1996-2013)	*2*	*0.2*	*0.0*	*0.3*	*2*	*0.1*	*0.0*	*0.2*	*0.0*	*0.5*	*0.0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*7*	*0.8*	*1.5*	*0.2*	*9*	*0.8*	*1.5*	*0.2*	*0.8*	*0.7*	*0.8*	*0.7*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	181	1.2	1.4	1.1	-	-	-	-	1.1	1.2	1.4	-
ARGENTINA, 6 registries (1991-2013)	37	1.6	1.9	1.4	47	1.6	1.8	1.4	1.1	2.2	1.7	1.3
BRAZIL, 5 registries (1995-2012)	42	2.2	2.2	2.3	59	2.3	2.3	2.2	1.7	3.1	2.0	2.3
CHILE, paediatric (2007-2011)	38	2.0	2.4	1.6	-	-	-	-	1.8	2.5	1.8	-
CHILE, 4 registries (1998-2012)	*7*	*1.5*	*1.8*	*1.2*	*7*	*1.2*	*1.4*	*0.9*	*1.4*	*1.3*	*1.8*	*0.0*
COLOMBIA, 4 registries (1992-2013)	38	2.2	2.6	1.8	47	2.1	2.6	1.5	2.5	2.2	1.8	1.5
COSTA RICA (1993-2012)	23	1.0	0.9	1.0	36	1.1	1.1	1.1	0.9	1.1	0.9	1.6
CUBA (2000-2012)	62	2.3	2.2	2.4	74	2.0	2.0	2.1	2.3	2.6	2.0	1.2
ECUADOR, 5 registries (1993-2013)	23	1.1	0.8	1.4	29	1.0	0.8	1.2	1.3	1.1	0.8	0.8
FRANCE, 3 registries (1990-2012)	*4*	*1.2*	*1.3*	*1.1*	*5*	*1.1*	*1.4*	*0.8*	*1.0*	*0.0*	*2.8*	*0.9*
HONDURAS, Francisco Morazán (2002-2012)	*10*	*1.9*	*1.9*	*1.9*	*15*	*2.2*	*2.1*	*2.4*	*0.6*	*2.9*	*2.5*	*3.4*
JAMAICA, Kingston and St Andrew (1982-2012)	*15*	*2.6*	*1.7*	*3.5*	*16*	*2.1*	*1.5*	*2.7*	*2.1*	*4.1*	*1.5*	*0.5*
MEXICO, Mexico City, paediatric (1997-2013)	*9*	*0.7*	*0.2*	*1.3*	-	-	-	-	*0.3*	*1.5*	*0.5*	-
PERU, Lima (2010-2012)	20	2.8	3.4	2.2	25	2.6	3.0	2.2	2.1	3.4	3.0	1.9
PERU, Trujillo (1990-2002)	*1*	*0.4*	*0.8*	*0.0*	*2*	*0.6*	*1.2*	*0.0*	*0.0*	*1.3*	*0.0*	*1.1*
USA, Puerto Rico (1992-2012)	24	1.2	1.2	1.3	32	1.2	1.3	1.2	0.4	2.0	1.6	1.3
URUGUAY (1993-2012)	76	5.0	4.1	5.9	93	4.6	4.2	5.0	4.7	6.0	4.2	3.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	565	4.9	4.7	5.0	748	4.8	4.7	4.9	4.5	5.8	4.3	4.4
USA (1998-2012)	4956	5.5	5.4	5.6	6231	5.2	5.1	5.2	5.0	6.8	4.7	4.0
USA, API (1998-2012)	174	3.8	3.7	3.9	210	3.5	3.4	3.6	3.0	5.5	3.1	2.3
USA, Black (1998-2012)	714	4.9	4.8	5.0	844	4.3	4.3	4.4	4.5	6.6	3.4	2.5
USA, Hispanic White (1998-2012)	798	4.7	4.5	4.9	922	4.2	4.1	4.3	4.3	6.0	3.9	2.4
USA, Native American (1998-2012)	40	2.7	2.6	2.8	51	2.6	2.4	2.8	2.1	3.3	2.8	2.2
USA, White NH (1998-2012)	3092	5.9	5.8	6.0	4032	5.6	5.6	5.7	5.4	6.9	5.2	4.9
USA, NPCR (1998-2012)	4720	5.5	5.3	5.6	5936	5.1	5.1	5.2	5.0	6.7	4.7	4.0
USA, SEER 18 (1993-2012)	1515	5.3	5.2	5.3	1891	5.0	5.0	5.0	4.5	6.8	4.5	3.9
USA, Hawaii, Hawaiian (1993-2012)	*5*	*3.3*	*5.4*	*1.1*	*6*	*3.0*	*5.0*	*0.9*	*7.1*	*0.0*	*1.9*	*2.0*
ASIA												
BAHRAIN (1998-2012)	*9*	*2.9*	*3.2*	*2.6*	*11*	*2.7*	*3.4*	*2.0*	*2.8*	*3.8*	*2.0*	*2.2*
CHINA, 6 registries (1990-2013)	114	2.0	2.0	1.9	183	2.1	2.1	2.0	1.7	2.4	2.0	2.4
CHINA, Hong Kong (1990-2013)	63	2.6	2.8	2.3	87	2.5	2.8	2.2	2.6	3.1	2.0	2.3
INDIA, 7 registries (1990-2013)	448	2.5	2.8	2.3	581	2.4	2.7	2.2	1.9	3.3	2.6	2.1
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*3*	*0.9*	*1.2*	*0.6*	*5*	*1.0*	*1.2*	*0.7*	*0.0*	*2.8*	*0.0*	*1.2*
ISRAEL (1990-2012)	177	4.3	4.1	4.5	211	3.9	3.9	4.0	4.1	5.4	3.3	2.8
ISRAEL, Jews (1990-2012)	139	4.6	4.4	4.9	163	4.2	4.1	4.3	4.1	6.2	3.5	2.6
ISRAEL, Non-Jews (1990-2012)	38	3.4	3.3	3.4	48	3.4	3.3	3.4	3.9	3.4	2.7	3.4
JAPAN, 8 registries (1990-2013)	210	3.5	3.5	3.5	243	3.0	3.0	3.0	3.1	4.7	2.6	1.4
JORDAN, Jordanians (2000-2012)	58	2.1	2.1	2.2	67	1.9	1.9	1.9	1.8	3.2	1.4	1.1
REPUBLIC OF KOREA (1999-2012)	297	2.3	2.3	2.3	408	2.3	2.4	2.2	1.9	2.8	2.3	2.3
KUWAIT (1994-2012)	*6*	*0.5*	*0.6*	*0.3*	*7*	*0.4*	*0.6*	*0.3*	*0.2*	*0.7*	*0.5*	*0.3*
KUWAIT, Kuwaitis (1994-2012)	*5*	*0.7*	*1.1*	*0.3*	*6*	*0.7*	*1.1*	*0.2*	*0.4*	*0.8*	*0.9*	*0.5*
KUWAIT, Non-Kuwaitis (1994-2012)	*1*	*0.2*	*0.0*	*0.4*	*1*	*0.2*	*0.0*	*0.3*	*0.0*	*0.6*	*0.0*	*0.0*
LEBANON (2008-2010)	*12*	*3.3*	*3.7*	*2.9*	*16*	*3.3*	*3.2*	*3.4*	*3.8*	*1.6*	*4.6*	*3.2*
PAKISTAN, Karachi (1995-2002)	*10*	*1.7*	*2.0*	*1.4*	*15*	*2.1*	*2.7*	*1.4*	*1.0*	*2.0*	*2.3*	*3.5*
PAKISTAN, Lahore (2008-2012)	30	1.5	2.2	0.7	36	1.4	2.1	0.6	0.5	1.2	3.0	1.1
PHILIPPINES, 2 registries (1993-2012)	170	2.2	2.5	2.0	194	2.0	2.2	1.7	1.3	3.6	1.9	1.0
QATAR (2002-2014)	*4*	*1.3*	*1.3*	*1.4*	*4*	*1.0*	*1.0*	*1.1*	*0.9*	*2.0*	*1.2*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	79	2.3	2.8	1.8	91	2.1	2.7	1.5	1.5	3.1	2.5	1.4
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	61	2.2	2.5	1.7	68	1.9	2.3	1.4	1.5	3.2	1.9	0.9
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	18	3.2	4.4	1.8	23	3.4	4.5	2.2	1.4	2.6	6.2	4.1
THAILAND, 6 registries (1993-2013)	44	1.1	1.2	0.9	54	1.0	1.1	0.8	0.7	1.5	1.1	0.6
TURKEY, paediatric (2009-2011)	100	1.8	1.7	1.8	-	-	-	-	1.3	3.1	0.9	-
TURKEY, 8 registries (1992-2012)	181	4.6	4.4	4.8	234	4.4	4.3	4.5	4.4	5.7	3.6	3.7
VIET NAM, Ho Chi Minh City (1995-2013)	*3*	*0.1*	*0.1*	*0.2*	*5*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*0.0*	*0.2*
EUROPE												
AUSTRIA (1990-2012)	106	3.4	2.9	4.0	141	3.4	3.0	3.7	3.1	4.3	3.0	3.1
BELARUS, paediatric (1990-2014)	112	2.4	2.9	1.8	136	2.1	2.6	1.6	1.5	2.5	3.4	1.3
BELGIUM (2004-2013)	96	5.2	5.6	4.8	112	4.6	4.9	4.3	4.4	5.7	5.7	2.5
BULGARIA (1990-2013)	26	0.8	0.6	1.0	36	0.8	0.7	0.9	0.3	1.2	1.0	0.8
CROATIA (2001-2014)	30	3.4	2.4	4.4	41	3.3	2.6	4.1	4.4	3.9	1.5	3.1
CYPRUS, South-West (1998-2012)	*10*	*4.6*	*3.5*	*5.8*	*12*	*4.1*	*3.7*	*4.5*	*3.0*	*9.7*	*1.2*	*2.3*
CZECH REPUBLIC (1990-2012)	43	1.0	1.3	0.7	71	1.2	1.4	0.9	0.9	0.8	1.5	1.7
ESTONIA (1990-2012)	*9*	*1.5*	*2.2*	*0.8*	*11*	*1.4*	*2.1*	*0.6*	*1.1*	*1.6*	*1.9*	*0.9*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other glioma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.11. Other gliomas (IIId): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	763	5.2	5.0	5.4	-	-	-	-	4.6	6.3	4.7	-
FRANCE, 13 registries (1993-2012)	163	5.1	5.4	4.9	204	4.8	4.7	4.9	4.3	6.0	5.3	3.7
GERMANY, paediatric (1996-2012)	560	2.7	2.8	2.6	-	-	-	-	2.3	3.4	2.5	-
GERMANY, 6 Eastern states (2001-2007)	39	2.9	2.0	3.7	53	2.6	2.0	3.3	2.5	3.2	2.9	1.9
GERMANY, 5 Western registries (1994-2012)	170	3.5	3.5	3.4	202	3.1	3.1	3.0	3.2	4.4	2.7	1.7
GREECE, paediatric, CNS tumours (2010-2014)	25	3.0	3.1	3.0	-	-	-	-	1.8	5.2	2.2	-
HUNGARY, paediatric (1991-2014)	181	4.5	4.4	4.5	-	-	-	-	3.8	5.4	4.3	-
ICELAND (1990-2014)	*4*	*2.5*	*3.5*	*1.4*	*4*	*1.9*	*2.7*	*1.1*	*3.6*	*0.0*	*3.7*	*0.0*
IRELAND (1994-2012)	66	3.8	4.1	3.5	88	3.8	4.1	3.4	2.4	4.8	4.8	3.7
ITALY, 2 paediatric registries (1998-2011)	21	2.5	2.8	2.1	32	2.8	3.4	2.1	2.1	2.9	2.5	3.8
ITALY, Piedmont, paediatric (1990-2011)	21	1.8	1.7	1.9	-	-	-	-	1.3	2.6	1.5	-
ITALY, 26 registries (1992-2013)	130	3.2	3.4	2.9	170	3.1	3.2	2.9	3.6	2.3	3.6	2.7
LITHUANIA (2000-2012)	*12*	*1.6*	*1.7*	*1.5*	*18*	*1.7*	*1.8*	*1.6*	*1.5*	*1.3*	*2.1*	*1.9*
MALTA (1994-2013)	*3*	*1.8*	*0.0*	*3.7*	*4*	*1.8*	*0.8*	*2.8*	*0.0*	*2.1*	*3.8*	*1.8*
THE NETHERLANDS (1993-2013)	205	3.3	3.4	3.2	245	3.0	3.2	2.8	2.8	4.2	3.0	2.0
NORWAY (1990-2013)	81	3.8	2.5	5.0	125	4.3	3.5	5.2	2.7	5.1	3.7	6.3
POLAND (2001-2013)	123	1.6	1.4	1.7	196	1.7	1.6	1.8	1.9	1.4	1.4	2.0
PORTUGAL (1991-2012)	112	4.2	4.5	3.8	152	4.1	4.5	3.7	3.9	5.4	3.2	3.9
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	21	2.3	2.5	2.2	-	-	-	-	0.7	4.2	2.3	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	37	3.4	3.0	3.8	44	2.9	2.7	3.2	4.3	3.1	2.4	1.4
SLOVAKIA (1990-2009)	50	2.3	2.1	2.6	75	2.5	2.3	2.6	2.4	2.4	2.2	2.9
SLOVAKIA, paediatric (2000-2012)	26	2.3	2.8	1.7	-	-	-	-	2.5	2.1	2.0	-
SLOVENIA (1991-2012)	13	1.7	2.2	1.2	22	2.0	2.5	1.6	0.9	2.2	2.3	3.1
SPAIN, 2 paediatric registries (1991-2013)	208	4.3	3.7	5.1	-	-	-	-	4.1	5.5	3.4	-
SPAIN, selected regions, paediatric (2000-2013)	157	4.5	3.9	5.2	-	-	-	-	4.2	5.7	3.8	-
SPAIN, Valencia, paediatric (1991-2010)	51	3.9	3.2	4.6	-	-	-	-	3.8	5.2	2.4	-
SPAIN, 11 registries (1990-2013)	111	3.5	4.2	2.8	143	3.3	3.8	2.7	3.6	4.0	2.9	2.4
SWEDEN (1990-2011)	80	2.2	2.4	2.1	124	2.5	2.6	2.5	1.8	2.1	2.9	3.6
SWITZERLAND, paediatric (1990-2013)	105	3.6	3.5	3.7	-	-	-	-	3.0	5.5	2.4	-
SWITZERLAND, 7 registries (1990-2013)	24	2.3	1.8	2.7	30	2.1	1.7	2.6	2.0	3.4	1.4	1.6
UKRAINE (2002-2012)	94	1.2	1.4	1.1	137	1.2	1.4	1.1	1.0	1.5	1.3	1.2
UK (2000-2011)	502	3.8	3.9	3.7	635	3.6	3.7	3.4	3.5	4.4	3.5	2.9
UK, England and Wales, paediatric (1991-2010)	726	3.7	3.8	3.6	-	-	-	-	3.2	4.7	3.2	-
OCEANIA												
AUSTRALIA (1992-2014)	335	3.8	3.9	3.7	422	3.6	3.8	3.4	3.9	4.1	3.4	2.9
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*7*	*2.9*	*1.6*	*4.3*	*10*	*3.3*	*3.3*	*3.3*	*2.3*	*3.7*	*2.8*	*4.7*
FRANCE, 2 registries (1990-2013)	*7*	*2.4*	*0.7*	*4.1*	*9*	*2.3*	*1.0*	*3.6*	*3.0*	*1.9*	*2.0*	*2.0*
NEW ZEALAND (1993-2012)	59	3.4	3.0	3.8	74	3.2	2.8	3.5	3.4	3.6	3.1	2.6
NEW ZEALAND, Maori (1993-2012)	*6*	*1.4*	*1.4*	*1.4*	*7*	*1.3*	*1.4*	*1.1*	*1.9*	*0.7*	*1.5*	*0.8*
NEW ZEALAND, Pacific peoples (1993-2012)	*7*	*4.5*	*6.4*	*2.5*	*7*	*3.5*	*4.9*	*2.0*	*3.6*	*5.8*	*4.2*	*0.0*
NEW ZEALAND, Other (1993-2012)	46	3.9	3.1	4.8	60	3.8	3.0	4.6	4.0	4.3	3.5	3.3
NEW ZEALAND, paediatric (2000-2012)	50	4.3	4.0	4.7	-	-	-	-	4.4	4.5	4.0	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*8*	*2.8*	*3.5*	*2.1*	-	-	-	-	*3.9*	*2.1*	*2.2*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	42	4.8	4.1	5.5	-	-	-	-	4.6	5.2	4.6	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other glioma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.12. Neuroblastoma and ganglioneuroblastoma (IVa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	112	7.2	8.1	6.3	117	5.7	6.5	4.9	14.8	3.3	1.5	0.7
BOTSWANA (1999-2007)	*7*	*1.4*	*0.8*	*2.0*	*7*	*1.1*	*0.6*	*1.6*	*3.6*	*0.0*	*0.0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*1*	*0.4*	*0.9*	*0.0*	*1*	*0.3*	*0.7*	*0.0*	*1.1*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	133	10.1	11.2	9.0	135	7.9	8.7	7.1	20.0	6.7	0.7	0.4
FRANCE, Réunion (1990-2011)	30	7.6	8.2	7.1	32	6.2	6.7	5.8	16.4	3.4	0.7	1.4
KENYA, 2 registries (2000-2012)	22	2.0	2.0	2.0	22	1.6	1.5	1.6	3.0	2.0	0.7	0.0
LIBYA, Benghazi (2003-2008)	22	8.1	8.5	7.6	24	6.7	7.1	6.3	15.7	5.2	1.0	2.0
MALI, Bamako (2005-2014)	21	2.9	3.3	2.5	21	2.2	2.6	1.9	4.7	2.5	1.0	0.0
MAURITIUS (2001-2013)	*15*	*4.7*	*6.9*	*2.4*	*15*	*3.6*	*5.4*	*1.8*	*9.5*	*3.1*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	79	9.6	12.0	7.1	83	7.7	9.5	5.9	17.1	6.5	2.9	1.2
SOUTH AFRICA, paediatric (1998-2012)	524	2.6	2.8	2.4	-	-	-	-	5.7	1.1	0.3	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*17*	*5.1*	*5.4*	*4.8*	-	-	-	-	*11.3*	*2.3*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	344	2.0	2.1	1.9	-	-	-	-	4.2	1.0	0.3	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	79	4.7	5.3	4.0	-	-	-	-	10.8	1.1	0.5	-
SOUTH AFRICA, paediatric, White (1998-2012)	84	8.4	9.6	7.3	-	-	-	-	19.5	2.8	0.0	-
TUNISIA, 2 registries (1993-2007)	121	7.7	8.8	6.5	125	6.1	6.9	5.2	16.8	3.2	0.4	0.6
UGANDA, Kyadondo (1996-2013)	*10*	*0.8*	*0.8*	*0.8*	*10*	*0.6*	*0.6*	*0.6*	*1.2*	*0.7*	*0.2*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*19*	*2.2*	*2.8*	*1.6*	*19*	*1.7*	*2.2*	*1.2*	*3.4*	*1.5*	*1.3*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	1035	8.0	8.2	7.8	-	-	-	-	17.7	2.7	1.0	-
ARGENTINA, 6 registries (1991-2013)	164	8.6	8.5	8.6	170	6.8	6.9	6.7	19.1	2.7	0.9	0.8
BRAZIL, 5 registries (1995-2012)	134	8.4	8.0	8.8	135	6.6	6.3	6.8	18.3	3.1	1.1	0.1
CHILE, paediatric (2007-2011)	96	6.0	6.2	5.8	-	-	-	-	13.4	2.3	0.3	-
CHILE, 4 registries (1998-2012)	*16*	*4.2*	*5.4*	*3.0*	*16*	*3.3*	*4.2*	*2.3*	*9.2*	*2.0*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	59	4.0	4.5	3.4	61	3.1	3.7	2.6	8.9	1.2	0.5	0.3
COSTA RICA (1993-2012)	82	4.0	4.6	3.4	84	3.2	3.6	2.7	9.0	1.4	0.4	0.3
CUBA (2000-2012)	193	8.5	9.3	7.5	201	6.7	7.4	6.0	18.7	2.9	1.0	0.8
ECUADOR, 5 registries (1993-2013)	39	1.9	1.8	2.0	41	1.5	1.5	1.6	3.2	1.0	1.2	0.3
FRANCE, 3 registries (1990-2012)	*18*	*6.3*	*6.9*	*5.7*	*18*	*4.9*	*5.3*	*4.4*	*10.8*	*5.7*	*0.9*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*8*	*1.7*	*2.0*	*1.3*	*8*	*1.3*	*1.6*	*1.0*	*3.3*	*1.2*	*0.0*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	36	6.8	8.8	4.8	36	5.3	6.8	3.7	12.6	5.2	1.0	0.0
MEXICO, Mexico City, paediatric (1997-2013)	36	3.5	2.9	4.2	-	-	-	-	8.0	1.2	0.0	-
PERU, Lima (2010-2012)	*12*	*2.0*	*1.9*	*2.0*	*12*	*1.5*	*1.5*	*1.6*	*5.1*	*0.0*	*0.0*	*0.0*
PERU, Trujillo (1990-2002)	*4*	*1.8*	*1.7*	*2.0*	*4*	*1.4*	*1.3*	*1.5*	*3.8*	*0.0*	*1.2*	*0.0*
USA, Puerto Rico (1992-2012)	132	8.6	8.1	9.1	134	6.7	6.5	7.1	18.6	4.0	0.5	0.3
URUGUAY (1993-2012)	148	11.2	11.0	11.3	155	9.0	8.8	9.1	24.8	3.7	1.3	1.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	1359	13.8	13.9	13.7	1374	10.8	10.8	10.7	31.3	4.4	0.8	0.4
USA (1998-2012)	9709	12.4	13.0	11.7	9838	9.7	10.2	9.2	28.4	3.4	1.0	0.4
USA, API (1998-2012)	327	8.0	8.6	7.4	333	6.3	6.7	5.9	18.5	2.4	0.3	0.4
USA, Black (1998-2012)	1249	9.7	10.2	9.2	1275	7.6	8.0	7.3	21.5	3.3	1.1	0.5
USA, Hispanic White (1998-2012)	1309	8.3	8.6	8.0	1321	6.5	6.7	6.2	19.3	2.0	0.6	0.2
USA, Native American (1998-2012)	69	5.5	4.1	7.0	70	4.3	3.2	5.4	13.2	1.0	0.2	0.2
USA, White NH (1998-2012)	6522	14.7	15.5	13.9	6603	11.5	12.1	10.8	33.9	3.9	1.1	0.4
USA, NPCR (1998-2012)	9298	12.4	13.1	11.7	9420	9.7	10.2	9.2	28.5	3.4	1.0	0.4
USA, SEER 18 (1993-2012)	2944	11.7	12.0	11.3	2983	9.1	9.4	8.9	26.4	3.5	1.1	0.4
USA, Hawaii, Hawaiian (1993-2012)	*12*	*8.3*	*9.4*	*7.1*	*13*	*6.9*	*8.1*	*5.5*	*21.4*	*0.0*	*0.0*	*2.0*
ASIA												
BAHRAIN (1998-2012)	28	9.6	11.2	7.9	28	7.5	8.7	6.1	19.4	5.7	1.0	0.0
CHINA, 6 registries (1990-2013)	389	8.6	9.5	7.7	396	6.7	7.5	5.9	19.0	3.3	0.7	0.2
CHINA, Hong Kong (1990-2013)	200	10.3	11.3	9.3	203	8.1	8.9	7.2	23.3	3.2	0.9	0.3
INDIA, 7 registries (1990-2013)	526	3.6	4.1	3.1	544	2.8	3.2	2.5	7.1	2.0	0.7	0.3
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*8*	*2.6*	*3.1*	*2.1*	*8*	*2.0*	*2.4*	*1.6*	*4.4*	*2.8*	*0.0*	*0.0*
ISRAEL (1990-2012)	568	14.6	15.1	14.2	579	11.6	11.9	11.2	33.0	5.0	0.9	0.9
ISRAEL, Jews (1990-2012)	409	14.6	15.3	13.9	418	11.6	12.1	11.0	32.6	5.3	0.9	1.0
ISRAEL, Non-Jews (1990-2012)	159	14.7	14.6	14.8	161	11.5	11.4	11.6	34.0	4.2	0.6	0.7
JAPAN, 8 registries (1990-2013)	795	15.7	16.7	14.7	805	12.3	13.0	11.5	37.2	3.5	0.7	0.4
JORDAN, Jordanians (2000-2012)	152	6.2	6.2	6.2	153	4.8	4.8	4.8	14.2	1.6	0.6	0.1
REPUBLIC OF KOREA (1999-2012)	1130	11.3	11.5	11.1	1149	8.9	9.0	8.6	26.4	2.8	0.6	0.4
KUWAIT (1994-2012)	61	5.1	5.7	4.5	87	5.7	5.7	5.8	7.2	2.7	4.9	8.0
KUWAIT, Kuwaitis (1994-2012)	38	5.4	6.9	3.8	54	6.1	6.5	5.6	7.2	3.8	4.6	8.5
KUWAIT, Non-Kuwaitis (1994-2012)	23	4.7	3.9	5.5	33	5.3	4.5	6.1	7.0	1.2	5.4	7.3
LEBANON (2008-2010)	33	10.6	12.3	8.8	34	8.4	9.9	6.8	19.0	7.9	2.3	0.8
PAKISTAN, Karachi (1995-2002)	*10*	*1.8*	*1.7*	*1.9*	*10*	*1.4*	*1.3*	*1.5*	*3.0*	*1.5*	*0.6*	*0.0*
PAKISTAN, Lahore (2008-2012)	28	1.7	1.6	1.8	28	1.3	1.2	1.4	3.3	1.1	0.2	0.0
PHILIPPINES, 2 registries (1993-2012)	205	2.8	3.1	2.5	210	2.2	2.5	2.0	5.2	1.6	0.9	0.2
QATAR (2002-2014)	*19*	*6.6*	*6.1*	*7.2*	*19*	*5.1*	*4.7*	*5.5*	*14.5*	*2.0*	*1.2*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	198	6.3	6.1	6.4	203	5.0	4.9	5.1	14.2	2.0	0.4	0.6
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	168	6.5	6.3	6.6	171	5.1	5.1	5.1	15.0	1.8	0.3	0.4
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	30	5.3	5.2	5.5	32	4.5	4.0	5.0	10.8	3.1	0.6	1.6
THAILAND, 6 registries (1993-2013)	156	4.6	4.6	4.7	161	3.7	3.6	3.8	9.8	2.1	0.6	0.3
TURKEY, paediatric (2009-2011)	414	8.4	9.2	7.6	-	-	-	-	19.4	2.6	0.4	-
TURKEY, 8 registries (1992-2012)	368	11.1	11.1	11.0	373	8.7	8.7	8.6	25.6	2.9	0.8	0.3
VIET NAM, Ho Chi Minh City (1995-2013)	170	7.7	7.7	7.6	172	6.0	6.1	5.9	15.6	4.3	0.9	0.2
EUROPE												
AUSTRIA (1990-2012)	345	13.3	14.8	11.7	354	10.5	11.6	9.4	31.1	3.4	0.6	0.8
BELARUS, paediatric (1990-2014)	338	9.2	9.3	9.0	346	7.2	7.3	7.1	20.2	3.1	1.2	0.4
BELGIUM (2004-2013)	216	13.4	14.9	11.9	219	10.5	11.7	9.3	31.1	3.8	0.5	0.5
BULGARIA (1990-2013)	178	7.1	7.2	6.9	184	5.6	5.7	5.4	15.2	2.8	0.9	0.5
CROATIA (2001-2014)	104	13.2	13.0	13.4	106	10.4	10.2	10.5	29.7	4.8	0.6	0.6
CYPRUS, South-West (1998-2012)	27	14.9	17.4	12.2	28	11.8	13.5	9.9	34.0	4.1	1.2	1.1
CZECH REPUBLIC (1990-2012)	467	14.1	15.0	13.2	480	11.1	11.8	10.4	32.0	4.3	1.2	0.8
ESTONIA (1990-2012)	50	10.0	11.0	9.0	52	8.0	9.0	7.0	21.3	2.1	3.8	0.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of neuroblastoma or ganglioneuroblastoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 8.12. Neuroblastoma and ganglioneuroblastoma (IVa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1847	14.2	14.7	13.7	-	-	-	-	32.4	4.2	1.1	-
FRANCE, 13 registries (1993-2012)	388	14.2	15.7	12.7	394	11.1	12.3	9.9	32.8	3.2	1.8	0.5
GERMANY, paediatric (1996-2012)	2314	13.9	14.9	12.7	-	-	-	-	32.9	2.8	0.8	-
GERMANY, 6 Eastern states (2001-2007)	129	11.2	10.9	11.5	131	8.7	8.5	9.0	26.6	2.2	0.6	0.3
GERMANY, 5 Western registries (1994-2012)	488	12.2	14.0	10.4	491	9.5	10.9	8.1	28.4	2.9	1.0	0.2
HUNGARY, paediatric (1991-2014)	563	17.0	18.1	15.8	-	-	-	-	39.8	3.8	1.2	-
ICELAND (1990-2014)	*9*	*6.2*	*6.6*	*5.7*	*9*	*4.8*	*5.1*	*4.4*	*14.4*	*1.8*	*0.0*	*0.0*
IRELAND (1994-2012)	159	10.9	11.2	10.5	161	8.5	8.8	8.2	24.8	3.7	0.4	0.3
ITALY, 2 paediatric registries (1998-2011)	142	18.9	19.6	18.2	146	15.0	15.5	14.4	43.3	6.4	0.4	1.4
ITALY, Piedmont, paediatric (1990-2011)	175	17.0	18.3	15.7	-	-	-	-	39.1	5.4	0.5	-
ITALY, 26 registries (1992-2013)	523	14.4	15.2	13.5	527	11.2	11.8	10.6	32.1	5.2	0.9	0.3
LITHUANIA (2000-2012)	55	9.8	9.4	10.1	56	7.6	7.3	8.0	21.3	3.1	1.8	0.3
MALTA (1994-2013)	*17*	*14.2*	*10.9*	*17.8*	*17*	*11.0*	*8.4*	*13.8*	*29.8*	*8.4*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	435	8.1	8.6	7.6	439	6.3	6.7	5.9	19.1	1.7	0.5	0.2
NORWAY (1990-2013)	173	9.2	9.2	9.2	178	7.3	7.2	7.4	21.6	2.0	0.6	0.7
POLAND (2001-2013)	669	9.9	10.5	9.4	685	7.8	8.3	7.3	21.8	3.5	1.2	0.4
PORTUGAL (1991-2012)	320	13.7	14.4	13.0	326	10.8	11.4	10.1	31.5	3.5	1.4	0.6
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	72	9.8	8.8	10.8	-	-	-	-	18.7	6.9	1.1	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	91	9.3	6.8	11.9	96	7.4	5.4	9.6	22.0	2.0	0.5	1.0
SLOVAKIA (1990-2009)	196	11.4	11.2	11.7	203	9.1	8.9	9.2	26.2	2.8	1.4	0.8
SLOVAKIA, paediatric (2000-2012)	122	12.8	11.5	14.1	-	-	-	-	29.0	4.0	0.9	-
SLOVENIA (1991-2012)	51	9.0	8.5	9.4	51	6.9	6.6	7.3	21.3	2.2	0.0	0.0
SPAIN, 2 paediatric registries (1991-2013)	639	14.6	15.0	14.3	-	-	-	-	34.4	3.4	0.8	-
SPAIN, selected regions, paediatric (2000-2013)	450	13.8	13.9	13.8	-	-	-	-	31.8	3.8	0.9	-
SPAIN, Valencia, paediatric (1991-2010)	189	17.1	18.3	15.9	-	-	-	-	41.9	2.3	0.6	-
SPAIN, 11 registries (1990-2013)	372	13.8	14.2	13.5	381	10.9	11.1	10.6	32.1	3.6	0.9	0.7
SWEDEN (1990-2011)	291	9.4	9.8	8.9	296	7.4	7.8	6.9	21.2	2.9	0.8	0.4
SWITZERLAND, paediatric (1990-2013)	292	11.7	11.3	12.1	-	-	-	-	27.7	1.8	1.3	-
SWITZERLAND, 7 registries (1990-2013)	118	12.7	11.1	14.4	119	9.9	8.7	11.1	30.3	2.3	0.8	0.3
UKRAINE (2002-2012)	552	8.6	9.5	7.6	580	6.9	7.5	6.1	18.3	3.7	1.2	0.8
UK (2000-2011)	1099	9.6	9.8	9.3	1125	7.5	7.7	7.4	21.6	3.0	0.8	0.6
UK, England and Wales, paediatric (1991-2010)	1631	9.5	9.9	9.0	-	-	-	-	21.7	2.8	0.6	-
OCEANIA												
AUSTRALIA (1992-2014)	895	11.6	12.3	10.8	900	9.0	9.6	8.4	27.0	2.9	0.7	0.2
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*16*	*7.0*	*7.7*	*6.2*	*16*	*5.4*	*6.0*	*4.8*	*13.9*	*2.5*	*2.8*	*0.0*
FRANCE, 2 registries (1990-2013)	20	7.5	8.2	6.8	20	5.8	6.4	5.2	17.1	1.9	1.0	0.0
NEW ZEALAND (1993-2012)	178	11.3	11.2	11.4	183	9.0	8.9	9.1	24.8	4.1	1.4	0.9
NEW ZEALAND, Maori (1993-2012)	43	10.4	10.4	10.5	43	8.1	8.0	8.2	22.9	4.2	0.7	0.0
NEW ZEALAND, Pacific peoples (1993-2012)	*9*	*6.3*	*5.4*	*7.2*	*9*	*4.9*	*4.2*	*5.6*	*16.2*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Other (1993-2012)	126	12.4	12.4	12.4	131	9.9	9.8	9.9	26.9	4.6	1.7	1.2
NEW ZEALAND, paediatric (2000-2012)	124	12.1	11.9	12.4	-	-	-	-	26.6	5.0	0.8	-
NEW ZEALAND, paediatric, Maori (2000-2012)	25	9.3	10.9	7.7	-	-	-	-	20.6	3.2	1.1	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	99	13.1	12.3	14.0	-	-	-	-	28.8	5.6	0.7	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of neuroblastoma or ganglioneuroblastoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.13. Nephroblastoma and other nonepithelial renal tumours (VIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	124	7.9	7.6	8.2	125	6.1	5.9	6.4	15.0	4.9	1.8	0.1
BOTSWANA (1999-2007)	23	4.3	3.2	5.4	23	3.3	2.5	4.2	7.2	3.7	1.1	0.0
CAMEROON, Yaoundé (2004-2006)	*12*	*5.0*	*6.9*	*3.2*	*12*	*3.9*	*5.4*	*2.5*	*7.6*	*5.1*	*1.5*	*0.0*
EGYPT, Gharbiah (1999-2010)	80	6.0	6.1	6.0	80	4.7	4.7	4.6	11.6	4.2	0.7	0.0
FRANCE, Réunion (1990-2011)	35	8.7	6.7	10.9	36	6.9	5.5	8.4	16.4	6.8	0.7	0.7
KENYA, 2 registries (2000-2012)	100	9.1	7.4	10.7	102	7.2	5.9	8.4	15.1	8.8	1.4	0.7
LIBYA, Benghazi (2003-2008)	*9*	*3.3*	*4.4*	*2.2*	*9*	*2.6*	*3.4*	*1.7*	*6.9*	*2.1*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	154	21.2	22.8	19.6	158	16.8	18.5	15.2	31.5	23.5	4.8	1.6
MAURITIUS (2001-2013)	*15*	*4.8*	*3.8*	*5.9*	*15*	*3.8*	*2.9*	*4.6*	*11.2*	*1.6*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	93	11.3	9.9	12.9	95	8.9	7.9	10.0	19.5	10.3	1.6	0.6
SOUTH AFRICA, paediatric (1998-2012)	1234	6.1	6.0	6.3	-	-	-	-	12.4	3.5	0.7	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*16*	*4.8*	*4.0*	*5.7*	-	-	-	-	*11.3*	*0.8*	*0.7*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	1006	5.9	5.9	5.9	-	-	-	-	11.8	3.6	0.7	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	125	7.3	6.7	8.0	-	-	-	-	15.6	3.2	0.8	-
SOUTH AFRICA, paediatric, White (1998-2012)	87	8.6	7.9	9.3	-	-	-	-	18.4	4.3	0.2	-
TUNISIA, 2 registries (1993-2007)	122	7.6	7.8	7.3	123	5.9	6.0	5.7	15.1	4.8	0.6	0.1
UGANDA, Kyadondo (1996-2013)	136	10.5	12.3	8.8	137	8.2	9.6	6.8	19.9	6.5	2.4	0.2
ZIMBABWE, Harare, African (1995-2013)	131	14.8	13.8	15.7	135	11.8	11.4	12.2	25.1	12.7	3.4	1.4
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	803	6.2	5.9	6.4	-	-	-	-	12.8	3.3	0.5	-
ARGENTINA, 6 registries (1991-2013)	131	6.8	6.1	7.5	133	5.3	4.7	5.9	14.1	3.7	0.4	0.3
BRAZIL, 5 registries (1995-2012)	138	8.7	8.2	9.1	139	6.7	6.4	7.1	18.2	4.6	0.5	0.1
CHILE, paediatric (2007-2011)	93	5.7	4.3	7.2	-	-	-	-	11.9	2.6	0.9	-
CHILE, 4 registries (1998-2012)	25	6.3	4.5	8.1	25	4.9	3.5	6.2	12.0	3.3	1.8	0.0
COLOMBIA, 4 registries (1992-2013)	110	7.3	6.7	7.9	110	5.6	5.2	6.1	14.9	4.5	0.3	0.0
COSTA RICA (1993-2012)	110	5.1	4.9	5.4	110	4.0	3.8	4.2	9.6	3.1	1.5	0.0
CUBA (2000-2012)	168	7.2	6.5	7.9	183	5.9	5.2	6.6	14.6	3.5	1.4	1.4
ECUADOR, 5 registries (1993-2013)	118	6.0	6.5	5.6	119	4.7	5.1	4.3	12.1	3.5	0.7	0.1
FRANCE, 3 registries (1990-2012)	*17*	*5.9*	*4.9*	*7.0*	*18*	*4.8*	*4.2*	*5.5*	*10.8*	*3.8*	*1.8*	*0.9*
HONDURAS, Francisco Morazán (2002-2012)	20	4.3	3.7	4.8	20	3.3	2.9	3.7	10.5	0.6	0.0	0.0
JAMAICA, Kingston and St Andrew (1982-2012)	42	8.2	5.4	11.1	42	6.4	4.2	8.6	17.3	4.7	0.0	0.0
MEXICO, Mexico City, paediatric (1997-2013)	55	5.1	5.2	4.9	-	-	-	-	9.1	3.4	1.5	-
PERU, Lima (2010-2012)	43	6.9	5.9	7.9	44	5.4	4.6	6.3	15.3	2.6	0.4	0.4
PERU, Trujillo (1990-2002)	*6*	*2.8*	*2.8*	*2.8*	*6*	*2.2*	*2.1*	*2.2*	*5.0*	*2.6*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	111	7.1	6.8	7.4	112	5.6	5.3	5.8	14.7	3.3	1.3	0.2
URUGUAY (1993-2012)	82	6.2	6.5	5.9	82	4.8	5.0	4.5	13.4	2.5	0.6	0.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	945	9.3	8.2	10.5	957	7.3	6.4	8.2	19.0	5.4	0.8	0.3
USA (1998-2012)	7300	9.1	8.5	9.8	7403	7.2	6.6	7.7	18.9	5.1	0.7	0.3
USA, API (1998-2012)	169	4.1	3.9	4.3	174	3.3	3.1	3.4	9.0	1.6	0.4	0.3
USA, Black (1998-2012)	1339	10.2	9.4	11.1	1362	8.0	7.4	8.7	20.5	6.3	0.9	0.4
USA, Hispanic White (1998-2012)	1123	7.0	6.4	7.8	1131	5.5	4.9	6.1	14.8	3.6	0.5	0.2
USA, Native American (1998-2012)	58	4.6	3.8	5.5	59	3.6	2.9	4.3	10.7	1.5	0.0	0.2
USA, White NH (1998-2012)	4409	9.7	9.1	10.3	4473	7.6	7.1	8.1	20.1	5.4	0.7	0.3
USA, NPCR (1998-2012)	7054	9.2	8.6	9.9	7156	7.2	6.7	7.8	19.1	5.1	0.7	0.3
USA, SEER 18 (1993-2012)	2251	8.8	8.2	9.4	2278	6.9	6.4	7.4	18.2	5.0	0.6	0.3
USA, Hawaii, Hawaiian (1993-2012)	*1*	*0.7*	*1.3*	*0.0*	*1*	*0.5*	*1.0*	*0.0*	*1.8*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	22	7.7	6.8	8.6	22	6.0	5.3	6.7	17.5	2.8	0.0	0.0
CHINA, 6 registries (1990-2013)	190	4.2	4.3	4.1	196	3.3	3.4	3.2	9.4	1.4	0.4	0.2
CHINA, Hong Kong (1990-2013)	76	3.9	3.8	3.9	77	3.0	3.0	3.1	8.7	1.1	0.6	0.1
INDIA, 7 registries (1990-2013)	634	4.4	4.8	3.9	640	3.4	3.8	3.1	9.0	2.6	0.3	0.1
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*11*	*3.5*	*4.9*	*2.0*	*11*	*2.7*	*3.8*	*1.6*	*7.1*	*0.9*	*1.5*	*0.0*
ISRAEL (1990-2012)	270	6.9	6.7	7.1	275	5.5	5.3	5.6	14.5	3.7	0.3	0.4
ISRAEL, Jews (1990-2012)	204	7.2	7.1	7.3	209	5.7	5.7	5.8	15.0	4.1	0.4	0.5
ISRAEL, Non-Jews (1990-2012)	66	6.1	5.6	6.6	66	4.7	4.3	5.1	13.5	2.6	0.0	0.0
JAPAN, 8 registries (1990-2013)	178	3.5	3.6	3.4	180	2.7	2.8	2.6	7.8	1.0	0.4	0.1
JORDAN, Jordanians (2000-2012)	125	4.9	4.2	5.7	125	3.8	3.3	4.4	9.0	3.9	0.6	0.0
REPUBLIC OF KOREA (1999-2012)	501	4.9	4.8	5.1	509	3.9	3.7	4.0	10.9	1.9	0.3	0.2
KUWAIT (1994-2012)	62	5.2	7.0	3.2	74	4.8	6.2	3.4	6.7	3.7	4.7	3.7
KUWAIT, Kuwaitis (1994-2012)	28	4.0	6.2	1.7	36	4.0	5.5	2.5	5.7	2.5	3.3	4.3
KUWAIT, Non-Kuwaitis (1994-2012)	34	6.8	8.2	5.4	38	6.0	7.3	4.6	8.1	5.4	6.7	2.9
LEBANON (2008-2010)	*17*	*5.8*	*3.6*	*8.2*	*17*	*4.5*	*2.8*	*6.3*	*12.3*	*3.2*	*0.0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*17*	*3.1*	*4.3*	*1.8*	*17*	*2.4*	*3.3*	*1.4*	*5.0*	*3.6*	*0.0*	*0.0*
PAKISTAN, Lahore (2008-2012)	59	3.6	3.6	3.6	60	2.9	2.9	2.8	7.9	1.9	0.0	0.2
PHILIPPINES, 2 registries (1993-2012)	312	4.3	4.6	4.1	318	3.4	3.6	3.2	9.4	1.6	0.6	0.3
QATAR (2002-2014)	*15*	*5.2*	*3.4*	*7.2*	*15*	*4.0*	*2.6*	*5.6*	*11.8*	*2.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	193	6.1	5.2	6.9	193	4.7	4.1	5.4	12.9	2.9	0.5	0.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	165	6.3	5.4	7.2	165	4.9	4.2	5.6	13.3	3.1	0.6	0.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	28	5.0	4.2	5.8	28	3.9	3.3	4.5	11.2	2.1	0.0	0.0
THAILAND, 6 registries (1993-2013)	91	2.8	2.7	2.8	92	2.2	2.1	2.2	6.4	0.8	0.1	0.1
TURKEY, paediatric (2009-2011)	272	5.4	4.7	6.2	-	-	-	-	11.2	3.1	0.3	-
TURKEY, 8 registries (1992-2012)	255	7.5	7.5	7.5	258	5.9	5.9	5.8	15.6	4.1	0.5	0.2
VIET NAM, Ho Chi Minh City (1995-2013)	150	6.8	7.0	6.5	151	5.3	5.5	5.1	14.2	3.3	0.8	0.1
EUROPE												
AUSTRIA (1990-2012)	229	8.6	7.8	9.4	232	6.7	6.1	7.4	17.8	4.4	0.9	0.3
BELARUS, paediatric (1990-2014)	337	9.0	8.5	9.6	340	7.0	6.6	7.5	18.2	5.7	0.5	0.2
BELGIUM (2004-2013)	141	8.6	8.3	9.0	146	6.9	6.6	7.1	18.2	4.0	1.0	0.8
BULGARIA (1990-2013)	157	6.1	6.6	5.5	159	4.7	5.1	4.3	11.8	3.9	0.8	0.2
CROATIA (2001-2014)	89	11.4	13.3	9.4	89	8.8	10.3	7.3	25.9	4.2	0.0	0.0
CYPRUS, South-West (1998-2012)	*18*	*9.8*	*9.6*	*9.9*	*18*	*7.6*	*7.5*	*7.7*	*22.2*	*1.4*	*2.5*	*0.0*
CZECH REPUBLIC (1990-2012)	324	9.6	8.2	11.1	334	7.6	6.5	8.8	20.0	5.1	0.8	0.6
ESTONIA (1990-2012)	51	10.2	9.2	11.2	52	8.0	7.3	8.7	19.1	7.8	1.0	0.4

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of nephroblastoma or other nonepithelial renal tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.13. Nephroblastoma and other nonepithelial renal tumours (VIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	1226	9.3	8.7	10.0	-	-	-	-	19.6	4.9	0.5	-
FRANCE, 13 registries (1993-2012)	275	9.9	9.4	10.4	282	7.8	7.4	8.3	20.7	5.4	0.7	0.6
GERMANY, paediatric (1996-2012)	1677	9.7	8.8	10.6	-	-	-	-	20.1	5.3	0.7	-
GERMANY, 6 Eastern states (2001-2007)	118	10.0	9.9	10.1	122	7.9	7.9	7.8	18.4	8.0	1.0	0.5
GERMANY, 5 Western registries (1994-2012)	364	8.8	7.9	9.9	367	6.9	6.1	7.7	18.5	4.5	0.8	0.2
HUNGARY, paediatric (1991-2014)	292	8.6	8.1	9.2	-	-	-	-	18.2	4.2	0.6	-
ICELAND (1990-2014)	*9*	*6.2*	*9.6*	*2.6*	*9*	*4.8*	*7.4*	*2.1*	*14.4*	*1.8*	*0.0*	*0.0*
IRELAND (1994-2012)	124	8.4	6.9	9.9	124	6.5	5.3	7.7	17.4	4.6	0.5	0.0
ITALY, 2 paediatric registries (1998-2011)	71	9.4	10.3	8.5	71	7.3	8.0	6.6	21.1	3.6	0.4	0.0
ITALY, Piedmont, paediatric (1990-2011)	95	9.0	9.5	8.6	-	-	-	-	18.5	4.9	1.0	-
ITALY, 26 registries (1992-2013)	303	8.2	7.4	9.1	304	6.4	5.7	7.0	16.6	4.9	0.6	0.1
LITHUANIA (2000-2012)	54	9.6	8.1	11.1	57	7.6	6.7	8.6	20.3	4.4	1.1	0.9
MALTA (1994-2013)	*17*	*13.9*	*14.7*	*13.0*	*17*	*10.8*	*11.4*	*10.1*	*27.5*	*8.4*	*1.9*	*0.0*
THE NETHERLANDS (1993-2013)	535	9.7	9.6	9.9	541	7.6	7.5	7.8	20.4	5.0	0.8	0.3
NORWAY (1990-2013)	152	7.8	6.4	9.3	152	6.1	5.0	7.2	15.3	4.8	1.1	0.0
POLAND (2001-2013)	624	9.1	8.3	10.0	643	7.2	6.5	7.9	18.5	5.1	1.1	0.5
PORTUGAL (1991-2012)	220	9.2	8.0	10.5	223	7.2	6.3	8.2	18.5	5.4	1.1	0.3
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	66	9.1	7.1	11.2	-	-	-	-	18.7	5.0	0.9	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	107	10.5	9.5	11.5	111	8.3	7.6	9.0	20.4	5.6	2.7	0.8
SLOVAKIA (1990-2009)	158	8.9	7.5	10.4	161	7.0	5.9	8.1	17.5	6.2	0.5	0.3
SLOVAKIA, paediatric (2000-2012)	100	10.2	7.1	13.4	-	-	-	-	20.3	6.9	0.5	-
SLOVENIA (1991-2012)	61	10.5	10.2	10.9	62	8.2	7.9	8.6	23.6	3.9	0.4	0.3
SPAIN, 2 paediatric registries (1991-2013)	353	8.0	7.9	8.1	-	-	-	-	17.1	3.6	0.7	-
SPAIN, selected regions, paediatric (2000-2013)	260	7.9	7.8	8.1	-	-	-	-	17.2	3.4	0.7	-
SPAIN, Valencia, paediatric (1991-2010)	93	8.1	7.9	8.3	-	-	-	-	16.9	4.3	0.6	-
SPAIN, 11 registries (1990-2013)	229	8.4	8.5	8.4	235	6.6	6.7	6.6	18.4	3.5	0.5	0.5
SWEDEN (1990-2011)	270	8.6	8.2	9.1	281	6.9	6.4	7.4	18.6	3.8	0.8	0.9
SWITZERLAND, paediatric (1990-2013)	226	8.7	7.7	9.8	-	-	-	-	17.1	5.9	0.7	-
SWITZERLAND, 7 registries (1990-2013)	77	7.9	7.5	8.4	79	6.3	5.8	6.7	14.1	7.1	0.6	0.5
UKRAINE (2002-2012)	628	9.9	9.1	10.7	638	7.7	7.1	8.4	20.9	4.9	0.7	0.3
UK (2000-2011)	1029	8.9	8.3	9.4	1035	6.9	6.5	7.3	18.7	4.3	0.8	0.1
UK, England and Wales, paediatric (1991-2010)	1473	8.4	7.8	9.0	-	-	-	-	17.7	4.1	0.8	-
OCEANIA												
AUSTRALIA (1992-2014)	686	8.7	7.9	9.5	696	6.8	6.2	7.5	18.1	4.8	0.6	0.3
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*11*	*4.7*	*5.1*	*4.4*	*11*	*3.7*	*3.9*	*3.4*	*8.1*	*3.7*	*1.4*	*0.0*
FRANCE, 2 registries (1990-2013)	22	8.2	7.0	9.4	22	6.3	5.4	7.3	17.1	3.9	1.0	0.0
NEW ZEALAND (1993-2012)	129	8.2	7.5	9.0	134	6.6	6.0	7.2	18.0	3.2	0.7	0.9
NEW ZEALAND, Maori (1993-2012)	22	5.4	5.3	5.6	24	4.6	4.4	4.7	14.0	0.0	0.0	1.7
NEW ZEALAND, Pacific peoples (1993-2012)	*8*	*5.5*	*6.6*	*4.3*	*9*	*4.8*	*6.1*	*3.3*	*12.6*	*1.9*	*0.0*	*2.3*
NEW ZEALAND, Other (1993-2012)	99	9.7	8.5	11.0	101	7.6	6.6	8.7	20.5	4.6	1.0	0.5
NEW ZEALAND, paediatric (2000-2012)	81	7.9	7.0	8.9	-	-	-	-	17.5	2.9	0.8	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*9*	*3.4*	*3.7*	*3.1*	-	-	-	-	*8.8*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	72	9.5	8.2	10.9	-	-	-	-	20.6	3.8	1.0	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of nephroblastoma or other nonepithelial renal tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.14. Hepatoblastoma and mesenchymal tumours of the liver (VIIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*9*	*0.6*	*0.9*	*0.3*	*9*	*0.4*	*0.7*	*0.2*	*1.2*	*0.2*	*0.2*	*0.0*
BOTSWANA (1999-2007)	*3*	*0.6*	*0.8*	*0.4*	*3*	*0.5*	*0.6*	*0.3*	*1.5*	*0.0*	*0.0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	*14*	*1.1*	*1.1*	*1.1*	*14*	*0.8*	*0.9*	*0.8*	*2.5*	*0.2*	*0.2*	*0.0*
FRANCE, Réunion (1990-2011)	*8*	*1.9*	*3.4*	*0.4*	*8*	*1.5*	*2.6*	*0.3*	*3.4*	*0.7*	*1.3*	*0.0*
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
LIBYA, Benghazi (2003-2008)	*2*	*0.8*	*0.7*	*0.8*	*2*	*0.6*	*0.6*	*0.6*	*2.0*	*0.0*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	*10*	*1.4*	*1.7*	*1.1*	*11*	*1.2*	*1.5*	*0.9*	*2.9*	*0.4*	*0.5*	*0.4*
MAURITIUS (2001-2013)	*2*	*0.7*	*0.7*	*0.7*	*2*	*0.5*	*0.5*	*0.5*	*1.7*	*0.0*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*8*	*1.0*	*1.0*	*1.1*	*8*	*0.8*	*0.8*	*0.8*	*2.7*	*0.0*	*0.0*	*0.0*
SOUTH AFRICA, paediatric (1998-2012)	130	0.7	0.7	0.6	-	-	-	-	1.5	0.2	0.0	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*7*	*2.0*	*2.7*	*1.3*	-	-	-	-	*4.0*	*0.8*	*0.7*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	87	0.5	0.6	0.5	-	-	-	-	1.2	0.2	0.0	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*19*	*1.1*	*1.2*	*1.1*	-	-	-	-	*2.8*	*0.2*	*0.0*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*17*	*1.7*	*2.2*	*1.2*	-	-	-	-	*4.0*	*0.5*	*0.0*	-
TUNISIA, 2 registries (1993-2007)	*13*	*0.8*	*0.9*	*0.6*	*13*	*0.6*	*0.7*	*0.5*	*1.4*	*0.6*	*0.1*	*0.0*
UGANDA, Kyadondo (1996-2013)	*4*	*0.3*	*0.3*	*0.3*	*4*	*0.2*	*0.2*	*0.2*	*0.2*	*0.7*	*0.0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*8*	*0.9*	*1.4*	*0.5*	*8*	*0.7*	*1.1*	*0.3*	*1.7*	*0.7*	*0.0*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	182	1.4	1.6	1.3	-	-	-	-	3.5	0.2	0.1	-
ARGENTINA, 6 registries (1991-2013)	22	1.2	1.5	0.8	22	0.9	1.2	0.6	2.8	0.1	0.1	0.0
BRAZIL, 5 registries (1995-2012)	*17*	*1.0*	*1.3*	*0.8*	*17*	*0.8*	*1.0*	*0.6*	*2.0*	*0.5*	*0.3*	*0.0*
CHILE, paediatric (2007-2011)	41	2.6	2.9	2.3	-	-	-	-	6.2	0.5	0.1	-
CHILE, 4 registries (1998-2012)	*13*	*3.6*	*4.8*	*2.2*	*13*	*2.8*	*3.8*	*1.7*	*9.2*	*0.0*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	23	1.5	1.9	1.1	24	1.2	1.5	0.9	3.3	0.5	0.3	0.2
COSTA RICA (1993-2012)	34	1.6	1.9	1.4	35	1.3	1.5	1.1	3.3	0.9	0.2	0.1
CUBA (2000-2012)	22	1.0	1.0	0.9	23	0.8	0.8	0.7	2.1	0.2	0.2	0.1
ECUADOR, 5 registries (1993-2013)	49	2.5	3.2	1.8	51	2.0	2.5	1.4	5.1	1.0	0.7	0.3
FRANCE, 3 registries (1990-2012)	*3*	*1.1*	*0.7*	*1.4*	*3*	*0.8*	*0.6*	*1.1*	*2.0*	*1.0*	*0.0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*7*	*1.4*	*2.4*	*0.4*	*8*	*1.3*	*1.9*	*0.6*	*2.8*	*0.6*	*0.6*	*0.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*5*	*1.0*	*0.4*	*1.6*	*6*	*0.9*	*0.5*	*1.3*	*2.6*	*0.0*	*0.0*	*0.5*
MEXICO, Mexico City, paediatric (1997-2013)	31	3.0	3.7	2.4	-	-	-	-	7.3	0.7	0.0	-
PERU, Lima (2010-2012)	*9*	*1.4*	*1.1*	*1.7*	*9*	*1.1*	*0.9*	*1.3*	*2.5*	*0.9*	*0.4*	*0.0*
PERU, Trujillo (1990-2002)	*4*	*1.9*	*0.8*	*3.0*	*4*	*1.5*	*0.6*	*2.3*	*3.8*	*1.3*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	*14*	*1.0*	*1.1*	*0.8*	*14*	*0.7*	*0.8*	*0.7*	*2.5*	*0.0*	*0.0*	*0.0*
URUGUAY (1993-2012)	*14*	*1.1*	*1.2*	*0.9*	*14*	*0.8*	*1.0*	*0.7*	*2.4*	*0.4*	*0.0*	*0.0*
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	240	2.4	3.0	1.9	241	1.9	2.3	1.4	5.5	0.6	0.3	0.0
USA (1998-2012)	2079	2.7	3.1	2.2	2126	2.1	2.4	1.7	6.1	0.5	0.3	0.1
USA, API (1998-2012)	131	3.2	4.4	2.0	133	2.5	3.4	1.6	7.7	0.6	0.2	0.1
USA, Black (1998-2012)	216	1.7	2.0	1.3	221	1.3	1.6	1.0	3.7	0.4	0.4	0.1
USA, Hispanic White (1998-2012)	484	3.0	3.5	2.6	490	2.4	2.7	2.0	6.9	0.7	0.5	0.1
USA, Native American (1998-2012)	26	2.1	2.7	1.4	26	1.6	2.1	1.1	4.8	0.6	0.0	0.0
USA, White NH (1998-2012)	1164	2.6	3.0	2.2	1195	2.1	2.4	1.8	6.2	0.5	0.3	0.2
USA, NPCR (1998-2012)	1971	2.6	3.1	2.2	2016	2.1	2.4	1.7	6.1	0.5	0.3	0.1
USA, SEER 18 (1993-2012)	708	2.8	3.4	2.2	718	2.2	2.6	1.8	6.4	0.6	0.4	0.1
USA, Hawaii, Hawaiian (1993-2012)	*5*	*3.5*	*5.4*	*1.4*	*5*	*2.7*	*4.2*	*1.1*	*8.9*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*1*	*0.4*	*0.7*	*0.0*	*1*	*0.3*	*0.5*	*0.0*	*0.9*	*0.0*	*0.0*	*0.0*
CHINA, 6 registries (1990-2013)	78	1.8	1.9	1.6	79	1.4	1.5	1.3	4.4	0.3	0.0	0.0
CHINA, Hong Kong (1990-2013)	72	3.7	3.9	3.4	72	2.9	3.0	2.7	8.4	0.6	0.8	0.0
INDIA, 7 registries (1990-2013)	147	1.0	1.3	0.8	149	0.8	1.0	0.6	2.4	0.3	0.0	0.0
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*3*	*0.9*	*0.4*	*1.4*	*3*	*0.7*	*0.3*	*1.1*	*1.8*	*0.0*	*0.7*	*0.0*
ISRAEL (1990-2012)	50	1.3	1.4	1.2	52	1.0	1.1	1.0	3.1	0.2	0.1	0.2
ISRAEL, Jews (1990-2012)	36	1.3	1.6	1.0	38	1.1	1.2	0.8	3.1	0.2	0.1	0.2
ISRAEL, Non-Jews (1990-2012)	*14*	*1.3*	*0.9*	*1.7*	*14*	*1.0*	*0.7*	*1.3*	*3.1*	*0.3*	*0.0*	*0.0*
JAPAN, 8 registries (1990-2013)	178	3.5	4.1	2.8	180	2.7	3.2	2.2	8.0	0.8	0.4	0.1
JORDAN, Jordanians (2000-2012)	25	1.0	0.9	1.2	26	0.8	0.7	0.9	2.5	0.2	0.0	0.1
REPUBLIC OF KOREA (1999-2012)	263	2.6	2.9	2.3	271	2.1	2.3	1.8	6.0	0.6	0.3	0.2
KUWAIT (1994-2012)	12	1.0	0.3	1.7	22	1.5	1.2	1.8	1.3	0.7	0.8	3.1
KUWAIT, Kuwaitis (1994-2012)	*10*	*1.4*	*0.6*	*2.3*	*15*	*1.7*	*1.1*	*2.3*	*1.9*	*1.3*	*0.9*	*2.7*
KUWAIT, Non-Kuwaitis (1994-2012)	*2*	*0.4*	*0.0*	*0.8*	*7*	*1.1*	*1.2*	*1.0*	*0.5*	*0.0*	*0.7*	*3.7*
LEBANON (2008-2010)	*2*	*0.7*	*0.7*	*0.8*	*2*	*0.6*	*0.6*	*0.6*	*1.9*	*0.0*	*0.0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*1*	*0.2*	*0.0*	*0.4*	*1*	*0.1*	*0.0*	*0.3*	*0.5*	*0.0*	*0.0*	*0.0*
PAKISTAN, Lahore (2008-2012)	*5*	*0.3*	*0.1*	*0.5*	*6*	*0.3*	*0.2*	*0.4*	*0.5*	*0.3*	*0.0*	*0.2*
PHILIPPINES, 2 registries (1993-2012)	135	1.9	2.0	1.7	135	1.4	1.6	1.3	3.9	0.7	0.4	0.0
QATAR (2002-2014)	*3*	*1.1*	*0.7*	*1.4*	*3*	*0.8*	*0.5*	*1.1*	*2.7*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	45	1.4	1.8	1.0	45	1.1	1.4	0.8	3.4	0.3	0.1	0.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	37	1.4	1.7	1.1	37	1.1	1.3	0.9	3.3	0.3	0.1	0.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*8*	*1.4*	*2.1*	*0.7*	*8*	*1.1*	*1.6*	*0.6*	*3.7*	*0.0*	*0.0*	*0.0*
THAILAND, 6 registries (1993-2013)	46	1.4	1.7	1.1	51	1.1	1.3	0.9	3.1	0.4	0.2	0.3
TURKEY, paediatric (2009-2011)	70	1.4	1.8	1.1	-	-	-	-	3.3	0.4	0.1	-
TURKEY, 8 registries (1992-2012)	59	1.8	1.9	1.6	59	1.4	1.5	1.2	4.0	0.5	0.1	0.0
VIET NAM, Ho Chi Minh City (1995-2013)	25	1.1	1.5	0.8	25	0.9	1.1	0.6	2.3	0.5	0.3	0.0
EUROPE												
AUSTRIA (1990-2012)	35	1.3	2.0	0.6	38	1.1	1.6	0.5	2.8	0.7	0.1	0.3
BELARUS, paediatric (1990-2014)	62	1.7	2.0	1.3	62	1.3	1.5	1.0	3.8	0.5	0.2	0.0
BELGIUM (2004-2013)	27	1.7	1.5	1.8	28	1.3	1.2	1.5	3.6	0.5	0.3	0.2
BULGARIA (1990-2013)	23	0.9	1.1	0.7	24	0.7	0.9	0.6	2.2	0.0	0.3	0.1
CROATIA (2001-2014)	*19*	*2.5*	*3.1*	*1.9*	*19*	*1.9*	*2.4*	*1.5*	*6.5*	*0.0*	*0.0*	*0.0*
CYPRUS, South-West (1998-2012)	*4*	*1.9*	*2.8*	*0.9*	*4*	*1.5*	*2.2*	*0.7*	*1.5*	*4.1*	*0.0*	*0.0*
CZECH REPUBLIC (1990-2012)	64	1.9	2.6	1.3	64	1.5	2.0	1.0	4.5	0.5	0.1	0.0
ESTONIA (1990-2012)	*11*	*2.2*	*2.0*	*2.5*	*12*	*1.8*	*1.7*	*1.9*	*4.5*	*1.0*	*0.5*	*0.4*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of hepatoblastoma or mesenchymal tumours of the liver in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.14. Hepatoblastoma and mesenchymal tumours of the liver (VIIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	210	1.6	1.8	1.4	-	-	-	-	3.6	0.5	0.2	-
FRANCE, 13 registries (1993-2012)	47	1.7	2.1	1.3	49	1.4	1.7	1.0	3.6	0.6	0.4	0.2
GERMANY, paediatric (1996-2012)	298	1.8	2.1	1.4	-	-	-	-	4.3	0.2	0.2	-
GERMANY, 6 Eastern states (2001-2007)	*17*	*1.5*	*2.2*	*0.7*	*18*	*1.2*	*1.7*	*0.6*	*3.4*	*0.5*	*0.0*	*0.1*
GERMANY, 5 Western registries (1994-2012)	82	2.0	2.2	1.9	84	1.6	1.7	1.5	4.8	0.2	0.4	0.1
HUNGARY, paediatric (1991-2014)	76	2.3	2.4	2.1	-	-	-	-	5.4	0.5	0.2	-
ICELAND (1990-2014)	*1*	*0.7*	*1.4*	*0.0*	*1*	*0.5*	*1.1*	*0.0*	*1.8*	*0.0*	*0.0*	*0.0*
IRELAND (1994-2012)	28	1.9	2.3	1.6	28	1.5	1.8	1.2	4.5	0.5	0.0	0.0
ITALY, 2 paediatric registries (1998-2011)	*18*	*2.4*	*3.3*	*1.4*	*18*	*1.8*	*2.6*	*1.1*	*5.3*	*0.7*	*0.4*	*0.0*
ITALY, Piedmont, paediatric (1990-2011)	21	2.1	2.1	2.1	-	-	-	-	5.1	0.0	0.2	-
ITALY, 26 registries (1992-2013)	63	1.7	2.1	1.3	64	1.4	1.6	1.0	3.9	0.4	0.2	0.1
LITHUANIA (2000-2012)	*4*	*0.7*	*1.0*	*0.4*	*4*	*0.6*	*0.8*	*0.3*	*1.5*	*0.4*	*0.0*	*0.0*
MALTA (1994-2013)	*2*	*1.8*	*3.5*	*0.0*	*2*	*1.4*	*2.7*	*0.0*	*4.6*	*0.0*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	113	2.1	2.3	1.8	115	1.6	1.8	1.4	4.5	0.9	0.1	0.1
NORWAY (1990-2013)	40	2.2	2.5	1.8	41	1.7	2.0	1.4	5.6	0.0	0.0	0.1
POLAND (2001-2013)	126	1.9	2.2	1.5	129	1.5	1.7	1.2	4.1	0.6	0.3	0.1
PORTUGAL (1991-2012)	38	1.6	1.9	1.3	38	1.3	1.5	1.0	3.7	0.6	0.1	0.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*16*	*2.3*	*3.1*	*1.5*	-	-	-	-	*5.6*	*0.4*	*0.0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*15*	*1.5*	*2.2*	*0.8*	*16*	*1.2*	*1.7*	*0.7*	*3.5*	*0.6*	*0.0*	*0.2*
SLOVAKIA (1990-2009)	34	1.9	2.2	1.6	36	1.5	1.8	1.3	4.1	0.6	0.5	0.2
SLOVAKIA, paediatric (2000-2012)	25	2.5	3.1	1.9	-	-	-	-	5.1	1.3	0.5	-
SLOVENIA (1991-2012)	*12*	*2.1*	*2.1*	*2.1*	*12*	*1.6*	*1.6*	*1.6*	*5.1*	*0.0*	*0.4*	*0.0*
SPAIN, 2 paediatric registries (1991-2013)	86	2.0	2.2	1.7	-	-	-	-	4.5	0.4	0.3	-
SPAIN, selected regions, paediatric (2000-2013)	64	2.0	2.5	1.4	-	-	-	-	4.3	0.6	0.3	-
SPAIN, Valencia, paediatric (1991-2010)	22	2.0	1.4	2.6	-	-	-	-	5.0	0.0	0.2	-
SPAIN, 11 registries (1990-2013)	45	1.7	2.1	1.3	45	1.3	1.6	1.0	4.0	0.2	0.3	0.0
SWEDEN (1990-2011)	67	2.2	2.8	1.5	68	1.7	2.2	1.2	5.1	0.4	0.2	0.1
SWITZERLAND, paediatric (1990-2013)	45	1.7	2.4	1.0	-	-	-	-	3.6	0.6	0.5	-
SWITZERLAND, 7 registries (1990-2013)	20	2.1	2.8	1.3	21	1.7	2.2	1.1	4.2	0.6	0.8	0.3
UKRAINE (2002-2012)	106	1.7	2.0	1.4	107	1.3	1.5	1.1	4.0	0.2	0.2	0.0
UK (2000-2011)	220	1.9	2.1	1.7	222	1.5	1.6	1.3	4.4	0.4	0.3	0.0
UK, England and Wales, paediatric (1991-2010)	264	1.5	1.8	1.3	-	-	-	-	3.6	0.3	0.2	-
OCEANIA												
AUSTRALIA (1992-2014)	185	2.4	2.6	2.1	188	1.9	2.1	1.6	5.4	0.6	0.3	0.1
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*4*	*1.7*	*1.7*	*1.8*	*4*	*1.4*	*1.3*	*1.4*	*3.5*	*1.2*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*4*	*1.5*	*1.4*	*1.6*	*4*	*1.1*	*1.1*	*1.3*	*3.0*	*1.0*	*0.0*	*0.0*
NEW ZEALAND (1993-2012)	30	1.9	2.3	1.6	30	1.5	1.8	1.2	4.4	0.5	0.2	0.0
NEW ZEALAND, Maori (1993-2012)	*5*	*1.2*	*1.4*	*1.0*	*5*	*1.0*	*1.1*	*0.8*	*3.2*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*3*	*1.9*	*2.6*	*1.3*	*3*	*1.5*	*2.0*	*1.0*	*1.8*	*1.9*	*2.1*	*0.0*
NEW ZEALAND, Other (1993-2012)	22	2.2	2.6	1.8	22	1.7	2.0	1.4	5.3	0.5	0.0	0.0
NEW ZEALAND, paediatric (2000-2012)	*15*	*1.5*	*1.6*	*1.4*	-	-	-	-	*3.4*	*0.5*	*0.0*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*3*	*1.1*	*0.7*	*1.6*	-	-	-	-	*2.9*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*12*	*1.6*	*1.9*	*1.3*	-	-	-	-	*3.6*	*0.7*	*0.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of hepatoblastoma or mesenchymal tumours of the liver in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.15. Hepatic carcinomas (VIIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.3*
BOTSWANA (1999-2007)	*1*	*0.2*	*0.0*	*0.3*	*4*	*0.5*	*0.3*	*0.8*	*0.0*	*0.0*	*0.5*	*1.7*
CAMEROON, Yaoundé (2004-2006)	*4*	*1.7*	*3.5*	*0.0*	*6*	*2.0*	*3.4*	*0.7*	*0.0*	*2.5*	*3.0*	*3.3*
EGYPT, Gharbiah (1999-2010)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.4*
FRANCE, Réunion (1990-2011)	*1*	*0.3*	*0.0*	*0.5*	*1*	*0.2*	*0.0*	*0.4*	*0.7*	*0.0*	*0.0*	*0.0*
KENYA, 2 registries (2000-2012)	*6*	*0.6*	*0.8*	*0.4*	*12*	*0.9*	*1.6*	*0.3*	*0.2*	*0.0*	*1.7*	*2.0*
LIBYA, Benghazi (2003-2008)	*1*	*0.4*	*0.7*	*0.0*	*1*	*0.3*	*0.6*	*0.0*	*1.0*	*0.0*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	*4*	*0.6*	*0.9*	*0.3*	*13*	*1.2*	*1.7*	*0.8*	*0.0*	*0.4*	*1.4*	*3.5*
MAURITIUS (2001-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*3*	*0.3*	*0.6*	*0.0*	*3*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*1.0*	*0.0*
SOUTH AFRICA, paediatric (1998-2012)	56	0.2	0.3	0.2	-	-	-	-	0.1	0.2	0.5	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	48	0.2	0.3	0.2	-	-	-	-	0.1	0.2	0.5	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*6*	*0.3*	*0.3*	*0.3*	-	-	-	-	*0.2*	*0.6*	*0.2*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*2*	*0.2*	*0.0*	*0.3*	-	-	-	-	*0.3*	*0.0*	*0.2*	-
TUNISIA, 2 registries (1993-2007)	*8*	*0.3*	*0.6*	*0.1*	*11*	*0.4*	*0.6*	*0.1*	*0.0*	*0.0*	*1.2*	*0.4*
UGANDA, Kyadondo (1996-2013)	8	0.6	0.6	0.6	21	1.1	1.4	0.9	0.6	0.0	1.2	2.9
ZIMBABWE, Harare, African (1995-2013)	13	1.6	1.3	1.9	27	2.3	2.7	2.0	0.6	0.7	3.8	4.7
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	66	0.4	0.6	0.2	-	-	-	-	0.2	0.4	0.8	-
ARGENTINA, 6 registries (1991-2013)	*8*	*0.3*	*0.4*	*0.2*	*10*	*0.3*	*0.4*	*0.2*	*0.1*	*0.3*	*0.7*	*0.3*
BRAZIL, 5 registries (1995-2012)	*8*	*0.4*	*0.5*	*0.4*	*17*	*0.6*	*0.6*	*0.6*	*0.5*	*0.3*	*0.5*	*1.2*
CHILE, paediatric (2007-2011)	*8*	*0.4*	*0.6*	*0.2*	-	-	-	-	*0.0*	*0.8*	*0.4*	-
CHILE, 4 registries (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	*3*	*0.2*	*0.1*	*0.2*	*5*	*0.2*	*0.1*	*0.3*	*0.0*	*0.2*	*0.3*	*0.3*
COSTA RICA (1993-2012)	10	0.4	0.5	0.2	22	0.6	0.9	0.4	0.0	0.1	1.1	1.5
CUBA (2000-2012)	*7*	*0.2*	*0.2*	*0.2*	*11*	*0.3*	*0.3*	*0.2*	*0.0*	*0.1*	*0.6*	*0.4*
ECUADOR, 5 registries (1993-2013)	*7*	*0.3*	*0.5*	*0.1*	*12*	*0.4*	*0.6*	*0.2*	*0.0*	*0.3*	*0.7*	*0.7*
FRANCE, 3 registries (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*	*0.0*	*0.9*
HONDURAS, Francisco Morazán (2002-2012)	11	2.0	3.3	0.7	23	3.4	5.3	1.5	0.6	0.0	6.3	8.0
JAMAICA, Kingston and St Andrew (1982-2012)	*1*	*0.2*	*0.0*	*0.4*	*5*	*0.6*	*0.7*	*0.5*	*0.5*	*0.0*	*0.0*	*2.0*
MEXICO, Mexico City, paediatric (1997-2013)	*3*	*0.2*	*0.1*	*0.3*	-	-	-	-	*0.0*	*0.2*	*0.5*	-
PERU, Lima (2010-2012)	*7*	*0.9*	*1.3*	*0.5*	*14*	*1.3*	*1.9*	*0.8*	*0.0*	*1.7*	*1.3*	*2.7*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.5*	*0.6*	*0.5*	*0.0*	*0.0*	*0.0*	*2.3*
USA, Puerto Rico (1992-2012)	*11*	*0.6*	*0.9*	*0.2*	*13*	*0.5*	*0.9*	*0.2*	*0.4*	*0.5*	*1.0*	*0.3*
URUGUAY (1993-2012)	*4*	*0.3*	*0.3*	*0.2*	*7*	*0.3*	*0.3*	*0.4*	*0.2*	*0.4*	*0.2*	*0.6*
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	40	0.3	0.4	0.2	78	0.5	0.5	0.4	0.2	0.3	0.6	0.9
USA (1998-2012)	326	0.3	0.4	0.3	698	0.5	0.6	0.5	0.2	0.3	0.6	1.2
USA, API (1998-2012)	26	0.5	0.6	0.5	54	0.8	1.0	0.7	0.2	0.7	0.9	1.8
USA, Black (1998-2012)	40	0.3	0.3	0.2	95	0.4	0.5	0.4	0.1	0.3	0.4	1.1
USA, Hispanic White (1998-2012)	67	0.4	0.5	0.3	129	0.6	0.6	0.5	0.3	0.2	0.7	1.2
USA, Native American (1998-2012)	*4*	*0.3*	*0.4*	*0.2*	*7*	*0.3*	*0.5*	*0.1*	*0.2*	*0.2*	*0.4*	*0.6*
USA, White NH (1998-2012)	178	0.3	0.3	0.3	394	0.5	0.5	0.5	0.2	0.2	0.6	1.1
USA, NPCR (1998-2012)	305	0.3	0.4	0.3	664	0.5	0.6	0.5	0.2	0.3	0.6	1.2
USA, SEER 18 (1993-2012)	110	0.4	0.5	0.3	228	0.6	0.7	0.4	0.2	0.3	0.6	1.2
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*1*	*0.3*	*0.0*	*0.6*	*1*	*0.2*	*0.0*	*0.5*	*0.0*	*0.0*	*1.0*	*0.0*
CHINA, 6 registries (1990-2013)	15	0.2	0.4	0.1	44	0.4	0.6	0.2	0.0	0.1	0.6	1.0
CHINA, Hong Kong (1990-2013)	33	1.1	1.5	0.7	65	1.6	2.1	1.0	0.3	1.1	2.3	3.1
INDIA, 7 registries (1990-2013)	71	0.5	0.5	0.4	97	0.4	0.5	0.4	0.7	0.3	0.3	0.4
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*2*	*0.5*	*0.4*	*0.6*	*2*	*0.4*	*0.3*	*0.5*	*0.0*	*0.9*	*0.7*	*0.0*
ISRAEL (1990-2012)	17	0.4	0.6	0.2	27	0.5	0.7	0.3	0.1	0.4	0.8	0.8
ISRAEL, Jews (1990-2012)	12	0.4	0.6	0.1	20	0.5	0.7	0.3	0.1	0.4	0.7	0.9
ISRAEL, Non-Jews (1990-2012)	*5*	*0.4*	*0.5*	*0.4*	*7*	*0.5*	*0.5*	*0.4*	*0.0*	*0.5*	*0.9*	*0.7*
JAPAN, 8 registries (1990-2013)	13	0.2	0.3	0.1	23	0.3	0.4	0.1	0.2	0.1	0.3	0.4
JORDAN, Jordanians (2000-2012)	*8*	*0.3*	*0.3*	*0.2*	*14*	*0.4*	*0.5*	*0.3*	*0.2*	*0.3*	*0.3*	*0.8*
REPUBLIC OF KOREA (1999-2012)	73	0.5	0.6	0.5	151	0.8	0.9	0.6	0.4	0.5	0.8	1.6
KUWAIT (1994-2012)	*4*	*0.3*	*0.5*	*0.2*	*5*	*0.3*	*0.5*	*0.1*	*0.4*	*0.2*	*0.3*	*0.3*
KUWAIT, Kuwaitis (1994-2012)	*2*	*0.3*	*0.6*	*0.0*	*3*	*0.3*	*0.7*	*0.0*	*0.4*	*0.0*	*0.5*	*0.5*
KUWAIT, Non-Kuwaitis (1994-2012)	*2*	*0.4*	*0.4*	*0.4*	*2*	*0.3*	*0.3*	*0.3*	*0.5*	*0.6*	*0.0*	*0.0*
LEBANON (2008-2010)	*1*	*0.2*	*0.0*	*0.5*	*1*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*	*0.8*	*0.0*
PAKISTAN, Karachi (1995-2002)	*3*	*0.5*	*1.0*	*0.0*	*3*	*0.4*	*0.8*	*0.0*	*0.5*	*1.0*	*0.0*	*0.0*
PAKISTAN, Lahore (2008-2012)	*1*	*0.1*	*0.1*	*0.0*	*3*	*0.1*	*0.2*	*0.1*	*0.2*	*0.0*	*0.0*	*0.4*
PHILIPPINES, 2 registries (1993-2012)	52	0.7	0.9	0.5	94	0.9	1.2	0.6	0.7	0.7	0.7	1.8
QATAR (2002-2014)	*1*	*0.3*	*0.0*	*0.7*	*1*	*0.3*	*0.0*	*0.6*	*0.0*	*0.0*	*1.2*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	18	0.5	0.7	0.4	26	0.6	0.7	0.5	0.7	0.3	0.6	0.9
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*12*	*0.4*	*0.6*	*0.3*	*19*	*0.6*	*0.6*	*0.5*	*0.7*	*0.2*	*0.3*	*0.9*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*6*	*1.1*	*1.4*	*0.7*	*7*	*1.0*	*1.1*	*1.0*	*0.9*	*0.5*	*1.9*	*0.8*
THAILAND, 6 registries (1993-2013)	11	0.3	0.3	0.2	24	0.4	0.4	0.4	0.2	0.2	0.5	0.8
TURKEY, paediatric (2009-2011)	*14*	*0.2*	*0.3*	*0.2*	-	-	-	-	*0.2*	*0.2*	*0.4*	-
TURKEY, 8 registries (1992-2012)	*7*	*0.2*	*0.2*	*0.2*	*18*	*0.3*	*0.3*	*0.3*	*0.2*	*0.1*	*0.3*	*0.8*
VIET NAM, Ho Chi Minh City (1995-2013)	*11*	*0.4*	*0.7*	*0.2*	*18*	*0.5*	*0.8*	*0.2*	*0.4*	*0.4*	*0.6*	*0.6*
EUROPE												
AUSTRIA (1990-2012)	*4*	*0.1*	*0.1*	*0.1*	*10*	*0.2*	*0.3*	*0.1*	*0.0*	*0.2*	*0.2*	*0.5*
BELARUS, paediatric (1990-2014)	13	0.2	0.3	0.2	27	0.4	0.4	0.3	0.0	0.2	0.6	0.8
BELGIUM (2004-2013)	*3*	*0.2*	*0.2*	*0.1*	*6*	*0.2*	*0.4*	*0.1*	*0.2*	*0.0*	*0.3*	*0.5*
BULGARIA (1990-2013)	*6*	*0.2*	*0.2*	*0.2*	*14*	*0.3*	*0.4*	*0.2*	*0.0*	*0.0*	*0.5*	*0.6*
CROATIA (2001-2014)	*4*	*0.4*	*0.7*	*0.0*	*7*	*0.5*	*0.8*	*0.1*	*0.0*	*0.0*	*1.2*	*0.8*
CYPRUS, South-West (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.3*	*0.5*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
CZECH REPUBLIC (1990-2012)	19	0.5	0.5	0.4	29	0.5	0.5	0.5	0.5	0.1	0.8	0.6
ESTONIA (1990-2012)	*1*	*0.1*	*0.0*	*0.3*	*2*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*	*0.5*	*0.4*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of hepatic carcinoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.15. Hepatic carcinomas (VIIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	36	0.2	0.3	0.2	-	-	-	-	0.1	0.2	0.5	-
FRANCE, 13 registries (1993-2012)	*5*	*0.2*	*0.1*	*0.3*	*19*	*0.4*	*0.2*	*0.6*	*0.2*	*0.1*	*0.2*	*1.3*
GERMANY, paediatric (1996-2012)	62	0.3	0.4	0.2	-	-	-	-	0.0	0.4	0.5	-
GERMANY, 6 Eastern states (2001-2007)	*4*	*0.3*	*0.6*	*0.0*	*8*	*0.3*	*0.6*	*0.1*	*0.2*	*0.2*	*0.4*	*0.5*
GERMANY, 5 Western registries (1994-2012)	17	0.3	0.4	0.3	32	0.4	0.4	0.4	0.2	0.3	0.5	0.8
HUNGARY, paediatric (1991-2014)	*8*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.2*	*0.2*	*0.3*	-
ICELAND (1990-2014)	*2*	*1.1*	*2.1*	*0.0*	*3*	*1.2*	*2.4*	*0.0*	*0.0*	*0.0*	*3.7*	*1.8*
IRELAND (1994-2012)	*2*	*0.1*	*0.2*	*0.0*	*10*	*0.4*	*0.3*	*0.5*	*0.0*	*0.0*	*0.4*	*1.3*
ITALY, 2 paediatric registries (1998-2011)	*6*	*0.6*	*1.1*	*0.2*	*8*	*0.7*	*1.0*	*0.3*	*0.0*	*0.7*	*1.4*	*0.7*
ITALY, Piedmont, paediatric (1990-2011)	*6*	*0.5*	*0.7*	*0.3*	-	-	-	-	*0.3*	*0.5*	*0.7*	-
ITALY, 26 registries (1992-2013)	11	0.3	0.4	0.2	23	0.4	0.5	0.3	0.3	0.2	0.3	0.8
LITHUANIA (2000-2012)	*5*	*0.5*	*0.8*	*0.2*	*6*	*0.5*	*0.8*	*0.2*	*0.0*	*0.0*	*1.8*	*0.3*
MALTA (1994-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	21	0.3	0.4	0.3	41	0.5	0.6	0.4	0.2	0.3	0.5	1.0
NORWAY (1990-2013)	16	0.7	0.7	0.8	26	0.9	0.7	1.1	0.7	0.6	1.0	1.4
POLAND (2001-2013)	15	0.1	0.2	0.1	47	0.3	0.3	0.3	0.0	0.0	0.5	0.9
PORTUGAL (1991-2012)	*9*	*0.3*	*0.1*	*0.5*	*14*	*0.4*	*0.2*	*0.5*	*0.1*	*0.4*	*0.4*	*0.5*
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*2*	*0.2*	*0.3*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.6*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*3*	*0.3*	*0.2*	*0.4*	*5*	*0.3*	*0.2*	*0.4*	*0.8*	*0.0*	*0.0*	*0.4*
SLOVAKIA (1990-2009)	*4*	*0.2*	*0.2*	*0.1*	*12*	*0.3*	*0.4*	*0.3*	*0.0*	*0.1*	*0.4*	*0.9*
SLOVAKIA, paediatric (2000-2012)	*6*	*0.4*	*0.3*	*0.5*	-	-	-	-	*0.0*	*0.0*	*1.4*	-
SLOVENIA (1991-2012)	*1*	*0.1*	*0.0*	*0.3*	*1*	*0.1*	*0.0*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*
SPAIN, 2 paediatric registries (1991-2013)	*13*	*0.3*	*0.4*	*0.1*	-	-	-	-	*0.1*	*0.3*	*0.4*	-
SPAIN, selected regions, paediatric (2000-2013)	*9*	*0.3*	*0.4*	*0.1*	-	-	-	-	*0.2*	*0.4*	*0.3*	-
SPAIN, Valencia, paediatric (1991-2010)	*4*	*0.2*	*0.3*	*0.2*	-	-	-	-	*0.0*	*0.2*	*0.6*	-
SPAIN, 11 registries (1990-2013)	14	0.4	0.6	0.2	32	0.6	0.9	0.3	0.3	0.5	0.5	1.4
SWEDEN (1990-2011)	12	0.3	0.4	0.3	21	0.4	0.5	0.4	0.3	0.3	0.4	0.7
SWITZERLAND, paediatric (1990-2013)	*8*	*0.2*	*0.2*	*0.3*	-	-	-	-	*0.1*	*0.1*	*0.6*	-
SWITZERLAND, 7 registries (1990-2013)	*5*	*0.5*	*0.5*	*0.4*	*13*	*0.9*	*1.0*	*0.7*	*0.6*	*0.3*	*0.6*	*2.2*
UKRAINE (2002-2012)	41	0.6	0.7	0.4	71	0.6	0.8	0.5	0.9	0.4	0.3	0.8
UK (2000-2011)	31	0.2	0.2	0.2	87	0.4	0.5	0.4	0.2	0.1	0.4	1.2
UK, England and Wales, paediatric (1991-2010)	50	0.2	0.2	0.3	-	-	-	-	0.1	0.2	0.5	-
OCEANIA												
AUSTRALIA (1992-2014)	25	0.3	0.4	0.2	45	0.4	0.4	0.3	0.2	0.1	0.5	0.7
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*1*	*0.3*	*0.6*	*0.0*	*3*	*0.7*	*1.3*	*0.0*	*0.0*	*0.0*	*1.0*	*2.0*
NEW ZEALAND (1993-2012)	11	0.6	0.7	0.6	21	0.9	1.0	0.7	0.5	0.7	0.7	1.7
NEW ZEALAND, Maori (1993-2012)	*2*	*0.5*	*0.5*	*0.4*	*4*	*0.7*	*0.7*	*0.7*	*0.6*	*0.0*	*0.7*	*1.7*
NEW ZEALAND, Pacific peoples (1993-2012)	*2*	*1.3*	*1.4*	*1.3*	*3*	*1.5*	*2.1*	*1.0*	*1.8*	*1.9*	*0.0*	*2.3*
NEW ZEALAND, Other (1993-2012)	*7*	*0.6*	*0.6*	*0.5*	*14*	*0.8*	*1.0*	*0.6*	*0.3*	*0.8*	*0.7*	*1.7*
NEW ZEALAND, paediatric (2000-2012)	*7*	*0.6*	*0.7*	*0.5*	-	-	-	-	*0.5*	*1.1*	*0.3*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*2*	*0.7*	*0.7*	*0.7*	-	-	-	-	*1.0*	*0.0*	*1.1*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*5*	*0.6*	*0.7*	*0.5*	-	-	-	-	*0.4*	*1.4*	*0.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of hepatic carcinoma in a dataset

Dataset presented only if eligible (see Chapter 5)

Please consult registry-specific background information and quality indicators

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Table 8.16. Osteosarcomas (VIIIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	65	3.4	3.9	2.7	134	4.9	6.0	3.7	0.9	2.7	7.4	10.1
BOTSWANA (1999-2007)	11	1.7	1.9	1.6	24	3.0	3.7	2.3	0.0	1.1	4.9	7.3
CAMEROON, Yaoundé (2004-2006)	*2*	*0.8*	*0.8*	*0.8*	*7*	*2.5*	*3.7*	*1.4*	*0.0*	*1.3*	*1.5*	*8.2*
EGYPT, Gharbiah (1999-2010)	45	2.5	1.7	3.4	97	4.1	4.1	4.1	0.0	2.2	6.3	9.5
FRANCE, Réunion (1990-2011)	15	3.0	3.6	2.4	22	3.4	4.6	2.2	0.0	2.0	8.1	4.9
KENYA, 2 registries (2000-2012)	38	3.7	4.1	3.3	94	7.1	9.1	5.4	0.5	1.7	10.2	19.0
LIBYA, Benghazi (2003-2008)	*5*	*1.5*	*1.2*	*1.9*	*6*	*1.4*	*0.9*	*1.9*	*0.0*	*1.0*	*4.1*	*1.0*
MALI, Bamako (2005-2014)	16	2.2	2.0	2.4	29	2.9	3.4	2.4	0.7	1.7	4.8	5.1
MAURITIUS (2001-2013)	*12*	*2.7*	*4.9*	*0.5*	*15*	*2.6*	*4.5*	*0.7*	*0.0*	*3.1*	*6.0*	*2.3*
MOROCCO, 2 registries (2005-2012)	32	3.2	3.5	2.9	84	6.1	7.6	4.6	1.0	2.1	7.5	16.0
SOUTH AFRICA, paediatric (1998-2012)	289	1.2	1.3	1.1	-	-	-	-	0.1	1.0	2.9	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*8*	*1.7*	*0.9*	*2.6*	-	-	-	-	*0.0*	*1.5*	*4.3*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	213	1.1	1.2	1.0	-	-	-	-	0.1	0.8	2.6	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	34	1.6	1.6	1.6	-	-	-	-	0.2	1.6	3.6	-
SOUTH AFRICA, paediatric, White (1998-2012)	34	2.5	2.6	2.3	-	-	-	-	0.5	2.5	5.0	-
TUNISIA, 2 registries (1993-2007)	60	2.7	2.5	2.9	107	3.6	3.6	3.5	0.0	2.1	6.9	6.7
UGANDA, Kyadondo (1996-2013)	37	2.6	2.6	2.6	73	3.8	4.3	3.5	0.0	2.3	6.4	8.0
ZIMBABWE, Harare, African (1995-2013)	28	3.4	3.0	3.7	49	4.2	4.0	4.4	0.8	1.5	8.9	7.1
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	517	3.2	3.3	3.1	-	-	-	-	0.3	2.8	7.6	-
ARGENTINA, 6 registries (1991-2013)	87	3.4	3.8	3.0	144	4.4	5.2	3.5	0.0	1.9	9.7	7.7
BRAZIL, 5 registries (1995-2012)	78	3.7	3.8	3.5	159	5.3	6.7	4.0	0.3	2.8	9.0	11.0
CHILE, paediatric (2007-2011)	74	3.5	2.9	4.0	-	-	-	-	0.5	3.3	7.6	-
CHILE, 4 registries (1998-2012)	9	1.8	2.3	1.2	26	3.6	4.7	2.5	0.7	1.3	3.6	10.0
COLOMBIA, 4 registries (1992-2013)	67	3.3	3.8	2.9	126	4.7	5.6	3.9	0.2	2.6	8.3	9.5
COSTA RICA (1993-2012)	65	2.4	2.1	2.7	136	3.9	4.2	3.5	0.1	2.0	5.9	8.9
CUBA (2000-2012)	95	2.9	3.0	2.9	172	3.9	4.1	3.8	0.1	2.0	7.7	7.4
ECUADOR, 5 registries (1993-2013)	106	4.3	4.9	3.7	172	5.3	6.2	4.5	0.0	3.5	10.8	9.0
FRANCE, 3 registries (1990-2012)	*12*	*3.4*	*4.1*	*2.7*	*17*	*3.7*	*5.3*	*2.1*	*1.0*	*1.9*	*8.3*	*4.7*
HONDURAS, Francisco Morazán (2002-2012)	16	2.9	2.9	3.0	30	4.4	5.3	3.5	0.0	1.7	8.1	9.4
JAMAICA, Kingston and St Andrew (1982-2012)	15	2.3	1.2	3.3	36	4.1	4.2	4.1	0.0	2.1	5.5	10.4
MEXICO, Mexico City, paediatric (1997-2013)	58	4.5	4.2	4.8	-	-	-	-	1.6	4.1	8.8	-
PERU, Lima (2010-2012)	33	4.2	5.2	3.2	52	4.9	6.1	3.7	0.0	3.8	10.2	7.2
PERU, Trujillo (1990-2002)	*11*	*4.3*	*4.1*	*4.5*	*17*	*4.9*	*6.4*	*3.5*	*0.0*	*7.8*	*6.1*	*6.9*
USA, Puerto Rico (1992-2012)	69	3.3	3.1	3.6	110	4.0	4.5	3.6	0.2	2.8	8.1	6.4
URUGUAY (1993-2012)	63	3.7	3.7	3.6	96	4.3	4.9	3.6	0.2	3.7	8.3	6.4
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	415	3.2	3.1	3.2	732	4.1	4.4	3.8	0.4	2.8	7.3	7.5
USA (1998-2012)	3449	3.4	3.3	3.5	6105	4.5	4.9	4.1	0.3	3.0	8.0	8.4
USA, API (1998-2012)	148	3.0	2.9	3.2	255	3.9	4.0	3.9	0.2	3.1	6.7	7.0
USA, Black (1998-2012)	637	3.8	3.6	4.0	1103	5.0	5.4	4.5	0.3	3.5	8.7	9.1
USA, Hispanic White (1998-2012)	680	3.8	3.8	3.8	1121	4.9	5.3	4.4	0.3	3.2	9.2	8.5
USA, Native American (1998-2012)	35	2.1	2.4	1.8	62	2.8	3.0	2.7	0.0	2.3	4.8	5.3
USA, White NH (1998-2012)	1884	3.1	3.0	3.2	3451	4.2	4.7	3.8	0.3	2.6	7.4	8.1
USA, NPCR (1998-2012)	3303	3.4	3.3	3.5	5851	4.5	4.9	4.1	0.3	2.9	8.0	8.4
USA, SEER 18 (1993-2012)	1130	3.5	3.4	3.6	1937	4.6	5.1	4.1	0.4	3.1	8.3	8.4
USA, Hawaii, Hawaiian (1993-2012)	*11*	*6.3*	*7.8*	*4.7*	*14*	*6.2*	*8.7*	*3.7*	*0.0*	*9.4*	*11.3*	*6.0*
ASIA												
BAHRAIN (1998-2012)	*7*	*2.1*	*3.0*	*1.2*	*11*	*2.6*	*3.7*	*1.4*	*0.9*	*0.0*	*6.0*	*4.4*
CHINA, 6 registries (1990-2013)	251	3.7	4.1	3.3	456	4.5	5.1	3.9	0.5	3.4	8.3	7.2
CHINA, Hong Kong (1990-2013)	130	4.3	4.7	3.9	216	5.2	5.7	4.7	1.0	3.2	9.9	8.3
INDIA, 7 registries (1990-2013)	407	2.1	2.2	1.9	920	3.4	4.0	2.7	0.6	1.3	4.9	8.1
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	12	2.6	2.1	3.1	23	3.5	3.5	3.5	0.0	0.0	8.9	6.5
ISRAEL (1990-2012)	108	2.5	2.8	2.1	215	3.9	4.8	2.9	0.2	2.3	5.7	8.8
ISRAEL, Jews (1990-2012)	74	2.3	2.6	2.0	156	3.8	4.6	2.9	0.2	2.0	5.5	8.8
ISRAEL, Non-Jews (1990-2012)	34	2.9	3.5	2.3	59	4.2	5.6	2.7	0.2	3.2	6.3	8.5
JAPAN, 8 registries (1990-2013)	201	2.8	3.1	2.6	368	3.8	4.5	2.9	0.2	2.2	7.1	6.9
JORDAN, Jordanians (2000-2012)	46	1.6	1.8	1.3	108	3.0	3.2	2.7	0.1	1.1	4.0	7.8
REPUBLIC OF KOREA (1999-2012)	647	4.3	4.4	4.2	1095	5.4	6.0	4.7	0.6	3.4	10.2	9.3
KUWAIT (1994-2012)	*6*	*0.5*	*0.8*	*0.2*	*6*	*0.4*	*0.6*	*0.1*	*0.9*	*0.5*	*0.0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*2*	*0.3*	*0.3*	*0.3*	*2*	*0.2*	*0.2*	*0.2*	*0.8*	*0.0*	*0.0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*4*	*0.8*	*1.6*	*0.0*	*4*	*0.6*	*1.2*	*0.0*	*1.1*	*1.2*	*0.0*	*0.0*
LEBANON (2008-2010)	14	3.4	5.7	1.0	26	4.8	7.6	1.9	0.9	4.0	6.1	9.7
PAKISTAN, Karachi (1995-2002)	16	2.7	2.2	3.2	33	4.7	4.6	4.9	0.0	0.0	9.3	11.8
PAKISTAN, Lahore (2008-2012)	53	2.5	2.9	2.2	107	4.2	5.1	3.2	0.2	1.7	6.5	10.0
PHILIPPINES, 2 registries (1993-2012)	377	4.8	4.7	5.0	727	7.0	8.0	6.1	0.4	3.3	12.4	14.6
QATAR (2002-2014)	*7*	*2.4*	*2.6*	*2.2*	*9*	*2.4*	*2.9*	*1.7*	*0.0*	*0.0*	*8.2*	*2.5*
SAUDI ARABIA, Riyadh (1994-2012)	109	3.1	3.4	2.9	187	4.4	5.3	3.6	0.6	2.4	7.4	9.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	79	2.7	3.1	2.3	144	4.1	5.1	3.0	0.4	2.3	6.2	8.7
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	30	5.3	4.5	6.2	43	6.5	6.3	6.8	1.4	2.6	13.6	10.7
THAILAND, 6 registries (1993-2013)	133	2.9	2.8	3.1	239	3.7	4.0	3.4	0.3	2.3	7.1	6.6
TURKEY, paediatric (2009-2011)	116	1.8	1.6	2.0	-	-	-	-	0.1	1.6	4.3	-
TURKEY, 8 registries (1992-2012)	131	2.9	2.5	3.2	247	4.0	4.3	3.8	0.2	2.4	6.9	8.1
VIET NAM, Ho Chi Minh City (1995-2013)	70	2.7	2.6	2.7	151	3.7	3.9	3.5	0.2	2.5	6.1	7.2
EUROPE												
AUSTRIA (1990-2012)	132	3.8	3.7	3.8	225	4.8	5.2	4.3	0.4	2.9	9.2	8.3
BELARUS, paediatric (1990-2014)	128	2.4	2.6	2.2	228	3.1	3.7	2.4	0.1	1.9	6.0	5.5
BELGIUM (2004-2013)	79	3.8	3.9	3.8	143	5.2	5.9	4.5	0.0	2.7	10.2	10.0
BULGARIA (1990-2013)	76	2.1	1.7	2.5	133	2.6	2.7	2.6	0.1	1.4	5.4	4.5
CROATIA (2001-2014)	37	3.5	4.6	2.3	67	4.6	5.7	3.4	0.0	4.2	7.3	8.4
CYPRUS, South-West (1998-2012)	14	5.1	6.3	3.7	23	6.2	7.9	4.5	0.0	0.0	17.5	10.2
CZECH REPUBLIC (1990-2012)	119	2.6	2.8	2.4	201	3.1	3.7	2.5	0.2	2.6	5.7	4.9
ESTONIA (1990-2012)	11	1.8	1.0	2.6	31	3.4	3.1	3.6	0.0	4.1	1.4	9.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of osteosarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.16. Osteosarcomas (VIIIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	508	3.1	3.0	3.2	-	-	-	-	0.2	2.8	7.3	-
FRANCE, 13 registries (1993-2012)	105	3.0	2.9	3.0	216	4.6	5.1	4.0	0.1	2.5	7.4	10.0
GERMANY, paediatric (1996-2012)	684	2.9	2.8	3.0	-	-	-	-	0.3	2.4	6.9	-
GERMANY, 6 Eastern states (2001-2007)	57	3.6	2.9	4.3	114	4.5	4.5	4.4	0.5	2.7	8.6	7.6
GERMANY, 5 Western registries (1994-2012)	181	3.1	3.0	3.2	332	4.2	4.8	3.6	0.4	2.2	7.6	8.1
HUNGARY, paediatric (1991-2014)	134	2.9	2.7	3.0	-	-	-	-	0.0	2.9	6.6	-
ICELAND (1990-2014)	*8*	*4.5*	*5.6*	*3.3*	*18*	*7.6*	*10.8*	*4.2*	*0.0*	*5.5*	*9.2*	*18.3*
IRELAND (1994-2012)	50	2.7	3.1	2.2	95	3.8	4.5	2.9	0.0	2.0	6.9	7.6
ITALY, 2 paediatric registries (1998-2011)	42	4.5	4.1	4.8	71	5.7	6.7	4.7	0.0	3.2	11.8	10.1
ITALY, Piedmont, paediatric (1990-2011)	49	3.7	3.2	4.2	-	-	-	-	0.0	2.6	9.7	-
ITALY, 26 registries (1992-2013)	138	3.0	3.2	2.9	238	3.8	4.4	3.2	0.4	2.4	7.2	6.6
LITHUANIA (2000-2012)	16	1.7	1.7	1.7	37	2.8	3.2	2.3	0.0	0.4	5.3	6.6
MALTA (1994-2013)	*4*	*2.5*	*2.4*	*2.5*	*7*	*3.1*	*2.6*	*3.6*	*0.0*	*4.2*	*3.8*	*5.3*
THE NETHERLANDS (1993-2013)	215	3.2	3.0	3.3	406	4.6	4.8	4.3	0.1	2.9	7.5	9.4
NORWAY (1990-2013)	73	3.1	3.2	3.0	133	4.3	4.7	4.0	0.1	2.4	7.9	8.6
POLAND (2001-2013)	211	2.2	2.2	2.2	419	3.0	3.6	2.4	0.2	1.7	5.3	5.8
PORTUGAL (1991-2012)	87	2.8	2.7	2.9	177	4.2	4.7	3.6	0.2	2.0	7.1	8.8
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	30	2.8	3.0	2.7	-	-	-	-	0.4	2.7	6.3	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	30	2.4	2.5	2.2	56	3.0	3.3	2.7	0.8	2.0	4.9	5.1
SLOVAKIA (1990-2009)	87	3.3	3.2	3.4	146	4.1	4.7	3.4	0.3	1.8	9.0	6.8
SLOVAKIA, paediatric (2000-2012)	53	3.7	3.1	4.2	-	-	-	-	0.3	1.8	10.1	-
SLOVENIA (1991-2012)	23	2.8	2.3	3.3	47	4.1	3.9	4.2	0.0	3.5	5.8	8.3
SPAIN, 2 paediatric registries (1991-2013)	175	3.4	3.3	3.4	-	-	-	-	0.4	2.8	7.9	-
SPAIN, selected regions, paediatric (2000-2013)	118	3.3	3.4	3.1	-	-	-	-	0.5	2.8	7.4	-
SPAIN, Valencia, paediatric (1991-2010)	57	3.6	3.1	4.1	-	-	-	-	0.2	2.7	8.9	-
SPAIN, 11 registries (1990-2013)	153	4.2	4.1	4.2	254	5.0	5.6	4.3	0.6	3.4	9.8	7.7
SWEDEN (1990-2011)	109	2.8	2.6	3.0	224	4.3	4.9	3.6	0.3	2.6	6.3	9.4
SWITZERLAND, paediatric (1990-2013)	104	3.2	2.9	3.6	-	-	-	-	0.5	3.4	6.6	-
SWITZERLAND, 7 registries (1990-2013)	44	3.8	3.9	3.7	80	5.2	5.5	4.8	0.8	3.4	8.2	9.9
UKRAINE (2002-2012)	195	2.2	2.1	2.2	403	3.0	3.3	2.6	0.2	1.8	5.2	5.7
UK (2000-2011)	441	2.9	2.9	3.0	785	3.9	4.5	3.4	0.3	2.4	7.1	7.4
UK, England and Wales, paediatric (1991-2010)	629	2.9	2.8	2.9	-	-	-	-	0.2	2.5	6.8	-
OCEANIA												
AUSTRALIA (1992-2014)	245	2.5	2.3	2.7	498	3.8	4.4	3.3	0.3	1.7	6.4	8.5
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*2*	*0.8*	*0.0*	*1.6*	*3*	*1.0*	*0.7*	*1.3*	*0.0*	*0.0*	*2.8*	*1.6*
FRANCE, 2 registries (1990-2013)	*10*	*2.9*	*3.5*	*2.3*	*18*	*4.1*	*5.8*	*2.3*	*0.0*	*2.9*	*6.9*	*8.1*
NEW ZEALAND (1993-2012)	73	3.7	3.7	3.8	145	5.7	6.0	5.3	0.3	2.7	9.4	12.3
NEW ZEALAND, Maori (1993-2012)	15	3.3	2.6	4.1	31	5.5	5.7	5.4	0.6	2.1	8.2	13.2
NEW ZEALAND, Pacific peoples (1993-2012)	14	8.7	11.0	6.3	22	10.8	11.5	10.0	1.8	3.9	23.2	18.0
NEW ZEALAND, Other (1993-2012)	44	3.3	3.2	3.3	92	5.1	5.4	4.8	0.0	2.8	8.1	11.5
NEW ZEALAND, paediatric (2000-2012)	48	3.7	4.2	3.1	-	-	-	-	0.3	2.9	9.1	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*9*	*2.9*	*2.5*	*3.4*	-	-	-	-	*0.0*	*3.2*	*6.6*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	39	3.9	4.7	3.0	-	-	-	-	0.4	2.8	9.8	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of osteosarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.17. Chondrosarcomas (VIIIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*5*	*0.2*	*0.3*	*0.2*	*10*	*0.3*	*0.4*	*0.3*	*0.0*	*0.0*	*0.8*	*0.7*
BOTSWANA (1999-2007)	*3*	*0.5*	*0.0*	*0.9*	*3*	*0.4*	*0.0*	*0.7*	*0.0*	*0.0*	*1.6*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.4*	*0.8*	*0.0*	*0.0*	*0.0*	*0.0*	*1.6*
EGYPT, Gharbiah (1999-2010)	*2*	*0.1*	*0.1*	*0.1*	*9*	*0.4*	*0.6*	*0.2*	*0.0*	*0.0*	*0.4*	*1.3*
FRANCE, Réunion (1990-2011)	*1*	*0.3*	*0.0*	*0.5*	*5*	*0.8*	*1.2*	*0.4*	*0.7*	*0.0*	*0.0*	*2.8*
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	*5*	*0.4*	*0.7*	*0.1*	*0.0*	*0.0*	*0.0*	*1.7*
LIBYA, Benghazi (2003-2008)	*1*	*0.3*	*0.6*	*0.0*	*1*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*1.0*	*0.0*
MALI, Bamako (2005-2014)	*6*	*0.8*	*0.9*	*0.8*	*15*	*1.4*	*1.7*	*1.2*	*0.0*	*0.0*	*2.9*	*3.5*
MAURITIUS (2001-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
SOUTH AFRICA, paediatric (1998-2012)	*6*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.1*	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	*6*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.1*	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
TUNISIA, 2 registries (1993-2007)	*2*	*0.1*	*0.0*	*0.2*	*7*	*0.2*	*0.1*	*0.4*	*0.0*	*0.0*	*0.3*	*0.7*
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.2*
ZIMBABWE, Harare, African (1995-2013)	*1*	*0.1*	*0.3*	*0.0*	*7*	*0.6*	*0.7*	*0.4*	*0.0*	*0.0*	*0.4*	*2.0*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	*15*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.0*	*0.2*	*0.1*	-
ARGENTINA, 6 registries (1991-2013)	*5*	*0.2*	*0.2*	*0.2*	*10*	*0.3*	*0.4*	*0.3*	*0.0*	*0.1*	*0.5*	*0.7*
BRAZIL, 5 registries (1995-2012)	*1*	*0.0*	*0.0*	*0.1*	*13*	*0.4*	*0.6*	*0.2*	*0.0*	*0.0*	*0.2*	*1.6*
CHILE, paediatric (2007-2011)	*2*	*0.1*	*0.2*	*0.0*	-	-	-	-	*0.0*	*0.2*	*0.1*	-
CHILE, 4 registries (1998-2012)	*1*	*0.2*	*0.4*	*0.0*	*2*	*0.3*	*0.3*	*0.3*	*0.0*	*0.7*	*0.0*	*0.6*
COLOMBIA, 4 registries (1992-2013)	*3*	*0.1*	*0.1*	*0.2*	*7*	*0.3*	*0.3*	*0.2*	*0.0*	*0.0*	*0.5*	*0.6*
COSTA RICA (1993-2012)	*2*	*0.1*	*0.1*	*0.1*	*8*	*0.2*	*0.2*	*0.2*	*0.0*	*0.0*	*0.2*	*0.8*
CUBA (2000-2012)	8	0.2	0.3	0.1	23	0.5	0.5	0.5	0.0	0.0	0.8	1.4
ECUADOR, 5 registries (1993-2013)	*6*	*0.3*	*0.3*	*0.2*	*7*	*0.2*	*0.3*	*0.2*	*0.0*	*0.4*	*0.4*	*0.1*
FRANCE, 3 registries (1990-2012)	*3*	*0.8*	*1.7*	*0.0*	*5*	*1.1*	*1.7*	*0.4*	*0.0*	*1.0*	*1.8*	*1.9*
HONDURAS, Francisco Morazán (2002-2012)	*2*	*0.4*	*0.4*	*0.4*	*4*	*0.6*	*0.9*	*0.3*	*0.0*	*0.0*	*1.3*	*1.3*
JAMAICA, Kingston and St Andrew (1982-2012)	*1*	*0.1*	*0.0*	*0.3*	*2*	*0.2*	*0.2*	*0.2*	*0.0*	*0.0*	*0.5*	*0.5*
MEXICO, Mexico City, paediatric (1997-2013)	*1*	*0.1*	*0.0*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.3*	-
PERU, Lima (2010-2012)	*1*	*0.1*	*0.0*	*0.3*	*6*	*0.5*	*0.7*	*0.4*	*0.0*	*0.4*	*0.0*	*1.9*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	*1*	*0.0*	*0.0*	*0.1*	*8*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*0.2*	*1.1*
URUGUAY (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.1*	*0.0*	*0.2*	*0.0*	*0.0*	*0.0*	*0.4*
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	14	0.1	0.1	0.1	55	0.3	0.4	0.2	0.0	0.1	0.3	1.0
USA (1998-2012)	149	0.1	0.2	0.1	424	0.3	0.4	0.2	0.0	0.1	0.4	0.9
USA, API (1998-2012)	*3*	*0.1*	*0.1*	*0.0*	*10*	*0.2*	*0.2*	*0.2*	*0.1*	*0.0*	*0.1*	*0.5*
USA, Black (1998-2012)	19	0.1	0.1	0.1	53	0.2	0.3	0.2	0.0	0.1	0.2	0.7
USA, Hispanic White (1998-2012)	31	0.2	0.2	0.1	62	0.3	0.4	0.2	0.0	0.1	0.4	0.6
USA, Native American (1998-2012)	*1*	*0.1*	*0.1*	*0.0*	*3*	*0.1*	*0.2*	*0.1*	*0.0*	*0.2*	*0.0*	*0.4*
USA, White NH (1998-2012)	90	0.1	0.2	0.1	283	0.3	0.4	0.3	0.0	0.1	0.4	1.0
USA, NPCR (1998-2012)	137	0.1	0.2	0.1	395	0.3	0.4	0.2	0.0	0.1	0.3	0.9
USA, SEER 18 (1993-2012)	63	0.2	0.3	0.1	148	0.3	0.5	0.2	0.0	0.1	0.5	0.9
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.5*	*0.0*	*0.9*	*0.0*	*0.0*	*0.0*	*2.0*
ASIA												
BAHRAIN (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CHINA, 6 registries (1990-2013)	8	0.1	0.1	0.1	24	0.2	0.2	0.2	0.0	0.0	0.4	0.6
CHINA, Hong Kong (1990-2013)	*2*	*0.1*	*0.1*	*0.1*	*6*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.2*	*0.4*
INDIA, 7 registries (1990-2013)	27	0.1	0.1	0.1	64	0.2	0.2	0.2	0.0	0.1	0.4	0.6
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*1*	*0.2*	*0.4*	*0.0*	*6*	*0.8*	*1.1*	*0.5*	*0.0*	*0.0*	*0.7*	*3.0*
ISRAEL (1990-2012)	9	0.2	0.1	0.3	29	0.5	0.5	0.6	0.0	0.2	0.5	1.6
ISRAEL, Jews (1990-2012)	8	0.2	0.1	0.4	27	0.7	0.6	0.7	0.0	0.2	0.6	2.0
ISRAEL, Non-Jews (1990-2012)	*1*	*0.1*	*0.2*	*0.0*	*2*	*0.1*	*0.1*	*0.2*	*0.0*	*0.3*	*0.0*	*0.3*
JAPAN, 8 registries (1990-2013)	16	0.2	0.3	0.2	34	0.3	0.3	0.3	0.1	0.1	0.6	0.7
JORDAN, Jordanians (2000-2012)	*4*	*0.1*	*0.1*	*0.1*	*7*	*0.2*	*0.2*	*0.2*	*0.0*	*0.1*	*0.3*	*0.4*
REPUBLIC OF KOREA (1999-2012)	31	0.2	0.2	0.2	82	0.4	0.5	0.3	0.0	0.0	0.6	1.1
KUWAIT (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
LEBANON (2008-2010)	*1*	*0.2*	*0.0*	*0.5*	*5*	*0.9*	*1.4*	*0.4*	*0.0*	*0.0*	*0.8*	*3.2*
PAKISTAN, Karachi (1995-2002)	*3*	*0.5*	*0.3*	*0.7*	*6*	*0.9*	*0.8*	*0.9*	*0.0*	*0.0*	*1.7*	*2.1*
PAKISTAN, Lahore (2008-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PHILIPPINES, 2 registries (1993-2012)	*5*	*0.1*	*0.1*	*0.1*	*11*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.2*	*0.3*
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*7*	*0.2*	*0.3*	*0.1*	*0.0*	*0.0*	*0.0*	*0.8*
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*6*	*0.2*	*0.3*	*0.1*	*0.0*	*0.0*	*0.0*	*0.8*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*0.8*
THAILAND, 6 registries (1993-2013)	*6*	*0.1*	*0.2*	*0.1*	*15*	*0.2*	*0.3*	*0.2*	*0.0*	*0.1*	*0.4*	*0.6*
TURKEY, paediatric (2009-2011)	*1*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.1*	*0.0*	-
TURKEY, 8 registries (1992-2012)	6	0.1	0.2	0.0	24	0.4	0.4	0.3	0.0	0.2	0.3	1.3
VIET NAM, Ho Chi Minh City (1995-2013)	*2*	*0.1*	*0.0*	*0.2*	*4*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.3*	*0.2*
EUROPE												
AUSTRIA (1990-2012)	8	0.2	0.4	0.0	22	0.5	0.7	0.2	0.0	0.2	0.6	1.3
BELARUS, paediatric (1990-2014)	13	0.2	0.1	0.3	39	0.5	0.6	0.4	0.0	0.1	0.7	1.4
BELGIUM (2004-2013)	*5*	*0.2*	*0.3*	*0.2*	*16*	*0.6*	*0.6*	*0.5*	*0.0*	*0.3*	*0.5*	*1.7*
BULGARIA (1990-2013)	27	0.8	0.9	0.7	74	1.4	1.5	1.3	0.2	0.6	1.7	3.7
CROATIA (2001-2014)	*1*	*0.1*	*0.0*	*0.2*	*6*	*0.4*	*0.2*	*0.5*	*0.0*	*0.0*	*0.3*	*1.4*
CYPRUS, South-West (1998-2012)	*1*	*0.4*	*0.0*	*0.9*	*2*	*0.6*	*0.5*	*0.7*	*0.0*	*1.4*	*0.0*	*1.1*
CZECH REPUBLIC (1990-2012)	11	0.2	0.2	0.2	27	0.4	0.4	0.4	0.0	0.1	0.7	1.0
ESTONIA (1990-2012)	*1*	*0.1*	*0.0*	*0.3*	*8*	*0.8*	*0.8*	*0.8*	*0.0*	*0.0*	*0.5*	*3.1*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of chondrosarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.17. Chondrosarcomas (VIIIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	29	0.2	0.2	0.1	-	-	-	-	0.0	0.1	0.5	-
FRANCE, 13 registries (1993-2012)	9	0.2	0.1	0.4	30	0.6	0.6	0.7	0.0	0.0	0.8	1.9
GERMANY, paediatric (1996-2012)	22	0.1	0.1	0.1	-	-	-	-	0.0	0.1	0.2	-
GERMANY, 6 Eastern states (2001-2007)	*7*	*0.4*	*0.4*	*0.5*	*12*	*0.5*	*0.4*	*0.5*	*0.2*	*0.0*	*1.2*	*0.7*
GERMANY, 5 Western registries (1994-2012)	8	0.1	0.1	0.2	25	0.3	0.4	0.2	0.1	0.0	0.4	0.9
HUNGARY, paediatric (1991-2014)	*7*	*0.1*	*0.1*	*0.2*	-	-	-	-	*0.0*	*0.1*	*0.4*	-
ICELAND (1990-2014)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.4*	*0.0*	*0.8*	*0.0*	*0.0*	*0.0*	*1.8*
IRELAND (1994-2012)	*1*	*0.1*	*0.1*	*0.0*	*5*	*0.2*	*0.3*	*0.1*	*0.0*	*0.0*	*0.2*	*0.7*
ITALY, 2 paediatric registries (1998-2011)	*0*	*0.0*	*0.0*	*0.0*	*3*	*0.2*	*0.3*	*0.2*	*0.0*	*0.0*	*0.0*	*1.0*
ITALY, Piedmont, paediatric (1990-2011)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
ITALY, 26 registries (1992-2013)	9	0.2	0.3	0.1	20	0.3	0.4	0.2	0.0	0.1	0.5	0.7
LITHUANIA (2000-2012)	*3*	*0.3*	*0.5*	*0.2*	*8*	*0.6*	*0.8*	*0.5*	*0.0*	*0.4*	*0.7*	*1.6*
MALTA (1994-2013)	*1*	*0.6*	*0.0*	*1.1*	*3*	*1.2*	*1.6*	*0.9*	*0.0*	*0.0*	*1.9*	*3.6*
THE NETHERLANDS (1993-2013)	5	0.1	0.1	0.1	26	0.3	0.3	0.2	0.0	0.0	0.2	1.0
NORWAY (1990-2013)	*2*	*0.1*	*0.0*	*0.2*	*12*	*0.4*	*0.5*	*0.3*	*0.0*	*0.0*	*0.3*	*1.4*
POLAND (2001-2013)	34	0.4	0.4	0.4	87	0.6	0.7	0.5	0.1	0.3	0.8	1.5
PORTUGAL (1991-2012)	*4*	*0.1*	*0.0*	*0.3*	*15*	*0.3*	*0.3*	*0.4*	*0.0*	*0.0*	*0.4*	*1.1*
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*2*	*0.2*	*0.2*	*0.3*	-	-	-	-	*0.0*	*0.8*	*0.0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*7*	*0.5*	*0.6*	*0.5*	*17*	*0.8*	*1.0*	*0.6*	*0.0*	*0.3*	*1.5*	*2.0*
SLOVAKIA (1990-2009)	10	0.4	0.5	0.2	21	0.6	0.6	0.5	0.0	0.0	1.2	1.3
SLOVAKIA, paediatric (2000-2012)	*5*	*0.4*	*0.5*	*0.3*	-	-	-	-	*0.3*	*0.0*	*0.9*	-
SLOVENIA (1991-2012)	*1*	*0.1*	*0.0*	*0.2*	*4*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*0.4*	*1.0*
SPAIN, 2 paediatric registries (1991-2013)	*5*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.3*	-
SPAIN, selected regions, paediatric (2000-2013)	*4*	*0.1*	*0.2*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.4*	-
SPAIN, Valencia, paediatric (1991-2010)	*1*	*0.1*	*0.0*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.2*	-
SPAIN, 11 registries (1990-2013)	*3*	*0.1*	*0.2*	*0.0*	*16*	*0.3*	*0.4*	*0.1*	*0.0*	*0.2*	*0.1*	*1.0*
SWEDEN (1990-2011)	9	0.2	0.2	0.3	24	0.5	0.5	0.4	0.1	0.1	0.6	1.2
SWITZERLAND, paediatric (1990-2013)	*3*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.3*	-
SWITZERLAND, 7 registries (1990-2013)	*3*	*0.2*	*0.5*	*0.0*	*7*	*0.4*	*0.6*	*0.3*	*0.0*	*0.0*	*0.8*	*1.1*
UKRAINE (2002-2012)	29	0.3	0.3	0.3	81	0.6	0.6	0.5	0.1	0.3	0.7	1.4
UK (2000-2011)	23	0.2	0.2	0.1	63	0.3	0.4	0.2	0.0	0.1	0.4	0.9
UK, England and Wales, paediatric (1991-2010)	26	0.1	0.2	0.1	-	-	-	-	0.0	0.0	0.3	-
OCEANIA												
AUSTRALIA (1992-2014)	13	0.1	0.1	0.2	41	0.3	0.3	0.3	0.0	0.0	0.4	0.9
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.4*	*0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*1.6*
FRANCE, 2 registries (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.0*	*0.5*	*0.0*	*0.0*	*0.0*	*1.0*
NEW ZEALAND (1993-2012)	*1*	*0.0*	*0.1*	*0.0*	*5*	*0.2*	*0.2*	*0.2*	*0.0*	*0.0*	*0.2*	*0.7*
NEW ZEALAND, Maori (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Other (1993-2012)	*1*	*0.1*	*0.1*	*0.0*	*5*	*0.3*	*0.3*	*0.2*	*0.0*	*0.0*	*0.2*	*1.0*
NEW ZEALAND, paediatric (2000-2012)	*1*	*0.1*	*0.1*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.3*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*1*	*0.1*	*0.2*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.3*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of chondrosarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.18. Ewing tumour and related sarcomas of bone (VIIIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	30	1.6	1.7	1.3	56	2.1	2.5	1.7	0.3	1.5	3.3	3.8
BOTSWANA (1999-2007)	*0*	*0.0*	*0.0*	*0.0*	*4*	*0.5*	*0.5*	*0.5*	*0.0*	*0.0*	*0.0*	*2.3*
CAMEROON, Yaoundé (2004-2006)	*2*	*0.8*	*0.0*	*1.6*	*4*	*1.4*	*1.5*	*1.3*	*0.0*	*1.3*	*1.5*	*3.3*
EGYPT, Gharbiah (1999-2010)	37	2.2	3.0	1.5	52	2.4	3.1	1.6	1.1	2.4	3.7	2.7
FRANCE, Réunion (1990-2011)	*8*	*1.7*	*2.1*	*1.4*	*13*	*2.1*	*1.9*	*2.3*	*0.7*	*3.4*	*1.3*	*3.5*
KENYA, 2 registries (2000-2012)	*3*	*0.3*	*0.4*	*0.2*	*6*	*0.5*	*0.5*	*0.4*	*0.2*	*0.0*	*0.7*	*1.0*
LIBYA, Benghazi (2003-2008)	*7*	*2.2*	*3.1*	*1.3*	*9*	*2.2*	*2.9*	*1.5*	*1.0*	*2.1*	*4.1*	*2.0*
MALI, Bamako (2005-2014)	*2*	*0.3*	*0.3*	*0.3*	*3*	*0.3*	*0.4*	*0.2*	*0.4*	*0.4*	*0.0*	*0.4*
MAURITIUS (2001-2013)	*3*	*0.7*	*1.0*	*0.4*	*3*	*0.6*	*0.8*	*0.3*	*0.0*	*1.6*	*0.7*	*0.0*
MOROCCO, 2 registries (2005-2012)	45	4.7	5.0	4.4	65	5.0	4.8	5.2	1.7	5.8	7.5	6.2
SOUTH AFRICA, paediatric (1998-2012)	85	0.4	0.4	0.3	-	-	-	-	0.3	0.4	0.5	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*5*	*1.1*	*0.8*	*1.3*	-	-	-	-	*0.0*	*0.8*	*2.8*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	42	0.2	0.3	0.2	-	-	-	-	0.2	0.2	0.2	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*5*	*0.2*	*0.1*	*0.4*	-	-	-	-	*0.0*	*0.3*	*0.5*	-
SOUTH AFRICA, paediatric, White (1998-2012)	33	2.5	2.8	2.3	-	-	-	-	1.3	2.5	4.1	-
TUNISIA, 2 registries (1993-2007)	59	2.8	3.6	1.9	101	3.5	4.4	2.6	0.9	3.0	5.1	6.0
UGANDA, Kyadondo (1996-2013)	*3*	*0.2*	*0.5*	*0.0*	*3*	*0.2*	*0.4*	*0.0*	*0.4*	*0.0*	*0.2*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*4*	*0.5*	*0.7*	*0.2*	*5*	*0.4*	*0.7*	*0.2*	*0.6*	*0.4*	*0.4*	*0.3*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	291	1.9	2.0	1.7	-	-	-	-	0.8	1.9	3.3	-
ARGENTINA, 6 registries (1991-2013)	48	2.1	2.3	1.9	62	2.1	2.4	1.7	1.3	2.7	2.5	1.9
BRAZIL, 5 registries (1995-2012)	51	2.6	2.3	2.9	81	2.9	2.6	3.2	0.8	3.3	4.0	4.1
CHILE, paediatric (2007-2011)	45	2.2	2.3	2.0	-	-	-	-	1.0	1.6	4.3	-
CHILE, 4 registries (1998-2012)	*11*	*2.1*	*1.5*	*2.7*	*16*	*2.3*	*2.2*	*2.3*	*0.0*	*2.0*	*4.8*	*2.9*
COLOMBIA, 4 registries (1992-2013)	29	1.5	1.4	1.6	52	2.0	2.3	1.6	0.2	1.7	2.9	3.7
COSTA RICA (1993-2012)	36	1.3	1.4	1.3	63	1.8	2.0	1.5	0.1	1.0	3.3	3.4
CUBA (2000-2012)	40	1.3	1.3	1.3	60	1.4	1.5	1.4	0.6	0.8	2.8	1.9
ECUADOR, 5 registries (1993-2013)	20	0.9	1.0	0.7	35	1.1	1.3	0.9	0.6	0.8	1.4	2.0
FRANCE, 3 registries (1990-2012)	*1*	*0.3*	*0.0*	*0.6*	*4*	*0.9*	*1.3*	*0.5*	*0.0*	*1.0*	*0.0*	*2.8*
HONDURAS, Francisco Morazán (2002-2012)	*5*	*1.0*	*1.5*	*0.4*	*9*	*1.3*	*1.8*	*0.9*	*0.6*	*1.2*	*1.3*	*2.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.0*	*0.2*	*0.0*	*0.0*	*0.0*	*0.5*
MEXICO, Mexico City, paediatric (1997-2013)	21	1.6	2.2	1.1	-	-	-	-	0.8	1.2	3.3	-
PERU, Lima (2010-2012)	*4*	*0.5*	*0.5*	*0.5*	*7*	*0.6*	*0.7*	*0.6*	*0.0*	*0.4*	*1.3*	*1.1*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.5*	*1.1*	*0.0*	*0.0*	*0.0*	*0.0*	*2.3*
USA, Puerto Rico (1992-2012)	25	1.3	1.2	1.4	38	1.4	1.5	1.4	0.2	2.2	1.8	2.0
URUGUAY (1993-2012)	56	3.4	3.8	3.0	87	4.0	5.0	2.9	1.4	3.3	6.1	6.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	328	2.6	2.7	2.6	529	3.1	3.4	2.8	1.2	2.7	4.4	4.8
USA (1998-2012)	2164	2.2	2.3	2.1	3502	2.7	3.0	2.3	0.8	2.1	4.1	4.2
USA, API (1998-2012)	58	1.2	1.3	1.1	104	1.6	2.0	1.3	0.8	1.1	2.0	3.0
USA, Black (1998-2012)	72	0.4	0.5	0.4	116	0.5	0.6	0.5	0.2	0.4	0.8	0.9
USA, Hispanic White (1998-2012)	342	2.0	2.1	1.8	528	2.3	2.6	2.0	0.8	1.7	3.7	3.6
USA, Native American (1998-2012)	22	1.4	1.9	0.9	32	1.5	1.7	1.4	0.6	1.3	2.6	2.0
USA, White NH (1998-2012)	1636	2.8	2.9	2.7	2663	3.4	3.7	3.0	1.0	2.8	5.3	5.3
USA, NPCR (1998-2012)	2056	2.2	2.3	2.1	3334	2.6	3.0	2.3	0.8	2.1	4.1	4.2
USA, SEER 18 (1993-2012)	631	2.1	2.4	1.7	1028	2.5	3.1	1.9	0.8	2.0	3.8	4.1
USA, Hawaii, Hawaiian (1993-2012)	*2*	*1.2*	*0.0*	*2.5*	*5*	*2.3*	*1.7*	*2.9*	*0.0*	*3.7*	*0.0*	*6.0*
ASIA												
BAHRAIN (1998-2012)	*10*	*3.0*	*4.1*	*1.8*	*15*	*3.5*	*4.6*	*2.4*	*0.0*	*2.8*	*7.1*	*5.4*
CHINA, 6 registries (1990-2013)	37	0.6	0.7	0.5	62	0.7	0.8	0.5	0.3	0.6	1.0	0.9
CHINA, Hong Kong (1990-2013)	22	0.8	0.8	0.8	30	0.8	0.9	0.8	0.6	1.0	1.0	0.8
INDIA, 7 registries (1990-2013)	400	2.1	2.4	1.8	611	2.4	2.8	1.9	1.0	2.1	3.7	3.3
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*4*	*1.0*	*1.0*	*1.1*	*6*	*1.1*	*0.8*	*1.4*	*0.0*	*1.9*	*1.5*	*1.2*
ISRAEL (1990-2012)	163	3.8	4.7	2.8	249	4.5	5.6	3.3	1.2	3.7	7.3	7.0
ISRAEL, Jews (1990-2012)	133	4.2	5.0	3.3	207	5.0	6.0	4.0	1.0	4.1	8.5	8.0
ISRAEL, Non-Jews (1990-2012)	30	2.6	3.9	1.3	42	3.0	4.4	1.5	1.7	2.6	3.9	4.1
JAPAN, 8 registries (1990-2013)	71	1.1	1.3	0.9	113	1.2	1.5	1.0	0.5	1.0	1.9	1.7
JORDAN, Jordanians (2000-2012)	77	2.7	2.6	2.8	125	3.5	3.9	3.0	1.2	3.2	4.2	6.0
REPUBLIC OF KOREA (1999-2012)	180	1.4	1.3	1.4	264	1.4	1.6	1.3	1.1	1.3	1.8	1.7
KUWAIT (1994-2012)	*2*	*0.2*	*0.0*	*0.4*	*4*	*0.3*	*0.1*	*0.4*	*0.4*	*0.0*	*0.0*	*0.6*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.2*	*0.2*	*0.2*	*0.0*	*0.0*	*0.0*	*1.1*
KUWAIT, Non-Kuwaitis (1994-2012)	*2*	*0.4*	*0.0*	*0.9*	*2*	*0.3*	*0.0*	*0.7*	*1.1*	*0.0*	*0.0*	*0.0*
LEBANON (2008-2010)	13	3.2	3.1	3.3	29	5.4	6.0	4.8	1.9	1.6	6.9	12.9
PAKISTAN, Karachi (1995-2002)	19	3.2	4.2	2.1	29	4.0	4.7	3.3	0.5	2.5	7.6	6.9
PAKISTAN, Lahore (2008-2012)	55	2.8	3.2	2.4	85	3.4	4.2	2.6	1.7	2.8	4.3	5.6
PHILIPPINES, 2 registries (1993-2012)	77	1.0	1.1	0.9	100	1.0	1.1	0.9	0.7	0.9	1.6	1.0
QATAR (2002-2014)	*9*	*3.0*	*2.5*	*3.5*	*12*	*3.2*	*3.4*	*2.7*	*0.0*	*3.0*	*7.0*	*3.8*
SAUDI ARABIA, Riyadh (1994-2012)	83	2.4	2.7	2.1	130	3.1	3.9	2.3	1.2	2.5	3.9	5.4
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	70	2.4	2.8	2.1	109	3.1	3.8	2.3	1.2	2.4	4.1	5.2
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	13	2.3	2.0	2.5	21	3.2	4.0	2.4	0.9	3.1	3.1	6.6
THAILAND, 6 registries (1993-2013)	31	0.8	0.8	0.7	45	0.8	0.8	0.7	0.7	0.5	1.1	0.9
TURKEY, paediatric (2009-2011)	144	2.4	2.5	2.2	-	-	-	-	1.0	2.7	3.9	-
TURKEY, 8 registries (1992-2012)	114	2.6	2.5	2.8	209	3.5	4.0	3.1	1.1	2.3	5.0	6.6
VIET NAM, Ho Chi Minh City (1995-2013)	*14*	*0.5*	*0.7*	*0.3*	*16*	*0.5*	*0.6*	*0.3*	*0.1*	*0.6*	*1.0*	*0.2*
EUROPE												
AUSTRIA (1990-2012)	107	3.2	3.6	2.8	162	3.6	4.3	2.9	1.2	3.3	5.7	4.9
BELARUS, paediatric (1990-2014)	124	2.5	2.1	2.8	190	2.7	2.7	2.8	0.8	2.6	4.5	3.7
BELGIUM (2004-2013)	73	3.7	4.0	3.5	108	4.1	4.4	3.8	1.3	3.7	7.0	5.5
BULGARIA (1990-2013)	90	2.6	2.5	2.8	157	3.2	3.5	3.0	1.0	2.5	5.0	5.3
CROATIA (2001-2014)	35	3.5	4.4	2.5	54	3.9	3.9	3.9	1.7	3.6	5.7	5.3
CYPRUS, South-West (1998-2012)	*10*	*3.9*	*3.0*	*4.8*	*18*	*5.0*	*4.3*	*5.8*	*0.0*	*4.1*	*8.7*	*9.0*
CZECH REPUBLIC (1990-2012)	127	2.9	3.4	2.5	216	3.5	3.9	3.0	1.5	3.0	4.9	5.3
ESTONIA (1990-2012)	17	2.6	2.2	3.1	25	2.8	2.9	2.8	1.1	2.1	5.3	3.6

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of Ewing or related sarcomas of bone in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.18. Ewing tumour and related sarcomas of bone (VIIIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	477	3.0	3.2	2.8	-	-	-	-	1.0	3.3	5.4	-
FRANCE, 13 registries (1993-2012)	104	3.1	3.4	2.7	177	3.9	4.3	3.3	1.0	2.9	6.0	6.6
GERMANY, paediatric (1996-2012)	619	2.7	3.0	2.5	-	-	-	-	1.1	2.7	5.0	-
GERMANY, 6 Eastern states (2001-2007)	51	3.4	3.4	3.5	95	4.0	4.2	3.7	1.6	3.2	6.1	5.8
GERMANY, 5 Western registries (1994-2012)	171	3.1	3.4	2.8	281	3.7	4.2	3.2	1.4	2.8	5.7	5.9
HUNGARY, paediatric (1991-2014)	134	3.1	3.2	3.0	-	-	-	-	1.5	3.6	4.7	-
ICELAND (1990-2014)	*1*	*0.5*	*1.0*	*0.0*	*4*	*1.6*	*2.4*	*0.8*	*0.0*	*0.0*	*1.8*	*5.5*
IRELAND (1994-2012)	48	2.7	3.0	2.4	75	3.1	3.7	2.5	0.9	3.1	4.6	4.5
ITALY, 2 paediatric registries (1998-2011)	22	2.4	1.7	3.2	36	3.0	2.5	3.4	0.7	1.8	5.4	4.9
ITALY, Piedmont, paediatric (1990-2011)	40	3.1	2.6	3.7	-	-	-	-	1.0	2.8	6.2	-
ITALY, 26 registries (1992-2013)	166	3.8	3.9	3.6	244	4.1	4.6	3.5	1.4	3.5	7.1	5.2
LITHUANIA (2000-2012)	22	2.8	2.3	3.4	36	3.2	3.3	3.1	2.0	2.6	4.2	4.4
MALTA (1994-2013)	*6*	*3.8*	*5.0*	*2.5*	*9*	*4.2*	*5.5*	*2.8*	*0.0*	*8.4*	*3.8*	*5.3*
THE NETHERLANDS (1993-2013)	196	3.0	3.2	2.8	296	3.5	3.8	3.1	1.4	3.2	5.0	4.9
NORWAY (1990-2013)	49	2.1	2.1	2.2	71	2.4	2.4	2.4	0.4	2.0	4.6	3.1
POLAND (2001-2013)	211	2.3	2.5	2.2	334	2.6	2.9	2.3	1.0	1.9	4.5	3.4
PORTUGAL (1991-2012)	83	2.8	2.7	3.0	132	3.3	3.4	3.2	1.1	3.2	4.7	4.8
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	34	3.4	3.5	3.3	-	-	-	-	2.2	1.9	6.6	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	13	1.0	0.8	1.2	23	1.2	0.9	1.5	0.3	0.3	2.7	2.0
SLOVAKIA (1990-2009)	65	2.7	3.0	2.4	114	3.4	3.9	2.8	1.1	2.7	4.8	5.6
SLOVAKIA, paediatric (2000-2012)	40	2.9	3.5	2.3	-	-	-	-	0.6	2.4	6.5	-
SLOVENIA (1991-2012)	11	1.3	0.9	1.7	28	2.3	2.4	2.3	0.0	0.9	3.5	5.9
SPAIN, 2 paediatric registries (1991-2013)	240	4.7	5.7	3.7	-	-	-	-	1.6	5.2	8.4	-
SPAIN, selected regions, paediatric (2000-2013)	176	4.9	6.1	3.7	-	-	-	-	1.7	5.0	9.1	-
SPAIN, Valencia, paediatric (1991-2010)	64	4.3	4.9	3.7	-	-	-	-	1.4	5.4	6.9	-
SPAIN, 11 registries (1990-2013)	156	4.3	4.5	4.1	234	4.7	5.2	4.2	1.4	3.5	9.2	5.9
SWEDEN (1990-2011)	72	1.9	1.9	2.0	125	2.5	2.9	2.0	0.7	2.6	2.9	4.3
SWITZERLAND, paediatric (1990-2013)	94	3.0	3.0	2.9	-	-	-	-	0.7	3.2	5.6	-
SWITZERLAND, 7 registries (1990-2013)	43	3.8	3.2	4.4	62	4.1	3.8	4.4	1.1	4.8	6.2	5.2
UKRAINE (2002-2012)	134	1.6	1.5	1.6	228	1.8	1.9	1.8	0.5	1.8	2.8	2.6
UK (2000-2011)	332	2.3	2.4	2.2	541	2.8	3.2	2.4	0.6	2.4	4.4	4.5
UK, England and Wales, paediatric (1991-2010)	421	2.0	2.0	2.0	-	-	-	-	0.5	1.9	4.0	-
OCEANIA												
AUSTRALIA (1992-2014)	274	2.9	3.1	2.7	425	3.4	3.8	2.9	1.3	2.9	5.1	5.1
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*5*	*2.0*	*1.6*	*2.4*	*7*	*2.3*	*2.6*	*1.9*	*0.0*	*0.0*	*6.9*	*3.1*
FRANCE, 2 registries (1990-2013)	14	4.4	5.6	3.0	27	6.3	7.9	4.6	3.0	1.9	8.8	13.2
NEW ZEALAND (1993-2012)	62	3.3	3.5	3.0	96	3.8	4.1	3.5	0.8	3.4	6.3	5.8
NEW ZEALAND, Maori (1993-2012)	16	3.5	3.4	3.6	28	5.0	5.3	4.7	0.0	4.9	6.7	9.9
NEW ZEALAND, Pacific peoples (1993-2012)	*12*	*7.5*	*8.6*	*6.3*	*12*	*5.8*	*6.7*	*4.9*	*1.8*	*5.8*	*16.9*	*0.0*
NEW ZEALAND, Other (1993-2012)	34	2.7	2.8	2.5	56	3.2	3.5	3.0	1.1	2.6	4.9	5.3
NEW ZEALAND, paediatric (2000-2012)	41	3.2	3.2	3.3	-	-	-	-	0.8	3.4	6.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*9*	*3.0*	*3.2*	*2.7*	-	-	-	-	*0.0*	*4.3*	*5.5*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	32	3.3	3.1	3.5	-	-	-	-	1.1	3.1	6.6	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of Ewing or related sarcomas of bone in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.19. Rhabdomyosarcomas (IXa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	56	3.5	3.8	3.2	66	3.0	3.2	2.8	6.1	2.0	1.6	1.5
BOTSWANA (1999-2007)	*12*	*2.0*	*2.7*	*1.3*	*13*	*1.7*	*2.1*	*1.3*	*1.0*	*2.6*	*2.7*	*0.6*
CAMEROON, Yaoundé (2004-2006)	*12*	*5.1*	*4.3*	*5.8*	*12*	*3.9*	*3.3*	*4.5*	*6.5*	*2.5*	*5.9*	*0.0*
EGYPT, Gharbiah (1999-2010)	49	3.3	4.6	2.0	67	3.3	4.4	2.1	4.2	2.6	3.0	3.3
FRANCE, Réunion (1990-2011)	20	4.7	4.4	4.9	26	4.6	5.3	3.8	6.2	4.1	3.4	4.2
KENYA, 2 registries (2000-2012)	76	7.0	8.4	5.7	87	6.3	7.7	5.0	8.4	5.4	7.1	3.7
LIBYA, Benghazi (2003-2008)	*4*	*1.4*	*1.3*	*1.6*	*5*	*1.3*	*1.0*	*1.7*	*2.0*	*2.1*	*0.0*	*1.0*
MALI, Bamako (2005-2014)	26	3.6	5.9	1.4	31	3.2	5.4	1.2	5.0	2.5	2.9	2.0
MAURITIUS (2001-2013)	*11*	*3.2*	*3.3*	*3.1*	*12*	*2.7*	*2.9*	*2.4*	*6.0*	*0.8*	*2.2*	*0.8*
MOROCCO, 2 registries (2005-2012)	57	6.6	8.4	4.7	63	5.5	6.8	4.2	8.7	5.5	4.9	1.8
SOUTH AFRICA, paediatric (1998-2012)	529	2.5	2.9	2.1	-	-	-	-	3.5	2.3	1.5	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*11*	*3.3*	*3.7*	*2.9*	-	-	-	-	*7.3*	*1.5*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	418	2.3	2.7	1.9	-	-	-	-	3.1	2.4	1.3	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	50	2.7	2.7	2.7	-	-	-	-	3.6	1.8	2.5	-
SOUTH AFRICA, paediatric, White (1998-2012)	50	4.7	5.9	3.3	-	-	-	-	8.8	2.0	2.0	-
TUNISIA, 2 registries (1993-2007)	56	3.2	4.2	2.2	76	3.2	4.0	2.3	5.5	1.8	1.9	2.9
UGANDA, Kyadondo (1996-2013)	66	5.0	6.4	3.6	90	5.0	6.6	3.7	5.7	5.1	3.8	5.3
ZIMBABWE, Harare, African (1995-2013)	54	6.3	6.5	6.0	62	5.5	5.9	5.0	7.1	6.0	5.5	2.7
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	532	3.8	4.5	3.1	-	-	-	-	5.3	3.4	2.2	-
ARGENTINA, 6 registries (1991-2013)	87	4.2	4.9	3.4	102	3.7	4.2	3.2	5.9	4.4	1.7	2.0
BRAZIL, 5 registries (1995-2012)	91	5.2	4.9	5.4	113	4.7	4.7	4.7	7.3	4.3	3.4	3.0
CHILE, paediatric (2007-2011)	77	4.4	5.1	3.7	-	-	-	-	6.5	4.3	1.8	-
CHILE, 4 registries (1998-2012)	18	3.9	5.1	2.6	20	3.3	4.5	2.0	3.5	4.0	4.2	1.2
COLOMBIA, 4 registries (1992-2013)	78	4.7	4.5	4.8	97	4.3	4.4	4.2	6.3	3.6	3.6	3.1
COSTA RICA (1993-2012)	68	3.0	3.2	2.7	86	2.8	3.2	2.4	3.9	2.2	2.4	2.3
CUBA (2000-2012)	75	3.0	3.0	2.9	92	2.7	3.0	2.4	4.8	1.7	2.0	1.6
ECUADOR, 5 registries (1993-2013)	69	3.2	3.2	3.2	87	3.0	3.1	2.9	3.8	2.2	3.5	2.4
FRANCE, 3 registries (1990-2012)	*15*	*5.0*	*6.6*	*3.3*	*19*	*4.7*	*6.3*	*3.0*	*5.9*	*6.7*	*1.8*	*3.8*
HONDURAS, Francisco Morazán (2002-2012)	*14*	*2.8*	*3.2*	*2.5*	*16*	*2.5*	*3.1*	*1.9*	*5.0*	*0.6*	*2.5*	*1.3*
JAMAICA, Kingston and St Andrew (1982-2012)	*7*	*1.3*	*1.5*	*1.0*	*10*	*1.3*	*1.4*	*1.2*	*1.6*	*1.6*	*0.5*	*1.5*
MEXICO, Mexico City, paediatric (1997-2013)	39	3.3	3.2	3.4	-	-	-	-	3.9	3.2	2.8	-
PERU, Lima (2010-2012)	23	3.4	3.0	3.9	28	3.1	2.8	3.3	5.1	2.1	2.6	1.9
PERU, Trujillo (1990-2002)	*8*	*3.6*	*4.7*	*2.5*	*9*	*3.1*	*3.6*	*2.4*	*6.3*	*2.6*	*1.2*	*1.1*
USA, Puerto Rico (1992-2012)	70	4.2	4.8	3.5	87	3.8	4.6	3.1	6.5	2.7	2.7	2.7
URUGUAY (1993-2012)	74	5.1	6.6	3.6	84	4.4	5.9	2.9	7.5	4.0	3.1	1.9
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	560	5.1	5.7	4.6	696	4.7	5.2	4.1	7.4	4.3	2.9	3.2
USA (1998-2012)	4404	5.1	5.7	4.4	5521	4.7	5.4	4.0	7.1	4.2	3.3	3.5
USA, API (1998-2012)	144	3.3	4.1	2.5	177	3.0	3.7	2.4	5.0	2.2	2.3	2.1
USA, Black (1998-2012)	713	4.9	5.5	4.4	928	4.8	5.4	4.1	6.1	4.3	4.1	4.2
USA, Hispanic White (1998-2012)	765	4.6	5.0	4.2	914	4.2	4.6	3.8	6.2	4.1	3.1	2.9
USA, Native American (1998-2012)	32	2.4	2.6	2.1	40	2.2	2.5	1.9	4.4	0.6	1.6	1.6
USA, White NH (1998-2012)	2654	5.4	6.1	4.6	3338	4.9	5.7	4.2	7.8	4.3	3.2	3.5
USA, NPCR (1998-2012)	4215	5.1	5.7	4.4	5292	4.8	5.4	4.0	7.2	4.2	3.3	3.6
USA, SEER 18 (1993-2012)	1435	5.2	5.9	4.5	1764	4.8	5.4	4.2	7.1	4.4	3.6	3.4
USA, Hawaii, Hawaiian (1993-2012)	*5*	*3.1*	*3.6*	*2.6*	*7*	*3.3*	*3.6*	*2.9*	*3.6*	*1.9*	*3.8*	*4.0*
ASIA												
BAHRAIN (1998-2012)	*10*	*3.3*	*5.7*	*0.7*	*10*	*2.5*	*4.4*	*0.6*	*4.6*	*2.8*	*2.0*	*0.0*
CHINA, 6 registries (1990-2013)	148	2.9	3.4	2.4	197	2.6	3.0	2.3	4.6	2.0	1.6	1.7
CHINA, Hong Kong (1990-2013)	89	4.0	4.3	3.6	121	3.8	4.1	3.4	6.1	3.2	2.0	3.1
INDIA, 7 registries (1990-2013)	368	2.3	2.8	1.9	445	2.1	2.5	1.7	3.6	1.9	1.2	1.2
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*7*	*2.2*	*3.3*	*1.1*	*9*	*2.0*	*2.8*	*1.2*	*4.4*	*0.9*	*0.7*	*1.2*
ISRAEL (1990-2012)	210	5.2	6.2	4.3	254	4.9	5.8	3.9	8.7	3.3	2.9	3.6
ISRAEL, Jews (1990-2012)	167	5.7	6.7	4.8	200	5.3	6.1	4.3	9.3	3.7	3.3	3.6
ISRAEL, Non-Jews (1990-2012)	43	3.9	4.8	3.0	54	3.9	4.9	2.8	7.0	2.1	1.8	3.7
JAPAN, 8 registries (1990-2013)	190	3.2	3.4	3.0	237	3.0	3.1	2.8	4.1	2.9	2.5	1.9
JORDAN, Jordanians (2000-2012)	108	4.2	5.0	3.3	121	3.6	4.3	2.8	6.7	2.9	2.2	1.6
REPUBLIC OF KOREA (1999-2012)	400	3.5	3.9	3.0	519	3.2	3.6	2.8	5.4	2.4	2.0	2.5
KUWAIT (1994-2012)	35	2.9	3.7	2.1	46	3.0	3.7	2.3	3.6	3.5	1.4	3.4
KUWAIT, Kuwaitis (1994-2012)	15	2.1	2.8	1.4	24	2.7	3.6	1.8	2.7	2.5	0.9	4.8
KUWAIT, Non-Kuwaitis (1994-2012)	20	4.0	5.0	2.9	22	3.5	3.9	3.0	4.9	4.8	2.0	1.5
LEBANON (2008-2010)	23	6.9	8.5	5.1	24	5.5	6.6	4.4	9.5	7.2	3.0	0.8
PAKISTAN, Karachi (1995-2002)	17	3.0	3.7	2.2	29	4.2	5.8	2.4	2.5	3.0	3.5	8.3
PAKISTAN, Lahore (2008-2012)	40	2.2	2.5	1.9	51	2.2	2.6	1.7	2.8	2.3	1.3	2.0
PHILIPPINES, 2 registries (1993-2012)	245	3.3	3.1	3.5	293	3.0	2.9	3.1	4.6	2.6	2.4	2.0
QATAR (2002-2014)	*16*	*5.4*	*6.6*	*4.2*	*18*	*4.8*	*5.6*	*4.0*	*6.3*	*4.0*	*5.8*	*2.5*
SAUDI ARABIA, Riyadh (1994-2012)	117	3.6	4.5	2.6	135	3.2	4.0	2.4	5.1	3.1	2.1	2.1
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	92	3.4	4.6	2.1	106	3.0	4.1	2.0	5.0	3.3	1.4	1.9
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	25	4.5	3.9	5.1	29	4.2	3.7	4.7	5.6	2.1	5.6	3.3
THAILAND, 6 registries (1993-2013)	92	2.5	2.9	2.1	115	2.3	2.5	2.0	4.1	1.5	1.6	1.4
TURKEY, paediatric (2009-2011)	151	2.9	3.5	2.2	-	-	-	-	4.7	2.3	1.1	-
TURKEY, 8 registries (1992-2012)	165	4.4	5.1	3.8	206	4.1	4.7	3.5	6.4	3.7	2.6	2.9
VIET NAM, Ho Chi Minh City (1995-2013)	61	2.6	3.2	2.1	64	2.1	2.6	1.6	4.0	2.6	0.9	0.3
EUROPE												
AUSTRIA (1990-2012)	152	5.3	6.2	4.3	196	5.0	6.0	3.9	7.8	4.7	2.6	3.9
BELARUS, paediatric (1990-2014)	216	5.3	6.2	4.3	268	4.7	5.5	3.9	8.2	3.5	3.3	2.9
BELGIUM (2004-2013)	91	5.3	6.5	4.1	111	4.8	5.9	3.7	8.4	4.3	2.3	3.1
BULGARIA (1990-2013)	116	4.1	4.8	3.3	148	3.7	4.5	2.9	5.8	3.4	2.6	2.5
CROATIA (2001-2014)	61	7.1	8.6	5.5	69	6.0	7.4	4.5	10.6	6.8	2.7	2.2
CYPRUS, South-West (1998-2012)	*13*	*6.1*	*8.3*	*3.8*	*15*	*5.2*	*7.4*	*2.9*	*7.4*	*5.5*	*5.0*	*2.3*
CZECH REPUBLIC (1990-2012)	191	5.2	6.2	4.0	221	4.4	5.2	3.5	7.5	4.2	3.0	1.8
ESTONIA (1990-2012)	*17*	*3.3*	*4.5*	*2.0*	*18*	*2.6*	*3.5*	*1.7*	*5.6*	*2.6*	*1.0*	*0.4*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of rhabdomyosarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.19. Rhabdomyosarcomas (IXa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	763	5.4	6.7	4.1	-	-	-	-	7.7	5.0	2.9	-
FRANCE, 13 registries (1993-2012)	162	5.5	6.3	4.6	185	4.7	5.5	3.9	8.2	4.3	3.1	2.1
GERMANY, paediatric (1996-2012)	1013	5.4	5.9	4.8	-	-	-	-	8.1	4.5	2.8	-
GERMANY, 6 Eastern states (2001-2007)	62	4.8	5.9	3.6	86	4.4	5.4	3.4	6.4	4.0	3.5	3.2
GERMANY, 5 Western registries (1994-2012)	250	5.4	5.8	5.1	309	4.9	5.5	4.4	7.8	4.8	3.0	3.2
HUNGARY, paediatric (1991-2014)	153	4.1	5.0	3.3	-	-	-	-	6.3	3.5	1.9	-
ICELAND (1990-2014)	*7*	*4.6*	*7.9*	*1.1*	*8*	*3.9*	*6.9*	*0.8*	*9.0*	*0.0*	*3.7*	*1.8*
IRELAND (1994-2012)	95	6.0	7.1	4.8	110	5.2	6.0	4.3	8.5	5.3	3.4	2.5
ITALY, 2 paediatric registries (1998-2011)	39	4.9	3.6	6.4	53	4.9	4.6	5.2	8.4	3.2	2.1	4.9
ITALY, Piedmont, paediatric (1990-2011)	59	5.4	4.7	6.1	-	-	-	-	9.5	3.1	2.5	-
ITALY, 26 registries (1992-2013)	195	4.9	5.9	3.8	252	4.6	5.8	3.4	6.4	4.1	3.7	3.8
LITHUANIA (2000-2012)	32	4.9	6.5	3.2	39	4.3	5.8	2.8	8.4	1.3	4.2	2.2
MALTA (1994-2013)	*7*	*5.1*	*4.8*	*5.5*	*13*	*6.4*	*6.8*	*5.9*	*6.9*	*4.2*	*3.8*	*10.7*
THE NETHERLANDS (1993-2013)	330	5.7	6.2	5.1	399	5.2	5.8	4.5	8.5	5.0	2.7	3.4
NORWAY (1990-2013)	95	4.7	5.7	3.7	112	4.2	5.1	3.3	8.0	2.8	2.6	2.4
POLAND (2001-2013)	352	4.7	5.6	3.7	434	4.2	5.0	3.2	6.8	3.9	2.7	2.3
PORTUGAL (1991-2012)	151	5.9	7.2	4.5	187	5.4	6.5	4.1	8.4	5.3	3.2	3.5
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	36	4.7	6.2	3.2	-	-	-	-	8.6	3.1	1.4	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	35	3.3	3.5	3.2	45	3.0	3.1	3.0	5.6	2.5	1.2	2.0
SLOVAKIA (1990-2009)	102	5.2	5.3	5.0	118	4.4	4.6	4.3	7.3	4.8	2.7	1.8
SLOVAKIA, paediatric (2000-2012)	52	4.7	5.4	3.9	-	-	-	-	5.9	5.0	2.7	-
SLOVENIA (1991-2012)	41	6.1	8.2	3.9	48	5.3	7.3	3.2	8.3	4.4	5.0	2.4
SPAIN, 2 paediatric registries (1991-2013)	235	5.1	5.4	4.7	-	-	-	-	7.1	4.5	2.9	-
SPAIN, selected regions, paediatric (2000-2013)	150	4.4	5.0	3.9	-	-	-	-	6.1	4.1	2.6	-
SPAIN, Valencia, paediatric (1991-2010)	85	6.8	6.7	6.9	-	-	-	-	10.2	5.7	3.4	-
SPAIN, 11 registries (1990-2013)	181	6.1	6.6	5.6	234	5.6	6.5	4.7	9.0	5.5	2.9	4.0
SWEDEN (1990-2011)	149	4.5	5.0	4.0	178	4.0	4.6	3.4	6.8	4.5	1.5	2.4
SWITZERLAND, paediatric (1990-2013)	169	6.1	7.4	4.7	-	-	-	-	9.0	4.3	4.2	-
SWITZERLAND, 7 registries (1990-2013)	66	6.5	7.4	5.4	78	5.7	6.5	5.0	9.3	4.2	5.1	3.3
UKRAINE (2002-2012)	227	3.3	3.8	2.8	281	2.9	3.3	2.5	5.3	2.4	1.6	1.5
UK (2000-2011)	628	5.0	5.7	4.4	762	4.6	5.3	3.7	7.4	4.4	2.6	2.9
UK, England and Wales, paediatric (1991-2010)	922	5.0	5.8	4.1	-	-	-	-	7.5	4.3	2.3	-
OCEANIA												
AUSTRALIA (1992-2014)	421	5.0	5.7	4.3	508	4.6	5.3	3.8	7.4	4.2	2.7	2.9
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*6*	*2.6*	*2.6*	*2.7*	*7*	*2.4*	*2.7*	*2.1*	*5.8*	*1.2*	*0.0*	*1.6*
FRANCE, 2 registries (1990-2013)	*5*	*1.7*	*0.0*	*3.4*	*10*	*2.4*	*1.3*	*3.6*	*2.0*	*1.0*	*2.0*	*5.1*
NEW ZEALAND (1993-2012)	91	5.4	6.6	4.1	118	5.2	6.6	3.8	8.0	4.6	2.9	4.6
NEW ZEALAND, Maori (1993-2012)	18	4.2	6.8	1.5	27	5.0	8.2	1.6	6.4	2.8	3.0	7.4
NEW ZEALAND, Pacific peoples (1993-2012)	*8*	*5.3*	*6.5*	*4.0*	*9*	*4.6*	*6.0*	*3.1*	*7.2*	*7.8*	*0.0*	*2.3*
NEW ZEALAND, Other (1993-2012)	65	5.9	6.6	5.1	82	5.5	6.2	4.7	8.8	4.9	3.2	4.1
NEW ZEALAND, paediatric (2000-2012)	57	5.2	7.0	3.2	-	-	-	-	7.3	4.5	3.0	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*11*	*3.8*	*6.8*	*0.7*	-	-	-	-	*3.9*	*3.2*	*4.4*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	46	5.6	7.2	4.0	-	-	-	-	8.5	4.9	2.6	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of rhabdomyosarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.20. Fibrosarcomas, peripheral nerve sheath tumours, and other fibrous neoplasms (IXb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*8*	*0.4*	*0.4*	*0.4*	*19*	*0.7*	*0.5*	*0.9*	*0.2*	*0.2*	*1.0*	*1.6*
BOTSWANA (1999-2007)	*3*	*0.5*	*0.3*	*0.7*	*3*	*0.4*	*0.3*	*0.6*	*0.5*	*1.1*	*0.0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	15	1.0	1.3	0.6	25	1.2	1.3	1.0	0.8	1.2	0.9	1.8
FRANCE, Réunion (1990-2011)	*2*	*0.5*	*0.5*	*0.4*	*2*	*0.4*	*0.4*	*0.3*	*0.7*	*0.7*	*0.0*	*0.0*
KENYA, 2 registries (2000-2012)	*7*	*0.7*	*1.1*	*0.2*	*17*	*1.3*	*1.6*	*1.0*	*0.0*	*1.1*	*1.0*	*3.4*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	*8*	*1.1*	*1.4*	*0.8*	*13*	*1.3*	*1.5*	*1.1*	*0.4*	*0.8*	*2.4*	*2.0*
MAURITIUS (2001-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.8*
MOROCCO, 2 registries (2005-2012)	*4*	*0.4*	*0.4*	*0.5*	*10*	*0.8*	*0.9*	*0.6*	*0.7*	*0.0*	*0.6*	*1.8*
SOUTH AFRICA, paediatric (1998-2012)	56	0.3	0.4	0.2	-	-	-	-	0.5	0.1	0.2	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	43	0.2	0.3	0.2	-	-	-	-	0.5	0.1	0.1	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*10*	*0.6*	*1.0*	*0.1*	-	-	-	-	*1.1*	*0.0*	*0.5*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*3*	*0.3*	*0.3*	*0.2*	-	-	-	-	*0.5*	*0.0*	*0.2*	-
TUNISIA, 2 registries (1993-2007)	*4*	*0.2*	*0.2*	*0.1*	*19*	*0.6*	*0.8*	*0.5*	*0.0*	*0.0*	*0.6*	*2.2*
UGANDA, Kyadondo (1996-2013)	11	0.8	1.6	0.1	26	1.4	2.0	0.8	1.0	0.5	0.9	3.3
ZIMBABWE, Harare, African (1995-2013)	*8*	*0.9*	*0.2*	*1.6*	*13*	*1.1*	*0.9*	*1.4*	*1.1*	*0.0*	*1.7*	*1.7*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	152	1.0	1.2	0.8	-	-	-	-	1.0	0.7	1.4	-
ARGENTINA, 6 registries (1991-2013)	35	1.6	1.4	1.8	48	1.6	1.5	1.8	2.0	0.7	2.1	1.7
BRAZIL, 5 registries (1995-2012)	16	0.8	1.0	0.6	22	0.8	1.1	0.6	0.5	1.2	0.9	0.8
CHILE, paediatric (2007-2011)	*18*	*1.0*	*1.0*	*1.0*	-	-	-	-	*1.3*	*0.7*	*0.9*	-
CHILE, 4 registries (1998-2012)	*5*	*1.0*	*1.3*	*0.7*	*10*	*1.4*	*1.5*	*1.4*	*0.7*	*0.7*	*1.8*	*2.9*
COLOMBIA, 4 registries (1992-2013)	17	0.9	0.8	1.1	22	0.9	0.8	1.0	0.9	0.5	1.5	0.8
COSTA RICA (1993-2012)	21	0.8	0.7	1.0	29	0.9	0.8	1.0	0.7	0.6	1.3	1.0
CUBA (2000-2012)	21	0.8	0.6	1.0	31	0.8	0.7	1.0	0.8	1.1	0.4	1.0
ECUADOR, 5 registries (1993-2013)	15	0.7	0.8	0.6	28	0.9	1.2	0.7	1.0	0.4	0.7	1.8
FRANCE, 3 registries (1990-2012)	*2*	*0.6*	*1.3*	*0.0*	*4*	*0.9*	*1.8*	*0.0*	*1.0*	*0.0*	*0.9*	*1.9*
HONDURAS, Francisco Morazán (2002-2012)	*3*	*0.6*	*0.4*	*0.7*	*4*	*0.6*	*0.3*	*0.9*	*0.0*	*0.6*	*1.3*	*0.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*3*	*0.6*	*1.1*	*0.0*	*4*	*0.5*	*0.8*	*0.2*	*1.0*	*0.0*	*0.5*	*0.5*
MEXICO, Mexico City, paediatric (1997-2013)	*10*	*0.9*	*0.5*	*1.2*	-	-	-	-	*1.0*	*0.7*	*0.8*	-
PERU, Lima (2010-2012)	*2*	*0.3*	*0.0*	*0.6*	*7*	*0.7*	*0.2*	*1.2*	*0.4*	*0.4*	*0.0*	*1.9*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*3*	*0.8*	*1.1*	*0.5*	*0.0*	*0.0*	*0.0*	*3.4*
USA, Puerto Rico (1992-2012)	*13*	*0.8*	*0.7*	*0.8*	*16*	*0.7*	*0.6*	*0.8*	*1.1*	*0.5*	*0.6*	*0.5*
URUGUAY (1993-2012)	20	1.3	1.3	1.3	28	1.4	1.6	1.1	1.6	1.0	1.3	1.5
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	116	1.0	1.0	1.1	186	1.2	1.1	1.2	1.2	0.7	1.1	1.7
USA (1998-2012)	956	1.1	1.1	1.1	1532	1.2	1.2	1.2	1.4	0.6	1.2	1.8
USA, API (1998-2012)	31	0.7	0.6	0.7	47	0.8	0.7	0.8	0.8	0.4	0.8	1.0
USA, Black (1998-2012)	168	1.1	1.0	1.2	279	1.4	1.3	1.4	1.3	0.7	1.4	2.2
USA, Hispanic White (1998-2012)	167	1.0	1.0	1.0	260	1.2	1.1	1.2	1.1	0.7	1.2	1.8
USA, Native American (1998-2012)	*7*	*0.5*	*0.6*	*0.4*	*9*	*0.5*	*0.5*	*0.4*	*0.8*	*0.4*	*0.2*	*0.4*
USA, White NH (1998-2012)	552	1.1	1.1	1.0	900	1.2	1.3	1.2	1.5	0.6	1.1	1.8
USA, NPCR (1998-2012)	905	1.1	1.0	1.1	1456	1.2	1.2	1.3	1.3	0.6	1.2	1.8
USA, SEER 18 (1993-2012)	313	1.1	1.1	1.1	489	1.3	1.2	1.3	1.5	0.7	1.1	1.8
USA, Hawaii, Hawaiian (1993-2012)	*3*	*1.7*	*1.2*	*2.3*	*3*	*1.3*	*0.9*	*1.7*	*0.0*	*1.9*	*3.8*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*1*	*0.3*	*0.0*	*0.6*	*2*	*0.5*	*0.5*	*0.5*	*0.0*	*0.9*	*0.0*	*1.1*
CHINA, 6 registries (1990-2013)	49	0.9	1.0	0.7	107	1.1	1.2	1.1	1.2	0.3	1.1	2.0
CHINA, Hong Kong (1990-2013)	22	1.0	1.3	0.6	38	1.1	1.3	0.9	1.7	0.2	0.8	1.5
INDIA, 7 registries (1990-2013)	44	0.3	0.4	0.2	78	0.3	0.4	0.3	0.4	0.1	0.3	0.5
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*1*	*0.2*	*0.4*	*0.0*	*3*	*0.4*	*0.8*	*0.0*	*0.0*	*0.0*	*0.7*	*1.2*
ISRAEL (1990-2012)	43	1.1	1.0	1.1	69	1.3	1.3	1.3	1.7	0.3	1.1	2.1
ISRAEL, Jews (1990-2012)	31	1.1	1.0	1.1	53	1.4	1.4	1.3	1.7	0.3	1.0	2.4
ISRAEL, Non-Jews (1990-2012)	*12*	*1.1*	*0.9*	*1.3*	*16*	*1.1*	*1.1*	*1.1*	*1.7*	*0.3*	*1.2*	*1.4*
JAPAN, 8 registries (1990-2013)	29	0.5	0.5	0.5	62	0.7	0.7	0.7	0.8	0.3	0.3	1.4
JORDAN, Jordanians (2000-2012)	*10*	*0.4*	*0.4*	*0.4*	*17*	*0.5*	*0.3*	*0.7*	*0.5*	*0.3*	*0.2*	*0.9*
REPUBLIC OF KOREA (1999-2012)	94	0.8	0.9	0.6	169	0.9	1.1	0.8	1.1	0.3	0.9	1.6
KUWAIT (1994-2012)	*3*	*0.3*	*0.0*	*0.5*	*5*	*0.3*	*0.3*	*0.4*	*0.4*	*0.0*	*0.3*	*0.6*
KUWAIT, Kuwaitis (1994-2012)	*2*	*0.3*	*0.0*	*0.6*	*4*	*0.5*	*0.5*	*0.4*	*0.4*	*0.0*	*0.5*	*1.1*
KUWAIT, Non-Kuwaitis (1994-2012)	*1*	*0.2*	*0.0*	*0.4*	*1*	*0.2*	*0.0*	*0.3*	*0.5*	*0.0*	*0.0*	*0.0*
LEBANON (2008-2010)	*1*	*0.4*	*0.7*	*0.0*	*1*	*0.3*	*0.6*	*0.0*	*0.9*	*0.0*	*0.0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*3*	*0.5*	*0.6*	*0.4*	*5*	*0.7*	*0.8*	*0.6*	*0.0*	*0.0*	*1.7*	*1.4*
PAKISTAN, Lahore (2008-2012)	*2*	*0.1*	*0.1*	*0.1*	*5*	*0.2*	*0.1*	*0.3*	*0.0*	*0.2*	*0.2*	*0.6*
PHILIPPINES, 2 registries (1993-2012)	35	0.5	0.5	0.5	69	0.7	0.7	0.7	0.4	0.3	0.7	1.4
QATAR (2002-2014)	*2*	*0.7*	*0.6*	*0.7*	*3*	*0.8*	*1.0*	*0.6*	*0.0*	*1.0*	*1.2*	*1.3*
SAUDI ARABIA, Riyadh (1994-2012)	17	0.5	0.5	0.5	30	0.7	0.7	0.8	0.9	0.2	0.4	1.5
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	14	0.5	0.7	0.4	26	0.8	0.8	0.7	0.8	0.2	0.5	1.6
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*3*	*0.5*	*0.0*	*1.1*	*4*	*0.6*	*0.0*	*1.3*	*1.4*	*0.0*	*0.0*	*0.8*
THAILAND, 6 registries (1993-2013)	22	0.5	0.6	0.5	32	0.6	0.5	0.6	0.6	0.2	0.9	0.6
TURKEY, paediatric (2009-2011)	35	0.7	0.9	0.5	-	-	-	-	1.1	0.5	0.3	-
TURKEY, 8 registries (1992-2012)	39	1.0	0.7	1.4	66	1.2	1.0	1.5	1.5	0.8	0.7	1.9
VIET NAM, Ho Chi Minh City (1995-2013)	*14*	*0.6*	*0.7*	*0.5*	*17*	*0.5*	*0.6*	*0.4*	*0.7*	*0.2*	*0.8*	*0.3*
EUROPE												
AUSTRIA (1990-2012)	26	0.9	1.0	0.7	47	1.1	1.2	0.9	1.2	0.2	1.1	1.9
BELARUS, paediatric (1990-2014)	47	1.0	1.2	0.9	73	1.1	1.2	1.1	1.3	0.5	1.4	1.4
BELGIUM (2004-2013)	18	1.0	1.3	0.7	32	1.3	1.2	1.3	1.1	0.5	1.3	2.2
BULGARIA (1990-2013)	24	0.8	1.1	0.4	57	1.2	1.6	0.8	0.7	0.5	1.2	2.6
CROATIA (2001-2014)	*13*	*1.5*	*1.3*	*1.7*	*15*	*1.3*	*1.0*	*1.6*	*2.4*	*0.6*	*1.2*	*0.6*
CYPRUS, South-West (1998-2012)	*2*	*0.9*	*0.7*	*1.2*	*4*	*1.2*	*0.5*	*2.0*	*1.5*	*0.0*	*1.2*	*2.3*
CZECH REPUBLIC (1990-2012)	38	1.0	0.9	1.1	52	1.0	0.9	1.1	1.5	0.5	0.8	0.8
ESTONIA (1990-2012)	*5*	*0.9*	*0.4*	*1.5*	*14*	*1.6*	*1.3*	*2.0*	*1.7*	*0.0*	*1.0*	*4.0*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of fibrosarcoma, peripheral nerve sheath tumour or other fibrous neoplasm in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.20. Fibrosarcomas, peripheral nerve sheath tumours, and other fibrous neoplasms (IXb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	105	0.7	0.8	0.6	-	-	-	-	1.1	0.3	0.7	-
FRANCE, 13 registries (1993-2012)	17	0.6	0.8	0.3	33	0.8	0.9	0.6	0.8	0.3	0.6	1.4
GERMANY, paediatric (1996-2012)	177	0.9	0.9	0.9	-	-	-	-	1.2	0.5	1.0	-
GERMANY, 6 Eastern states (2001-2007)	*11*	*0.8*	*0.6*	*1.0*	*19*	*0.9*	*0.6*	*1.1*	*0.9*	*0.7*	*0.8*	*1.1*
GERMANY, 5 Western registries (1994-2012)	47	1.0	1.1	0.8	81	1.2	1.1	1.2	1.3	0.7	0.9	1.8
HUNGARY, paediatric (1991-2014)	44	1.2	1.1	1.3	-	-	-	-	2.1	0.4	0.9	-
ICELAND (1990-2014)	*3*	*1.8*	*1.4*	*2.3*	*5*	*2.2*	*2.7*	*1.8*	*1.8*	*1.8*	*1.8*	*3.7*
IRELAND (1994-2012)	18	1.1	1.4	0.8	26	1.2	1.4	0.8	1.3	0.9	1.1	1.3
ITALY, 2 paediatric registries (1998-2011)	12	1.4	2.1	0.7	21	1.8	2.5	1.0	1.8	0.4	2.1	3.1
ITALY, Piedmont, paediatric (1990-2011)	*16*	*1.4*	*1.5*	*1.3*	-	-	-	-	*1.8*	*0.8*	*1.5*	-
ITALY, 26 registries (1992-2013)	43	1.0	1.0	1.1	65	1.1	1.1	1.2	1.1	0.8	1.2	1.5
LITHUANIA (2000-2012)	*5*	*0.7*	*0.8*	*0.7*	*10*	*0.9*	*1.1*	*0.7*	*0.5*	*1.3*	*0.4*	*1.6*
MALTA (1994-2013)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.8*	*0.0*	*1.7*	*0.0*	*0.0*	*0.0*	*3.6*
THE NETHERLANDS (1993-2013)	28	0.5	0.6	0.3	39	0.5	0.6	0.4	0.6	0.1	0.6	0.5
NORWAY (1990-2013)	22	1.0	0.6	1.4	39	1.3	0.9	1.8	1.0	0.6	1.6	2.4
POLAND (2001-2013)	95	1.2	1.4	1.0	144	1.2	1.4	1.1	1.6	0.7	1.3	1.4
PORTUGAL (1991-2012)	8	0.3	0.2	0.4	20	0.5	0.4	0.6	0.5	0.1	0.3	1.2
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*10*	*1.1*	*1.3*	*0.9*	-	-	-	-	*0.7*	*1.2*	*1.4*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	20	1.8	1.9	1.8	30	1.9	2.2	1.6	2.4	2.0	1.0	2.0
SLOVAKIA (1990-2009)	23	1.1	0.9	1.3	35	1.2	1.0	1.4	1.7	0.4	1.1	1.4
SLOVAKIA, paediatric (2000-2012)	*9*	*0.9*	*0.9*	*0.8*	-	-	-	-	*1.7*	*0.3*	*0.5*	-
SLOVENIA (1991-2012)	*4*	*0.6*	*1.2*	*0.0*	*8*	*0.8*	*1.1*	*0.5*	*0.9*	*0.9*	*0.0*	*1.4*
SPAIN, 2 paediatric registries (1991-2013)	52	1.1	1.2	1.0	-	-	-	-	1.4	0.7	1.1	-
SPAIN, selected regions, paediatric (2000-2013)	33	1.0	1.1	0.8	-	-	-	-	1.0	0.7	1.1	-
SPAIN, Valencia, paediatric (1991-2010)	*19*	*1.5*	*1.4*	*1.7*	-	-	-	-	*2.6*	*0.7*	*1.0*	-
SPAIN, 11 registries (1990-2013)	20	0.6	0.7	0.5	40	0.8	0.7	0.9	0.5	0.5	0.9	1.5
SWEDEN (1990-2011)	45	1.3	1.6	1.0	70	1.5	1.8	1.2	1.5	1.1	1.2	2.0
SWITZERLAND, paediatric (1990-2013)	20	0.7	1.0	0.3	-	-	-	-	0.8	0.2	1.0	-
SWITZERLAND, 7 registries (1990-2013)	*13*	*1.2*	*1.9*	*0.4*	*18*	*1.2*	*2.0*	*0.4*	*0.8*	*1.1*	*1.7*	*1.4*
UKRAINE (2002-2012)	106	1.4	1.5	1.3	212	1.7	1.8	1.7	1.8	0.8	1.5	2.9
UK (2000-2011)	115	0.9	1.0	0.8	169	0.9	1.0	0.9	1.0	0.4	1.2	1.2
UK, England and Wales, paediatric (1991-2010)	161	0.8	0.8	0.8	-	-	-	-	0.8	0.4	1.2	-
OCEANIA												
AUSTRALIA (1992-2014)	79	0.9	1.0	0.9	134	1.1	1.1	1.1	1.1	0.6	0.9	1.8
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*3*	*1.3*	*0.9*	*1.8*	*3*	*1.0*	*0.7*	*1.4*	*3.5*	*0.0*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*1*	*0.3*	*0.6*	*0.0*	*3*	*0.7*	*0.4*	*0.9*	*0.0*	*0.0*	*1.0*	*2.0*
NEW ZEALAND (1993-2012)	17	1.0	0.9	1.2	21	0.9	0.8	1.1	1.7	0.7	0.5	0.7
NEW ZEALAND, Maori (1993-2012)	*1*	*0.2*	*0.0*	*0.4*	*2*	*0.4*	*0.0*	*0.7*	*0.0*	*0.0*	*0.7*	*0.8*
NEW ZEALAND, Pacific peoples (1993-2012)	*1*	*0.7*	*0.0*	*1.4*	*2*	*1.0*	*0.0*	*2.1*	*1.8*	*0.0*	*0.0*	*2.3*
NEW ZEALAND, Other (1993-2012)	*15*	*1.4*	*1.3*	*1.5*	*17*	*1.2*	*1.2*	*1.1*	*2.4*	*1.0*	*0.5*	*0.5*
NEW ZEALAND, paediatric (2000-2012)	*8*	*0.7*	*0.7*	*0.7*	-	-	-	-	*1.0*	*0.5*	*0.5*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*8*	*1.0*	*1.0*	*1.0*	-	-	-	-	*1.4*	*0.7*	*0.7*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of fibrosarcoma, peripheral nerve sheath tumour or other fibrous neoplasm in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.21. Kaposi sarcoma (IXc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
BOTSWANA (1999-2007)	45	7.7	7.8	7.6	64	8.4	8.5	8.2	4.1	12.6	7.0	10.7
CAMEROON, Yaoundé (2004-2006)	*8*	*3.3*	*4.3*	*2.4*	*15*	*5.2*	*6.4*	*4.0*	*3.3*	*5.1*	*1.5*	*11.5*
EGYPT, Gharbiah (1999-2010)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
FRANCE, Réunion (1990-2011)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KENYA, 2 registries (2000-2012)	37	3.5	5.1	1.9	45	3.3	4.8	1.9	1.6	3.4	6.1	2.7
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	*2*	*0.3*	*0.3*	*0.3*	*5*	*0.5*	*0.6*	*0.4*	*0.0*	*0.4*	*0.5*	*1.2*
MAURITIUS (2001-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
SOUTH AFRICA, paediatric (1998-2012)	240	1.1	1.3	0.9	-	-	-	-	1.0	1.5	0.8	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*1*	*0.3*	*0.6*	*0.0*	-	-	-	-	*0.8*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	232	1.3	1.6	1.0	-	-	-	-	1.1	1.8	0.9	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*7*	*0.4*	*0.1*	*0.6*	-	-	-	-	*0.3*	*0.3*	*0.5*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
TUNISIA, 2 registries (1993-2007)	*2*	*0.1*	*0.2*	*0.0*	*3*	*0.1*	*0.1*	*0.1*	*0.0*	*0.2*	*0.1*	*0.1*
UGANDA, Kyadondo (1996-2013)	385	28.4	37.2	20.3	529	29.2	36.2	22.8	20.9	32.2	34.0	32.0
ZIMBABWE, Harare, African (1995-2013)	173	20.4	26.1	14.9	238	20.8	26.4	15.5	14.4	28.8	19.0	22.0
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
ARGENTINA, 6 registries (1991-2013)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.3*
BRAZIL, 5 registries (1995-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*
CHILE, paediatric (2007-2011)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
CHILE, 4 registries (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	*0*	*0.0*	*0.0*	*0.0*	*3*	*0.1*	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.5*
COSTA RICA (1993-2012)	*1*	*0.0*	*0.0*	*0.1*	*1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.1*	*0.0*
CUBA (2000-2012)	*1*	*0.0*	*0.1*	*0.0*	*5*	*0.1*	*0.2*	*0.0*	*0.0*	*0.0*	*0.1*	*0.4*
ECUADOR, 5 registries (1993-2013)	*1*	*0.0*	*0.0*	*0.1*	*2*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*
FRANCE, 3 registries (1990-2012)	*1*	*0.4*	*0.7*	*0.0*	*1*	*0.3*	*0.6*	*0.0*	*1.0*	*0.0*	*0.0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
PERU, Lima (2010-2012)	*1*	*0.2*	*0.0*	*0.3*	*1*	*0.1*	*0.0*	*0.3*	*0.4*	*0.0*	*0.0*	*0.0*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.2*
URUGUAY (1993-2012)	*1*	*0.1*	*0.2*	*0.0*	*1*	*0.1*	*0.1*	*0.0*	*0.2*	*0.0*	*0.0*	*0.0*
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	*0*	*0.0*	*0.0*	*0.0*	*5*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
USA (1998-2012)	20	0.0	0.0	0.0	55	0.0	0.1	0.0	0.0	0.0	0.0	0.1
USA, API (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
USA, Black (1998-2012)	7	0.0	0.1	0.0	31	0.1	0.2	0.0	0.1	0.0	0.1	0.5
USA, Hispanic White (1998-2012)	*4*	*0.0*	*0.0*	*0.0*	*7*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
USA, Native American (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, White NH (1998-2012)	*8*	*0.0*	*0.0*	*0.0*	*15*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, NPCR (1998-2012)	20	0.0	0.0	0.0	55	0.0	0.1	0.0	0.0	0.0	0.0	0.1
USA, SEER 18 (1993-2012)	*5*	*0.0*	*0.0*	*0.0*	*15*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CHINA, 6 registries (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CHINA, Hong Kong (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
INDIA, 7 registries (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ISRAEL (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*7*	*0.1*	*0.2*	*0.1*	*0.0*	*0.0*	*0.0*	*0.6*
ISRAEL, Jews (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*6*	*0.1*	*0.2*	*0.1*	*0.0*	*0.0*	*0.0*	*0.6*
ISRAEL, Non-Jews (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
JAPAN, 8 registries (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
JORDAN, Jordanians (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
REPUBLIC OF KOREA (1999-2012)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
LEBANON (2008-2010)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.0*	*0.3*	*0.0*	*0.0*	*0.0*	*0.7*
PAKISTAN, Lahore (2008-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PHILIPPINES, 2 registries (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	*1*	*0.0*	*0.1*	*0.0*	*1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*1*	*0.2*	*0.4*	*0.0*	*1*	*0.1*	*0.3*	*0.0*	*0.5*	*0.0*	*0.0*	*0.0*
THAILAND, 6 registries (1993-2013)	*1*	*0.0*	*0.0*	*0.0*	*4*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.2*
TURKEY, paediatric (2009-2011)	*1*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.1*	*0.0*	-
TURKEY, 8 registries (1992-2012)	*3*	*0.1*	*0.0*	*0.1*	*6*	*0.1*	*0.1*	*0.1*	*0.0*	*0.2*	*0.1*	*0.2*
VIET NAM, Ho Chi Minh City (1995-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EUROPE												
AUSTRIA (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
BELARUS, paediatric (1990-2014)	*1*	*0.0*	*0.0*	*0.0*	*3*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*
BELGIUM (2004-2013)	*1*	*0.0*	*0.1*	*0.0*	*3*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.2*	*0.3*
BULGARIA (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CROATIA (2001-2014)	*1*	*0.1*	*0.0*	*0.2*	*1*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.3*	*0.0*
CYPRUS, South-West (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.3*	*0.5*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
CZECH REPUBLIC (1990-2012)	*2*	*0.1*	*0.0*	*0.1*	*2*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*	*0.1*	*0.0*
ESTONIA (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of Kaposi sarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 8.21. Kaposi sarcoma (IXc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	*4*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
FRANCE, 13 registries (1993-2012)	*1*	*0.0*	*0.1*	*0.0*	*3*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.1*	*0.2*
GERMANY, paediatric (1996-2012)	*1*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
GERMANY, 6 Eastern states (2001-2007)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
GERMANY, 5 Western registries (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
HUNGARY, paediatric (1991-2014)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
ICELAND (1990-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
IRELAND (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ITALY, 2 paediatric registries (1998-2011)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ITALY, Piedmont, paediatric (1990-2011)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
ITALY, 26 registries (1992-2013)	*1*	*0.0*	*0.1*	*0.0*	*3*	*0.1*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.1*
LITHUANIA (2000-2012)	*1*	*0.2*	*0.0*	*0.4*	*1*	*0.1*	*0.0*	*0.3*	*0.5*	*0.0*	*0.0*	*0.0*
MALTA (1994-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	*1*	*0.0*	*0.0*	*0.0*	*6*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.2*
NORWAY (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
POLAND (2001-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PORTUGAL (1991-2012)	*3*	*0.1*	*0.0*	*0.2*	*7*	*0.2*	*0.0*	*0.3*	*0.0*	*0.0*	*0.3*	*0.4*
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SLOVAKIA (1990-2009)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SLOVAKIA, paediatric (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SLOVENIA (1991-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SPAIN, 2 paediatric registries (1991-2013)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SPAIN, selected regions, paediatric (2000-2013)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SPAIN, Valencia, paediatric (1991-2010)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SPAIN, 11 registries (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*3*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.2*
SWEDEN (1990-2011)	*1*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*
SWITZERLAND, paediatric (1990-2013)	*2*	*0.1*	*0.0*	*0.1*	-	-	-	-	*0.1*	*0.0*	*0.1*	-
SWITZERLAND, 7 registries (1990-2013)	*2*	*0.2*	*0.0*	*0.4*	*2*	*0.1*	*0.0*	*0.3*	*0.3*	*0.0*	*0.3*	*0.0*
UKRAINE (2002-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
UK (2000-2011)	*5*	*0.0*	*0.0*	*0.0*	*10*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*
UK, England and Wales, paediatric (1991-2010)	*9*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.1*	*0.1*	-
OCEANIA												
AUSTRALIA (1992-2014)	*1*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND (1993-2012)	*1*	*0.0*	*0.0*	*0.1*	*2*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.2*	*0.2*
NEW ZEALAND, Maori (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*1*	*0.6*	*0.0*	*1.3*	*1*	*0.5*	*0.0*	*1.0*	*0.0*	*0.0*	*2.1*	*0.0*
NEW ZEALAND, Other (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.2*
NEW ZEALAND, paediatric (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of Kaposi sarcoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.22. Intracranial and intraspinal germ cell tumours (Xa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*4*	*0.2*	*0.3*	*0.1*	*4*	*0.2*	*0.2*	*0.1*	*0.0*	*0.2*	*0.5*	*0.0*
BOTSWANA (1999-2007)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	*2*	*0.1*	*0.2*	*0.0*	*4*	*0.2*	*0.3*	*0.0*	*0.0*	*0.0*	*0.4*	*0.4*
FRANCE, Réunion (1990-2011)	*6*	*1.3*	*1.2*	*1.3*	*8*	*1.3*	*1.5*	*1.0*	*0.0*	*2.7*	*1.3*	*1.4*
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MAURITIUS (2001-2013)	*2*	*0.5*	*0.0*	*1.0*	*2*	*0.4*	*0.0*	*0.7*	*0.0*	*0.8*	*0.7*	*0.0*
MOROCCO, 2 registries (2005-2012)	*3*	*0.3*	*0.4*	*0.3*	*4*	*0.3*	*0.4*	*0.2*	*0.3*	*0.0*	*0.6*	*0.3*
SOUTH AFRICA, paediatric (1998-2012)	*16*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.0*	*0.1*	*0.1*	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*2*	*0.5*	*0.6*	*0.4*	-	-	-	-	*0.8*	*0.0*	*0.7*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	*6*	*0.0*	*0.0*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*1*	*0.0*	*0.1*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.2*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*7*	*0.5*	*0.7*	*0.3*	-	-	-	-	*0.0*	*0.8*	*0.9*	-
TUNISIA, 2 registries (1993-2007)	*2*	*0.1*	*0.1*	*0.1*	*3*	*0.1*	*0.1*	*0.1*	*0.0*	*0.2*	*0.1*	*0.1*
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	108	0.7	0.8	0.5	-	-	-	-	0.1	0.6	1.6	-
ARGENTINA, 6 registries (1991-2013)	25	1.1	1.4	0.8	26	0.9	1.1	0.6	0.6	1.1	1.7	0.1
BRAZIL, 5 registries (1995-2012)	15	0.8	1.3	0.2	22	0.8	1.3	0.3	0.3	0.8	1.2	1.0
CHILE, paediatric (2007-2011)	24	1.2	1.7	0.7	-	-	-	-	0.7	1.3	1.8	-
CHILE, 4 registries (1998-2012)	*1*	*0.2*	*0.3*	*0.0*	*3*	*0.4*	*0.8*	*0.0*	*0.0*	*0.0*	*0.6*	*1.2*
COLOMBIA, 4 registries (1992-2013)	*9*	*0.5*	*0.7*	*0.2*	*14*	*0.5*	*0.9*	*0.2*	*0.0*	*0.5*	*1.0*	*0.8*
COSTA RICA (1993-2012)	*11*	*0.4*	*0.7*	*0.2*	*13*	*0.4*	*0.6*	*0.1*	*0.3*	*0.5*	*0.6*	*0.3*
CUBA (2000-2012)	*5*	*0.2*	*0.2*	*0.2*	*8*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.3*	*0.3*
ECUADOR, 5 registries (1993-2013)	*8*	*0.4*	*0.6*	*0.2*	*11*	*0.4*	*0.6*	*0.1*	*0.6*	*0.1*	*0.4*	*0.4*
FRANCE, 3 registries (1990-2012)	*4*	*1.3*	*0.5*	*2.2*	*4*	*1.0*	*0.4*	*1.7*	*2.0*	*1.0*	*0.9*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*2*	*0.4*	*0.4*	*0.4*	*2*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*1.3*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	*2*	*0.3*	*0.3*	*0.3*	*2*	*0.3*	*0.3*	*0.3*	*0.0*	*1.0*	*0.0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	24	1.8	2.8	0.8	-	-	-	-	0.5	1.2	4.3	-
PERU, Lima (2010-2012)	*1*	*0.1*	*0.2*	*0.0*	*2*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*0.4*	*0.4*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	*14*	*0.7*	*1.3*	*0.1*	*19*	*0.7*	*1.3*	*0.2*	*0.4*	*0.8*	*1.1*	*0.8*
URUGUAY (1993-2012)	*7*	*0.4*	*0.6*	*0.2*	*10*	*0.5*	*0.6*	*0.4*	*0.2*	*0.6*	*0.6*	*0.6*
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	181	1.4	1.9	0.9	285	1.7	2.5	0.8	0.7	1.0	2.9	2.5
USA (1998-2012)	1494	1.6	1.9	1.2	2257	1.8	2.4	1.1	1.0	1.3	2.7	2.4
USA, API (1998-2012)	126	2.6	3.3	1.9	189	2.9	4.1	1.8	1.0	1.9	5.6	4.1
USA, Black (1998-2012)	137	0.9	1.0	0.8	227	1.1	1.4	0.8	0.8	0.7	1.3	1.8
USA, Hispanic White (1998-2012)	294	1.7	2.3	1.0	428	1.9	2.7	1.0	0.9	1.3	3.2	2.6
USA, Native American (1998-2012)	*12*	*0.8*	*1.0*	*0.6*	*15*	*0.7*	*1.0*	*0.4*	*0.6*	*0.2*	*1.6*	*0.6*
USA, White NH (1998-2012)	885	1.6	1.9	1.3	1349	1.8	2.3	1.2	1.1	1.3	2.6	2.4
USA, NPCR (1998-2012)	1437	1.6	1.9	1.2	2165	1.8	2.4	1.1	1.0	1.3	2.7	2.4
USA, SEER 18 (1993-2012)	449	1.4	1.9	1.0	714	1.7	2.5	0.9	0.6	1.2	2.9	2.8
USA, Hawaii, Hawaiian (1993-2012)	*2*	*1.2*	*2.2*	*0.0*	*7*	*3.1*	*5.2*	*0.9*	*0.0*	*1.9*	*1.9*	*10.0*
ASIA												
BAHRAIN (1998-2012)	*6*	*1.8*	*2.8*	*0.6*	*6*	*1.4*	*2.2*	*0.5*	*0.0*	*0.9*	*5.0*	*0.0*
CHINA, 6 registries (1990-2013)	140	2.1	2.5	1.8	213	2.2	2.8	1.6	0.8	1.7	4.4	2.6
CHINA, Hong Kong (1990-2013)	91	3.0	3.7	2.3	142	3.5	4.9	1.9	0.7	2.5	6.7	4.9
INDIA, 7 registries (1990-2013)	*10*	*0.1*	*0.1*	*0.0*	*14*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*2*	*0.4*	*0.4*	*0.4*	*2*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*1.5*	*0.0*
ISRAEL (1990-2012)	22	0.5	0.5	0.5	35	0.6	0.8	0.5	0.2	0.7	0.7	1.1
ISRAEL, Jews (1990-2012)	18	0.6	0.6	0.6	29	0.7	0.9	0.5	0.3	0.7	0.8	1.2
ISRAEL, Non-Jews (1990-2012)	*4*	*0.3*	*0.3*	*0.3*	*6*	*0.4*	*0.4*	*0.4*	*0.0*	*0.8*	*0.3*	*0.7*
JAPAN, 8 registries (1990-2013)	235	3.6	4.6	2.5	353	3.9	5.3	2.3	1.6	3.6	6.1	4.9
JORDAN, Jordanians (2000-2012)	*11*	*0.4*	*0.5*	*0.3*	*15*	*0.4*	*0.5*	*0.3*	*0.2*	*0.1*	*0.9*	*0.5*
REPUBLIC OF KOREA (1999-2012)	453	3.1	4.1	2.0	725	3.6	5.2	1.9	0.6	2.9	6.6	5.6
KUWAIT (1994-2012)	*5*	*0.4*	*0.6*	*0.2*	*5*	*0.3*	*0.5*	*0.1*	*0.7*	*0.0*	*0.5*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*2*	*0.3*	*0.3*	*0.3*	*2*	*0.2*	*0.2*	*0.2*	*0.4*	*0.0*	*0.5*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*3*	*0.6*	*1.2*	*0.0*	*3*	*0.5*	*0.9*	*0.0*	*1.1*	*0.0*	*0.7*	*0.0*
LEBANON (2008-2010)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*2*	*0.3*	*0.3*	*0.4*	*2*	*0.3*	*0.2*	*0.3*	*0.0*	*0.5*	*0.6*	*0.0*
PAKISTAN, Lahore (2008-2012)	*2*	*0.1*	*0.0*	*0.2*	*2*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.3*	*0.0*
PHILIPPINES, 2 registries (1993-2012)	34	0.4	0.6	0.3	50	0.5	0.7	0.3	0.2	0.4	0.8	0.7
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	22	0.6	0.9	0.4	28	0.6	0.9	0.4	0.2	0.5	1.3	0.7
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	20	0.7	1.0	0.4	26	0.7	1.0	0.5	0.3	0.4	1.5	0.8
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*2*	*0.3*	*0.3*	*0.3*	*2*	*0.3*	*0.3*	*0.3*	*0.0*	*1.0*	*0.0*	*0.0*
THAILAND, 6 registries (1993-2013)	57	1.3	1.8	0.7	87	1.4	2.1	0.7	0.3	0.9	2.9	1.9
TURKEY, paediatric (2009-2011)	28	0.5	0.5	0.4	-	-	-	-	0.2	0.5	0.8	-
TURKEY, 8 registries (1992-2012)	31	0.7	0.8	0.6	37	0.7	0.7	0.6	0.4	0.6	1.3	0.4
VIET NAM, Ho Chi Minh City (1995-2013)	*6*	*0.2*	*0.2*	*0.2*	*12*	*0.3*	*0.3*	*0.3*	*0.0*	*0.4*	*0.4*	*0.5*
EUROPE												
AUSTRIA (1990-2012)	25	0.7	0.9	0.5	39	0.8	1.2	0.5	0.2	0.6	1.6	1.3
BELARUS, paediatric (1990-2014)	31	0.6	0.7	0.6	40	0.6	0.8	0.4	0.3	0.6	1.1	0.5
BELGIUM (2004-2013)	28	1.4	1.5	1.3	45	1.7	2.2	1.2	0.8	1.2	2.6	2.7
BULGARIA (1990-2013)	*5*	*0.1*	*0.3*	*0.0*	*14*	*0.3*	*0.5*	*0.0*	*0.0*	*0.1*	*0.4*	*0.7*
CROATIA (2001-2014)	*5*	*0.5*	*0.8*	*0.2*	*6*	*0.4*	*0.7*	*0.1*	*0.0*	*1.0*	*0.6*	*0.3*
CYPRUS, South-West (1998-2012)	*3*	*1.5*	*1.8*	*1.2*	*3*	*1.2*	*1.4*	*0.9*	*3.0*	*0.0*	*1.2*	*0.0*
CZECH REPUBLIC (1990-2012)	41	1.0	1.2	0.7	57	1.0	1.3	0.6	1.0	0.4	1.7	1.0
ESTONIA (1990-2012)	*4*	*0.6*	*0.9*	*0.3*	*7*	*0.8*	*1.1*	*0.5*	*0.0*	*1.6*	*0.5*	*1.3*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of intracranial or intraspinal germ cell tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 8.22. Intracranial and intraspinal germ cell tumours (Xa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	316	2.1	2.5	1.7	-	-	-	-	1.8	1.4	3.2	-
FRANCE, 13 registries (1993-2012)	41	1.3	1.3	1.3	66	1.5	1.9	1.1	1.1	1.0	1.9	2.3
GERMANY, paediatric (1996-2012)	267	1.2	1.4	0.9	-	-	-	-	0.4	1.1	2.3	-
GERMANY, 6 Eastern states (2001-2007)	11	0.7	1.2	0.1	22	0.9	1.6	0.1	0.0	0.5	1.8	1.5
GERMANY, 5 Western registries (1994-2012)	50	0.9	0.9	0.8	85	1.1	1.4	0.7	0.1	0.6	2.1	1.9
GREECE, paediatric, CNS tumours (2010-2014)	*13*	*1.5*	*1.8*	*1.2*	-	-	-	-	*1.1*	*0.7*	*3.0*	-
HUNGARY, paediatric (1991-2014)	30	0.7	0.6	0.8	-	-	-	-	0.4	0.8	1.0	-
ICELAND (1990-2014)	*2*	*1.2*	*1.2*	*1.2*	*3*	*1.3*	*1.7*	*0.9*	*0.0*	*3.7*	*0.0*	*1.8*
IRELAND (1994-2012)	20	1.1	1.4	0.8	29	1.2	1.6	0.8	0.5	0.9	2.1	1.5
ITALY, 2 paediatric registries (1998-2011)	21	2.5	3.4	1.5	23	2.1	2.8	1.3	2.5	1.4	3.6	0.7
ITALY, Piedmont, paediatric (1990-2011)	*18*	*1.5*	*1.9*	*1.0*	-	-	-	-	*1.0*	*1.3*	*2.2*	-
ITALY, 26 registries (1992-2013)	56	1.3	1.6	1.0	78	1.3	1.7	0.9	1.0	0.9	2.2	1.5
LITHUANIA (2000-2012)	*6*	*0.7*	*0.5*	*0.8*	*8*	*0.6*	*0.5*	*0.8*	*0.0*	*0.4*	*1.8*	*0.6*
MALTA (1994-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.4*	*0.0*	*0.8*	*0.0*	*0.0*	*0.0*	*1.8*
THE NETHERLANDS (1993-2013)	89	1.4	1.8	1.0	136	1.6	2.3	0.9	1.0	1.2	2.1	2.3
NORWAY (1990-2013)	28	1.2	1.3	1.1	45	1.5	1.9	1.1	0.6	1.1	2.3	2.4
POLAND (2001-2013)	67	0.8	1.0	0.5	111	0.9	1.2	0.5	0.4	0.6	1.4	1.2
PORTUGAL (1991-2012)	42	1.4	1.9	0.9	63	1.6	2.3	0.8	0.3	1.7	2.6	2.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*12*	*1.2*	*1.8*	*0.6*	-	-	-	-	*0.7*	*0.8*	*2.3*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*4*	*0.3*	*0.7*	*0.0*	*7*	*0.4*	*0.8*	*0.0*	*0.3*	*0.3*	*0.5*	*0.6*
SLOVAKIA (1990-2009)	18	0.9	1.3	0.4	28	0.9	1.4	0.4	1.1	0.6	0.9	1.1
SLOVAKIA, paediatric (2000-2012)	*17*	*1.3*	*1.5*	*1.2*	-	-	-	-	*1.4*	*0.3*	*2.5*	-
SLOVENIA (1991-2012)	*8*	*1.1*	*1.7*	*0.5*	*10*	*1.0*	*1.6*	*0.4*	*0.5*	*2.2*	*0.8*	*0.7*
SPAIN, 2 paediatric registries (1991-2013)	68	1.4	1.8	0.9	-	-	-	-	0.7	1.5	2.1	-
SPAIN, selected regions, paediatric (2000-2013)	58	1.6	2.2	1.0	-	-	-	-	0.6	2.0	2.5	-
SPAIN, Valencia, paediatric (1991-2010)	*10*	*0.7*	*0.9*	*0.5*	-	-	-	-	*0.7*	*0.2*	*1.2*	-
SPAIN, 11 registries (1990-2013)	38	1.1	1.6	0.7	57	1.2	1.7	0.7	0.7	1.6	1.2	1.4
SWEDEN (1990-2011)	45	1.3	1.3	1.3	71	1.5	1.8	1.2	1.8	0.8	1.3	2.1
SWITZERLAND, paediatric (1990-2013)	33	1.0	1.5	0.5	-	-	-	-	0.3	1.1	1.9	-
SWITZERLAND, 7 registries (1990-2013)	*9*	*0.8*	*1.5*	*0.0*	*14*	*0.9*	*1.6*	*0.1*	*0.0*	*0.6*	*2.0*	*1.4*
UKRAINE (2002-2012)	39	0.5	0.6	0.4	57	0.5	0.6	0.4	0.4	0.4	0.7	0.5
UK (2000-2011)	162	1.1	1.5	0.6	260	1.3	2.0	0.6	0.3	0.9	2.4	2.1
UK, England and Wales, paediatric (1991-2010)	309	1.5	1.8	1.2	-	-	-	-	1.0	1.1	2.6	-
OCEANIA												
AUSTRALIA (1992-2014)	135	1.4	1.9	1.0	203	1.6	2.3	0.9	0.8	1.1	2.7	2.3
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*3*	*1.2*	*2.4*	*0.0*	*3*	*0.9*	*1.8*	*0.0*	*0.0*	*1.2*	*2.8*	*0.0*
FRANCE, 2 registries (1990-2013)	*4*	*1.3*	*1.9*	*0.6*	*5*	*1.2*	*1.9*	*0.5*	*1.0*	*1.0*	*2.0*	*1.0*
NEW ZEALAND (1993-2012)	37	1.9	2.2	1.7	53	2.1	2.7	1.5	0.5	1.7	4.1	2.7
NEW ZEALAND, Maori (1993-2012)	*9*	*2.0*	*2.6*	*1.3*	*16*	*2.9*	*4.3*	*1.4*	*0.6*	*1.4*	*4.5*	*5.8*
NEW ZEALAND, Pacific peoples (1993-2012)	*10*	*6.2*	*4.8*	*7.6*	*11*	*5.3*	*4.7*	*5.9*	*0.0*	*3.9*	*16.9*	*2.3*
NEW ZEALAND, Other (1993-2012)	18	1.4	1.7	1.1	26	1.5	2.1	1.0	0.5	1.5	2.5	1.9
NEW ZEALAND, paediatric (2000-2012)	24	1.9	1.8	1.9	-	-	-	-	0.5	1.3	4.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*8*	*2.6*	*3.3*	*2.0*	-	-	-	-	*1.0*	*1.1*	*6.6*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*16*	*1.6*	*1.3*	*2.0*	-	-	-	-	*0.4*	*1.4*	*3.6*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of intracranial or intraspinal germ cell tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.23. Malignant extracranial and extragonadal germ cell tumours (Xb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*5*	*0.3*	*0.2*	*0.4*	*8*	*0.3*	*0.3*	*0.3*	*0.3*	*0.2*	*0.3*	*0.4*
BOTSWANA (1999-2007)	*1*	*0.2*	*0.4*	*0.0*	*2*	*0.3*	*0.3*	*0.3*	*0.5*	*0.0*	*0.0*	*0.6*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	16	1.2	0.9	1.5	20	1.1	0.8	1.4	2.5	0.6	0.2	0.7
FRANCE, Réunion (1990-2011)	*3*	*0.8*	*1.0*	*0.5*	*6*	*1.1*	*1.4*	*0.7*	*2.1*	*0.0*	*0.0*	*2.1*
KENYA, 2 registries (2000-2012)	*4*	*0.4*	*0.2*	*0.5*	*7*	*0.5*	*0.1*	*0.8*	*0.9*	*0.0*	*0.0*	*1.0*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	9	1.2	1.6	0.8	25	2.4	1.3	3.1	2.9	0.4	0.0	6.3
MAURITIUS (2001-2013)	*3*	*0.9*	*0.7*	*1.1*	*6*	*1.2*	*1.2*	*1.2*	*1.7*	*0.0*	*0.7*	*2.3*
MOROCCO, 2 registries (2005-2012)	*7*	*0.9*	*0.3*	*1.5*	*10*	*0.9*	*0.2*	*1.6*	*2.0*	*0.0*	*0.3*	*0.9*
SOUTH AFRICA, paediatric (1998-2012)	208	1.0	0.5	1.5	-	-	-	-	2.0	0.4	0.4	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	167	1.0	0.4	1.5	-	-	-	-	1.8	0.4	0.5	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	22	1.3	0.9	1.7	-	-	-	-	3.1	0.2	0.2	-
SOUTH AFRICA, paediatric, White (1998-2012)	*18*	*1.7*	*1.1*	*2.3*	-	-	-	-	*3.5*	*0.8*	*0.5*	-
TUNISIA, 2 registries (1993-2007)	*5*	*0.3*	*0.3*	*0.4*	*10*	*0.4*	*0.5*	*0.4*	*0.9*	*0.0*	*0.0*	*0.7*
UGANDA, Kyadondo (1996-2013)	*4*	*0.3*	*0.3*	*0.3*	*15*	*0.8*	*0.2*	*1.1*	*0.4*	*0.0*	*0.5*	*2.4*
ZIMBABWE, Harare, African (1995-2013)	*10*	*1.1*	*0.4*	*1.7*	*14*	*1.2*	*0.3*	*1.9*	*2.8*	*0.0*	*0.0*	*1.4*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	109	0.8	0.6	1.1	-	-	-	-	1.6	0.1	0.5	-
ARGENTINA, 6 registries (1991-2013)	22	1.1	1.1	1.2	36	1.3	1.2	1.3	2.2	0.1	0.7	1.9
BRAZIL, 5 registries (1995-2012)	22	1.4	0.9	2.0	38	1.6	0.9	2.3	3.6	0.0	0.2	2.2
CHILE, paediatric (2007-2011)	21	1.2	1.3	1.1	-	-	-	-	2.2	0.0	1.2	-
CHILE, 4 registries (1998-2012)	*6*	*1.5*	*2.5*	*0.6*	*9*	*1.6*	*2.7*	*0.4*	*3.5*	*0.0*	*0.6*	*1.8*
COLOMBIA, 4 registries (1992-2013)	14	0.9	0.5	1.3	32	1.4	0.8	1.9	1.8	0.3	0.3	2.9
COSTA RICA (1993-2012)	16	0.8	0.2	1.4	33	1.1	0.9	1.2	1.7	0.0	0.4	2.1
CUBA (2000-2012)	15	0.7	0.4	1.0	21	0.7	0.4	1.0	1.7	0.0	0.1	0.6
ECUADOR, 5 registries (1993-2013)	12	0.6	0.7	0.5	25	0.8	0.8	0.9	1.0	0.3	0.4	1.8
FRANCE, 3 registries (1990-2012)	*2*	*0.7*	*0.0*	*1.4*	*4*	*1.0*	*0.0*	*1.9*	*1.0*	*1.0*	*0.0*	*1.9*
HONDURAS, Francisco Morazán (2002-2012)	*1*	*0.2*	*0.4*	*0.0*	*3*	*0.4*	*0.6*	*0.3*	*0.0*	*0.0*	*0.6*	*1.3*
JAMAICA, Kingston and St Andrew (1982-2012)	*4*	*0.8*	*0.8*	*0.8*	*7*	*1.0*	*0.6*	*1.3*	*2.1*	*0.0*	*0.0*	*1.5*
MEXICO, Mexico City, paediatric (1997-2013)	*6*	*0.5*	*0.6*	*0.4*	-	-	-	-	*0.8*	*0.0*	*0.8*	-
PERU, Lima (2010-2012)	*4*	*0.6*	*0.2*	*1.0*	*9*	*0.9*	*0.4*	*1.5*	*1.3*	*0.0*	*0.4*	*1.9*
PERU, Trujillo (1990-2002)	*2*	*0.7*	*0.7*	*0.7*	*5*	*1.3*	*0.6*	*2.0*	*0.0*	*0.0*	*2.5*	*3.4*
USA, Puerto Rico (1992-2012)	21	1.3	0.9	1.8	36	1.6	1.4	1.8	2.8	0.2	0.6	2.4
URUGUAY (1993-2012)	16	1.3	0.5	2.1	27	1.5	0.8	2.1	3.2	0.0	0.0	2.1
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	149	1.5	1.0	2.0	205	1.5	1.1	1.8	3.5	0.1	0.4	1.3
USA (1998-2012)	1209	1.5	1.1	2.0	1732	1.6	1.2	1.9	3.6	0.1	0.3	1.7
USA, API (1998-2012)	65	1.6	1.2	1.9	105	1.8	1.9	1.7	3.5	0.2	0.5	2.6
USA, Black (1998-2012)	170	1.3	0.8	1.9	259	1.4	0.8	2.1	3.2	0.1	0.3	1.7
USA, Hispanic White (1998-2012)	213	1.3	1.1	1.5	382	1.8	1.7	1.8	2.8	0.3	0.6	3.3
USA, Native American (1998-2012)	*7*	*0.5*	*0.1*	*1.0*	*16*	*0.8*	*0.4*	*1.2*	*1.0*	*0.4*	*0.0*	*1.8*
USA, White NH (1998-2012)	706	1.6	1.1	2.1	907	1.5	1.1	1.8	3.9	0.1	0.2	1.0
USA, NPCR (1998-2012)	1136	1.5	1.1	2.0	1643	1.6	1.2	1.9	3.6	0.1	0.3	1.7
USA, SEER 18 (1993-2012)	442	1.7	1.3	2.2	635	1.8	1.6	2.1	4.0	0.1	0.5	2.0
USA, Hawaii, Hawaiian (1993-2012)	*4*	*2.8*	*4.0*	*1.4*	*5*	*2.6*	*4.0*	*1.1*	*7.1*	*0.0*	*0.0*	*2.0*
ASIA												
BAHRAIN (1998-2012)	*3*	*1.1*	*1.4*	*0.7*	*4*	*1.1*	*1.6*	*0.6*	*2.8*	*0.0*	*0.0*	*1.1*
CHINA, 6 registries (1990-2013)	93	1.8	1.7	1.9	166	2.0	2.3	1.6	3.1	0.3	1.7	2.6
CHINA, Hong Kong (1990-2013)	47	2.2	2.2	2.2	81	2.4	3.0	1.8	4.4	0.2	1.4	3.3
INDIA, 7 registries (1990-2013)	52	0.3	0.3	0.4	74	0.3	0.3	0.4	0.6	0.1	0.2	0.3
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*5*	*1.5*	*0.7*	*2.5*	*10*	*1.9*	*0.5*	*3.3*	*2.7*	*0.9*	*0.7*	*3.0*
ISRAEL (1990-2012)	45	1.1	0.4	1.9	62	1.2	0.8	1.6	2.0	0.3	0.9	1.4
ISRAEL, Jews (1990-2012)	37	1.3	0.4	2.2	52	1.4	0.8	1.9	2.3	0.4	0.9	1.6
ISRAEL, Non-Jews (1990-2012)	*8*	*0.7*	*0.5*	*0.9*	*10*	*0.7*	*0.6*	*0.9*	*1.4*	*0.0*	*0.6*	*0.7*
JAPAN, 8 registries (1990-2013)	82	1.6	1.0	2.2	128	1.6	1.5	1.8	3.5	0.2	0.5	1.9
JORDAN, Jordanians (2000-2012)	27	1.1	0.6	1.6	38	1.2	0.7	1.7	2.5	0.1	0.3	1.4
REPUBLIC OF KOREA (1999-2012)	185	1.8	1.3	2.4	280	1.9	1.7	2.0	4.3	0.2	0.4	2.0
KUWAIT (1994-2012)	32	2.6	2.4	2.9	37	2.4	2.4	2.4	2.9	1.2	3.8	1.5
KUWAIT, Kuwaitis (1994-2012)	21	2.9	2.7	3.2	25	2.8	3.1	2.5	3.4	1.7	3.7	2.1
KUWAIT, Non-Kuwaitis (1994-2012)	*11*	*2.2*	*1.9*	*2.5*	*12*	*1.9*	*1.5*	*2.3*	*2.2*	*0.6*	*4.0*	*0.7*
LEBANON (2008-2010)	*1*	*0.4*	*0.0*	*0.8*	*3*	*0.6*	*0.4*	*1.0*	*0.9*	*0.0*	*0.0*	*1.6*
PAKISTAN, Karachi (1995-2002)	*2*	*0.4*	*0.0*	*0.8*	*4*	*0.6*	*0.0*	*1.3*	*1.0*	*0.0*	*0.0*	*1.4*
PAKISTAN, Lahore (2008-2012)	15	0.9	0.6	1.2	20	0.9	0.8	1.0	1.8	0.5	0.2	0.9
PHILIPPINES, 2 registries (1993-2012)	61	0.8	0.6	1.1	91	0.9	0.6	1.3	1.6	0.1	0.6	1.3
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	24	0.8	0.4	1.1	35	0.9	0.6	1.2	1.9	0.0	0.1	1.3
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	17	0.7	0.4	0.9	27	0.8	0.6	1.0	1.6	0.0	0.1	1.3
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*7*	*1.3*	*0.7*	*1.9*	*8*	*1.2*	*0.5*	*1.8*	*3.3*	*0.0*	*0.0*	*0.8*
THAILAND, 6 registries (1993-2013)	44	1.2	1.2	1.2	89	1.5	1.6	1.5	2.0	0.1	1.4	2.8
TURKEY, paediatric (2009-2011)	76	1.6	0.8	2.3	-	-	-	-	3.7	0.2	0.2	-
TURKEY, 8 registries (1992-2012)	62	1.8	1.2	2.4	71	1.6	1.1	2.1	4.2	0.2	0.5	0.6
VIET NAM, Ho Chi Minh City (1995-2013)	25	1.2	0.7	1.7	34	1.1	0.7	1.5	2.8	0.1	0.1	0.8
EUROPE												
AUSTRIA (1990-2012)	32	1.1	0.5	1.8	50	1.2	0.8	1.7	2.0	0.2	0.9	1.6
BELARUS, paediatric (1990-2014)	61	1.7	0.9	2.4	78	1.5	1.0	2.0	3.9	0.2	0.3	0.9
BELGIUM (2004-2013)	35	2.2	1.0	3.5	39	1.8	1.0	2.8	5.4	0.2	0.2	0.6
BULGARIA (1990-2013)	14	0.5	0.1	1.0	23	0.6	0.1	1.0	1.2	0.0	0.3	0.7
CROATIA (2001-2014)	*3*	*0.3*	*0.5*	*0.0*	*3*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*0.9*	*0.0*
CYPRUS, South-West (1998-2012)	*1*	*0.6*	*0.0*	*1.2*	*2*	*0.7*	*0.5*	*0.9*	*1.5*	*0.0*	*0.0*	*1.1*
CZECH REPUBLIC (1990-2012)	44	1.3	0.9	1.8	62	1.3	0.9	1.6	2.9	0.4	0.2	1.1
ESTONIA (1990-2012)	*16*	*3.1*	*3.3*	*3.0*	*19*	*2.7*	*2.9*	*2.6*	*6.2*	*1.0*	*1.4*	*1.3*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of malignant extracranial or extragonadal germ cell tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 8.23. Malignant extracranial and extragonadal germ cell tumours (Xb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	232	1.8	1.2	2.4	-	-	-	-	4.1	0.1	0.5	-
FRANCE, 13 registries (1993-2012)	39	1.4	1.0	1.9	55	1.4	1.1	1.8	3.4	0.2	0.2	1.4
GERMANY, paediatric (1996-2012)	283	1.7	1.1	2.3	-	-	-	-	4.1	0.1	0.3	-
GERMANY, 6 Eastern states (2001-2007)	*14*	*1.2*	*0.7*	*1.8*	*19*	*1.1*	*0.7*	*1.5*	*3.2*	*0.0*	*0.0*	*0.7*
GERMANY, 5 Western registries (1994-2012)	53	1.3	1.0	1.7	60	1.1	0.9	1.3	3.0	0.2	0.3	0.4
HUNGARY, paediatric (1991-2014)	44	1.3	0.7	1.9	-	-	-	-	3.0	0.1	0.4	-
ICELAND (1990-2014)	*1*	*0.7*	*0.0*	*1.4*	*1*	*0.5*	*0.0*	*1.1*	*1.8*	*0.0*	*0.0*	*0.0*
IRELAND (1994-2012)	21	1.4	0.8	2.1	26	1.3	0.7	1.9	3.3	0.4	0.2	0.8
ITALY, 2 paediatric registries (1998-2011)	*12*	*1.6*	*0.5*	*2.8*	*14*	*1.4*	*0.7*	*2.2*	*4.2*	*0.0*	*0.0*	*0.7*
ITALY, Piedmont, paediatric (1990-2011)	*17*	*1.7*	*0.6*	*2.9*	-	-	-	-	*4.4*	*0.0*	*0.0*	-
ITALY, 26 registries (1992-2013)	47	1.3	0.7	1.9	58	1.2	0.8	1.6	3.1	0.1	0.2	0.7
LITHUANIA (2000-2012)	*8*	*1.5*	*0.7*	*2.4*	*12*	*1.5*	*0.9*	*2.1*	*4.0*	*0.0*	*0.0*	*1.3*
MALTA (1994-2013)	*1*	*0.9*	*0.0*	*1.8*	*1*	*0.7*	*0.0*	*1.4*	*2.3*	*0.0*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	88	1.7	1.1	2.2	109	1.5	1.2	1.8	4.1	0.0	0.2	1.0
NORWAY (1990-2013)	19	1.0	0.9	1.1	22	0.9	0.8	1.0	2.4	0.1	0.1	0.4
POLAND (2001-2013)	53	0.8	0.6	1.0	68	0.7	0.6	0.9	2.0	0.2	0.0	0.4
PORTUGAL (1991-2012)	28	1.1	1.0	1.3	39	1.1	0.9	1.4	2.4	0.1	0.6	1.1
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*15*	*2.2*	*0.8*	*3.6*	-	-	-	-	*5.6*	*0.0*	*0.0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*11*	*1.1*	*0.4*	*1.8*	*12*	*0.9*	*0.3*	*1.5*	*2.1*	*0.6*	*0.2*	*0.2*
SLOVAKIA (1990-2009)	19	1.2	0.8	1.5	33	1.3	1.1	1.4	3.0	0.0	0.0	1.6
SLOVAKIA, paediatric (2000-2012)	*9*	*0.8*	*0.8*	*0.8*	-	-	-	-	*1.4*	*0.3*	*0.7*	-
SLOVENIA (1991-2012)	*14*	*2.5*	*1.0*	*4.1*	*16*	*2.1*	*1.1*	*3.1*	*6.0*	*0.4*	*0.0*	*0.7*
SPAIN, 2 paediatric registries (1991-2013)	57	1.3	0.9	1.7	-	-	-	-	3.0	0.1	0.3	-
SPAIN, selected regions, paediatric (2000-2013)	47	1.4	1.1	1.8	-	-	-	-	3.4	0.2	0.3	-
SPAIN, Valencia, paediatric (1991-2010)	*10*	*0.9*	*0.5*	*1.2*	-	-	-	-	*1.9*	*0.0*	*0.4*	-
SPAIN, 11 registries (1990-2013)	31	1.1	0.8	1.5	45	1.1	1.0	1.3	2.5	0.4	0.2	1.1
SWEDEN (1990-2011)	28	0.9	0.7	1.1	40	0.9	0.9	1.0	2.2	0.0	0.2	1.0
SWITZERLAND, paediatric (1990-2013)	34	1.4	1.0	1.7	-	-	-	-	3.3	0.0	0.3	-
SWITZERLAND, 7 registries (1990-2013)	*13*	*1.4*	*0.8*	*2.0*	*16*	*1.3*	*1.0*	*1.6*	*3.4*	*0.0*	*0.3*	*0.8*
UKRAINE (2002-2012)	101	1.6	1.2	1.9	150	1.5	1.1	2.0	3.6	0.2	0.4	1.3
UK (2000-2011)	149	1.3	0.9	1.7	181	1.2	0.9	1.4	2.9	0.2	0.3	0.7
UK, England and Wales, paediatric (1991-2010)	239	1.4	0.9	1.9	-	-	-	-	3.2	0.2	0.3	-
OCEANIA												
AUSTRALIA (1992-2014)	139	1.8	1.5	2.1	184	1.7	1.6	1.9	4.4	0.1	0.2	1.5
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*1*	*0.4*	*0.9*	*0.0*	*5*	*1.8*	*0.7*	*2.9*	*1.2*	*0.0*	*0.0*	*6.3*
FRANCE, 2 registries (1990-2013)	*5*	*1.9*	*0.7*	*3.3*	*7*	*2.0*	*1.0*	*3.0*	*5.0*	*0.0*	*0.0*	*2.0*
NEW ZEALAND (1993-2012)	31	2.0	1.7	2.4	38	1.8	1.7	2.0	4.9	0.2	0.2	1.2
NEW ZEALAND, Maori (1993-2012)	*11*	*2.7*	*2.9*	*2.5*	*13*	*2.4*	*2.2*	*2.7*	*6.4*	*0.0*	*0.7*	*1.7*
NEW ZEALAND, Pacific peoples (1993-2012)	*4*	*2.7*	*1.4*	*4.2*	*5*	*2.6*	*2.1*	*3.2*	*5.4*	*1.9*	*0.0*	*2.3*
NEW ZEALAND, Other (1993-2012)	16	1.6	1.2	2.1	20	1.5	1.4	1.6	4.3	0.0	0.0	1.0
NEW ZEALAND, paediatric (2000-2012)	20	2.0	1.7	2.2	-	-	-	-	4.4	0.3	0.5	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*7*	*2.6*	*2.1*	*3.1*	-	-	-	-	*5.9*	*0.0*	*1.1*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*13*	*1.7*	*1.5*	*1.9*	-	-	-	-	*3.9*	*0.3*	*0.3*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of malignant extracranial or extragonadal germ cell tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.24. Malignant gonadal germ cell tumours (Xc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	9	0.5	0.5	0.5	24	0.9	1.0	0.8	0.7	0.2	0.7	2.2
BOTSWANA (1999-2007)	*6*	*1.0*	*0.4*	*1.7*	*10*	*1.3*	*0.3*	*2.3*	*1.0*	*0.0*	*2.2*	*2.3*
CAMEROON, Yaoundé (2004-2006)	*1*	*0.4*	*0.9*	*0.0*	*1*	*0.3*	*0.7*	*0.0*	*0.0*	*0.0*	*1.5*	*0.0*
EGYPT, Gharbiah (1999-2010)	24	1.5	1.1	2.0	37	1.7	1.2	2.3	1.5	0.6	2.6	2.4
FRANCE, Réunion (1990-2011)	8	1.7	0.9	2.6	22	3.5	3.2	3.9	0.7	3.4	1.3	9.7
KENYA, 2 registries (2000-2012)	*4*	*0.4*	*0.2*	*0.6*	*4*	*0.3*	*0.1*	*0.4*	*0.2*	*0.6*	*0.3*	*0.0*
LIBYA, Benghazi (2003-2008)	*3*	*1.1*	*1.5*	*0.6*	*6*	*1.5*	*1.6*	*1.4*	*2.0*	*0.0*	*1.0*	*3.0*
MALI, Bamako (2005-2014)	*7*	*1.0*	*0.9*	*1.1*	*10*	*1.0*	*0.9*	*1.1*	*0.0*	*1.7*	*1.4*	*1.2*
MAURITIUS (2001-2013)	*9*	*2.4*	*3.3*	*1.6*	*16*	*3.1*	*4.9*	*1.2*	*3.4*	*0.0*	*3.7*	*5.3*
MOROCCO, 2 registries (2005-2012)	*8*	*1.0*	*1.0*	*0.9*	*11*	*1.0*	*0.9*	*1.0*	*2.0*	*0.0*	*0.6*	*0.9*
SOUTH AFRICA, paediatric (1998-2012)	101	0.5	0.3	0.6	-	-	-	-	0.4	0.5	0.5	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*6*	*1.7*	*2.5*	*0.8*	-	-	-	-	*3.2*	*0.0*	*1.4*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	63	0.3	0.1	0.5	-	-	-	-	0.1	0.4	0.5	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*19*	*1.1*	*1.2*	*0.9*	-	-	-	-	*1.7*	*0.8*	*0.5*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*13*	*1.1*	*1.0*	*1.2*	-	-	-	-	*1.3*	*0.8*	*1.1*	-
TUNISIA, 2 registries (1993-2007)	21	1.0	0.5	1.6	45	1.6	0.9	2.2	0.7	0.3	2.2	3.4
UGANDA, Kyadondo (1996-2013)	*8*	*0.6*	*0.5*	*0.6*	*14*	*0.7*	*0.6*	*0.8*	*0.2*	*0.2*	*1.4*	*1.3*
ZIMBABWE, Harare, African (1995-2013)	*4*	*0.5*	*0.0*	*0.9*	*12*	*1.0*	*0.0*	*1.8*	*0.0*	*0.7*	*0.8*	*2.7*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	349	2.4	2.5	2.3	-	-	-	-	3.0	1.1	3.2	-
ARGENTINA, 6 registries (1991-2013)	91	4.1	4.0	4.2	238	7.6	10.7	4.5	4.7	2.5	5.2	19.7
BRAZIL, 5 registries (1995-2012)	36	1.9	1.7	2.2	118	4.0	5.1	3.0	2.0	1.5	2.3	11.2
CHILE, paediatric (2007-2011)	70	3.7	4.0	3.3	-	-	-	-	4.0	1.8	5.2	-
CHILE, 4 registries (1998-2012)	19	4.3	5.2	3.4	74	10.6	17.2	3.7	6.4	2.0	4.2	32.4
COLOMBIA, 4 registries (1992-2013)	45	2.6	2.3	2.8	133	5.2	6.0	4.4	3.1	1.0	3.6	14.2
COSTA RICA (1993-2012)	67	2.7	2.2	3.1	230	6.7	8.2	5.0	2.1	1.0	5.3	20.5
CUBA (2000-2012)	71	2.5	1.4	3.7	106	2.7	1.6	3.9	2.3	1.8	3.6	3.4
ECUADOR, 5 registries (1993-2013)	84	3.9	4.3	3.6	214	7.0	8.4	5.7	5.4	2.0	4.1	17.6
FRANCE, 3 registries (1990-2012)	11	3.4	2.0	4.9	23	5.2	3.7	6.8	3.9	1.0	5.5	11.3
HONDURAS, Francisco Morazán (2002-2012)	14	2.6	1.2	4.1	22	3.2	1.9	4.6	1.1	1.2	6.3	5.4
JAMAICA, Kingston and St Andrew (1982-2012)	12	1.9	0.8	3.1	24	2.8	0.8	4.7	1.0	2.1	3.0	5.9
MEXICO, Mexico City, paediatric (1997-2013)	73	6.1	6.5	5.7	-	-	-	-	7.0	1.5	10.1	-
PERU, Lima (2010-2012)	24	3.6	5.6	1.5	60	5.9	8.5	3.2	6.8	0.4	3.0	13.6
PERU, Trujillo (1990-2002)	*9*	*3.8*	*3.8*	*3.7*	*15*	*4.5*	*4.6*	*4.3*	*5.0*	*1.3*	*4.9*	*6.9*
USA, Puerto Rico (1992-2012)	34	1.8	1.2	2.4	114	4.2	4.6	3.8	1.2	1.2	3.2	12.6
URUGUAY (1993-2012)	38	2.4	2.0	2.9	107	4.9	6.2	3.6	2.6	1.0	3.8	13.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	259	2.1	1.8	2.5	1156	6.5	8.9	3.9	1.8	1.0	3.8	21.4
USA (1998-2012)	2048	2.2	1.9	2.5	8668	6.4	8.7	4.0	2.2	1.1	3.5	20.9
USA, API (1998-2012)	132	2.9	2.9	3.0	301	4.7	5.1	4.3	3.4	1.5	3.9	11.0
USA, Black (1998-2012)	265	1.7	0.4	2.9	635	2.9	1.4	4.4	0.8	1.4	3.1	7.2
USA, Hispanic White (1998-2012)	565	3.3	2.9	3.7	2049	9.0	12.0	5.8	3.2	1.4	5.6	28.7
USA, Native American (1998-2012)	13	0.9	1.1	0.7	74	3.4	5.1	1.6	1.0	0.2	1.4	12.0
USA, White NH (1998-2012)	1005	1.8	1.8	1.9	5352	6.5	9.7	3.2	1.9	0.8	2.9	22.5
USA, NPCR (1998-2012)	1956	2.2	1.9	2.5	8222	6.4	8.6	4.0	2.1	1.1	3.5	20.7
USA, SEER 18 (1993-2012)	717	2.4	2.1	2.8	2898	7.0	9.3	4.5	2.4	1.2	3.9	22.6
USA, Hawaii, Hawaiian (1993-2012)	*1*	*0.7*	*1.3*	*0.0*	*16*	*7.3*	*9.8*	*4.7*	*1.8*	*0.0*	*0.0*	*30.0*
ASIA												
BAHRAIN (1998-2012)	*7*	*2.3*	*2.0*	*2.6*	*10*	*2.5*	*2.0*	*3.0*	*2.8*	*0.9*	*3.0*	*3.3*
CHINA, 6 registries (1990-2013)	223	4.2	4.7	3.7	446	5.1	4.7	5.4	6.8	1.6	3.8	7.9
CHINA, Hong Kong (1990-2013)	135	6.0	7.2	4.7	270	7.6	7.8	7.4	10.5	1.8	4.7	13.0
INDIA, 7 registries (1990-2013)	312	1.9	1.7	2.1	592	2.4	2.0	3.0	2.6	0.8	2.1	4.4
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	9	2.5	2.4	2.6	23	3.8	3.9	3.7	2.7	1.9	3.0	8.3
ISRAEL (1990-2012)	81	1.9	1.4	2.5	218	4.0	4.7	3.3	1.9	0.8	3.3	11.2
ISRAEL, Jews (1990-2012)	60	2.0	1.3	2.6	179	4.4	5.3	3.4	1.8	0.7	3.6	12.8
ISRAEL, Non-Jews (1990-2012)	21	1.9	1.4	2.3	39	2.8	2.6	3.1	2.2	1.1	2.4	6.1
JAPAN, 8 registries (1990-2013)	182	3.0	2.8	3.3	370	4.1	3.5	4.8	3.8	1.8	3.3	7.8
JORDAN, Jordanians (2000-2012)	44	1.6	1.6	1.6	94	2.7	3.0	2.3	1.8	0.8	2.3	6.3
REPUBLIC OF KOREA (1999-2012)	570	4.6	4.2	5.1	1007	5.6	4.2	7.2	5.9	2.4	5.3	9.1
KUWAIT (1994-2012)	*1*	*0.1*	*0.2*	*0.0*	*1*	*0.1*	*0.1*	*0.0*	*0.2*	*0.0*	*0.0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*1*	*0.1*	*0.3*	*0.0*	*1*	*0.1*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
LEBANON (2008-2010)	*2*	*0.5*	*0.0*	*1.0*	*11*	*2.0*	*2.1*	*1.9*	*0.0*	*0.8*	*0.8*	*7.2*
PAKISTAN, Karachi (1995-2002)	14	2.5	1.5	3.6	27	3.9	2.3	5.8	2.5	0.5	4.7	9.0
PAKISTAN, Lahore (2008-2012)	26	1.4	1.1	1.7	52	2.2	1.4	2.9	1.5	0.3	2.4	4.8
PHILIPPINES, 2 registries (1993-2012)	203	2.7	2.5	3.0	332	3.3	2.7	3.9	3.9	1.4	2.7	5.4
QATAR (2002-2014)	*12*	*4.1*	*3.4*	*4.9*	*19*	*5.1*	*3.6*	*7.3*	*3.6*	*2.0*	*7.0*	*8.8*
SAUDI ARABIA, Riyadh (1994-2012)	58	1.7	1.4	2.1	111	2.7	2.4	3.1	2.0	0.9	2.4	6.1
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	53	1.9	1.4	2.4	98	2.8	2.2	3.4	2.0	1.0	2.8	6.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*5*	*0.9*	*1.4*	*0.3*	*13*	*2.2*	*3.2*	*1.0*	*1.9*	*0.5*	*0.0*	*6.6*
THAILAND, 6 registries (1993-2013)	122	3.0	2.3	3.7	223	3.7	2.6	4.8	2.8	2.0	4.4	6.3
TURKEY, paediatric (2009-2011)	97	1.8	1.8	1.7	-	-	-	-	2.5	0.8	1.9	-
TURKEY, 8 registries (1992-2012)	111	2.8	2.9	2.8	348	5.9	7.9	3.9	3.8	1.0	3.6	16.6
VIET NAM, Ho Chi Minh City (1995-2013)	79	3.4	3.8	2.9	118	3.4	3.2	3.5	5.2	1.2	3.3	3.5
EUROPE												
AUSTRIA (1990-2012)	67	2.1	1.8	2.4	305	6.5	9.6	3.2	2.2	1.0	3.4	21.4
BELARUS, paediatric (1990-2014)	93	1.9	1.1	2.8	227	3.2	2.5	3.8	1.4	1.2	3.5	7.4
BELGIUM (2004-2013)	44	2.4	1.8	2.9	182	6.7	9.4	3.9	2.5	1.2	3.6	21.6
BULGARIA (1990-2013)	74	2.5	2.7	2.3	232	4.7	6.2	3.1	3.4	0.9	3.0	12.5
CROATIA (2001-2014)	32	3.3	2.6	4.0	107	7.3	10.4	4.0	2.7	1.9	5.4	21.0
CYPRUS, South-West (1998-2012)	5	2.0	1.8	2.2	34	8.9	12.8	4.9	1.5	0.0	5.0	32.7
CZECH REPUBLIC (1990-2012)	88	2.1	1.7	2.5	483	6.9	10.3	3.4	1.5	1.2	3.7	23.7
ESTONIA (1990-2012)	12	1.9	1.1	2.8	41	4.4	5.0	3.8	1.7	0.5	3.8	13.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of malignant gonadal germ cell tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.24. Malignant gonadal germ cell tumours (Xc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	279	1.8	1.4	2.3	-	-	-	-	1.7	0.9	3.1	-
FRANCE, 13 registries (1993-2012)	62	1.9	2.0	1.9	275	5.8	8.3	3.3	2.0	1.0	2.9	19.3
GERMANY, paediatric (1996-2012)	414	2.0	1.6	2.3	-	-	-	-	2.0	1.1	2.9	-
GERMANY, 6 Eastern states (2001-2007)	20	1.5	2.1	0.8	199	6.5	11.0	1.6	2.3	0.0	2.0	23.7
GERMANY, 5 Western registries (1994-2012)	114	2.3	2.1	2.5	576	7.3	10.8	3.7	2.4	1.4	3.0	24.7
HUNGARY, paediatric (1991-2014)	58	1.4	1.2	1.5	-	-	-	-	1.1	0.7	2.4	-
ICELAND (1990-2014)	*3*	*1.9*	*2.7*	*1.1*	*17*	*7.3*	*11.0*	*3.4*	*3.6*	*0.0*	*1.8*	*25.6*
IRELAND (1994-2012)	32	1.9	2.1	1.7	154	6.1	9.0	3.1	2.2	1.1	2.5	20.6
ITALY, 2 paediatric registries (1998-2011)	17	2.0	2.5	1.6	82	6.7	10.7	2.4	2.8	0.7	2.5	22.6
ITALY, Piedmont, paediatric (1990-2011)	26	2.2	2.7	1.7	-	-	-	-	2.8	0.5	3.2	-
ITALY, 26 registries (1992-2013)	81	1.9	1.6	2.2	431	6.7	9.7	3.5	1.5	0.9	3.5	23.2
LITHUANIA (2000-2012)	10	1.3	1.0	1.6	36	2.9	3.2	2.6	1.0	1.3	1.8	8.2
MALTA (1994-2013)	*3*	*1.8*	*0.0*	*3.7*	*9*	*3.8*	*3.9*	*3.7*	*0.0*	*2.1*	*3.8*	*10.7*
THE NETHERLANDS (1993-2013)	129	2.0	1.6	2.5	666	7.5	11.6	3.3	1.6	0.9	3.9	26.5
NORWAY (1990-2013)	56	2.6	3.2	2.0	276	9.1	14.3	3.6	2.9	0.7	4.3	31.4
POLAND (2001-2013)	158	2.0	1.8	2.1	939	6.4	9.6	3.1	2.7	0.7	2.4	21.8
PORTUGAL (1991-2012)	64	2.4	2.3	2.5	196	4.8	6.2	3.3	3.4	0.7	3.0	12.9
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*18*	*1.6*	*0.4*	*2.9*	-	-	-	-	*0.4*	*0.8*	*4.3*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	22	1.8	1.3	2.4	73	3.7	2.9	4.5	1.6	0.8	3.2	10.0
SLOVAKIA (1990-2009)	63	3.0	4.0	2.0	312	8.8	14.0	3.3	4.4	0.7	3.7	28.5
SLOVAKIA, paediatric (2000-2012)	49	4.2	3.8	4.6	-	-	-	-	5.9	1.1	5.4	-
SLOVENIA (1991-2012)	21	2.7	2.1	3.3	105	8.7	11.7	5.5	1.9	1.3	5.4	29.2
SPAIN, 2 paediatric registries (1991-2013)	96	1.9	1.7	2.2	-	-	-	-	1.8	0.8	3.4	-
SPAIN, selected regions, paediatric (2000-2013)	71	2.0	2.0	2.1	-	-	-	-	2.2	1.0	3.1	-
SPAIN, Valencia, paediatric (1991-2010)	25	1.6	0.8	2.5	-	-	-	-	0.7	0.5	4.1	-
SPAIN, 11 registries (1990-2013)	76	2.3	1.6	3.0	275	5.2	6.6	3.7	2.2	1.4	3.4	15.2
SWEDEN (1990-2011)	67	1.9	2.0	1.7	295	5.6	8.3	2.8	1.9	0.9	2.9	18.6
SWITZERLAND, paediatric (1990-2013)	64	2.1	2.3	2.0	-	-	-	-	2.2	0.7	3.6	-
SWITZERLAND, 7 registries (1990-2013)	30	2.8	2.7	2.8	119	7.6	11.1	4.1	3.1	0.3	5.1	24.4
UKRAINE (2002-2012)	162	2.1	1.6	2.6	435	3.3	3.2	3.4	2.1	1.5	2.7	7.5
UK (2000-2011)	247	1.8	1.4	2.2	1145	5.8	8.2	3.2	2.0	0.7	2.8	19.3
UK, England and Wales, paediatric (1991-2010)	375	1.9	1.6	2.2	-	-	-	-	1.9	0.8	3.0	-
OCEANIA												
AUSTRALIA (1992-2014)	200	2.3	2.3	2.2	840	6.6	9.5	3.5	2.7	0.7	3.4	21.4
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*5*	*2.1*	*2.6*	*1.6*	*13*	*4.5*	*6.9*	*2.0*	*3.5*	*0.0*	*2.8*	*12.5*
FRANCE, 2 registries (1990-2013)	*5*	*1.7*	*2.2*	*1.2*	*18*	*4.3*	*5.8*	*2.8*	*3.0*	*0.0*	*2.0*	*13.2*
NEW ZEALAND (1993-2012)	49	2.8	3.3	2.3	172	6.9	9.5	4.3	3.9	0.3	4.1	21.1
NEW ZEALAND, Maori (1993-2012)	13	3.0	3.2	2.7	52	9.6	14.4	4.7	3.8	0.7	4.5	32.2
NEW ZEALAND, Pacific peoples (1993-2012)	*10*	*6.6*	*9.3*	*3.8*	*17*	*8.7*	*8.2*	*9.1*	*10.8*	*0.0*	*8.4*	*15.8*
NEW ZEALAND, Other (1993-2012)	26	2.2	2.5	1.9	103	5.9	8.0	3.6	2.9	0.3	3.5	18.4
NEW ZEALAND, paediatric (2000-2012)	25	2.2	2.5	1.9	-	-	-	-	2.9	0.5	3.0	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*7*	*2.4*	*2.8*	*2.0*	-	-	-	-	*2.9*	*1.1*	*3.3*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*18*	*2.1*	*2.3*	*1.8*	-	-	-	-	*2.8*	*0.3*	*2.9*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of malignant gonadal germ cell tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 8.25. Adrenocortical carcinomas (XIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*
BOTSWANA (1999-2007)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	*1*	*0.1*	*0.0*	*0.1*	*1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.2*	*0.0*
FRANCE, Réunion (1990-2011)	*1*	*0.2*	*0.0*	*0.4*	*1*	*0.2*	*0.0*	*0.3*	*0.0*	*0.0*	*0.7*	*0.0*
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MAURITIUS (2001-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*1*	*0.1*	*0.0*	*0.2*	*1*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.3*	*0.0*
SOUTH AFRICA, paediatric (1998-2012)	*10*	*0.0*	*0.0*	*0.1*	-	-	-	-	*0.1*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	*6*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*1*	*0.1*	*0.1*	*0.0*	-	-	-	-	*0.2*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*3*	*0.3*	*0.2*	*0.4*	-	-	-	-	*0.8*	*0.0*	*0.0*	-
TUNISIA, 2 registries (1993-2007)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	33	0.2	0.1	0.4	-	-	-	-	0.5	0.1	0.1	-
ARGENTINA, 6 registries (1991-2013)	*3*	*0.2*	*0.1*	*0.2*	*3*	*0.1*	*0.1*	*0.2*	*0.3*	*0.1*	*0.0*	*0.0*
BRAZIL, 5 registries (1995-2012)	17	1.1	0.5	1.6	21	0.9	0.6	1.3	2.2	0.5	0.2	0.5
CHILE, paediatric (2007-2011)	*6*	*0.3*	*0.1*	*0.5*	-	-	-	-	*0.3*	*0.2*	*0.4*	-
CHILE, 4 registries (1998-2012)	*1*	*0.2*	*0.0*	*0.4*	*1*	*0.2*	*0.0*	*0.3*	*0.0*	*0.7*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	*5*	*0.3*	*0.2*	*0.4*	*5*	*0.2*	*0.2*	*0.3*	*0.5*	*0.3*	*0.0*	*0.0*
COSTA RICA (1993-2012)	*1*	*0.0*	*0.0*	*0.1*	*1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.1*	*0.0*
CUBA (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ECUADOR, 5 registries (1993-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*
FRANCE, 3 registries (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*2*	*0.4*	*0.4*	*0.4*	*2*	*0.3*	*0.3*	*0.3*	*1.1*	*0.0*	*0.0*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	*2*	*0.2*	*0.1*	*0.2*	-	-	-	-	*0.3*	*0.0*	*0.3*	-
PERU, Lima (2010-2012)	*2*	*0.3*	*0.6*	*0.0*	*2*	*0.2*	*0.5*	*0.0*	*0.4*	*0.4*	*0.0*	*0.0*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	*2*	*0.1*	*0.1*	*0.1*	*3*	*0.1*	*0.2*	*0.1*	*0.2*	*0.2*	*0.0*	*0.2*
URUGUAY (1993-2012)	*1*	*0.1*	*0.1*	*0.0*	*1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.2*	*0.0*
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	29	0.3	0.2	0.4	39	0.3	0.1	0.4	0.5	0.1	0.2	0.2
USA (1998-2012)	210	0.2	0.2	0.3	283	0.2	0.2	0.3	0.4	0.1	0.2	0.2
USA, API (1998-2012)	*7*	*0.2*	*0.1*	*0.2*	*8*	*0.1*	*0.1*	*0.2*	*0.3*	*0.1*	*0.1*	*0.1*
USA, Black (1998-2012)	*14*	*0.1*	*0.1*	*0.2*	*16*	*0.1*	*0.1*	*0.1*	*0.2*	*0.0*	*0.0*	*0.0*
USA, Hispanic White (1998-2012)	42	0.3	0.2	0.3	52	0.2	0.2	0.3	0.4	0.1	0.2	0.2
USA, Native American (1998-2012)	*5*	*0.4*	*0.2*	*0.6*	*5*	*0.3*	*0.1*	*0.5*	*0.8*	*0.2*	*0.0*	*0.0*
USA, White NH (1998-2012)	135	0.3	0.2	0.3	193	0.3	0.2	0.4	0.5	0.1	0.2	0.3
USA, NPCR (1998-2012)	204	0.3	0.2	0.3	272	0.2	0.2	0.3	0.4	0.1	0.2	0.2
USA, SEER 18 (1993-2012)	72	0.3	0.2	0.3	91	0.2	0.2	0.3	0.4	0.2	0.2	0.2
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CHINA, 6 registries (1990-2013)	*15*	*0.3*	*0.2*	*0.3*	*18*	*0.2*	*0.2*	*0.3*	*0.4*	*0.3*	*0.1*	*0.1*
CHINA, Hong Kong (1990-2013)	*10*	*0.4*	*0.2*	*0.6*	*11*	*0.3*	*0.2*	*0.5*	*0.3*	*0.7*	*0.2*	*0.1*
INDIA, 7 registries (1990-2013)	*16*	*0.1*	*0.1*	*0.1*	*17*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.0*
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*1*	*0.3*	*0.7*	*0.0*	*1*	*0.3*	*0.5*	*0.0*	*0.9*	*0.0*	*0.0*	*0.0*
ISRAEL (1990-2012)	*10*	*0.3*	*0.1*	*0.4*	*11*	*0.2*	*0.1*	*0.4*	*0.4*	*0.3*	*0.0*	*0.1*
ISRAEL, Jews (1990-2012)	*7*	*0.3*	*0.1*	*0.4*	*8*	*0.2*	*0.1*	*0.3*	*0.6*	*0.1*	*0.0*	*0.1*
ISRAEL, Non-Jews (1990-2012)	*3*	*0.3*	*0.0*	*0.5*	*3*	*0.2*	*0.0*	*0.4*	*0.0*	*0.8*	*0.0*	*0.0*
JAPAN, 8 registries (1990-2013)	*12*	*0.2*	*0.1*	*0.3*	*13*	*0.2*	*0.1*	*0.3*	*0.5*	*0.0*	*0.1*	*0.0*
JORDAN, Jordanians (2000-2012)	*5*	*0.2*	*0.2*	*0.3*	*5*	*0.2*	*0.1*	*0.2*	*0.5*	*0.0*	*0.0*	*0.0*
REPUBLIC OF KOREA (1999-2012)	19	0.2	0.1	0.3	22	0.1	0.1	0.3	0.3	0.1	0.0	0.1
KUWAIT (1994-2012)	*7*	*0.6*	*0.6*	*0.5*	*8*	*0.5*	*0.5*	*0.5*	*0.2*	*1.0*	*0.5*	*0.3*
KUWAIT, Kuwaitis (1994-2012)	*5*	*0.7*	*0.8*	*0.6*	*5*	*0.5*	*0.6*	*0.4*	*0.4*	*0.8*	*0.9*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*2*	*0.4*	*0.4*	*0.4*	*3*	*0.5*	*0.3*	*0.7*	*0.0*	*1.2*	*0.0*	*0.7*
LEBANON (2008-2010)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*	*0.0*	*0.8*
PAKISTAN, Karachi (1995-2002)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PAKISTAN, Lahore (2008-2012)	*2*	*0.1*	*0.0*	*0.2*	*2*	*0.1*	*0.0*	*0.2*	*0.2*	*0.2*	*0.0*	*0.0*
PHILIPPINES, 2 registries (1993-2012)	*4*	*0.1*	*0.0*	*0.1*	*4*	*0.0*	*0.0*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	*7*	*0.2*	*0.2*	*0.2*	*9*	*0.2*	*0.2*	*0.2*	*0.2*	*0.3*	*0.2*	*0.2*
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*6*	*0.2*	*0.2*	*0.2*	*8*	*0.2*	*0.3*	*0.2*	*0.2*	*0.3*	*0.1*	*0.3*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*1*	*0.2*	*0.0*	*0.4*	*1*	*0.1*	*0.0*	*0.3*	*0.0*	*0.0*	*0.6*	*0.0*
THAILAND, 6 registries (1993-2013)	*6*	*0.2*	*0.2*	*0.2*	*7*	*0.2*	*0.1*	*0.2*	*0.5*	*0.0*	*0.0*	*0.1*
TURKEY, paediatric (2009-2011)	*10*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.3*	*0.1*	*0.1*	-
TURKEY, 8 registries (1992-2012)	*9*	*0.3*	*0.3*	*0.2*	*10*	*0.2*	*0.2*	*0.2*	*0.5*	*0.2*	*0.1*	*0.1*
VIET NAM, Ho Chi Minh City (1995-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EUROPE												
AUSTRIA (1990-2012)	*5*	*0.2*	*0.1*	*0.3*	*5*	*0.1*	*0.0*	*0.2*	*0.2*	*0.2*	*0.1*	*0.0*
BELARUS, paediatric (1990-2014)	*8*	*0.2*	*0.1*	*0.3*	*12*	*0.2*	*0.1*	*0.3*	*0.3*	*0.1*	*0.1*	*0.2*
BELGIUM (2004-2013)	*4*	*0.2*	*0.2*	*0.2*	*7*	*0.3*	*0.2*	*0.4*	*0.3*	*0.2*	*0.2*	*0.5*
BULGARIA (1990-2013)	*1*	*0.0*	*0.0*	*0.1*	*9*	*0.2*	*0.1*	*0.2*	*0.0*	*0.0*	*0.1*	*0.6*
CROATIA (2001-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CYPRUS, South-West (1998-2012)	*1*	*0.4*	*0.0*	*0.7*	*1*	*0.3*	*0.0*	*0.6*	*0.0*	*0.0*	*1.2*	*0.0*
CZECH REPUBLIC (1990-2012)	*9*	*0.3*	*0.1*	*0.4*	*15*	*0.3*	*0.1*	*0.4*	*0.6*	*0.0*	*0.1*	*0.4*
ESTONIA (1990-2012)	*1*	*0.2*	*0.0*	*0.4*	*2*	*0.3*	*0.0*	*0.6*	*0.6*	*0.0*	*0.0*	*0.4*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of adrenocortical carcinoma in a dataset

Dataset presented only if eligible (see Chapter 5)

Please consult registry-specific background information and quality indicators

More datasets available online

Table 8.25. Adrenocortical carcinomas (XIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	49	0.4	0.2	0.6	-	-	-	-	0.7	0.1	0.2	-
FRANCE, 13 registries (1993-2012)	*8*	*0.3*	*0.1*	*0.4*	*10*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*0.3*	*0.2*
GERMANY, paediatric (1996-2012)	45	0.2	0.2	0.3	-	-	-	-	0.4	0.2	0.1	-
GERMANY, 6 Eastern states (2001-2007)	*6*	*0.5*	*0.4*	*0.5*	*7*	*0.4*	*0.3*	*0.5*	*0.7*	*0.5*	*0.2*	*0.1*
GERMANY, 5 Western registries (1994-2012)	*8*	*0.2*	*0.1*	*0.3*	*13*	*0.2*	*0.1*	*0.3*	*0.3*	*0.2*	*0.1*	*0.3*
HUNGARY, paediatric (1991-2014)	*8*	*0.2*	*0.1*	*0.4*	-	-	-	-	*0.6*	*0.0*	*0.1*	-
ICELAND (1990-2014)	*3*	*1.9*	*0.0*	*4.0*	*3*	*1.5*	*0.0*	*3.1*	*3.6*	*0.0*	*1.8*	*0.0*
IRELAND (1994-2012)	*4*	*0.2*	*0.3*	*0.1*	*5*	*0.2*	*0.3*	*0.2*	*0.2*	*0.2*	*0.4*	*0.2*
ITALY, 2 paediatric registries (1998-2011)	*3*	*0.3*	*0.2*	*0.5*	*3*	*0.3*	*0.2*	*0.4*	*0.0*	*0.7*	*0.4*	*0.0*
ITALY, Piedmont, paediatric (1990-2011)	*3*	*0.3*	*0.2*	*0.4*	-	-	-	-	*0.3*	*0.5*	*0.0*	-
ITALY, 26 registries (1992-2013)	*9*	*0.2*	*0.2*	*0.3*	*16*	*0.3*	*0.1*	*0.5*	*0.6*	*0.0*	*0.1*	*0.5*
LITHUANIA (2000-2012)	*3*	*0.4*	*0.0*	*0.9*	*5*	*0.5*	*0.1*	*0.8*	*0.5*	*0.4*	*0.4*	*0.6*
MALTA (1994-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	*10*	*0.2*	*0.1*	*0.3*	*14*	*0.2*	*0.1*	*0.3*	*0.4*	*0.0*	*0.0*	*0.2*
NORWAY (1990-2013)	*4*	*0.2*	*0.3*	*0.1*	*5*	*0.2*	*0.3*	*0.1*	*0.3*	*0.1*	*0.1*	*0.1*
POLAND (2001-2013)	*11*	*0.2*	*0.2*	*0.1*	*15*	*0.1*	*0.2*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*
PORTUGAL (1991-2012)	*5*	*0.2*	*0.2*	*0.2*	*6*	*0.2*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.1*
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*1*	*0.1*	*0.3*	*0.0*	-	-	-	-	*0.4*	*0.0*	*0.0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*16*	*1.6*	*1.4*	*1.9*	*18*	*1.4*	*1.2*	*1.6*	*4.0*	*0.3*	*0.0*	*0.4*
SLOVAKIA (1990-2009)	*10*	*0.5*	*0.5*	*0.5*	*12*	*0.4*	*0.5*	*0.4*	*0.8*	*0.1*	*0.5*	*0.2*
SLOVAKIA, paediatric (2000-2012)	*1*	*0.1*	*0.0*	*0.2*	-	-	-	-	*0.3*	*0.0*	*0.0*	-
SLOVENIA (1991-2012)	*2*	*0.4*	*0.3*	*0.4*	*3*	*0.4*	*0.4*	*0.3*	*0.9*	*0.0*	*0.0*	*0.3*
SPAIN, 2 paediatric registries (1991-2013)	*8*	*0.2*	*0.0*	*0.3*	-	-	-	-	*0.2*	*0.2*	*0.1*	-
SPAIN, selected regions, paediatric (2000-2013)	*5*	*0.2*	*0.0*	*0.3*	-	-	-	-	*0.2*	*0.2*	*0.0*	-
SPAIN, Valencia, paediatric (1991-2010)	*3*	*0.2*	*0.1*	*0.2*	-	-	-	-	*0.0*	*0.2*	*0.4*	-
SPAIN, 11 registries (1990-2013)	*10*	*0.4*	*0.1*	*0.6*	*14*	*0.3*	*0.1*	*0.6*	*0.7*	*0.2*	*0.1*	*0.3*
SWEDEN (1990-2011)	*9*	*0.3*	*0.3*	*0.3*	*10*	*0.2*	*0.2*	*0.2*	*0.6*	*0.1*	*0.1*	*0.1*
SWITZERLAND, paediatric (1990-2013)	*6*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.2*	*0.1*	*0.3*	-
SWITZERLAND, 7 registries (1990-2013)	*3*	*0.3*	*0.2*	*0.4*	*5*	*0.3*	*0.2*	*0.5*	*0.3*	*0.3*	*0.3*	*0.5*
UKRAINE (2002-2012)	15	0.2	0.3	0.2	25	0.2	0.3	0.2	0.3	0.1	0.2	0.3
UK (2000-2011)	26	0.2	0.1	0.3	33	0.2	0.1	0.3	0.4	0.1	0.1	0.2
UK, England and Wales, paediatric (1991-2010)	41	0.2	0.1	0.3	-	-	-	-	0.4	0.1	0.1	-
OCEANIA												
AUSTRALIA (1992-2014)	21	0.3	0.2	0.3	28	0.3	0.2	0.3	0.4	0.1	0.1	0.2
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*1*	*0.4*	*0.0*	*0.9*	*1*	*0.3*	*0.0*	*0.7*	*1.2*	*0.0*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*1*	*0.4*	*0.0*	*0.8*	*1*	*0.3*	*0.0*	*0.6*	*1.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND (1993-2012)	*3*	*0.2*	*0.3*	*0.0*	*5*	*0.2*	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	*0.3*
NEW ZEALAND, Maori (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*1*	*0.6*	*1.2*	*0.0*	*1*	*0.5*	*0.9*	*0.0*	*0.0*	*0.0*	*2.1*	*0.0*
NEW ZEALAND, Other (1993-2012)	*2*	*0.2*	*0.4*	*0.0*	*4*	*0.3*	*0.3*	*0.2*	*0.3*	*0.3*	*0.0*	*0.5*
NEW ZEALAND, paediatric (2000-2012)	*1*	*0.1*	*0.2*	*0.0*	-	-	-	-	*0.0*	*0.3*	*0.0*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*1*	*0.1*	*0.2*	*0.0*	-	-	-	-	*0.0*	*0.3*	*0.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of adrenocortical carcinoma in a dataset

Dataset presented only if eligible (see Chapter 5)

Please consult registry-specific background information and quality indicators

More datasets available online

Table 8.26. Thyroid carcinoma (XIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	18	0.9	0.6	1.2	51	1.8	1.3	2.4	0.2	0.7	2.1	4.9
BOTSWANA (1999-2007)	*2*	*0.3*	*0.7*	*0.0*	*4*	*0.5*	*0.8*	*0.3*	*0.0*	*1.1*	*0.0*	*1.1*
CAMEROON, Yaoundé (2004-2006)	*1*	*0.4*	*0.0*	*0.8*	*2*	*0.7*	*0.0*	*1.4*	*0.0*	*0.0*	*1.5*	*1.6*
EGYPT, Gharbiah (1999-2010)	7	0.4	0.1	0.7	39	1.6	0.6	2.6	0.0	0.4	0.9	5.8
FRANCE, Réunion (1990-2011)	*3*	*0.6*	*0.4*	*0.8*	*11*	*1.7*	*1.8*	*1.6*	*0.0*	*0.7*	*1.3*	*5.6*
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	*6*	*0.5*	*0.0*	*0.8*	*0.0*	*0.0*	*0.0*	*2.0*
LIBYA, Benghazi (2003-2008)	*1*	*0.3*	*0.7*	*0.0*	*2*	*0.5*	*0.5*	*0.5*	*0.0*	*1.0*	*0.0*	*1.0*
MALI, Bamako (2005-2014)	*2*	*0.3*	*0.3*	*0.3*	*8*	*0.7*	*0.9*	*0.7*	*0.0*	*0.0*	*1.0*	*2.3*
MAURITIUS (2001-2013)	*2*	*0.5*	*0.9*	*0.0*	*4*	*0.7*	*1.1*	*0.3*	*0.0*	*0.8*	*0.7*	*1.5*
MOROCCO, 2 registries (2005-2012)	8	0.8	0.2	1.5	31	2.2	0.4	4.1	0.3	1.0	1.3	7.1
SOUTH AFRICA, paediatric (1998-2012)	*14*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.0*	*0.1*	*0.1*	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	*8*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.1*	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*3*	*0.1*	*0.2*	*0.1*	-	-	-	-	*0.0*	*0.2*	*0.3*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*3*	*0.2*	*0.3*	*0.2*	-	-	-	-	*0.0*	*0.5*	*0.2*	-
TUNISIA, 2 registries (1993-2007)	19	0.9	0.6	1.1	66	2.2	1.3	3.1	0.2	0.5	2.2	6.7
UGANDA, Kyadondo (1996-2013)	*2*	*0.1*	*0.0*	*0.3*	*4*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*	*0.5*	*0.4*
ZIMBABWE, Harare, African (1995-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	33	0.2	0.1	0.3	-	-	-	-	0.0	0.3	0.4	-
ARGENTINA, 6 registries (1991-2013)	13	0.5	0.4	0.7	65	2.0	0.9	3.1	0.1	0.4	1.2	7.0
BRAZIL, 5 registries (1995-2012)	30	1.4	0.9	1.8	128	4.1	2.3	5.7	0.0	0.7	4.0	13.4
CHILE, paediatric (2007-2011)	29	1.4	0.7	2.1	-	-	-	-	0.5	0.8	3.1	-
CHILE, 4 registries (1998-2012)	9	1.8	0.7	2.9	32	4.4	2.1	6.8	0.7	1.3	3.6	13.5
COLOMBIA, 4 registries (1992-2013)	31	1.5	0.7	2.4	91	3.4	1.2	5.4	0.2	0.5	4.4	9.7
COSTA RICA (1993-2012)	47	1.8	0.6	2.9	138	3.9	1.3	6.7	0.3	1.9	3.7	11.4
CUBA (2000-2012)	49	1.5	0.9	2.1	148	3.3	1.9	4.7	0.0	0.4	4.6	9.6
ECUADOR, 5 registries (1993-2013)	29	1.2	0.5	1.9	93	2.9	1.2	4.5	0.0	1.0	3.0	8.7
FRANCE, 3 registries (1990-2012)	*2*	*0.5*	*0.0*	*1.1*	*14*	*3.0*	*0.8*	*5.2*	*0.0*	*0.0*	*1.8*	*11.3*
HONDURAS, Francisco Morazán (2002-2012)	6	1.1	0.7	1.5	26	3.9	1.2	6.5	0.0	2.3	1.3	13.4
JAMAICA, Kingston and St Andrew (1982-2012)	*2*	*0.3*	*0.3*	*0.3*	*7*	*0.8*	*0.5*	*1.1*	*0.0*	*0.0*	*1.0*	*2.5*
MEXICO, Mexico City, paediatric (1997-2013)	*11*	*0.8*	*0.4*	*1.2*	-	-	-	-	*0.0*	*1.0*	*1.8*	-
PERU, Lima (2010-2012)	12	1.5	0.5	2.6	51	4.5	1.8	7.3	0.0	1.7	3.4	14.8
PERU, Trujillo (1990-2002)	*2*	*0.7*	*1.4*	*0.0*	*9*	*2.4*	*1.7*	*2.9*	*0.0*	*0.0*	*2.5*	*8.0*
USA, Puerto Rico (1992-2012)	46	2.2	1.3	3.1	158	5.6	1.9	9.6	0.2	0.7	6.5	17.6
URUGUAY (1993-2012)	32	1.8	0.9	2.8	89	3.9	1.7	6.1	0.0	0.8	5.4	11.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	275	2.1	1.1	3.1	1148	6.3	2.9	9.9	0.3	1.5	5.1	20.8
USA (1998-2012)	2163	2.1	1.1	3.1	8559	6.2	2.3	10.3	0.2	1.2	5.6	20.2
USA, API (1998-2012)	95	1.9	0.6	3.3	389	5.8	1.7	10.0	0.1	0.7	5.6	19.1
USA, Black (1998-2012)	151	0.9	0.5	1.3	499	2.2	0.9	3.6	0.1	0.6	2.3	6.8
USA, Hispanic White (1998-2012)	377	2.1	1.0	3.3	1318	5.7	1.9	9.9	0.2	1.3	5.6	18.2
USA, Native American (1998-2012)	16	1.0	1.1	0.8	63	2.8	1.5	4.2	0.2	0.4	2.6	9.2
USA, White NH (1998-2012)	1465	2.4	1.3	3.5	6014	7.2	2.7	11.8	0.3	1.3	6.3	23.6
USA, NPCR (1998-2012)	2070	2.1	1.1	3.1	8126	6.1	2.3	10.2	0.2	1.2	5.6	20.0
USA, SEER 18 (1993-2012)	656	2.0	0.9	3.2	2613	6.1	2.2	10.3	0.2	1.2	5.4	20.3
USA, Hawaii, Hawaiian (1993-2012)	*4*	*2.2*	*1.1*	*3.5*	*12*	*5.3*	*3.4*	*7.4*	*0.0*	*1.9*	*5.7*	*16.0*
ASIA												
BAHRAIN (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*9*	*2.2*	*0.0*	*4.5*	*0.0*	*0.0*	*0.0*	*9.8*
CHINA, 6 registries (1990-2013)	146	2.1	1.2	3.1	555	4.9	2.2	7.7	0.2	1.4	5.4	14.5
CHINA, Hong Kong (1990-2013)	72	2.3	1.3	3.5	245	5.6	2.3	9.0	0.4	1.4	5.9	16.6
INDIA, 7 registries (1990-2013)	101	0.5	0.4	0.7	369	1.4	0.8	2.1	0.2	0.4	1.0	4.2
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*2*	*0.5*	*0.4*	*0.6*	*10*	*1.5*	*0.6*	*2.4*	*0.0*	*0.9*	*0.7*	*4.7*
ISRAEL (1990-2012)	80	1.8	1.1	2.6	323	5.9	2.7	9.2	0.1	0.7	5.4	19.9
ISRAEL, Jews (1990-2012)	66	2.0	1.3	2.8	266	6.4	3.1	9.9	0.0	1.0	5.9	21.6
ISRAEL, Non-Jews (1990-2012)	14	1.2	0.7	1.8	57	4.2	1.6	7.0	0.2	0.0	3.9	14.6
JAPAN, 8 registries (1990-2013)	65	0.9	0.6	1.3	246	2.4	1.2	3.6	0.1	0.5	2.5	7.5
JORDAN, Jordanians (2000-2012)	28	1.0	0.7	1.2	87	2.4	0.9	4.0	0.3	0.2	2.6	7.4
REPUBLIC OF KOREA (1999-2012)	337	2.2	0.9	3.6	1719	8.1	2.8	14.0	0.0	1.2	6.1	28.7
KUWAIT (1994-2012)	*12*	*1.0*	*1.1*	*0.8*	*15*	*1.0*	*0.9*	*1.1*	*0.9*	*1.0*	*1.1*	*0.9*
KUWAIT, Kuwaitis (1994-2012)	*9*	*1.3*	*1.6*	*0.9*	*10*	*1.1*	*1.3*	*0.9*	*1.1*	*1.3*	*1.4*	*0.5*
KUWAIT, Non-Kuwaitis (1994-2012)	*3*	*0.6*	*0.4*	*0.8*	*5*	*0.8*	*0.3*	*1.3*	*0.5*	*0.6*	*0.7*	*1.5*
LEBANON (2008-2010)	6	1.4	1.3	1.4	22	4.0	2.4	5.6	0.0	0.8	3.8	12.9
PAKISTAN, Karachi (1995-2002)	*3*	*0.5*	*0.6*	*0.4*	*18*	*2.7*	*1.7*	*4.0*	*0.0*	*0.0*	*1.7*	*10.4*
PAKISTAN, Lahore (2008-2012)	*5*	*0.2*	*0.1*	*0.4*	*13*	*0.5*	*0.3*	*0.7*	*0.0*	*0.0*	*0.8*	*1.5*
PHILIPPINES, 2 registries (1993-2012)	65	0.8	0.4	1.3	281	2.7	1.2	4.1	0.1	0.4	2.3	9.0
QATAR (2002-2014)	*2*	*0.7*	*0.0*	*1.4*	*11*	*3.1*	*0.0*	*7.4*	*0.9*	*0.0*	*1.2*	*11.3*
SAUDI ARABIA, Riyadh (1994-2012)	37	1.1	0.4	1.7	171	4.3	1.4	7.3	0.0	0.7	2.8	15.4
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	31	1.1	0.2	1.9	149	4.4	1.3	7.5	0.0	0.7	2.8	15.8
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	6	1.1	1.4	0.7	22	3.8	2.1	5.6	0.0	0.5	3.1	13.1
THAILAND, 6 registries (1993-2013)	74	1.6	1.2	2.1	218	3.3	1.4	5.1	0.5	0.9	4.0	8.9
TURKEY, paediatric (2009-2011)	30	0.5	0.3	0.6	-	-	-	-	0.0	0.2	1.4	-
TURKEY, 8 registries (1992-2012)	83	1.8	1.1	2.5	322	5.1	1.9	8.5	0.1	0.8	5.1	16.7
VIET NAM, Ho Chi Minh City (1995-2013)	33	1.2	0.7	1.8	137	3.0	1.3	4.7	0.2	0.6	3.3	9.2
EUROPE												
AUSTRIA (1990-2012)	51	1.4	1.0	1.9	187	3.9	1.8	6.0	0.1	0.9	3.8	12.2
BELARUS, paediatric (1990-2014)	835	15.6	11.5	19.9	1656	22.4	14.7	30.4	0.5	12.5	39.2	45.5
BELGIUM (2004-2013)	37	1.8	0.8	2.8	121	4.4	2.0	6.8	0.0	1.2	4.9	13.2
BULGARIA (1990-2013)	25	0.7	0.2	1.2	88	1.6	0.7	2.6	0.0	0.5	1.8	5.0
CROATIA (2001-2014)	32	2.9	0.7	5.2	120	7.8	2.2	13.7	0.3	1.0	8.5	24.7
CYPRUS, South-West (1998-2012)	13	4.8	1.4	8.4	53	13.9	5.5	22.6	0.0	1.4	15.0	45.1
CZECH REPUBLIC (1990-2012)	123	2.6	1.6	3.7	367	5.3	2.5	8.3	0.2	1.6	7.0	14.6
ESTONIA (1990-2012)	7	1.0	1.1	0.9	22	2.3	1.7	2.9	0.0	0.5	2.9	6.7

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of thyroid carcinoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.26. Thyroid carcinoma (XIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	331	2.0	1.3	2.8	-	-	-	-	0.6	1.4	4.7	-
FRANCE, 13 registries (1993-2012)	86	2.5	1.4	3.6	284	6.0	2.9	9.1	0.7	1.6	5.8	17.9
GERMANY, paediatric (1996-2012)	237	1.0	0.7	1.3	-	-	-	-	0.2	0.8	2.3	-
GERMANY, 6 Eastern states (2001-2007)	31	1.9	1.3	2.6	116	4.0	2.1	6.1	0.5	1.0	4.9	11.3
GERMANY, 5 Western registries (1994-2012)	104	1.7	0.8	2.7	367	4.5	2.2	7.0	0.1	1.1	4.6	14.1
HUNGARY, paediatric (1991-2014)	48	1.0	0.5	1.5	-	-	-	-	0.1	0.8	2.6	-
ICELAND (1990-2014)	*1*	*0.5*	*0.0*	*1.1*	*12*	*4.9*	*0.0*	*10.1*	*0.0*	*0.0*	*1.8*	*20.1*
IRELAND (1994-2012)	10	0.5	0.2	0.9	62	2.4	1.0	3.8	0.0	0.2	1.6	8.8
ITALY, 2 paediatric registries (1998-2011)	24	2.6	1.9	3.3	93	7.4	5.4	9.5	0.4	1.4	6.8	24.0
ITALY, Piedmont, paediatric (1990-2011)	28	2.1	1.4	2.9	-	-	-	-	0.3	1.3	5.5	-
ITALY, 26 registries (1992-2013)	117	2.5	1.9	3.2	537	8.2	4.5	12.2	0.2	1.6	6.6	27.9
LITHUANIA (2000-2012)	10	1.1	1.1	1.1	54	3.9	1.8	6.2	0.0	0.4	3.2	13.9
MALTA (1994-2013)	*3*	*1.7*	*1.1*	*2.3*	*10*	*4.1*	*1.6*	*6.7*	*0.0*	*0.0*	*5.7*	*12.5*
THE NETHERLANDS (1993-2013)	105	1.6	1.3	2.0	287	3.3	2.1	4.5	0.7	1.6	2.8	9.0
NORWAY (1990-2013)	21	0.9	0.4	1.4	90	2.9	1.1	4.8	0.0	0.6	2.4	9.8
POLAND (2001-2013)	167	1.7	1.1	2.5	619	4.2	2.0	6.5	0.4	0.9	4.5	12.6
PORTUGAL (1991-2012)	75	2.4	1.3	3.6	263	6.0	2.4	9.8	0.3	1.5	6.3	18.3
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*14*	*1.3*	*1.1*	*1.4*	-	-	-	-	*0.0*	*1.2*	*3.2*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	19	1.4	0.6	2.3	66	3.2	1.6	4.8	0.3	0.6	3.9	9.2
SLOVAKIA (1990-2009)	31	1.2	0.7	1.8	122	3.3	1.7	5.0	0.2	1.0	2.9	10.4
SLOVAKIA, paediatric (2000-2012)	*6*	*0.4*	*0.4*	*0.4*	-	-	-	-	*0.0*	*0.3*	*1.1*	-
SLOVENIA (1991-2012)	29	3.4	1.6	5.2	72	6.0	2.9	9.2	0.5	0.4	10.5	14.9
SPAIN, 2 paediatric registries (1991-2013)	67	1.3	0.7	1.9	-	-	-	-	0.4	0.8	3.1	-
SPAIN, selected regions, paediatric (2000-2013)	36	1.0	0.6	1.5	-	-	-	-	0.3	0.9	2.0	-
SPAIN, Valencia, paediatric (1991-2010)	31	2.0	1.1	2.8	-	-	-	-	0.7	0.5	5.3	-
SPAIN, 11 registries (1990-2013)	89	2.4	1.8	3.1	272	5.0	2.6	7.6	0.4	1.9	5.7	13.9
SWEDEN (1990-2011)	65	1.7	0.6	2.8	203	3.8	1.6	6.2	0.1	1.6	3.8	11.3
SWITZERLAND, paediatric (1990-2013)	29	0.9	0.6	1.1	-	-	-	-	0.0	0.4	2.5	-
SWITZERLAND, 7 registries (1990-2013)	12	1.0	0.6	1.4	53	3.3	1.2	5.5	0.0	0.6	2.8	11.3
UKRAINE (2002-2012)	162	1.7	0.9	2.6	653	4.3	2.1	6.7	0.0	0.7	5.1	13.4
UK (2000-2011)	148	1.0	0.6	1.4	529	2.6	1.3	4.0	0.3	0.6	2.3	8.2
UK, England and Wales, paediatric (1991-2010)	183	0.9	0.5	1.2	-	-	-	-	0.2	0.6	1.9	-
OCEANIA												
AUSTRALIA (1992-2014)	129	1.3	0.8	1.8	551	4.2	2.1	6.4	0.2	0.9	3.3	14.1
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*4*	*1.6*	*0.8*	*2.4*	*9*	*3.0*	*0.6*	*5.5*	*0.0*	*1.2*	*4.1*	*7.8*
FRANCE, 2 registries (1990-2013)	8	2.3	0.6	4.2	22	5.0	0.9	9.3	0.0	1.9	5.9	14.2
NEW ZEALAND (1993-2012)	14	0.7	0.7	0.8	64	2.5	1.2	3.9	0.3	0.7	1.4	8.6
NEW ZEALAND, Maori (1993-2012)	*3*	*0.7*	*0.5*	*0.9*	*7*	*1.3*	*0.7*	*1.8*	*0.6*	*0.0*	*1.5*	*3.3*
NEW ZEALAND, Pacific peoples (1993-2012)	*1*	*0.6*	*0.0*	*1.3*	*12*	*6.1*	*1.0*	*11.2*	*0.0*	*0.0*	*2.1*	*24.8*
NEW ZEALAND, Other (1993-2012)	10	0.8	0.8	0.8	45	2.5	1.3	3.7	0.3	1.0	1.2	8.4
NEW ZEALAND, paediatric (2000-2012)	*8*	*0.6*	*0.5*	*0.8*	-	-	-	-	*0.5*	*0.0*	*1.5*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*4*	*1.3*	*1.4*	*1.3*	-	-	-	-	*1.0*	*0.0*	*3.3*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*4*	*0.4*	*0.3*	*0.6*	-	-	-	-	*0.4*	*0.0*	*1.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of thyroid carcinoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.27. Nasopharyngeal carcinomas (XIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	34	1.7	2.1	1.2	122	4.2	5.6	2.8	0.2	0.7	4.7	12.9
BOTSWANA (1999-2007)	*5*	*0.8*	*1.3*	*0.3*	*15*	*1.9*	*1.5*	*2.3*	*0.0*	*0.5*	*2.2*	*5.6*
CAMEROON, Yaoundé (2004-2006)	*2*	*0.9*	*0.9*	*0.8*	*6*	*2.1*	*1.4*	*2.8*	*0.0*	*0.0*	*3.0*	*6.5*
EGYPT, Gharbiah (1999-2010)	15	0.9	1.2	0.5	31	1.3	1.5	1.1	0.2	0.4	2.2	2.9
FRANCE, Réunion (1990-2011)	*4*	*0.8*	*1.2*	*0.4*	*6*	*0.9*	*1.2*	*0.6*	*0.0*	*0.0*	*2.7*	*1.4*
KENYA, 2 registries (2000-2012)	27	2.6	4.3	1.0	70	5.3	8.4	2.5	0.5	0.8	7.4	14.6
LIBYA, Benghazi (2003-2008)	*3*	*0.9*	*1.2*	*0.6*	*9*	*2.0*	*1.8*	*2.3*	*0.0*	*0.0*	*3.0*	*6.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MAURITIUS (2001-2013)	*1*	*0.2*	*0.0*	*0.4*	*2*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*0.7*	*0.8*
MOROCCO, 2 registries (2005-2012)	29	2.8	3.4	2.2	65	4.7	5.9	3.5	0.3	0.3	8.8	11.1
SOUTH AFRICA, paediatric (1998-2012)	46	0.2	0.2	0.2	-	-	-	-	0.0	0.1	0.5	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	40	0.2	0.2	0.2	-	-	-	-	0.0	0.0	0.6	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*5*	*0.2*	*0.2*	*0.3*	-	-	-	-	*0.2*	*0.2*	*0.5*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*1*	*0.1*	*0.2*	*0.0*	-	-	-	-	*0.0*	*0.3*	*0.0*	-
TUNISIA, 2 registries (1993-2007)	54	2.3	2.7	2.0	140	4.6	5.5	3.6	0.0	0.6	7.3	12.3
UGANDA, Kyadondo (1996-2013)	14	1.0	1.1	0.9	32	1.7	2.3	1.2	0.6	0.0	2.6	4.0
ZIMBABWE, Harare, African (1995-2013)	*5*	*0.6*	*0.8*	*0.5*	*10*	*0.9*	*0.9*	*0.8*	*0.0*	*0.4*	*1.7*	*1.7*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	35	0.2	0.3	0.2	-	-	-	-	0.0	0.2	0.5	-
ARGENTINA, 6 registries (1991-2013)	*1*	*0.0*	*0.1*	*0.0*	*3*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.3*
BRAZIL, 5 registries (1995-2012)	14	0.6	1.0	0.3	31	1.0	1.3	0.7	0.0	0.0	2.1	2.3
CHILE, paediatric (2007-2011)	*2*	*0.1*	*0.0*	*0.2*	-	-	-	-	*0.0*	*0.0*	*0.3*	-
CHILE, 4 registries (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	*3*	*0.1*	*0.3*	*0.0*	*6*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*0.5*	*0.5*
COSTA RICA (1993-2012)	70	2.5	4.1	0.9	126	3.6	5.0	2.0	0.0	1.5	7.1	7.0
CUBA (2000-2012)	*7*	*0.2*	*0.2*	*0.2*	*17*	*0.4*	*0.4*	*0.3*	*0.0*	*0.1*	*0.6*	*1.0*
ECUADOR, 5 registries (1993-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*
FRANCE, 3 registries (1990-2012)	*3*	*0.8*	*0.5*	*1.1*	*4*	*0.8*	*0.8*	*0.8*	*0.0*	*0.0*	*2.8*	*0.9*
HONDURAS, Francisco Morazán (2002-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*9*	*1.3*	*1.8*	*0.9*	*16*	*1.8*	*2.5*	*1.1*	*0.0*	*0.5*	*4.0*	*3.5*
MEXICO, Mexico City, paediatric (1997-2013)	*1*	*0.1*	*0.1*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.3*	-
PERU, Lima (2010-2012)	*1*	*0.1*	*0.0*	*0.3*	*2*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*	*0.4*	*0.4*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	*6*	*0.3*	*0.5*	*0.0*	*15*	*0.5*	*0.9*	*0.1*	*0.0*	*0.0*	*1.0*	*1.4*
URUGUAY (1993-2012)	*3*	*0.2*	*0.1*	*0.2*	*12*	*0.5*	*0.5*	*0.5*	*0.0*	*0.2*	*0.4*	*1.7*
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	19	0.1	0.2	0.1	65	0.4	0.4	0.3	0.0	0.0	0.5	1.1
USA (1998-2012)	261	0.2	0.3	0.2	689	0.5	0.7	0.3	0.0	0.1	0.8	1.4
USA, API (1998-2012)	14	0.3	0.6	0.0	45	0.7	1.0	0.4	0.0	0.2	0.7	2.0
USA, Black (1998-2012)	131	0.7	0.9	0.5	308	1.4	1.8	0.9	0.0	0.2	2.4	3.5
USA, Hispanic White (1998-2012)	37	0.2	0.3	0.1	85	0.4	0.5	0.2	0.0	0.1	0.6	0.9
USA, Native American (1998-2012)	*4*	*0.2*	*0.2*	*0.2*	*12*	*0.5*	*0.7*	*0.4*	*0.0*	*0.0*	*0.8*	*1.6*
USA, White NH (1998-2012)	73	0.1	0.1	0.1	230	0.3	0.4	0.2	0.0	0.0	0.3	0.8
USA, NPCR (1998-2012)	255	0.3	0.3	0.2	672	0.5	0.7	0.3	0.0	0.1	0.8	1.4
USA, SEER 18 (1993-2012)	78	0.2	0.3	0.1	206	0.5	0.7	0.3	0.0	0.1	0.8	1.3
USA, Hawaii, Hawaiian (1993-2012)	*1*	*0.5*	*1.1*	*0.0*	*3*	*1.3*	*2.6*	*0.0*	*0.0*	*0.0*	*1.9*	*4.0*
ASIA												
BAHRAIN (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CHINA, 6 registries (1990-2013)	36	0.5	0.8	0.2	146	1.3	1.8	0.7	0.1	0.1	1.5	3.9
CHINA, Hong Kong (1990-2013)	16	0.5	0.8	0.2	69	1.5	2.4	0.6	0.0	0.0	1.6	5.1
INDIA, 7 registries (1990-2013)	66	0.3	0.4	0.2	177	0.6	0.8	0.4	0.1	0.1	0.9	1.7
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*1*	*0.2*	*0.4*	*0.0*	*7*	*1.0*	*0.8*	*1.1*	*0.0*	*0.0*	*0.7*	*3.5*
ISRAEL (1990-2012)	24	0.5	0.7	0.3	63	1.1	1.7	0.6	0.0	0.1	1.7	3.2
ISRAEL, Jews (1990-2012)	18	0.6	0.8	0.3	46	1.1	1.7	0.5	0.0	0.2	1.7	3.0
ISRAEL, Non-Jews (1990-2012)	*6*	*0.5*	*0.7*	*0.4*	*17*	*1.2*	*1.7*	*0.7*	*0.0*	*0.0*	*1.8*	*3.7*
JAPAN, 8 registries (1990-2013)	11	0.1	0.2	0.1	38	0.4	0.5	0.2	0.0	0.0	0.5	1.1
JORDAN, Jordanians (2000-2012)	23	0.8	1.1	0.4	68	1.9	2.4	1.3	0.2	0.3	2.1	5.6
REPUBLIC OF KOREA (1999-2012)	41	0.3	0.4	0.1	109	0.5	0.8	0.3	0.0	0.1	0.8	1.4
KUWAIT (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
LEBANON (2008-2010)	*2*	*0.4*	*0.4*	*0.5*	*4*	*0.7*	*0.7*	*0.7*	*0.0*	*0.0*	*1.5*	*1.6*
PAKISTAN, Karachi (1995-2002)	*6*	*1.1*	*2.0*	*0.0*	*13*	*1.9*	*2.7*	*1.0*	*1.0*	*0.0*	*2.3*	*4.9*
PAKISTAN, Lahore (2008-2012)	*0*	*0.0*	*0.0*	*0.0*	*8*	*0.3*	*0.4*	*0.3*	*0.0*	*0.0*	*0.0*	*1.5*
PHILIPPINES, 2 registries (1993-2012)	54	0.7	0.9	0.5	149	1.4	2.1	0.8	0.1	0.4	1.9	4.0
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*3*	*0.8*	*1.4*	*0.0*	*0.0*	*0.0*	*0.0*	*3.8*
SAUDI ARABIA, Riyadh (1994-2012)	23	0.7	1.0	0.3	71	1.8	2.1	1.4	0.0	0.0	2.3	5.5
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	17	0.6	0.8	0.3	60	1.7	2.0	1.5	0.0	0.0	2.0	5.8
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*6*	*1.1*	*1.7*	*0.4*	*11*	*1.8*	*2.4*	*1.1*	*0.0*	*0.0*	*3.7*	*4.1*
THAILAND, 6 registries (1993-2013)	32	0.7	1.1	0.3	95	1.4	2.0	0.8	0.2	0.2	1.9	3.9
TURKEY, paediatric (2009-2011)	45	0.7	1.0	0.4	-	-	-	-	0.1	0.2	2.1	-
TURKEY, 8 registries (1992-2012)	49	1.0	1.5	0.5	110	1.8	2.4	1.1	0.1	0.2	3.3	4.3
VIET NAM, Ho Chi Minh City (1995-2013)	13	0.5	0.4	0.5	49	1.1	1.5	0.8	0.0	0.2	1.4	3.2
EUROPE												
AUSTRIA (1990-2012)	*8*	*0.2*	*0.1*	*0.3*	*15*	*0.3*	*0.3*	*0.3*	*0.0*	*0.2*	*0.6*	*0.6*
BELARUS, paediatric (1990-2014)	11	0.2	0.4	0.0	25	0.3	0.5	0.2	0.1	0.1	0.5	0.8
BELGIUM (2004-2013)	*8*	*0.4*	*0.6*	*0.2*	*14*	*0.5*	*0.6*	*0.4*	*0.0*	*0.2*	*1.1*	*0.9*
BULGARIA (1990-2013)	25	0.7	0.9	0.4	51	1.0	1.3	0.7	0.1	0.1	2.1	2.1
CROATIA (2001-2014)	*1*	*0.1*	*0.2*	*0.0*	*6*	*0.4*	*0.5*	*0.3*	*0.0*	*0.0*	*0.3*	*1.4*
CYPRUS, South-West (1998-2012)	*1*	*0.4*	*0.7*	*0.0*	*1*	*0.3*	*0.5*	*0.0*	*0.0*	*0.0*	*1.2*	*0.0*
CZECH REPUBLIC (1990-2012)	5	0.1	0.1	0.1	23	0.3	0.4	0.3	0.0	0.1	0.3	1.1
ESTONIA (1990-2012)	*1*	*0.1*	*0.3*	*0.0*	*4*	*0.4*	*0.6*	*0.2*	*0.0*	*0.0*	*0.5*	*1.3*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of nasopharyngeal carcinoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.27. Nasopharyngeal carcinomas (XIc): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	44	0.3	0.4	0.1	-	-	-	-	0.0	0.1	0.7	-
FRANCE, 13 registries (1993-2012)	*8*	*0.2*	*0.3*	*0.2*	*19*	*0.4*	*0.6*	*0.2*	*0.0*	*0.2*	*0.6*	*1.0*
GERMANY, paediatric (1996-2012)	41	0.2	0.2	0.1	-	-	-	-	0.0	0.0	0.5	-
GERMANY, 6 Eastern states (2001-2007)	*3*	*0.2*	*0.3*	*0.0*	*7*	*0.3*	*0.5*	*0.0*	*0.0*	*0.0*	*0.6*	*0.5*
GERMANY, 5 Western registries (1994-2012)	*4*	*0.1*	*0.1*	*0.0*	*16*	*0.2*	*0.3*	*0.1*	*0.0*	*0.1*	*0.2*	*0.6*
HUNGARY, paediatric (1991-2014)	*8*	*0.2*	*0.1*	*0.2*	-	-	-	-	*0.0*	*0.0*	*0.6*	-
ICELAND (1990-2014)	*2*	*1.1*	*1.2*	*1.1*	*5*	*2.1*	*2.5*	*1.7*	*0.0*	*1.8*	*1.8*	*5.5*
IRELAND (1994-2012)	*6*	*0.3*	*0.4*	*0.2*	*18*	*0.7*	*1.0*	*0.4*	*0.0*	*0.0*	*1.1*	*2.0*
ITALY, 2 paediatric registries (1998-2011)	*2*	*0.2*	*0.2*	*0.2*	*6*	*0.5*	*0.6*	*0.3*	*0.0*	*0.0*	*0.7*	*1.4*
ITALY, Piedmont, paediatric (1990-2011)	*4*	*0.3*	*0.3*	*0.3*	-	-	-	-	*0.0*	*0.0*	*1.0*	-
ITALY, 26 registries (1992-2013)	10	0.2	0.4	0.0	35	0.5	0.6	0.5	0.0	0.1	0.6	1.7
LITHUANIA (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	*4*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*0.0*	*1.3*
MALTA (1994-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.4*	*0.8*	*0.0*	*0.0*	*0.0*	*0.0*	*1.8*
THE NETHERLANDS (1993-2013)	20	0.3	0.5	0.1	42	0.5	0.7	0.3	0.0	0.2	0.8	1.1
NORWAY (1990-2013)	*1*	*0.0*	*0.0*	*0.1*	*5*	*0.2*	*0.3*	*0.1*	*0.0*	*0.1*	*0.0*	*0.6*
POLAND (2001-2013)	10	0.1	0.1	0.1	45	0.3	0.4	0.2	0.0	0.0	0.3	1.0
PORTUGAL (1991-2012)	24	0.8	1.1	0.4	50	1.2	1.5	0.8	0.0	0.2	2.3	2.5
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*3*	*0.2*	*0.5*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.9*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*1*	*0.1*	*0.2*	*0.0*	*3*	*0.2*	*0.2*	*0.1*	*0.0*	*0.3*	*0.0*	*0.4*
SLOVAKIA (1990-2009)	14	0.5	0.9	0.1	31	0.9	1.3	0.4	0.0	0.4	1.4	1.9
SLOVAKIA, paediatric (2000-2012)	*5*	*0.4*	*0.5*	*0.3*	-	-	-	-	*0.0*	*0.5*	*0.7*	-
SLOVENIA (1991-2012)	*3*	*0.3*	*0.4*	*0.2*	*5*	*0.4*	*0.5*	*0.3*	*0.0*	*0.0*	*1.2*	*0.7*
SPAIN, 2 paediatric registries (1991-2013)	*7*	*0.1*	*0.2*	*0.1*	-	-	-	-	*0.0*	*0.1*	*0.3*	-
SPAIN, selected regions, paediatric (2000-2013)	*3*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.3*	-
SPAIN, Valencia, paediatric (1991-2010)	*4*	*0.3*	*0.4*	*0.1*	-	-	-	-	*0.0*	*0.5*	*0.4*	-
SPAIN, 11 registries (1990-2013)	5	0.1	0.2	0.1	29	0.5	0.8	0.3	0.0	0.0	0.4	1.8
SWEDEN (1990-2011)	11	0.3	0.2	0.3	22	0.4	0.5	0.3	0.0	0.0	0.9	0.9
SWITZERLAND, paediatric (1990-2013)	*1*	*0.0*	*0.0*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.1*	-
SWITZERLAND, 7 registries (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*7*	*0.4*	*0.6*	*0.3*	*0.0*	*0.0*	*0.0*	*1.9*
UKRAINE (2002-2012)	28	0.3	0.3	0.3	66	0.5	0.5	0.5	0.0	0.1	0.9	1.0
UK (2000-2011)	30	0.2	0.3	0.1	98	0.5	0.6	0.3	0.0	0.0	0.6	1.5
UK, England and Wales, paediatric (1991-2010)	50	0.2	0.4	0.1	-	-	-	-	0.0	0.1	0.7	-
OCEANIA												
AUSTRALIA (1992-2014)	23	0.2	0.3	0.2	55	0.4	0.6	0.2	0.0	0.1	0.7	1.1
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*1*	*0.4*	*0.0*	*0.8*	*1*	*0.3*	*0.0*	*0.6*	*0.0*	*0.0*	*1.4*	*0.0*
FRANCE, 2 registries (1990-2013)	*2*	*0.6*	*0.6*	*0.6*	*2*	*0.4*	*0.4*	*0.5*	*0.0*	*0.0*	*2.0*	*0.0*
NEW ZEALAND (1993-2012)	*2*	*0.1*	*0.1*	*0.1*	*11*	*0.4*	*0.4*	*0.5*	*0.0*	*0.0*	*0.3*	*1.5*
NEW ZEALAND, Maori (1993-2012)	*1*	*0.2*	*0.0*	*0.4*	*3*	*0.5*	*0.4*	*0.7*	*0.0*	*0.0*	*0.7*	*1.7*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.5*	*1.0*	*0.0*	*0.0*	*0.0*	*0.0*	*2.3*
NEW ZEALAND, Other (1993-2012)	*1*	*0.1*	*0.1*	*0.0*	*7*	*0.4*	*0.3*	*0.4*	*0.0*	*0.0*	*0.2*	*1.4*
NEW ZEALAND, paediatric (2000-2012)	*2*	*0.1*	*0.1*	*0.2*	-	-	-	-	*0.0*	*0.0*	*0.5*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*1*	*0.3*	*0.0*	*0.7*	-	-	-	-	*0.0*	*0.0*	*1.1*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*1*	*0.1*	*0.2*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.3*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of nasopharyngeal carcinoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.28. Malignant melanomas (XId): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*1*	*0.1*	*0.1*	*0.0*	*4*	*0.1*	*0.1*	*0.2*	*0.0*	*0.2*	*0.0*	*0.4*
BOTSWANA (1999-2007)	*2*	*0.4*	*0.4*	*0.3*	*3*	*0.4*	*0.6*	*0.3*	*0.5*	*0.5*	*0.0*	*0.6*
CAMEROON, Yaoundé (2004-2006)	*1*	*0.4*	*0.8*	*0.0*	*1*	*0.3*	*0.7*	*0.0*	*0.0*	*1.3*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	*1*	*0.1*	*0.1*	*0.0*	*4*	*0.2*	*0.2*	*0.2*	*0.0*	*0.0*	*0.2*	*0.5*
FRANCE, Réunion (1990-2011)	*5*	*1.0*	*0.4*	*1.7*	*12*	*1.9*	*1.2*	*2.6*	*0.0*	*1.4*	*2.0*	*4.9*
KENYA, 2 registries (2000-2012)	*4*	*0.4*	*0.6*	*0.2*	*5*	*0.4*	*0.6*	*0.1*	*0.2*	*0.6*	*0.3*	*0.3*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*1.0*
MALI, Bamako (2005-2014)	*2*	*0.3*	*0.3*	*0.3*	*2*	*0.2*	*0.2*	*0.2*	*0.0*	*0.4*	*0.5*	*0.0*
MAURITIUS (2001-2013)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.3*	*0.0*	*0.7*	*0.0*	*0.0*	*0.0*	*1.5*
MOROCCO, 2 registries (2005-2012)	*0*	*0.0*	*0.0*	*0.0*	*5*	*0.3*	*0.6*	*0.1*	*0.0*	*0.0*	*0.0*	*1.5*
SOUTH AFRICA, paediatric (1998-2012)	34	0.2	0.1	0.2	-	-	-	-	0.2	0.1	0.2	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*1*	*0.2*	*0.5*	*0.0*	-	-	-	-	*0.0*	*0.8*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	*13*	*0.1*	*0.0*	*0.1*	-	-	-	-	*0.1*	*0.0*	*0.1*	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*1*	*0.1*	*0.1*	*0.0*	-	-	-	-	*0.0*	*0.2*	*0.0*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*19*	*1.5*	*0.8*	*2.3*	-	-	-	-	*1.6*	*1.0*	*2.0*	-
TUNISIA, 2 registries (1993-2007)	*6*	*0.3*	*0.1*	*0.4*	*9*	*0.3*	*0.1*	*0.5*	*0.0*	*0.0*	*0.9*	*0.4*
UGANDA, Kyadondo (1996-2013)	*4*	*0.3*	*0.2*	*0.4*	*7*	*0.4*	*0.4*	*0.4*	*0.0*	*0.7*	*0.2*	*0.7*
ZIMBABWE, Harare, African (1995-2013)	*1*	*0.1*	*0.0*	*0.2*	*3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.0*	*0.0*	*0.7*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	62	0.4	0.4	0.4	-	-	-	-	0.3	0.3	0.7	-
ARGENTINA, 6 registries (1991-2013)	17	0.7	0.5	1.0	30	1.0	0.9	1.1	0.6	0.7	1.1	1.7
BRAZIL, 5 registries (1995-2012)	15	0.8	1.1	0.4	33	1.2	1.6	0.7	0.8	0.3	1.2	2.5
CHILE, paediatric (2007-2011)	*9*	*0.5*	*0.5*	*0.4*	-	-	-	-	*0.3*	*0.3*	*0.7*	-
CHILE, 4 registries (1998-2012)	*2*	*0.5*	*0.0*	*1.1*	*7*	*1.1*	*0.8*	*1.4*	*1.4*	*0.0*	*0.0*	*2.9*
COLOMBIA, 4 registries (1992-2013)	22	1.2	1.1	1.4	31	1.3	1.0	1.6	1.3	0.9	1.6	1.5
COSTA RICA (1993-2012)	13	0.5	0.6	0.4	32	0.9	0.8	1.1	0.4	0.4	0.9	2.4
CUBA (2000-2012)	15	0.5	0.6	0.5	28	0.7	0.8	0.6	0.4	0.6	0.7	1.3
ECUADOR, 5 registries (1993-2013)	17	0.8	1.1	0.6	23	0.8	1.1	0.6	1.1	0.8	0.4	0.8
FRANCE, 3 registries (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.4*	*0.0*	*0.9*	*0.0*	*0.0*	*0.0*	*1.9*
HONDURAS, Francisco Morazán (2002-2012)	*2*	*0.4*	*0.8*	*0.0*	*3*	*0.5*	*0.9*	*0.0*	*0.6*	*0.0*	*0.6*	*0.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	*2*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.3*	*0.2*	*0.0*	-
PERU, Lima (2010-2012)	*3*	*0.4*	*0.3*	*0.5*	*6*	*0.6*	*0.7*	*0.4*	*0.0*	*0.9*	*0.4*	*1.1*
PERU, Trujillo (1990-2002)	*1*	*0.4*	*0.7*	*0.0*	*1*	*0.3*	*0.6*	*0.0*	*0.0*	*0.0*	*1.2*	*0.0*
USA, Puerto Rico (1992-2012)	9	0.5	0.6	0.3	20	0.8	0.9	0.6	0.2	0.7	0.6	1.7
URUGUAY (1993-2012)	*4*	*0.3*	*0.1*	*0.4*	*13*	*0.6*	*0.6*	*0.6*	*0.4*	*0.0*	*0.4*	*1.7*
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	157	1.3	1.3	1.2	562	3.1	2.7	3.6	0.7	0.9	2.4	9.6
USA (1998-2012)	1843	1.9	1.9	2.0	6323	4.7	3.9	5.6	1.3	1.4	3.4	14.2
USA, API (1998-2012)	30	0.7	0.5	0.8	53	0.9	0.7	1.0	0.8	0.4	0.7	1.5
USA, Black (1998-2012)	54	0.4	0.4	0.3	99	0.5	0.4	0.5	0.4	0.5	0.2	0.9
USA, Hispanic White (1998-2012)	153	0.9	0.7	1.0	297	1.3	1.1	1.6	0.6	0.8	1.4	2.8
USA, Native American (1998-2012)	*9*	*0.6*	*0.2*	*0.9*	*19*	*0.9*	*0.4*	*1.3*	*0.0*	*0.8*	*1.0*	*2.0*
USA, White NH (1998-2012)	1475	2.6	2.5	2.7	5437	6.6	5.5	7.9	1.8	1.7	4.7	20.5
USA, NPCR (1998-2012)	1740	1.9	1.9	1.9	5989	4.6	3.8	5.5	1.3	1.3	3.3	14.0
USA, SEER 18 (1993-2012)	537	1.7	1.6	2.0	1900	4.5	3.7	5.4	0.8	1.4	3.4	14.1
USA, Hawaii, Hawaiian (1993-2012)	*2*	*1.2*	*1.1*	*1.4*	*4*	*1.9*	*1.7*	*2.0*	*1.8*	*0.0*	*1.9*	*4.0*
ASIA												
BAHRAIN (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CHINA, 6 registries (1990-2013)	7	0.1	0.1	0.1	24	0.2	0.2	0.2	0.2	0.0	0.2	0.6
CHINA, Hong Kong (1990-2013)	*3*	*0.1*	*0.1*	*0.2*	*10*	*0.2*	*0.1*	*0.4*	*0.1*	*0.0*	*0.2*	*0.7*
INDIA, 7 registries (1990-2013)	17	0.1	0.1	0.1	30	0.1	0.2	0.1	0.1	0.1	0.1	0.2
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.0*	*0.3*	*0.0*	*0.0*	*0.0*	*0.6*
ISRAEL (1990-2012)	53	1.2	1.2	1.3	171	3.1	2.7	3.6	0.7	0.7	2.5	9.7
ISRAEL, Jews (1990-2012)	48	1.5	1.3	1.8	161	3.9	3.3	4.6	0.8	0.9	3.3	12.2
ISRAEL, Non-Jews (1990-2012)	*5*	*0.5*	*0.7*	*0.2*	*10*	*0.7*	*0.7*	*0.8*	*0.7*	*0.3*	*0.3*	*1.7*
JAPAN, 8 registries (1990-2013)	17	0.3	0.3	0.3	34	0.4	0.4	0.4	0.2	0.2	0.4	0.7
JORDAN, Jordanians (2000-2012)	*4*	*0.1*	*0.1*	*0.2*	*8*	*0.2*	*0.3*	*0.2*	*0.1*	*0.1*	*0.2*	*0.5*
REPUBLIC OF KOREA (1999-2012)	47	0.4	0.3	0.5	77	0.4	0.4	0.5	0.3	0.3	0.5	0.6
KUWAIT (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
LEBANON (2008-2010)	*1*	*0.3*	*0.5*	*0.0*	*1*	*0.2*	*0.4*	*0.0*	*0.0*	*0.8*	*0.0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*2*	*0.3*	*0.3*	*0.4*	*2*	*0.3*	*0.2*	*0.3*	*0.0*	*0.0*	*1.2*	*0.0*
PAKISTAN, Lahore (2008-2012)	*1*	*0.1*	*0.1*	*0.0*	*2*	*0.1*	*0.2*	*0.0*	*0.0*	*0.2*	*0.0*	*0.2*
PHILIPPINES, 2 registries (1993-2012)	*12*	*0.2*	*0.1*	*0.2*	*18*	*0.2*	*0.1*	*0.2*	*0.1*	*0.2*	*0.2*	*0.3*
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	*5*	*0.2*	*0.1*	*0.2*	*7*	*0.2*	*0.0*	*0.3*	*0.2*	*0.0*	*0.2*	*0.2*
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*3*	*0.1*	*0.1*	*0.1*	*5*	*0.1*	*0.1*	*0.2*	*0.2*	*0.0*	*0.1*	*0.3*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*2*	*0.4*	*0.0*	*0.7*	*2*	*0.3*	*0.0*	*0.6*	*0.5*	*0.0*	*0.6*	*0.0*
THAILAND, 6 registries (1993-2013)	15	0.4	0.3	0.4	21	0.4	0.3	0.4	0.2	0.5	0.5	0.4
TURKEY, paediatric (2009-2011)	*13*	*0.2*	*0.3*	*0.2*	-	-	-	-	*0.2*	*0.3*	*0.3*	-
TURKEY, 8 registries (1992-2012)	23	0.5	0.3	0.7	50	0.8	0.7	1.0	0.2	0.5	1.0	1.9
VIET NAM, Ho Chi Minh City (1995-2013)	*3*	*0.1*	*0.2*	*0.1*	*3*	*0.1*	*0.1*	*0.1*	*0.2*	*0.0*	*0.1*	*0.0*
EUROPE												
AUSTRIA (1990-2012)	64	1.8	1.4	2.2	264	5.5	4.8	6.2	0.2	1.5	4.4	17.9
BELARUS, paediatric (1990-2014)	39	0.8	0.6	0.9	112	1.5	1.3	1.8	0.3	0.6	1.6	4.0
BELGIUM (2004-2013)	46	2.3	1.9	2.8	158	5.8	4.2	7.4	1.0	1.8	4.7	17.6
BULGARIA (1990-2013)	21	0.6	0.9	0.3	57	1.1	1.2	1.0	0.2	0.7	1.1	2.8
CROATIA (2001-2014)	14	1.3	1.6	1.1	44	2.9	2.9	2.9	0.3	1.3	2.7	8.4
CYPRUS, South-West (1998-2012)	*3*	*1.3*	*2.4*	*0.0*	*9*	*2.5*	*4.4*	*0.5*	*0.0*	*2.8*	*1.2*	*6.8*
CZECH REPUBLIC (1990-2012)	82	1.9	2.0	1.7	264	3.9	3.2	4.7	0.9	1.5	3.6	10.9
ESTONIA (1990-2012)	6	0.8	0.5	1.1	23	2.4	2.0	2.8	0.0	0.0	2.9	7.6

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of malignant melanoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.28. Malignant melanomas (XId): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	139	0.9	0.9	0.9	-	-	-	-	0.4	0.7	1.6	-
FRANCE, 13 registries (1993-2012)	60	1.7	1.9	1.5	239	5.0	4.6	5.4	0.4	1.2	4.1	16.2
GERMANY, paediatric (1996-2012)	71	0.3	0.3	0.3	-	-	-	-	0.3	0.3	0.4	-
GERMANY, 6 Eastern states (2001-2007)	10	0.7	0.9	0.6	81	2.7	2.4	3.0	0.5	1.0	0.8	9.4
GERMANY, 5 Western registries (1994-2012)	113	2.0	1.8	2.3	453	5.7	4.6	6.8	0.9	1.4	4.2	18.2
HUNGARY, paediatric (1991-2014)	28	0.6	0.6	0.7	-	-	-	-	0.4	0.5	1.1	-
ICELAND (1990-2014)	5	2.8	2.1	3.6	25	10.4	4.8	16.3	1.8	0.0	7.4	36.5
IRELAND (1994-2012)	15	0.8	0.5	1.2	114	4.4	2.8	6.1	0.2	0.7	1.8	16.7
ITALY, 2 paediatric registries (1998-2011)	13	1.4	0.7	2.2	56	4.5	3.3	5.8	0.7	0.4	3.6	14.9
ITALY, Piedmont, paediatric (1990-2011)	*9*	*0.7*	*0.4*	*0.9*	-	-	-	-	*0.0*	*0.3*	*2.0*	-
ITALY, 26 registries (1992-2013)	75	1.6	1.2	2.1	295	4.6	3.8	5.3	0.3	1.0	4.1	14.6
LITHUANIA (2000-2012)	*1*	*0.1*	*0.2*	*0.0*	*12*	*0.9*	*1.1*	*0.6*	*0.0*	*0.0*	*0.4*	*3.5*
MALTA (1994-2013)	*7*	*4.1*	*2.4*	*5.9*	*16*	*6.8*	*5.7*	*7.9*	*0.0*	*4.2*	*9.5*	*16.0*
THE NETHERLANDS (1993-2013)	155	2.4	2.1	2.7	562	6.4	4.6	8.3	1.4	1.7	4.5	20.1
NORWAY (1990-2013)	22	1.0	0.9	1.0	147	4.8	3.2	6.4	0.3	0.7	2.1	17.8
POLAND (2001-2013)	38	0.4	0.3	0.5	192	1.3	1.1	1.5	0.2	0.4	0.8	4.3
PORTUGAL (1991-2012)	50	1.7	1.6	1.8	120	2.9	2.8	2.9	0.5	2.1	2.9	6.8
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*7*	*0.7*	*0.7*	*0.8*	-	-	-	-	*0.4*	*0.8*	*1.1*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	11	1.0	0.4	1.6	39	2.0	1.8	2.2	1.3	0.3	1.2	5.5
SLOVAKIA (1990-2009)	20	0.8	0.9	0.7	73	2.0	2.1	1.9	0.5	0.4	1.7	6.1
SLOVAKIA, paediatric (2000-2012)	*5*	*0.4*	*0.5*	*0.4*	-	-	-	-	*0.6*	*0.3*	*0.5*	-
SLOVENIA (1991-2012)	15	1.9	1.6	2.1	44	3.7	2.9	4.5	0.0	2.6	3.5	10.1
SPAIN, 2 paediatric registries (1991-2013)	38	0.8	0.6	0.9	-	-	-	-	0.5	0.8	1.1	-
SPAIN, selected regions, paediatric (2000-2013)	25	0.7	0.6	0.9	-	-	-	-	0.5	0.7	1.0	-
SPAIN, Valencia, paediatric (1991-2010)	*13*	*0.9*	*0.8*	*1.0*	-	-	-	-	*0.7*	*0.9*	*1.2*	-
SPAIN, 11 registries (1990-2013)	55	1.6	1.3	1.9	170	3.2	2.3	4.2	1.2	1.3	2.5	8.8
SWEDEN (1990-2011)	27	0.7	0.6	0.8	205	3.8	2.6	5.1	0.2	0.1	2.0	14.6
SWITZERLAND, paediatric (1990-2013)	48	1.5	1.4	1.6	-	-	-	-	0.5	1.1	3.2	-
SWITZERLAND, 7 registries (1990-2013)	35	3.0	2.6	3.4	133	8.4	7.9	8.9	0.8	2.0	7.0	26.9
UKRAINE (2002-2012)	71	0.8	0.7	0.9	273	1.9	1.7	2.1	0.3	0.7	1.7	5.5
UK (2000-2011)	133	0.9	0.8	1.0	798	3.9	2.8	5.1	0.4	0.6	2.0	14.3
UK, England and Wales, paediatric (1991-2010)	233	1.1	0.9	1.4	-	-	-	-	0.6	0.8	2.2	-
OCEANIA												
AUSTRALIA (1992-2014)	312	3.2	2.8	3.6	1761	13.4	12.6	14.2	0.7	1.5	8.3	48.5
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*4*	*1.6*	*0.9*	*2.4*	*9*	*3.0*	*2.8*	*3.3*	*1.2*	*0.0*	*4.1*	*7.8*
FRANCE, 2 registries (1990-2013)	*3*	*1.1*	*1.3*	*0.8*	*8*	*2.0*	*1.9*	*2.0*	*2.0*	*0.0*	*1.0*	*5.1*
NEW ZEALAND (1993-2012)	38	2.0	1.5	2.4	237	9.2	7.6	10.9	0.7	0.3	5.5	34.1
NEW ZEALAND, Maori (1993-2012)	*1*	*0.2*	*0.4*	*0.0*	*9*	*1.7*	*0.3*	*3.0*	*0.0*	*0.7*	*0.0*	*6.6*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*2*	*1.0*	*1.0*	*1.0*	*0.0*	*0.0*	*0.0*	*4.5*
NEW ZEALAND, Other (1993-2012)	37	2.8	2.1	3.5	226	12.3	10.4	14.3	1.1	0.3	7.9	45.1
NEW ZEALAND, paediatric (2000-2012)	*18*	*1.4*	*1.2*	*1.6*	-	-	-	-	*0.5*	*0.3*	*3.8*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*18*	*1.8*	*1.6*	*2.0*	-	-	-	-	*0.7*	*0.3*	*4.9*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of malignant melanoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.29. Skin carcinomas (XIe): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	14	0.8	1.0	0.5	27	1.0	1.2	0.8	0.5	0.9	1.0	1.9
BOTSWANA (1999-2007)	*3*	*0.5*	*1.0*	*0.0*	*8*	*1.0*	*1.2*	*0.8*	*0.0*	*0.5*	*1.1*	*2.8*
CAMEROON, Yaoundé (2004-2006)	*1*	*0.4*	*0.9*	*0.0*	*1*	*0.3*	*0.7*	*0.0*	*0.0*	*0.0*	*1.5*	*0.0*
EGYPT, Gharbiah (1999-2010)	*6*	*0.4*	*0.7*	*0.0*	*11*	*0.5*	*0.7*	*0.3*	*0.0*	*0.6*	*0.6*	*0.9*
FRANCE, Réunion (1990-2011)	*2*	*0.4*	*0.4*	*0.4*	*5*	*0.8*	*0.9*	*0.7*	*0.0*	*0.7*	*0.7*	*2.1*
KENYA, 2 registries (2000-2012)	12	1.1	1.1	1.1	21	1.5	1.5	1.6	0.7	1.7	1.0	3.0
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MALI, Bamako (2005-2014)	*5*	*0.7*	*0.9*	*0.5*	*15*	*1.4*	*1.5*	*1.3*	*0.0*	*0.4*	*1.9*	*3.9*
MAURITIUS (2001-2013)	*1*	*0.2*	*0.4*	*0.0*	*2*	*0.3*	*0.7*	*0.0*	*0.0*	*0.0*	*0.7*	*0.8*
MOROCCO, 2 registries (2005-2012)	38	3.9	4.0	3.8	57	4.4	4.5	4.2	1.7	3.4	7.5	5.9
SOUTH AFRICA, paediatric (1998-2012)	30	0.1	0.2	0.1	-	-	-	-	0.1	0.1	0.2	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*1*	*0.2*	*0.0*	*0.5*	-	-	-	-	*0.0*	*0.8*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	20	0.1	0.1	0.1	-	-	-	-	0.2	0.1	0.1	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*1*	*0.0*	*0.1*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.2*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*8*	*0.6*	*0.8*	*0.3*	-	-	-	-	*0.0*	*0.8*	*1.1*	-
TUNISIA, 2 registries (1993-2007)	33	1.6	1.6	1.6	56	2.0	2.0	2.0	0.7	2.1	2.3	3.3
UGANDA, Kyadondo (1996-2013)	*4*	*0.3*	*0.6*	*0.0*	*9*	*0.5*	*0.7*	*0.3*	*0.0*	*0.5*	*0.5*	*1.1*
ZIMBABWE, Harare, African (1995-2013)	*11*	*1.3*	*1.2*	*1.4*	*17*	*1.5*	*1.3*	*1.6*	*0.6*	*1.5*	*2.1*	*2.0*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	27	0.2	0.2	0.1	-	-	-	-	0.0	0.2	0.3	-
ARGENTINA, 6 registries (1991-2013)	11	0.4	0.6	0.2	29	0.9	1.1	0.7	0.0	0.4	1.1	2.4
BRAZIL, 5 registries (1995-2012)	33	1.6	1.3	1.9	83	2.8	2.4	3.2	0.3	1.7	3.2	6.8
CHILE, paediatric (2007-2011)	*3*	*0.1*	*0.2*	*0.1*	-	-	-	-	*0.0*	*0.2*	*0.3*	-
CHILE, 4 registries (1998-2012)	*3*	*0.6*	*0.4*	*0.8*	*5*	*0.7*	*0.6*	*0.9*	*0.0*	*1.3*	*0.6*	*1.2*
COLOMBIA, 4 registries (1992-2013)	*4*	*0.2*	*0.2*	*0.2*	*13*	*0.5*	*0.5*	*0.4*	*0.0*	*0.0*	*0.7*	*1.5*
COSTA RICA (1993-2012)	29	1.1	1.1	1.1	68	1.9	2.1	1.8	0.0	1.0	2.6	4.9
CUBA (2000-2012)	40	1.4	1.3	1.6	127	3.0	2.6	3.4	1.7	0.6	2.1	8.4
ECUADOR, 5 registries (1993-2013)	19	0.8	1.1	0.5	46	1.4	1.9	1.0	0.3	0.7	1.6	3.7
FRANCE, 3 registries (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*6*	*1.2*	*1.6*	*0.8*	*8*	*1.2*	*1.2*	*1.2*	*1.7*	*0.6*	*1.3*	*1.3*
JAMAICA, Kingston and St Andrew (1982-2012)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.2*	*0.5*	*0.0*	*0.0*	*0.0*	*0.0*	*1.0*
MEXICO, Mexico City, paediatric (1997-2013)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
PERU, Lima (2010-2012)	*2*	*0.3*	*0.0*	*0.5*	*7*	*0.6*	*0.5*	*0.8*	*0.0*	*0.4*	*0.4*	*1.9*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.3*	*0.0*	*0.5*	*0.0*	*0.0*	*0.0*	*1.1*
USA, Puerto Rico (1992-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
URUGUAY (1993-2012)	11	0.7	0.9	0.4	31	1.4	1.5	1.2	0.2	0.6	1.3	3.9
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	68	0.5	0.5	0.5	174	1.0	0.9	1.1	0.1	0.5	1.1	2.5
USA (1998-2012)	53	0.1	0.0	0.1	115	0.1	0.1	0.1	0.0	0.0	0.1	0.2
USA, API (1998-2012)	*2*	*0.0*	*0.0*	*0.1*	*2*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*
USA, Black (1998-2012)	*11*	*0.1*	*0.0*	*0.1*	*18*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*
USA, Hispanic White (1998-2012)	*5*	*0.0*	*0.0*	*0.0*	*13*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.1*	*0.2*
USA, Native American (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, White NH (1998-2012)	32	0.1	0.1	0.1	73	0.1	0.1	0.1	0.0	0.0	0.1	0.2
USA, NPCR (1998-2012)	52	0.1	0.0	0.1	111	0.1	0.1	0.1	0.0	0.0	0.1	0.2
USA, SEER 18 (1993-2012)	15	0.0	0.0	0.1	38	0.1	0.1	0.1	0.0	0.0	0.1	0.2
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.0*	*0.5*	*0.0*	*0.0*	*0.0*	*1.1*
CHINA, 6 registries (1990-2013)	14	0.2	0.2	0.2	27	0.3	0.3	0.3	0.0	0.2	0.5	0.5
CHINA, Hong Kong (1990-2013)	*7*	*0.2*	*0.2*	*0.2*	*14*	*0.3*	*0.3*	*0.3*	*0.0*	*0.1*	*0.6*	*0.7*
INDIA, 7 registries (1990-2013)	50	0.3	0.3	0.2	75	0.3	0.3	0.2	0.2	0.1	0.5	0.4
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*4*	*1.0*	*2.0*	*0.0*	*5*	*0.9*	*1.8*	*0.0*	*0.0*	*1.9*	*1.5*	*0.6*
ISRAEL (1990-2012)	*2*	*0.0*	*0.0*	*0.1*	*7*	*0.1*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	*0.4*
ISRAEL, Jews (1990-2012)	*1*	*0.0*	*0.1*	*0.0*	*5*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.1*	*0.4*
ISRAEL, Non-Jews (1990-2012)	*1*	*0.1*	*0.0*	*0.2*	*2*	*0.1*	*0.1*	*0.1*	*0.2*	*0.0*	*0.0*	*0.3*
JAPAN, 8 registries (1990-2013)	*7*	*0.1*	*0.1*	*0.1*	*13*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	*0.2*	*0.2*
JORDAN, Jordanians (2000-2012)	15	0.5	0.7	0.4	25	0.7	0.9	0.5	0.3	0.5	0.8	1.3
REPUBLIC OF KOREA (1999-2012)	36	0.3	0.2	0.3	59	0.3	0.3	0.3	0.1	0.3	0.4	0.5
KUWAIT (1994-2012)	*1*	*0.1*	*0.0*	*0.2*	*1*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.3*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*1*	*0.2*	*0.0*	*0.4*	*1*	*0.2*	*0.0*	*0.3*	*0.0*	*0.0*	*0.7*	*0.0*
LEBANON (2008-2010)	*8*	*1.8*	*2.6*	*0.9*	*10*	*1.8*	*2.0*	*1.5*	*0.0*	*0.8*	*5.3*	*1.6*
PAKISTAN, Karachi (1995-2002)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.3*	*0.6*	*0.0*	*0.0*	*0.0*	*0.0*	*1.4*
PAKISTAN, Lahore (2008-2012)	*11*	*0.6*	*0.9*	*0.2*	*13*	*0.5*	*0.8*	*0.2*	*0.3*	*0.5*	*1.0*	*0.4*
PHILIPPINES, 2 registries (1993-2012)	16	0.2	0.2	0.2	34	0.3	0.3	0.3	0.2	0.0	0.4	0.8
QATAR (2002-2014)	*2*	*0.7*	*1.3*	*0.0*	*2*	*0.5*	*1.0*	*0.0*	*0.0*	*0.0*	*2.3*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	17	0.5	0.4	0.6	27	0.6	0.5	0.8	0.2	0.6	0.8	1.2
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	13	0.5	0.4	0.5	20	0.6	0.4	0.7	0.2	0.4	0.8	0.9
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*4*	*0.7*	*0.3*	*1.0*	*7*	*1.1*	*1.0*	*1.2*	*0.0*	*1.5*	*0.6*	*2.5*
THAILAND, 6 registries (1993-2013)	13	0.3	0.2	0.4	32	0.5	0.4	0.6	0.2	0.3	0.5	1.2
TURKEY, paediatric (2009-2011)	*3*	*0.1*	*0.1*	*0.0*	-	-	-	-	*0.1*	*0.0*	*0.1*	-
TURKEY, 8 registries (1992-2012)	36	0.8	0.8	0.9	94	1.5	1.5	1.6	0.2	0.5	1.9	4.1
VIET NAM, Ho Chi Minh City (1995-2013)	*5*	*0.2*	*0.3*	*0.1*	*11*	*0.3*	*0.3*	*0.2*	*0.2*	*0.4*	*0.0*	*0.5*
EUROPE												
AUSTRIA (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
BELARUS, paediatric (1990-2014)	19	0.3	0.4	0.3	61	0.8	0.8	0.8	0.1	0.1	1.0	2.3
BELGIUM (2004-2013)	45	2.2	1.6	2.8	107	3.9	3.0	4.8	0.2	1.8	5.4	9.7
BULGARIA (1990-2013)	14	0.4	0.5	0.3	47	0.9	0.9	0.9	0.0	0.3	1.0	2.6
CROATIA (2001-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CYPRUS, South-West (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CZECH REPUBLIC (1990-2012)	52	1.1	0.8	1.5	131	2.0	1.5	2.5	0.2	1.2	2.3	4.7
ESTONIA (1990-2012)	*2*	*0.3*	*0.3*	*0.3*	*8*	*0.8*	*0.6*	*1.1*	*0.0*	*0.0*	*1.0*	*2.7*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of skin carcinoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.29. Skin carcinomas (XIe): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	34	0.2	0.2	0.2	-	-	-	-	0.0	0.3	0.3	-
FRANCE, 13 registries (1993-2012)	*7*	0.2	0.3	0.1	20	0.4	0.4	0.4	0.2	0.2	0.3	1.2
GERMANY, paediatric (1996-2012)	*12*	*0.1*	*0.0*	*0.1*	-	-	-	-	*0.0*	*0.1*	*0.1*	-
GERMANY, 6 Eastern states (2001-2007)	3	0.2	0.3	0.1	28	0.9	1.1	0.8	0.0	0.5	0.2	3.3
GERMANY, 5 Western registries (1994-2012)	34	0.6	0.7	0.6	124	1.6	1.4	1.8	0.3	0.3	1.3	4.8
HUNGARY, paediatric (1991-2014)	*10*	*0.2*	*0.3*	*0.2*	-	-	-	-	*0.1*	*0.2*	*0.4*	-
ICELAND (1990-2014)	*2*	*1.1*	*0.0*	*2.2*	*2*	*0.8*	*0.0*	*1.7*	*0.0*	*0.0*	*3.7*	*0.0*
IRELAND (1994-2012)	7	0.4	0.3	0.4	62	2.4	1.8	3.0	0.0	0.2	1.1	9.3
ITALY, 2 paediatric registries (1998-2011)	*3*	*0.3*	*0.4*	*0.2*	*9*	*0.7*	*0.8*	*0.6*	*0.0*	*0.7*	*0.4*	*2.1*
ITALY, Piedmont, paediatric (1990-2011)	*3*	*0.2*	*0.3*	*0.1*	-	-	-	-	*0.0*	*0.5*	*0.2*	-
ITALY, 26 registries (1992-2013)	53	1.2	0.8	1.6	167	2.6	2.0	3.3	0.4	1.2	2.3	7.6
LITHUANIA (2000-2012)	*7*	*0.8*	*0.7*	*0.8*	*17*	*1.3*	*1.2*	*1.4*	*0.0*	*0.4*	*2.1*	*3.2*
MALTA (1994-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.4*	*0.0*	*0.8*	*0.0*	*0.0*	*0.0*	*1.8*
THE NETHERLANDS (1993-2013)	18	0.3	0.2	0.4	35	0.4	0.4	0.5	0.1	0.2	0.5	0.8
NORWAY (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	7	*0.2*	*0.2*	*0.3*	*0.0*	*0.0*	*0.0*	*1.0*
POLAND (2001-2013)	25	0.3	0.2	0.3	93	0.6	0.5	0.8	0.1	0.1	0.6	1.9
PORTUGAL (1991-2012)	15	0.5	0.3	0.7	38	0.9	0.8	1.1	0.5	0.4	0.7	2.2
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*3*	*0.2*	*0.3*	*0.2*	-	-	-	-	*0.0*	*0.0*	*0.9*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	4	0.3	0.1	0.5	32	1.5	2.3	0.7	0.0	0.6	0.5	5.5
SLOVAKIA (1990-2009)	7	0.3	0.3	0.2	45	1.2	1.3	1.1	0.2	0.1	0.6	4.4
SLOVAKIA, paediatric (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SLOVENIA (1991-2012)	8	0.9	0.5	1.4	20	1.7	1.4	1.9	0.0	0.4	2.7	4.2
SPAIN, 2 paediatric registries (1991-2013)	*5*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.1*	*0.1*	*0.2*	-
SPAIN, selected regions, paediatric (2000-2013)	*5*	*0.1*	*0.2*	*0.1*	-	-	-	-	*0.1*	*0.1*	*0.3*	-
SPAIN, Valencia, paediatric (1991-2010)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SPAIN, 11 registries (1990-2013)	21	0.6	0.4	0.7	70	1.3	0.9	1.7	0.1	0.2	1.6	3.7
SWEDEN (1990-2011)	*2*	*0.0*	*0.0*	*0.1*	*9*	*0.2*	*0.2*	*0.2*	*0.0*	*0.0*	*0.2*	*0.6*
SWITZERLAND, paediatric (1990-2013)	*14*	*0.4*	*0.3*	*0.6*	-	-	-	-	*0.2*	*0.3*	*0.9*	-
SWITZERLAND, 7 registries (1990-2013)	10	0.8	0.7	1.0	26	1.6	1.4	1.9	0.0	0.6	2.3	4.4
UKRAINE (2002-2012)	22	0.2	0.2	0.3	151	1.0	1.1	0.8	0.0	0.1	0.6	3.5
UK (2000-2011)	17	0.1	0.1	0.1	72	0.4	0.3	0.4	0.0	0.1	0.3	1.2
UK, England and Wales, paediatric (1991-2010)	202	0.9	0.9	1.0	-	-	-	-	0.2	0.8	2.1	-
OCEANIA												
AUSTRALIA (1992-2014)	*7*	*0.1*	*0.1*	*0.1*	*14*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	*0.2*	*0.2*
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*1.0*
NEW ZEALAND (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Maori (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Other (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, paediatric (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of skin carcinoma in a dataset
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Please consult registry-specific background information and quality indicators

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Table 8.30. Other and unspecified carcinomas (XIf): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	46	2.5	2.7	2.2	140	5.0	5.1	5.0	1.6	1.6	4.6	13.8
BOTSWANA (1999-2007)	17	3.0	2.4	3.5	28	3.7	2.9	4.5	2.6	3.2	3.2	6.2
CAMEROON, Yaoundé (2004-2006)	*4*	*1.7*	*2.7*	*0.8*	*11*	*3.9*	*5.1*	*2.8*	*0.0*	*1.3*	*4.4*	*11.5*
EGYPT, Gharbiah (1999-2010)	13	0.7	0.3	1.2	62	2.6	2.3	2.9	0.2	0.4	1.8	8.9
FRANCE, Réunion (1990-2011)	*6*	*1.3*	*0.8*	*1.8*	*17*	*2.7*	*2.2*	*3.3*	*0.7*	*2.0*	*1.3*	*7.6*
KENYA, 2 registries (2000-2012)	38	3.6	4.2	3.0	93	7.0	8.3	5.8	1.9	2.8	6.8	18.6
LIBYA, Benghazi (2003-2008)	13	4.5	6.7	2.2	24	5.9	8.7	3.0	4.9	5.2	3.0	10.9
MALI, Bamako (2005-2014)	31	4.3	6.0	2.7	77	7.3	9.0	5.9	2.1	5.0	6.2	18.0
MAURITIUS (2001-2013)	11	2.5	2.2	2.7	25	4.3	3.7	4.9	0.0	1.6	6.7	10.6
MOROCCO, 2 registries (2005-2012)	21	2.4	2.3	2.5	49	3.8	3.0	4.6	3.7	0.7	2.6	8.6
SOUTH AFRICA, paediatric (1998-2012)	82	0.3	0.3	0.4	-	-	-	-	0.1	0.3	0.7	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	66	0.3	0.3	0.4	-	-	-	-	0.1	0.4	0.6	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*12*	*0.6*	*0.6*	*0.6*	-	-	-	-	*0.2*	*0.2*	*1.6*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*4*	*0.3*	*0.1*	*0.5*	-	-	-	-	*0.3*	*0.3*	*0.5*	-
TUNISIA, 2 registries (1993-2007)	15	0.7	0.8	0.6	63	2.1	2.0	2.2	0.0	1.0	1.3	6.9
UGANDA, Kyadondo (1996-2013)	24	1.7	1.7	1.8	64	3.4	3.5	3.3	1.0	1.9	2.6	8.9
ZIMBABWE, Harare, African (1995-2013)	27	3.2	2.2	4.2	42	3.6	2.5	4.6	1.7	2.6	5.9	5.1
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	76	0.5	0.5	0.5	-	-	-	-	0.0	0.2	1.4	-
ARGENTINA, 6 registries (1991-2013)	30	1.3	1.2	1.4	120	3.7	3.0	4.4	0.4	1.4	2.2	12.1
BRAZIL, 5 registries (1995-2012)	40	2.1	2.5	1.6	116	3.9	3.7	4.1	1.4	2.0	3.1	10.4
CHILE, paediatric (2007-2011)	*14*	*0.6*	*0.6*	*0.7*	-	-	-	-	*0.0*	*0.5*	*1.6*	-
CHILE, 4 registries (1998-2012)	5	0.9	0.7	1.2	21	2.8	1.6	4.2	0.0	0.7	2.4	9.4
COLOMBIA, 4 registries (1992-2013)	32	1.6	1.7	1.6	97	3.6	3.6	3.7	0.5	1.2	3.6	10.5
COSTA RICA (1993-2012)	19	0.7	0.9	0.5	107	3.0	2.6	3.4	0.0	0.6	1.7	11.1
CUBA (2000-2012)	58	2.0	1.8	2.2	174	4.1	3.5	4.7	1.7	0.8	3.7	11.2
ECUADOR, 5 registries (1993-2013)	15	0.6	0.6	0.7	81	2.5	1.9	3.0	0.1	0.5	1.4	9.0
FRANCE, 3 registries (1990-2012)	*7*	*2.0*	*1.1*	*3.0*	*15*	*3.3*	*1.7*	*4.9*	*1.0*	*1.0*	*4.6*	*7.5*
HONDURAS, Francisco Morazán (2002-2012)	*6*	*1.1*	*1.1*	*1.2*	*16*	*2.4*	*1.8*	*3.0*	*0.6*	*1.2*	*1.9*	*6.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*6*	*0.9*	*0.3*	*1.5*	*16*	*1.8*	*0.5*	*3.1*	*0.0*	*0.0*	*3.0*	*4.9*
MEXICO, Mexico City, paediatric (1997-2013)	*1*	*0.1*	*0.2*	*0.0*	-	-	-	-	*0.0*	*0.2*	*0.0*	-
PERU, Lima (2010-2012)	4	0.5	0.7	0.3	31	2.7	2.5	2.9	0.0	0.0	1.7	10.2
PERU, Trujillo (1990-2002)	*3*	*1.3*	*0.8*	*1.7*	*8*	*2.3*	*1.2*	*3.2*	*1.3*	*1.3*	*1.2*	*5.7*
USA, Puerto Rico (1992-2012)	25	1.2	1.2	1.2	80	2.9	2.3	3.4	0.0	0.5	3.5	8.6
URUGUAY (1993-2012)	38	2.2	1.8	2.7	95	4.2	3.6	4.8	0.4	1.7	5.2	11.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	207	1.6	1.3	2.0	655	3.7	2.8	4.6	0.8	0.8	3.7	10.7
USA (1998-2012)	1498	1.5	1.3	1.7	4862	3.5	3.0	4.2	0.4	0.9	3.5	10.6
USA, API (1998-2012)	56	1.1	1.1	1.2	184	2.8	2.8	2.7	0.3	0.8	2.7	8.3
USA, Black (1998-2012)	265	1.6	1.3	1.9	802	3.6	2.9	4.4	0.6	0.9	3.8	10.5
USA, Hispanic White (1998-2012)	222	1.2	1.1	1.4	706	3.1	2.5	3.7	0.2	0.7	3.2	9.4
USA, Native American (1998-2012)	10	0.6	0.9	0.4	60	2.7	2.1	3.3	0.0	0.6	1.4	9.8
USA, White NH (1998-2012)	899	1.5	1.3	1.7	2957	3.6	3.0	4.2	0.5	1.0	3.5	10.7
USA, NPCR (1998-2012)	1437	1.5	1.3	1.7	4625	3.5	2.9	4.2	0.4	0.9	3.5	10.5
USA, SEER 18 (1993-2012)	436	1.4	1.2	1.6	1511	3.6	3.1	4.1	0.3	0.8	3.4	11.2
USA, Hawaii, Hawaiian (1993-2012)	*2*	*1.2*	*1.1*	*1.4*	*7*	*3.2*	*2.6*	*3.9*	*1.8*	*0.0*	*1.9*	*10.0*
ASIA												
BAHRAIN (1998-2012)	*2*	*0.6*	*0.0*	*1.2*	*5*	*1.2*	*0.5*	*2.0*	*0.0*	*0.9*	*1.0*	*3.3*
CHINA, 6 registries (1990-2013)	76	1.1	1.0	1.3	345	3.0	2.8	3.2	0.4	0.7	2.6	9.5
CHINA, Hong Kong (1990-2013)	38	1.3	1.1	1.4	147	3.3	3.4	3.3	0.6	0.2	3.3	10.5
INDIA, 7 registries (1990-2013)	394	2.2	2.4	2.0	897	3.5	3.5	3.4	1.6	2.2	2.9	7.9
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*3*	*0.9*	*1.0*	*0.7*	*12*	*1.9*	*2.4*	*1.4*	*0.9*	*0.9*	*0.7*	*5.3*
ISRAEL (1990-2012)	79	1.8	1.9	1.7	239	4.4	3.9	4.9	0.7	1.2	4.0	13.1
ISRAEL, Jews (1990-2012)	63	2.0	2.0	1.9	199	4.8	4.2	5.5	0.7	1.1	4.7	14.7
ISRAEL, Non-Jews (1990-2012)	16	1.4	1.6	1.2	40	2.9	2.8	3.0	0.7	1.6	2.1	8.1
JAPAN, 8 registries (1990-2013)	62	0.9	0.9	0.8	251	2.4	2.3	2.5	0.1	0.7	2.2	7.8
JORDAN, Jordanians (2000-2012)	34	1.2	1.6	0.7	72	2.0	2.5	1.4	0.5	0.9	2.4	4.8
REPUBLIC OF KOREA (1999-2012)	222	1.5	1.3	1.7	744	3.6	3.3	3.8	0.1	0.9	3.8	10.8
KUWAIT (1994-2012)	17	1.4	1.8	1.0	20	1.3	1.5	1.1	1.1	2.0	1.1	0.9
KUWAIT, Kuwaitis (1994-2012)	*11*	*1.5*	*2.2*	*0.9*	*11*	*1.2*	*1.7*	*0.7*	*1.9*	*2.1*	*0.5*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*6*	*1.2*	*1.1*	*1.2*	*9*	*1.4*	*1.2*	*1.7*	*0.0*	*1.8*	*2.0*	*2.2*
LEBANON (2008-2010)	11	2.8	2.1	3.6	25	4.7	4.4	5.1	1.9	2.4	4.6	11.3
PAKISTAN, Karachi (1995-2002)	20	3.4	5.0	1.8	63	9.4	9.9	8.8	1.5	2.0	7.6	29.8
PAKISTAN, Lahore (2008-2012)	27	1.3	1.3	1.3	90	3.6	3.5	3.7	0.0	0.5	3.8	11.7
PHILIPPINES, 2 registries (1993-2012)	189	2.5	2.4	2.5	444	4.3	3.9	4.7	1.7	1.8	4.2	10.6
QATAR (2002-2014)	*7*	*2.4*	*1.3*	*3.6*	*16*	*4.4*	*2.0*	*7.7*	*0.9*	*0.0*	*7.0*	*11.3*
SAUDI ARABIA, Riyadh (1994-2012)	43	1.3	1.2	1.3	104	2.6	2.1	3.0	0.8	0.9	2.3	7.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	34	1.2	1.2	1.2	84	2.4	2.0	2.9	0.9	0.4	2.4	6.7
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	9	1.5	1.3	1.8	20	3.2	2.8	3.7	0.5	3.1	1.2	9.0
THAILAND, 6 registries (1993-2013)	110	2.8	3.0	2.7	267	4.4	4.6	4.1	3.6	1.5	3.3	9.7
TURKEY, paediatric (2009-2011)	*15*	*0.2*	*0.1*	*0.3*	-	-	-	-	*0.1*	*0.1*	*0.6*	-
TURKEY, 8 registries (1992-2012)	78	1.8	1.7	1.8	209	3.4	3.1	3.7	0.5	1.5	3.7	9.2
VIET NAM, Ho Chi Minh City (1995-2013)	33	1.3	1.2	1.5	88	2.1	2.1	2.2	1.2	0.4	2.5	4.9
EUROPE												
AUSTRIA (1990-2012)	37	1.1	0.8	1.3	162	3.3	2.7	4.0	0.1	0.8	2.6	11.2
BELARUS, paediatric (1990-2014)	48	0.9	0.8	1.0	178	2.3	2.1	2.6	0.2	0.3	2.4	7.2
BELGIUM (2004-2013)	102	5.0	4.3	5.6	285	10.3	8.4	12.3	0.0	3.8	12.8	28.7
BULGARIA (1990-2013)	32	0.9	0.8	1.1	158	3.0	2.8	3.2	0.5	0.5	2.0	9.9
CROATIA (2001-2014)	2	0.2	0.2	0.2	33	2.1	1.5	2.7	0.0	0.0	0.6	8.7
CYPRUS, South-West (1998-2012)	*1*	*0.4*	*0.0*	*0.7*	*15*	*3.8*	*3.5*	*4.2*	*0.0*	*0.0*	*1.2*	*15.8*
CZECH REPUBLIC (1990-2012)	76	1.7	1.5	1.9	258	3.8	2.9	4.7	0.4	1.6	3.5	10.9
ESTONIA (1990-2012)	*3*	*0.4*	*0.0*	*0.9*	*18*	*1.8*	*1.6*	*2.1*	*0.0*	*0.0*	*1.4*	*6.7*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other or unspecified carcinoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.30. Other and unspecified carcinomas (XIf): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	134	0.8	0.5	1.1	-	-	-	-	0.0	0.5	2.2	-
FRANCE, 13 registries (1993-2012)	57	1.6	1.1	2.1	169	3.5	2.6	4.5	0.2	0.9	4.3	10.1
GERMANY, paediatric (1996-2012)	115	0.5	0.5	0.5	-	-	-	-	0.0	0.3	1.2	-
GERMANY, 6 Eastern states (2001-2007)	20	1.2	0.7	1.6	103	3.4	2.9	3.9	0.0	0.2	3.7	11.0
GERMANY, 5 Western registries (1994-2012)	88	1.5	1.3	1.7	314	3.9	3.1	4.7	0.1	0.6	4.2	12.1
HUNGARY, paediatric (1991-2014)	32	0.7	0.5	1.0	-	-	-	-	0.4	0.6	1.3	-
ICELAND (1990-2014)	*3*	*1.7*	*2.1*	*1.2*	*9*	*3.8*	*4.8*	*2.6*	*0.0*	*1.8*	*3.7*	*11.0*
IRELAND (1994-2012)	23	1.2	1.0	1.4	85	3.3	2.6	4.0	0.2	0.5	3.4	10.4
ITALY, 2 paediatric registries (1998-2011)	15	1.6	1.8	1.3	44	3.5	4.1	2.8	0.0	0.4	5.0	10.1
ITALY, Piedmont, paediatric (1990-2011)	*14*	*1.0*	*1.1*	*0.9*	-	-	-	-	*0.0*	*0.3*	*3.2*	-
ITALY, 26 registries (1992-2013)	64	1.4	1.2	1.6	227	3.5	3.1	4.0	0.2	0.9	3.5	10.8
LITHUANIA (2000-2012)	4	0.5	0.8	0.2	20	1.5	1.4	1.6	0.5	0.0	1.1	5.0
MALTA (1994-2013)	*2*	*1.1*	*0.0*	*2.3*	*4*	*1.7*	*0.0*	*3.4*	*0.0*	*0.0*	*3.8*	*3.6*
THE NETHERLANDS (1993-2013)	200	2.9	2.4	3.4	581	6.5	5.0	8.0	0.2	0.9	8.6	18.8
NORWAY (1990-2013)	43	1.8	1.7	2.0	138	4.5	4.0	4.9	0.4	0.6	5.2	13.5
POLAND (2001-2013)	79	0.9	0.7	1.0	300	2.0	1.6	2.5	0.4	0.5	1.9	6.2
PORTUGAL (1991-2012)	51	1.7	1.6	1.8	181	4.2	3.6	4.7	0.5	1.6	3.5	12.7
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*8*	*0.7*	*0.8*	*0.6*	-	-	-	-	*0.0*	*0.4*	*2.0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	25	2.0	2.0	2.0	79	3.9	3.8	4.1	1.1	1.4	3.9	10.6
SLOVAKIA (1990-2009)	26	1.1	1.0	1.2	100	2.7	2.1	3.4	0.3	1.0	2.1	8.5
SLOVAKIA, paediatric (2000-2012)	*16*	*1.1*	*1.2*	*1.1*	-	-	-	-	*0.0*	*1.1*	*2.7*	-
SLOVENIA (1991-2012)	11	1.3	0.7	1.8	34	2.8	2.4	3.2	0.0	0.4	3.9	8.0
SPAIN, 2 paediatric registries (1991-2013)	41	0.8	0.7	0.8	-	-	-	-	0.1	0.6	2.0	-
SPAIN, selected regions, paediatric (2000-2013)	26	0.7	0.6	0.8	-	-	-	-	0.1	0.6	1.7	-
SPAIN, Valencia, paediatric (1991-2010)	*15*	*0.9*	*1.1*	*0.8*	-	-	-	-	*0.0*	*0.5*	*2.6*	-
SPAIN, 11 registries (1990-2013)	42	1.2	0.9	1.4	141	2.6	2.1	3.1	0.3	0.9	2.6	7.5
SWEDEN (1990-2011)	52	1.3	1.0	1.6	152	2.8	2.5	3.2	0.1	0.6	3.7	8.2
SWITZERLAND, paediatric (1990-2013)	30	0.9	0.6	1.2	-	-	-	-	0.0	0.5	2.5	-
SWITZERLAND, 7 registries (1990-2013)	23	1.9	0.6	3.3	69	4.3	3.3	5.5	0.0	1.7	4.8	12.6
UKRAINE (2002-2012)	145	1.8	1.8	1.8	569	4.0	3.6	4.5	1.4	1.3	2.8	11.6
UK (2000-2011)	217	1.4	1.2	1.6	726	3.6	3.0	4.1	0.2	0.8	3.8	10.9
UK, England and Wales, paediatric (1991-2010)	238	1.1	1.0	1.2	-	-	-	-	0.1	0.7	2.9	-
OCEANIA												
AUSTRALIA (1992-2014)	275	2.8	2.1	3.4	872	6.6	5.5	7.9	0.2	1.3	7.9	20.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*5*	*2.0*	*1.6*	*2.5*	*18*	*6.2*	*4.0*	*8.4*	*1.2*	*0.0*	*5.5*	*20.4*
FRANCE, 2 registries (1990-2013)	*2*	*0.6*	*1.2*	*0.0*	*13*	*3.0*	*2.2*	*3.7*	*0.0*	*1.0*	*1.0*	*11.2*
NEW ZEALAND (1993-2012)	30	1.6	1.4	1.7	92	3.6	2.8	4.4	0.3	1.0	3.7	10.6
NEW ZEALAND, Maori (1993-2012)	7	1.6	0.8	2.3	24	4.4	3.6	5.1	0.6	0.7	3.7	14.1
NEW ZEALAND, Pacific peoples (1993-2012)	*4*	*2.5*	*2.4*	*2.5*	*12*	*6.0*	*3.9*	*8.1*	*0.0*	*1.9*	*6.3*	*18.0*
NEW ZEALAND, Other (1993-2012)	19	1.4	1.5	1.4	56	3.1	2.5	3.7	0.3	1.0	3.5	8.8
NEW ZEALAND, paediatric (2000-2012)	22	1.7	1.6	1.8	-	-	-	-	0.5	1.1	4.0	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*5*	*1.7*	*0.6*	*2.7*	-	-	-	-	*1.0*	*0.0*	*4.4*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*17*	*1.7*	*2.0*	*1.5*	-	-	-	-	*0.4*	*1.4*	*3.9*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other or unspecified carcinoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.31. Other specified malignant tumours (XIIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	*3*	*0.2*	*0.3*	*0.1*	*3*	*0.1*	*0.2*	*0.1*	*0.3*	*0.0*	*0.2*	*0.0*
BOTSWANA (1999-2007)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
EGYPT, Gharbiah (1999-2010)	*3*	*0.2*	*0.0*	*0.4*	*3*	*0.1*	*0.0*	*0.3*	*0.0*	*0.6*	*0.0*	*0.0*
FRANCE, Réunion (1990-2011)	*1*	*0.3*	*0.0*	*0.5*	*2*	*0.4*	*0.3*	*0.4*	*0.7*	*0.0*	*0.0*	*0.7*
KENYA, 2 registries (2000-2012)	*1*	*0.1*	*0.2*	*0.0*	*5*	*0.4*	*0.5*	*0.3*	*0.0*	*0.3*	*0.0*	*1.4*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*1.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MAURITIUS (2001-2013)	*1*	*0.2*	*0.0*	*0.4*	*2*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*0.7*	*0.8*
MOROCCO, 2 registries (2005-2012)	*1*	*0.1*	*0.0*	*0.2*	*1*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.3*	*0.0*
SOUTH AFRICA, paediatric (1998-2012)	*16*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.1*	*0.1*	*0.0*	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	*11*	*0.1*	*0.1*	*0.0*	-	-	-	-	*0.1*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*4*	*0.2*	*0.3*	*0.1*	-	-	-	-	*0.3*	*0.3*	*0.0*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*1*	*0.1*	*0.0*	*0.2*	-	-	-	-	*0.3*	*0.0*	*0.0*	-
TUNISIA, 2 registries (1993-2007)	*3*	*0.2*	*0.0*	*0.4*	*5*	*0.2*	*0.1*	*0.3*	*0.3*	*0.0*	*0.1*	*0.3*
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.2*
ZIMBABWE, Harare, African (1995-2013)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.2*	*0.0*	*0.3*	*0.0*	*0.0*	*0.0*	*0.7*
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	*12*	*0.1*	*0.0*	*0.1*	-	-	-	-	*0.1*	*0.0*	*0.1*	-
ARGENTINA, 6 registries (1991-2013)	*8*	*0.4*	*0.3*	*0.5*	*10*	*0.4*	*0.3*	*0.4*	*0.7*	*0.0*	*0.4*	*0.3*
BRAZIL, 5 registries (1995-2012)	*2*	*0.1*	*0.2*	*0.0*	*4*	*0.1*	*0.2*	*0.1*	*0.2*	*0.0*	*0.2*	*0.3*
CHILE, paediatric (2007-2011)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
CHILE, 4 registries (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.3*	*0.5*	*0.0*	*0.0*	*0.0*	*0.0*	*1.2*
COLOMBIA, 4 registries (1992-2013)	*4*	*0.2*	*0.2*	*0.2*	*5*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.3*	*0.2*
COSTA RICA (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*6*	*0.2*	*0.2*	*0.2*	*0.0*	*0.0*	*0.0*	*0.8*
CUBA (2000-2012)	*7*	*0.2*	*0.2*	*0.3*	*11*	*0.3*	*0.2*	*0.4*	*0.2*	*0.1*	*0.4*	*0.4*
ECUADOR, 5 registries (1993-2013)	*3*	*0.1*	*0.1*	*0.2*	*6*	*0.2*	*0.1*	*0.3*	*0.3*	*0.0*	*0.1*	*0.4*
FRANCE, 3 registries (1990-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*0.0*	*1.3*
JAMAICA, Kingston and St Andrew (1982-2012)	*1*	*0.1*	*0.3*	*0.0*	*4*	*0.4*	*0.7*	*0.2*	*0.0*	*0.0*	*0.5*	*1.5*
MEXICO, Mexico City, paediatric (1997-2013)	*1*	*0.1*	*0.0*	*0.1*	-	-	-	-	*0.0*	*0.0*	*0.3*	-
PERU, Lima (2010-2012)	*2*	*0.2*	*0.2*	*0.3*	*3*	*0.3*	*0.4*	*0.2*	*0.0*	*0.0*	*0.9*	*0.4*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	*1*	*0.1*	*0.0*	*0.1*	*3*	*0.1*	*0.0*	*0.3*	*0.2*	*0.0*	*0.0*	*0.3*
URUGUAY (1993-2012)	*4*	*0.3*	*0.5*	*0.1*	*5*	*0.3*	*0.4*	*0.1*	*0.6*	*0.0*	*0.2*	*0.2*
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	46	0.4	0.4	0.4	59	0.4	0.4	0.4	0.6	0.2	0.4	0.3
USA (1998-2012)	314	0.4	0.4	0.4	484	0.4	0.4	0.5	0.7	0.1	0.2	0.5
USA, API (1998-2012)	*11*	*0.3*	*0.2*	*0.3*	*14*	*0.3*	*0.2*	*0.3*	*0.6*	*0.1*	*0.1*	*0.2*
USA, Black (1998-2012)	45	0.3	0.3	0.4	76	0.4	0.3	0.5	0.5	0.2	0.3	0.6
USA, Hispanic White (1998-2012)	53	0.3	0.4	0.3	79	0.4	0.4	0.4	0.5	0.1	0.2	0.5
USA, Native American (1998-2012)	*3*	*0.2*	*0.2*	*0.3*	*4*	*0.2*	*0.1*	*0.3*	*0.6*	*0.0*	*0.0*	*0.2*
USA, White NH (1998-2012)	198	0.4	0.4	0.4	303	0.4	0.4	0.5	0.8	0.1	0.2	0.5
USA, NPCR (1998-2012)	305	0.4	0.4	0.4	469	0.4	0.4	0.5	0.7	0.1	0.2	0.5
USA, SEER 18 (1993-2012)	91	0.3	0.3	0.4	139	0.4	0.3	0.4	0.5	0.1	0.3	0.5
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*1*	*0.4*	*0.7*	*0.0*	*1*	*0.3*	*0.5*	*0.0*	*0.9*	*0.0*	*0.0*	*0.0*
CHINA, 6 registries (1990-2013)	24	0.5	0.2	0.7	37	0.5	0.2	0.7	0.7	0.2	0.4	0.5
CHINA, Hong Kong (1990-2013)	*11*	*0.5*	*0.1*	*0.8*	*16*	*0.5*	*0.2*	*0.8*	*0.7*	*0.2*	*0.4*	*0.5*
INDIA, 7 registries (1990-2013)	*9*	*0.1*	*0.1*	*0.1*	*12*	*0.1*	*0.1*	*0.0*	*0.1*	*0.0*	*0.1*	*0.0*
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*1*	*0.2*	*0.4*	*0.0*	*1*	*0.2*	*0.3*	*0.0*	*0.0*	*0.0*	*0.7*	*0.0*
ISRAEL (1990-2012)	*10*	*0.3*	*0.3*	*0.2*	*13*	*0.3*	*0.3*	*0.2*	*0.5*	*0.2*	*0.0*	*0.2*
ISRAEL, Jews (1990-2012)	7	*0.2*	*0.3*	*0.2*	*10*	*0.3*	*0.3*	*0.3*	*0.5*	*0.2*	*0.0*	*0.3*
ISRAEL, Non-Jews (1990-2012)	*3*	*0.3*	*0.4*	*0.2*	*3*	*0.2*	*0.3*	*0.1*	*0.5*	*0.3*	*0.0*	*0.0*
JAPAN, 8 registries (1990-2013)	19	0.3	0.3	0.4	26	0.3	0.3	0.3	0.6	0.3	0.1	0.3
JORDAN, Jordanians (2000-2012)	*4*	*0.2*	*0.2*	*0.2*	*6*	*0.2*	*0.1*	*0.2*	*0.3*	*0.0*	*0.1*	*0.3*
REPUBLIC OF KOREA (1999-2012)	47	0.4	0.3	0.5	69	0.4	0.3	0.5	0.7	0.2	0.3	0.5
KUWAIT (1994-2012)	*1*	*0.1*	*0.0*	*0.2*	*4*	*0.3*	*0.3*	*0.3*	*0.0*	*0.0*	*0.3*	*0.9*
KUWAIT, Kuwaitis (1994-2012)	*1*	*0.1*	*0.0*	*0.3*	*3*	*0.3*	*0.2*	*0.5*	*0.0*	*0.0*	*0.5*	*1.1*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.2*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.7*
LEBANON (2008-2010)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*1*	*0.2*	*0.0*	*0.3*	*1*	*0.1*	*0.0*	*0.3*	*0.0*	*0.5*	*0.0*	*0.0*
PAKISTAN, Lahore (2008-2012)	*1*	*0.0*	*0.1*	*0.0*	*1*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.2*	*0.0*
PHILIPPINES, 2 registries (1993-2012)	*6*	*0.1*	*0.1*	*0.1*	*8*	*0.1*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*
QATAR (2002-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	*3*	*0.1*	*0.1*	*0.1*	*8*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.6*
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*3*	*0.1*	*0.1*	*0.1*	*6*	*0.2*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.4*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.4*	*0.4*	*0.4*	*0.0*	*0.0*	*0.0*	*1.6*
THAILAND, 6 registries (1993-2013)	*5*	*0.1*	*0.2*	*0.0*	*10*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	*0.3*
TURKEY, paediatric (2009-2011)	*7*	*0.1*	*0.2*	*0.1*	-	-	-	-	*0.4*	*0.0*	*0.0*	-
TURKEY, 8 registries (1992-2012)	*4*	*0.1*	*0.1*	*0.1*	*9*	*0.2*	*0.1*	*0.2*	*0.2*	*0.0*	*0.1*	*0.3*
VIET NAM, Ho Chi Minh City (1995-2013)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.2*
EUROPE												
AUSTRIA (1990-2012)	*7*	*0.2*	*0.3*	*0.2*	*10*	*0.2*	*0.2*	*0.3*	*0.4*	*0.0*	*0.3*	*0.3*
BELARUS, paediatric (1990-2014)	*7*	*0.2*	*0.1*	*0.2*	*10*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.1*	*0.2*
BELGIUM (2004-2013)	*4*	*0.2*	*0.3*	*0.1*	*11*	*0.4*	*0.5*	*0.4*	*0.3*	*0.2*	*0.2*	*1.1*
BULGARIA (1990-2013)	12	0.4	0.3	0.6	20	0.5	0.3	0.6	0.5	0.3	0.4	0.6
CROATIA (2001-2014)	*0*	*0.0*	*0.0*	*0.0*	*2*	*0.1*	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.6*
CYPRUS, South-West (1998-2012)	*1*	*0.6*	*0.0*	*1.2*	*1*	*0.4*	*0.0*	*0.9*	*1.5*	*0.0*	*0.0*	*0.0*
CZECH REPUBLIC (1990-2012)	15	0.4	0.3	0.5	25	0.5	0.4	0.5	0.7	0.2	0.2	0.6
ESTONIA (1990-2012)	*2*	*0.4*	*0.7*	*0.0*	*3*	*0.4*	*0.8*	*0.0*	*0.6*	*0.5*	*0.0*	*0.4*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other specified malignant tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.31. Other specified malignant tumours (XIIa): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	46	0.3	0.2	0.5	-	-	-	-	0.6	0.1	0.2	-
FRANCE, 13 registries (1993-2012)	*8*	*0.3*	*0.3*	*0.3*	*16*	*0.4*	*0.4*	*0.4*	*0.7*	*0.1*	*0.0*	*0.7*
GERMANY, paediatric (1996-2012)	32	0.2	0.2	0.2	-	-	-	-	0.3	0.1	0.1	-
GERMANY, 6 Eastern states (2001-2007)	*3*	*0.2*	*0.3*	*0.2*	*9*	*0.3*	*0.3*	*0.4*	*0.0*	*0.5*	*0.2*	*0.8*
GERMANY, 5 Western registries (1994-2012)	*11*	*0.3*	*0.2*	*0.3*	*18*	*0.3*	*0.3*	*0.3*	*0.5*	*0.2*	*0.1*	*0.4*
HUNGARY, paediatric (1991-2014)	*10*	*0.3*	*0.2*	*0.3*	-	-	-	-	*0.4*	*0.0*	*0.3*	-
ICELAND (1990-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
IRELAND (1994-2012)	*8*	*0.5*	*0.4*	*0.7*	*10*	*0.5*	*0.4*	*0.6*	*1.1*	*0.4*	*0.0*	*0.3*
ITALY, 2 paediatric registries (1998-2011)	*2*	*0.3*	*0.3*	*0.3*	*4*	*0.4*	*0.2*	*0.5*	*0.7*	*0.0*	*0.0*	*0.7*
ITALY, Piedmont, paediatric (1990-2011)	*2*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.5*	*0.0*	*0.0*	-
ITALY, 26 registries (1992-2013)	16	0.4	0.5	0.3	28	0.5	0.6	0.5	1.1	0.0	0.1	0.8
LITHUANIA (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
MALTA (1994-2013)	*1*	*0.6*	*0.0*	*1.1*	*1*	*0.4*	*0.0*	*0.9*	*0.0*	*0.0*	*1.9*	*0.0*
THE NETHERLANDS (1993-2013)	14	0.2	0.3	0.2	23	0.3	0.3	0.3	0.4	0.1	0.1	0.4
NORWAY (1990-2013)	*2*	*0.1*	*0.2*	*0.0*	*5*	*0.2*	*0.2*	*0.2*	*0.3*	*0.0*	*0.0*	*0.4*
POLAND (2001-2013)	19	0.2	0.2	0.3	45	0.3	0.3	0.4	0.4	0.0	0.3	0.7
PORTUGAL (1991-2012)	*6*	*0.2*	*0.2*	*0.3*	*13*	*0.3*	*0.2*	*0.5*	*0.5*	*0.1*	*0.1*	*0.7*
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*2*	*0.1*	*0.1*	*0.1*	*5*	*0.2*	*0.2*	*0.3*	*0.0*	*0.0*	*0.5*	*0.6*
SLOVAKIA (1990-2009)	*3*	*0.1*	*0.0*	*0.3*	*9*	*0.3*	*0.2*	*0.4*	*0.2*	*0.0*	*0.2*	*0.7*
SLOVAKIA, paediatric (2000-2012)	*2*	*0.2*	*0.0*	*0.4*	-	-	-	-	*0.3*	*0.0*	*0.2*	-
SLOVENIA (1991-2012)	*1*	*0.1*	*0.0*	*0.2*	*2*	*0.2*	*0.0*	*0.3*	*0.0*	*0.0*	*0.4*	*0.3*
SPAIN, 2 paediatric registries (1991-2013)	*6*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.3*	*0.0*	*0.1*	-
SPAIN, selected regions, paediatric (2000-2013)	*4*	*0.1*	*0.1*	*0.1*	-	-	-	-	*0.3*	*0.0*	*0.0*	-
SPAIN, Valencia, paediatric (1991-2010)	*2*	*0.2*	*0.2*	*0.1*	-	-	-	-	*0.2*	*0.0*	*0.2*	-
SPAIN, 11 registries (1990-2013)	*7*	*0.2*	*0.1*	*0.3*	*9*	*0.2*	*0.1*	*0.3*	*0.3*	*0.0*	*0.3*	*0.2*
SWEDEN (1990-2011)	*3*	*0.1*	*0.0*	*0.2*	*3*	*0.1*	*0.0*	*0.1*	*0.2*	*0.0*	*0.1*	*0.0*
SWITZERLAND, paediatric (1990-2013)	*5*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.4*	*0.0*	*0.1*	-
SWITZERLAND, 7 registries (1990-2013)	*2*	*0.2*	*0.2*	*0.2*	*4*	*0.3*	*0.2*	*0.3*	*0.3*	*0.0*	*0.3*	*0.5*
UKRAINE (2002-2012)	9	0.1	0.2	0.1	34	0.3	0.2	0.3	0.2	0.1	0.1	0.7
UK (2000-2011)	26	0.2	0.2	0.3	36	0.2	0.2	0.3	0.4	0.1	0.1	0.2
UK, England and Wales, paediatric (1991-2010)	37	0.2	0.2	0.2	-	-	-	-	0.4	0.0	0.2	-
OCEANIA												
AUSTRALIA (1992-2014)	30	0.4	0.4	0.3	40	0.4	0.4	0.4	0.8	0.1	0.1	0.3
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND (1993-2012)	*6*	*0.4*	*0.5*	*0.3*	*9*	*0.4*	*0.4*	*0.4*	*0.7*	*0.3*	*0.0*	*0.5*
NEW ZEALAND, Maori (1993-2012)	*4*	*1.0*	*0.9*	*1.0*	*4*	*0.7*	*0.7*	*0.8*	*1.9*	*0.7*	*0.0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
NEW ZEALAND, Other (1993-2012)	*2*	*0.2*	*0.4*	*0.0*	*5*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.0*	*0.7*
NEW ZEALAND, paediatric (2000-2012)	*3*	*0.3*	*0.4*	*0.2*	-	-	-	-	*0.5*	*0.3*	*0.0*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*2*	*0.7*	*0.7*	*0.8*	-	-	-	-	*1.0*	*1.1*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*1*	*0.1*	*0.3*	*0.0*	-	-	-	-	*0.4*	*0.0*	*0.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other specified malignant tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.32. Other unspecified malignant tumours (XIIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	94	5.4	5.7	5.1	157	6.3	6.4	6.1	5.6	4.7	5.9	9.3
BOTSWANA (1999-2007)	*3*	*0.6*	*0.8*	*0.3*	*5*	*0.7*	*0.6*	*0.8*	*1.0*	*0.0*	*0.5*	*1.1*
CAMEROON, Yaoundé (2004-2006)	*2*	*0.8*	*1.7*	*0.0*	*3*	*1.0*	*2.1*	*0.0*	*0.0*	*1.3*	*1.5*	*1.6*
EGYPT, Gharbiah (1999-2010)	29	1.9	2.2	1.6	44	2.1	2.4	1.9	2.3	1.4	2.0	2.7
FRANCE, Réunion (1990-2011)	*4*	*0.9*	*0.9*	*0.9*	*5*	*0.9*	*0.7*	*1.0*	*1.4*	*0.0*	*1.3*	*0.7*
KENYA, 2 registries (2000-2012)	70	6.6	7.9	5.2	114	8.4	10.0	7.0	3.7	7.9	8.8	14.9
LIBYA, Benghazi (2003-2008)	*7*	*2.5*	*1.3*	*3.7*	*10*	*2.6*	*1.5*	*3.8*	*3.9*	*2.1*	*1.0*	*3.0*
MALI, Bamako (2005-2014)	205	28.2	33.9	22.7	271	27.7	33.5	22.3	31.9	25.6	26.3	25.8
MAURITIUS (2001-2013)	30	8.0	11.1	4.8	56	10.6	12.3	8.9	8.6	7.1	8.2	19.7
MOROCCO, 2 registries (2005-2012)	48	5.3	6.2	4.4	65	5.3	5.8	4.8	6.0	3.1	6.8	5.2
SOUTH AFRICA, paediatric (1998-2012)	32	0.2	0.2	0.1	-	-	-	-	0.2	0.1	0.1	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	29	0.2	0.2	0.1	-	-	-	-	0.2	0.1	0.1	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*3*	*0.2*	*0.1*	*0.2*	-	-	-	-	*0.2*	*0.3*	*0.0*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
TUNISIA, 2 registries (1993-2007)	35	1.9	2.6	1.2	44	1.8	2.4	1.2	2.9	0.8	1.9	1.3
UGANDA, Kyadondo (1996-2013)	120	9.0	9.9	8.1	186	10.2	10.7	9.8	9.5	8.6	8.5	14.7
ZIMBABWE, Harare, African (1995-2013)	38	4.5	5.1	3.9	75	6.3	6.9	5.7	3.7	3.7	6.3	12.5
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	120	0.8	0.9	0.8	-	-	-	-	1.1	0.5	0.8	-
ARGENTINA, 6 registries (1991-2013)	25	1.1	1.3	0.9	65	2.1	2.4	1.8	1.0	1.2	1.2	5.4
BRAZIL, 5 registries (1995-2012)	52	3.0	3.2	2.8	70	2.9	3.1	2.7	5.1	1.7	1.8	2.5
CHILE, paediatric (2007-2011)	*14*	*0.8*	*0.8*	*0.8*	-	-	-	-	*1.7*	*0.0*	*0.6*	-
CHILE, 4 registries (1998-2012)	*9*	*2.2*	*1.4*	*3.0*	*16*	*2.6*	*2.1*	*3.1*	*3.5*	*1.3*	*1.2*	*4.1*
COLOMBIA, 4 registries (1992-2013)	29	1.8	1.1	2.5	60	2.5	2.1	2.9	2.7	1.5	0.8	5.0
COSTA RICA (1993-2012)	131	5.7	6.3	5.1	235	7.4	7.6	7.2	8.2	3.6	4.9	13.1
CUBA (2000-2012)	107	4.0	3.9	4.2	161	4.3	4.6	4.0	5.1	3.0	3.7	5.2
ECUADOR, 5 registries (1993-2013)	59	2.7	2.6	2.9	86	2.9	2.8	3.1	3.2	1.8	3.1	3.7
FRANCE, 3 registries (1990-2012)	*2*	*0.7*	*0.7*	*0.6*	*5*	*1.2*	*1.4*	*0.9*	*1.0*	*1.0*	*0.0*	*2.8*
HONDURAS, Francisco Morazán (2002-2012)	*4*	*0.8*	*0.8*	*0.7*	*6*	*0.9*	*1.3*	*0.6*	*1.1*	*0.0*	*1.3*	*1.3*
JAMAICA, Kingston and St Andrew (1982-2012)	*6*	*1.2*	*1.5*	*0.8*	*9*	*1.2*	*1.6*	*0.9*	*2.6*	*0.0*	*0.5*	*1.5*
MEXICO, Mexico City, paediatric (1997-2013)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
PERU, Lima (2010-2012)	20	2.8	2.4	3.2	40	3.9	3.6	4.1	2.5	1.7	4.3	7.6
PERU, Trujillo (1990-2002)	*1*	*0.5*	*1.0*	*0.0*	*1*	*0.4*	*0.7*	*0.0*	*1.3*	*0.0*	*0.0*	*0.0*
USA, Puerto Rico (1992-2012)	50	2.8	2.7	3.0	64	2.7	2.6	2.8	3.7	1.5	3.2	2.2
URUGUAY (1993-2012)	28	1.8	1.9	1.6	68	3.1	2.9	3.4	1.8	0.8	2.9	7.7
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	154	1.4	1.3	1.5	282	1.8	1.7	1.9	2.2	0.7	1.2	3.0
USA (1998-2012)	313	0.4	0.4	0.4	554	0.4	0.4	0.5	0.5	0.2	0.3	0.8
USA, API (1998-2012)	*7*	*0.2*	*0.1*	*0.2*	*12*	*0.2*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.3*
USA, Black (1998-2012)	55	0.4	0.4	0.4	103	0.5	0.5	0.5	0.4	0.3	0.4	0.9
USA, Hispanic White (1998-2012)	57	0.3	0.4	0.3	100	0.5	0.4	0.5	0.5	0.2	0.3	0.8
USA, Native American (1998-2012)	*4*	*0.3*	*0.2*	*0.3*	*7*	*0.3*	*0.3*	*0.4*	*0.4*	*0.0*	*0.4*	*0.6*
USA, White NH (1998-2012)	167	0.3	0.3	0.4	295	0.4	0.4	0.5	0.5	0.2	0.3	0.7
USA, NPCR (1998-2012)	300	0.4	0.4	0.4	540	0.5	0.4	0.5	0.5	0.2	0.3	0.8
USA, SEER 18 (1993-2012)	61	0.2	0.2	0.3	107	0.3	0.2	0.4	0.3	0.2	0.2	0.5
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
ASIA												
BAHRAIN (1998-2012)	*2*	*0.6*	*0.6*	*0.6*	*2*	*0.5*	*0.5*	*0.5*	*0.0*	*0.9*	*1.0*	*0.0*
CHINA, 6 registries (1990-2013)	147	2.8	2.8	2.7	341	3.7	3.6	3.8	3.9	1.8	2.3	6.9
CHINA, Hong Kong (1990-2013)	57	2.3	2.5	2.0	132	3.4	3.4	3.4	2.1	3.0	1.8	7.2
INDIA, 7 registries (1990-2013)	543	3.3	3.8	2.7	899	3.8	4.2	3.3	4.0	2.7	2.9	5.6
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	16	4.2	4.6	3.7	39	6.3	6.7	5.8	2.7	3.7	6.7	13.6
ISRAEL (1990-2012)	116	2.8	2.7	2.9	175	3.3	3.1	3.5	3.5	2.2	2.7	4.8
ISRAEL, Jews (1990-2012)	87	2.9	2.8	3.0	134	3.4	3.1	3.7	3.1	2.5	3.0	5.1
ISRAEL, Non-Jews (1990-2012)	29	2.6	2.5	2.8	41	2.9	3.1	2.8	4.3	1.3	1.8	4.1
JAPAN, 8 registries (1990-2013)	71	1.2	1.1	1.3	115	1.3	1.4	1.3	1.6	0.8	1.1	1.8
JORDAN, Jordanians (2000-2012)	*5*	*0.2*	*0.1*	*0.3*	*9*	*0.3*	*0.2*	*0.4*	*0.3*	*0.1*	*0.1*	*0.5*
REPUBLIC OF KOREA (1999-2012)	288	2.7	2.9	2.4	434	2.7	2.8	2.7	5.2	1.1	1.1	3.0
KUWAIT (1994-2012)	39	3.2	2.7	3.7	49	3.2	2.8	3.6	2.2	3.7	3.8	3.1
KUWAIT, Kuwaitis (1994-2012)	19	2.6	1.9	3.4	25	2.8	1.9	3.6	1.9	2.1	4.2	3.2
KUWAIT, Non-Kuwaitis (1994-2012)	20	4.0	3.8	4.1	24	3.7	3.9	3.5	2.7	6.0	3.4	2.9
LEBANON (2008-2010)	*6*	*1.5*	*1.4*	*1.7*	*9*	*1.7*	*1.8*	*1.7*	*0.9*	*1.6*	*2.3*	*2.4*
PAKISTAN, Karachi (1995-2002)	22	3.8	4.3	3.3	32	4.5	5.7	3.2	3.0	4.6	4.1	6.9
PAKISTAN, Lahore (2008-2012)	20	1.0	1.2	0.8	31	1.2	1.6	0.9	0.7	0.3	2.2	2.0
PHILIPPINES, 2 registries (1993-2012)	205	2.8	3.2	2.3	365	3.6	4.1	3.1	3.6	1.9	2.5	6.7
QATAR (2002-2014)	*2*	*0.7*	*1.3*	*0.0*	*4*	*1.1*	*1.5*	*0.7*	*0.9*	*0.0*	*1.2*	*2.5*
SAUDI ARABIA, Riyadh (1994-2012)	*13*	*0.4*	*0.4*	*0.4*	*19*	*0.5*	*0.5*	*0.4*	*0.6*	*0.3*	*0.3*	*0.7*
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*8*	*0.3*	*0.3*	*0.3*	*12*	*0.3*	*0.4*	*0.3*	*0.4*	*0.3*	*0.1*	*0.5*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*5*	*0.9*	*0.7*	*1.1*	*7*	*1.1*	*0.9*	*1.3*	*1.4*	*0.0*	*1.2*	*1.6*
THAILAND, 6 registries (1993-2013)	186	5.0	5.7	4.4	321	5.8	6.3	5.3	8.1	2.4	3.9	8.4
TURKEY, paediatric (2009-2011)	*2*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.1*	-
TURKEY, 8 registries (1992-2012)	43	1.1	1.4	0.8	88	1.6	1.7	1.4	1.4	0.5	1.3	3.1
VIET NAM, Ho Chi Minh City (1995-2013)	121	5.3	5.2	5.3	159	4.8	5.1	4.6	8.6	3.1	3.2	3.4
EUROPE												
AUSTRIA (1990-2012)	33	1.1	1.2	1.1	58	1.4	1.4	1.4	1.7	0.8	0.7	2.2
BELARUS, paediatric (1990-2014)	9	0.2	0.3	0.1	49	0.7	0.8	0.5	0.3	0.1	0.2	2.2
BELGIUM (2004-2013)	*6*	*0.4*	*0.4*	*0.3*	*7*	*0.3*	*0.4*	*0.3*	*0.7*	*0.2*	*0.2*	*0.2*
BULGARIA (1990-2013)	79	2.9	3.3	2.5	124	3.1	3.4	2.7	5.1	1.6	1.4	3.6
CROATIA (2001-2014)	11	1.2	1.4	1.0	22	1.6	1.6	1.7	1.4	1.0	1.2	3.1
CYPRUS, South-West (1998-2012)	*3*	*1.4*	*1.6*	*1.2*	*4*	*1.3*	*1.2*	*1.4*	*1.5*	*1.4*	*1.2*	*1.1*
CZECH REPUBLIC (1990-2012)	91	2.5	2.2	2.8	130	2.5	2.3	2.6	4.1	1.5	1.5	2.3
ESTONIA (1990-2012)	*3*	*0.6*	*0.7*	*0.4*	*5*	*0.7*	*0.8*	*0.6*	*1.1*	*0.5*	*0.0*	*0.9*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other unspecified malignant tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 8.32. Other unspecified malignant tumours (XIIb): numbers of cases and incidence rates by age and sex

	0-14 years				0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	*3*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
FRANCE, 13 registries (1993-2012)	*1*	*0.0*	*0.0*	*0.1*	*8*	*0.2*	*0.2*	*0.2*	*0.0*	*0.1*	*0.0*	*0.6*
GERMANY, paediatric (1996-2012)	*5*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
GERMANY, 6 Eastern states (2001-2007)	26	2.1	2.8	1.4	35	1.9	2.4	1.5	4.3	0.7	0.8	1.2
GERMANY, 5 Western registries (1994-2012)	33	0.7	0.8	0.6	46	0.7	0.7	0.7	1.2	0.3	0.6	0.7
HUNGARY, paediatric (1991-2014)	*1*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.1*	-
ICELAND (1990-2014)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
IRELAND (1994-2012)	*12*	*0.7*	*1.1*	*0.4*	*14*	*0.6*	*0.8*	*0.4*	*0.9*	*0.2*	*1.1*	*0.3*
ITALY, 2 paediatric registries (1998-2011)	*0*	*0.0*	*0.0*	*0.0*	*1*	*0.1*	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
ITALY, Piedmont, paediatric (1990-2011)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
ITALY, 26 registries (1992-2013)	120	3.0	3.0	3.0	194	3.4	3.3	3.6	4.2	1.8	2.7	4.9
LITHUANIA (2000-2012)	*10*	*1.7*	*1.5*	*2.0*	*17*	*1.8*	*1.9*	*1.8*	*3.5*	*0.9*	*0.4*	*2.2*
MALTA (1994-2013)	*0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
THE NETHERLANDS (1993-2013)	*8*	*0.1*	*0.2*	*0.1*	*15*	*0.2*	*0.2*	*0.1*	*0.3*	*0.0*	*0.0*	*0.3*
NORWAY (1990-2013)	13	0.6	0.7	0.6	21	0.8	0.8	0.7	1.0	0.6	0.3	1.1
POLAND (2001-2013)	219	2.9	2.6	3.1	383	3.2	3.1	3.4	4.1	1.8	2.3	4.6
PORTUGAL (1991-2012)	17	0.7	0.8	0.5	32	0.8	1.0	0.7	1.0	0.1	0.7	1.5
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*9*	*0.9*	*1.2*	*0.6*	*9*	*0.7*	*0.9*	*0.5*	*2.4*	*0.0*	*0.0*	*0.0*
SLOVAKIA (1990-2009)	20	1.0	0.6	1.5	24	0.9	0.5	1.3	1.6	0.7	0.6	0.5
SLOVAKIA, paediatric (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
SLOVENIA (1991-2012)	*3*	*0.5*	*0.7*	*0.4*	*4*	*0.5*	*0.7*	*0.3*	*1.4*	*0.0*	*0.0*	*0.3*
SPAIN, 2 paediatric registries (1991-2013)	*5*	*0.1*	*0.2*	*0.0*	-	-	-	-	*0.1*	*0.1*	*0.1*	-
SPAIN, selected regions, paediatric (2000-2013)	*2*	*0.1*	*0.1*	*0.0*	-	-	-	-	*0.0*	*0.2*	*0.0*	-
SPAIN, Valencia, paediatric (1991-2010)	*3*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.2*	*0.0*	*0.4*	-
SPAIN, 11 registries (1990-2013)	*6*	*0.2*	*0.2*	*0.2*	*13*	*0.3*	*0.4*	*0.2*	*0.2*	*0.2*	*0.2*	*0.5*
SWEDEN (1990-2011)	34	1.1	0.7	1.5	54	1.2	0.9	1.5	2.1	0.4	0.4	1.6
SWITZERLAND, paediatric (1990-2013)	*7*	*0.2*	*0.2*	*0.2*	-	-	-	-	*0.1*	*0.1*	*0.5*	-
SWITZERLAND, 7 registries (1990-2013)	*3*	*0.3*	*0.2*	*0.4*	*3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.0*
UKRAINE (2002-2012)	135	1.9	2.1	1.8	265	2.3	2.5	2.1	3.1	1.4	1.0	3.6
UK (2000-2011)	87	0.7	0.7	0.6	192	1.0	1.0	1.0	0.9	0.4	0.6	2.3
UK, England and Wales, paediatric (1991-2010)	88	0.5	0.4	0.5	-	-	-	-	0.7	0.3	0.4	-
OCEANIA												
AUSTRALIA (1992-2014)	35	0.4	0.4	0.5	55	0.5	0.4	0.5	0.9	0.2	0.1	0.7
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*2*	*0.9*	*0.9*	*0.9*	*2*	*0.7*	*0.7*	*0.7*	*2.3*	*0.0*	*0.0*	*0.0*
FRANCE, 2 registries (1990-2013)	*6*	*2.2*	*2.2*	*2.0*	*6*	*1.7*	*1.7*	*1.6*	*4.0*	*1.0*	*1.0*	*0.0*
NEW ZEALAND (1993-2012)	*8*	*0.5*	*0.6*	*0.3*	*15*	*0.6*	*0.5*	*0.7*	*0.7*	*0.2*	*0.5*	*1.2*
NEW ZEALAND, Maori (1993-2012)	*1*	*0.2*	*0.5*	*0.0*	*2*	*0.4*	*0.7*	*0.0*	*0.6*	*0.0*	*0.0*	*0.8*
NEW ZEALAND, Pacific peoples (1993-2012)	*1*	*0.7*	*1.4*	*0.0*	*2*	*1.0*	*1.0*	*1.0*	*1.8*	*0.0*	*0.0*	*2.3*
NEW ZEALAND, Other (1993-2012)	*6*	*0.5*	*0.5*	*0.5*	*11*	*0.7*	*0.4*	*1.0*	*0.5*	*0.3*	*0.7*	*1.2*
NEW ZEALAND, paediatric (2000-2012)	*1*	*0.1*	*0.0*	*0.2*	-	-	-	-	*0.3*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*0.0*	*0.0*	-	-	-	-	*0.0*	*0.0*	*0.0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*1*	*0.1*	*0.0*	*0.3*	-	-	-	-	*0.4*	*0.0*	*0.0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other unspecified malignant tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Chapter 9. Incidence by selected diagnostic divisions

Table 9.1. Precursor cell leukaemias (Ia1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	128	7.6	10.2	5.0	150	6.6	9.2	4.0	9.2	8.2	4.9	3.2
BOTSWANA (1999-2007)	20	3.6	3.8	3.3	28	3.8	4.0	3.6	3.6	5.3	1.6	4.5
EGYPT, Gharbiah (1999-2010)	299	20.7	23.3	18.0	380	19.4	23.0	15.6	27.8	19.0	13.1	14.8
FRANCE, Réunion (1990-2011)	100	23.6	27.2	20.0	116	20.8	24.5	17.1	33.5	20.3	14.1	11.1
KENYA, 2 registries (2000-2012)	141	13.1	16.3	10.0	159	11.5	14.5	8.7	11.1	14.7	13.9	6.1
LIBYA, Benghazi (2003-2008)	15	5.3	5.1	5.6	22	5.7	6.1	5.3	7.9	5.2	2.0	7.0
MAURITIUS (2001-2013)	18	5.1	5.3	4.8	21	4.4	4.7	4.1	6.9	4.7	3.0	2.3
MOROCCO, 2 registries (2005-2012)	116	13.3	17.5	9.0	154	12.9	16.7	9.0	16.1	13.1	9.7	11.7
SOUTH AFRICA, paediatric (1998-2012)	1531	7.2	8.6	5.7	-	-	-	-	9.2	7.1	4.6	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	104	29.5	35.9	23.0	-	-	-	-	50.8	25.5	5.7	-
SOUTH AFRICA, paediatric, Black (1998-2012)	856	4.7	5.6	3.7	-	-	-	-	5.0	5.2	3.8	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	270	14.9	18.0	11.8	-	-	-	-	21.6	13.4	7.7	-
SOUTH AFRICA, paediatric, White (1998-2012)	301	27.6	31.5	23.5	-	-	-	-	45.9	21.1	10.4	-
TUNISIA, 2 registries (1993-2007)	339	18.4	20.0	16.8	416	16.8	18.9	14.6	20.6	20.5	13.2	11.0
UGANDA, Kyadondo (1996-2013)	59	4.3	5.2	3.6	67	3.8	4.8	2.9	2.6	5.6	5.2	1.8
ZIMBABWE, Harare, African (1995-2013)	66	7.8	9.7	6.0	72	6.5	8.3	4.8	5.4	9.0	9.7	2.0
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	5266	37.7	41.2	33.9	-	-	-	-	51.0	33.0	25.1	-
ARGENTINA, 6 registries (1991-2013)	625	29.5	31.0	28.0	720	25.8	27.5	23.9	39.7	25.6	20.4	12.8
BRAZIL, 5 registries (1995-2012)	543	31.0	33.0	29.0	627	26.6	29.2	24.0	42.5	28.9	18.1	11.4
CHILE, paediatric (2007-2011)	736	41.6	45.1	37.9	-	-	-	-	58.6	36.7	24.2	-
CHILE, 4 registries (1998-2012)	188	45.0	50.6	39.2	204	37.0	41.8	32.0	70.9	36.5	20.0	9.4
COLOMBIA, 4 registries (1992-2013)	734	44.2	46.9	41.5	862	38.9	42.7	35.2	59.8	41.1	26.9	20.7
COSTA RICA (1993-2012)	1029	45.9	48.4	43.2	1192	40.1	44.0	36.1	66.2	41.8	23.2	20.5
CUBA (2000-2012)	707	28.0	31.4	24.4	803	23.8	27.2	20.1	40.7	24.7	14.7	9.3
ECUADOR, 5 registries (1993-2013)	987	46.9	50.9	42.9	1163	41.7	46.4	37.0	63.3	43.7	28.7	23.9
FRANCE, 3 registries (1990-2012)	63	20.4	24.9	15.8	72	17.7	22.6	12.7	24.6	17.1	18.5	8.5
HONDURAS, Francisco Morazán (2002-2012)	153	30.2	35.6	24.7	177	27.0	32.8	21.2	36.5	28.4	23.8	16.1
JAMAICA, Kingston and St Andrew (1982-2012)	70	12.5	11.9	13.0	82	11.0	10.9	11.1	16.3	11.9	8.0	5.9
MEXICO, Mexico City, paediatric (1997-2013)	574	50.3	55.2	45.2	-	-	-	-	70.1	43.6	31.5	-
PERU, Lima (2010-2012)	281	41.3	45.4	37.1	354	38.2	44.1	32.3	57.8	31.2	30.6	27.6
PERU, Trujillo (1990-2002)	68	29.3	28.9	29.7	82	26.3	27.9	24.9	36.5	27.2	22.1	16.0
USA, Puerto Rico (1992-2012)	427	25.5	27.4	23.5	489	22.0	24.2	19.7	38.9	19.7	14.2	9.7
URUGUAY (1993-2012)	451	31.2	35.7	26.6	512	26.8	30.5	23.1	46.7	25.2	17.3	11.8
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	4469	41.8	45.7	37.8	4990	35.2	39.1	31.2	67.8	32.7	17.4	12.4
USA (1998-2012)	33486	39.5	42.6	36.3	38232	34.0	37.5	30.3	61.5	31.6	18.9	15.0
USA, API (1998-2012)	1426	33.1	35.6	30.4	1596	28.1	31.0	25.1	51.0	27.5	15.3	11.1
USA, Black (1998-2012)	2873	20.3	23.0	17.5	3305	17.6	20.3	14.8	28.2	17.1	13.3	8.4
USA, Hispanic White (1998-2012)	8131	49.3	52.7	45.7	9416	43.8	48.2	39.0	70.5	42.5	28.4	24.9
USA, Native American (1998-2012)	314	23.1	26.0	20.1	367	20.2	23.4	16.9	36.9	18.0	10.4	10.4
USA, White NH (1998-2012)	19871	41.0	44.1	37.8	22595	35.0	38.4	31.4	66.4	31.8	17.5	14.1
USA, NPCR (1998-2012)	31985	39.4	42.6	36.2	36527	33.9	37.5	30.2	61.4	31.7	18.9	15.0
USA, SEER 18 (1993-2012)	11305	41.9	45.1	38.6	12894	36.2	39.8	32.4	64.9	33.6	20.4	16.5
USA, Hawaii, Hawaiian (1993-2012)	58	37.1	32.8	41.7	61	30.1	27.2	33.3	51.8	39.4	15.1	6.0
ASIA												
BAHRAIN (1998-2012)	58	18.9	21.8	15.9	66	16.6	18.3	14.9	24.0	19.9	11.1	8.7
CHINA, 6 registries (1990-2013)	735	14.5	16.7	12.1	928	12.8	14.8	10.6	22.5	11.5	7.1	6.8
CHINA, Hong Kong (1990-2013)	770	34.8	37.9	31.6	862	29.0	31.9	25.9	56.2	25.8	16.4	8.8
INDIA, 7 registries (1990-2013)	3706	22.6	27.9	16.7	4393	19.9	24.8	14.5	28.0	22.4	15.5	10.8
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	52	15.1	16.8	13.3	63	13.2	14.6	11.7	15.1	18.7	11.1	6.5
ISRAEL (1990-2012)	1018	25.1	28.3	21.7	1169	22.2	25.6	18.7	34.0	23.5	14.8	12.4
ISRAEL, Jews (1990-2012)	754	25.6	28.8	22.2	866	22.6	26.0	18.9	34.4	24.7	14.8	12.1
ISRAEL, Non-Jews (1990-2012)	264	23.6	26.8	20.3	303	21.3	24.4	18.1	33.0	20.2	14.9	13.2
JAPAN, 8 registries (1990-2013)	1592	27.9	30.0	25.7	1852	24.1	26.4	21.6	40.1	24.6	15.4	10.7
JORDAN, Jordanians (2000-2012)	593	22.4	25.7	18.9	700	20.3	23.7	16.8	29.1	20.4	15.6	13.4
REPUBLIC OF KOREA (1999-2012)	3261	28.0	30.8	24.8	3788	24.1	26.9	21.1	41.5	22.0	16.4	10.9
KUWAIT (1994-2012)	377	31.3	33.8	28.7	489	32.0	33.5	30.5	40.0	21.8	30.2	34.5
KUWAIT, Kuwaitis (1994-2012)	225	31.8	35.8	27.6	288	32.1	34.1	30.1	41.9	20.2	31.1	33.5
KUWAIT, Non-Kuwaitis (1994-2012)	152	30.6	31.0	30.3	201	31.8	32.6	31.1	37.4	24.1	28.9	36.0
LEBANON (2008-2010)	94	27.4	27.8	26.9	107	23.6	25.1	21.9	34.2	29.4	16.0	10.5
PAKISTAN, Karachi (1995-2002)	105	18.5	23.9	12.8	120	16.7	21.7	11.3	20.9	20.8	12.8	10.4
PAKISTAN, Lahore (2008-2012)	350	19.1	24.3	13.6	382	16.1	20.7	11.3	22.4	16.4	17.7	5.9
PHILIPPINES, 2 registries (1993-2012)	2274	30.6	36.4	24.6	2525	26.1	31.3	20.8	41.3	30.0	17.0	10.5
QATAR (2002-2014)	62	21.1	22.3	19.7	73	19.4	20.6	18.1	26.3	20.1	15.2	13.8
SAUDI ARABIA, Riyadh (1994-2012)	1058	32.2	34.8	29.4	1212	28.9	32.3	25.4	46.6	27.5	18.1	17.7
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	834	30.6	34.6	26.5	956	27.4	31.9	22.7	44.0	26.3	17.5	16.3
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	224	39.6	35.9	43.4	256	36.6	34.2	39.0	58.5	33.1	21.6	26.3
THAILAND, 6 registries (1993-2013)	950	25.5	28.8	22.0	1074	21.5	24.5	18.3	35.3	23.2	14.9	7.7
TURKEY, paediatric (2009-2011)	1336	25.1	28.2	21.8	-	-	-	-	38.4	19.9	13.2	-
TURKEY, 8 registries (1992-2012)	1411	38.7	42.9	34.3	1614	33.2	37.1	29.1	61.5	30.1	17.8	14.2
VIET NAM, Ho Chi Minh City (1995-2013)	529	22.6	24.1	21.0	595	18.8	20.4	17.2	32.1	19.0	13.9	5.8
EUROPE												
AUSTRIA (1990-2012)	1080	37.7	41.8	33.4	1231	32.3	36.5	27.8	57.4	32.0	17.8	13.5
BELARUS, paediatric (1990-2014)	1396	34.4	35.4	33.3	1582	29.0	30.7	27.2	53.1	28.4	16.1	10.3
BELGIUM (2004-2013)	645	37.2	42.3	31.9	745	32.3	37.1	27.4	56.7	28.2	21.1	15.7
BULGARIA (1990-2013)	869	31.0	34.5	27.2	977	25.9	29.3	22.3	44.5	28.1	16.0	8.5
CROATIA (2001-2014)	423	48.6	56.5	40.2	469	40.5	47.4	33.3	73.0	38.5	27.2	12.9
CYPRUS, South-West (1998-2012)	89	43.5	49.0	37.8	110	39.1	42.9	35.0	65.0	34.5	25.0	23.7
CZECH REPUBLIC (1990-2012)	1274	35.2	38.9	31.4	1461	29.8	33.7	25.8	57.6	25.2	16.6	11.2
ESTONIA (1990-2012)	174	32.7	28.3	37.3	201	28.0	25.1	31.2	52.2	22.2	18.2	12.1
FRANCE, paediatric (2000-2012)	4805	34.3	36.6	31.8	-	-	-	-	50.5	29.0	18.4	-
FRANCE, paediatric, haematological malignancies (1990-1999)	3485	32.8	36.0	29.5	-	-	-	-	49.6	27.7	16.2	-
FRANCE, 13 registries (1993-2012)	998	33.7	36.8	30.5	1149	29.2	32.6	25.6	50.1	29.6	16.5	13.7
GERMANY, paediatric (1996-2012)	7887	42.1	45.3	38.8	-	-	-	-	65.8	33.9	19.7	-
GERMANY, 6 Eastern states (2001-2007)	475	38.0	41.7	34.2	580	32.6	36.6	28.4	60.8	28.2	18.6	13.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of precursor cell leukaemia
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.1. Precursor cell leukaemias (Ia1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
GERMANY, 5 Western registries (1994-2012)	1780	39.3	42.8	35.6	2044	33.6	37.2	29.8	59.9	31.9	19.9	14.1
GREECE, paediatric, haematological neoplasms (1996-2014)	1359	46.3	51.5	40.8	-	-	-	-	74.6	34.9	21.2	-
HUNGARY, paediatric (1991-2014)	1297	35.2	38.6	31.7	-	-	-	-	54.3	31.1	14.5	-
ICELAND (1990-2014)	50	32.6	32.7	32.4	53	26.5	27.0	26.0	55.9	24.0	11.1	5.5
IRELAND (1994-2012)	586	37.2	38.8	35.6	661	31.7	33.4	29.9	57.5	28.7	19.6	12.6
ITALY, 2 paediatric registries (1998-2011)	384	48.1	51.5	44.6	437	41.5	45.1	37.6	76.7	37.6	21.8	18.4
ITALY, Piedmont, paediatric (1990-2011)	533	48.3	51.9	44.6	-	-	-	-	76.4	39.1	21.2	-
ITALY, 26 registries (1992-2013)	1756	44.8	49.0	40.4	1991	38.3	42.6	33.7	64.9	40.0	23.4	15.6
LITHUANIA (2000-2012)	250	40.2	39.3	41.1	293	34.2	34.2	34.1	62.5	36.8	14.1	13.6
MALTA (1994-2013)	60	44.9	52.0	37.3	67	37.6	45.0	29.7	64.1	39.8	24.8	12.5
THE NETHERLANDS (1993-2013)	2220	38.2	42.6	33.5	2499	32.7	36.9	28.2	58.1	31.4	19.2	13.8
NORWAY (1990-2013)	799	39.6	39.5	39.8	905	34.1	35.2	33.0	62.2	30.7	19.5	15.1
POLAND (2001-2013)	2381	32.4	34.9	29.8	2782	27.6	30.4	24.7	50.7	26.2	14.8	11.2
PORTUGAL (1991-2012)	767	30.0	33.4	26.4	866	25.4	28.3	22.4	43.0	27.4	15.5	9.7
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	278	35.8	38.3	33.2	-	-	-	-	61.4	24.5	14.3	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	390	36.6	37.3	35.8	435	30.3	31.4	29.2	53.1	34.9	16.4	8.8
SLOVAKIA (1990-2009)	609	31.5	36.8	26.0	699	26.8	31.5	21.8	49.7	24.1	15.7	10.3
SLOVAKIA, paediatric (2000-2012)	371	34.3	39.8	28.5	-	-	-	-	50.3	29.9	17.8	-
SLOVENIA (1991-2012)	210	33.5	33.0	33.9	252	29.2	29.5	28.9	59.4	19.6	14.3	14.6
SPAIN, 2 paediatric registries (1991-2013)	1681	36.2	40.2	32.0	-	-	-	-	52.5	31.1	20.2	-
SPAIN, selected regions, paediatric (2000-2013)	1193	35.2	39.9	30.3	-	-	-	-	49.0	31.3	21.2	-
SPAIN, Valencia, paediatric (1991-2010)	488	39.5	41.7	37.1	-	-	-	-	62.9	30.6	18.0	-
SPAIN, 11 registries (1990-2013)	1107	37.3	42.9	31.5	1293	32.1	37.2	26.8	57.0	30.8	18.3	14.2
SWEDEN (1990-2011)	1341	40.5	44.2	36.5	1488	34.1	37.3	30.6	63.8	31.5	19.4	12.0
SWITZERLAND, paediatric (1990-2013)	1137	41.8	47.5	35.8	-	-	-	-	65.7	32.9	19.8	-
SWITZERLAND, 7 registries (1990-2013)	404	40.2	45.2	35.0	437	33.2	37.7	28.5	63.4	29.2	21.7	9.1
UKRAINE (2002-2012)	2291	33.2	38.1	28.1	2699	28.3	32.4	24.0	50.4	30.0	14.0	11.1
UK (2000-2011)	4530	36.7	40.3	32.9	5139	31.4	35.1	27.4	57.7	28.5	17.7	13.1
UK, England and Wales, paediatric (1991-2010)	6733	36.4	39.8	32.9	-	-	-	-	57.3	28.5	17.4	-
OCEANIA												
AUSTRALIA (1992-2014)	3593	43.3	45.8	40.8	4068	37.2	40.3	33.9	68.1	34.2	20.4	15.9
AUSTRALIA, 3 registries, Indigenous (1992-2014)	50	21.4	18.5	24.3	58	19.4	19.2	19.6	32.4	17.5	11.0	12.5
FRANCE, 2 registries (1990-2013)	61	21.3	23.1	19.3	67	17.8	19.2	16.3	32.2	17.5	10.8	6.1
NEW ZEALAND (1993-2012)	708	42.4	47.3	37.3	807	36.7	42.0	31.1	64.9	34.3	21.3	16.9
NEW ZEALAND, Maori (1993-2012)	136	32.0	38.8	24.8	155	28.3	35.3	21.1	47.7	24.5	19.4	15.7
NEW ZEALAND, Pacific peoples (1993-2012)	78	51.5	56.6	46.1	89	45.5	52.9	37.8	70.1	56.5	21.1	24.8
NEW ZEALAND, Other (1993-2012)	494	45.3	49.5	40.9	563	38.8	43.4	34.0	71.4	35.0	21.9	16.5
NEW ZEALAND, paediatric (2000-2012)	459	42.1	46.1	37.8	-	-	-	-	65.3	33.9	20.2	-
NEW ZEALAND, paediatric, Maori (2000-2012)	77	27.5	33.7	20.8	-	-	-	-	36.3	26.8	16.4	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	382	47.2	50.6	43.7	-	-	-	-	75.8	36.2	21.3	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of precursor cell leukaemia
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.2. Mature B-cell leukaemias (Ia2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
MALI, Bamako (2005-2014)	36	4.9	6.5	3.4	37	3.9	5.2	2.7	1.1	8.8	5.7	0.4
SOUTH AFRICA, paediatric (1998-2012)	107	0.5	0.6	0.4	-	-	-	-	0.7	0.4	0.4	-
SOUTH AFRICA, paediatric, Black (1998-2012)	67	0.4	0.4	0.3	-	-	-	-	0.5	0.3	0.3	-
AMERICA, LATIN AND THE CARIBBEAN												
USA, Puerto Rico (1992-2012)	19	1.1	1.3	1.0	20	0.9	1.0	0.9	1.8	1.0	0.5	0.2
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	52	0.5	0.6	0.3	68	0.4	0.6	0.3	0.4	0.6	0.3	0.4
USA (1998-2012)	586	0.7	0.8	0.5	728	0.6	0.8	0.5	0.8	0.7	0.4	0.4
USA, API (1998-2012)	29	0.6	0.7	0.6	32	0.5	0.6	0.5	0.6	0.9	0.5	0.2
USA, Black (1998-2012)	50	0.3	0.4	0.3	61	0.3	0.4	0.2	0.4	0.3	0.3	0.2
USA, Hispanic White (1998-2012)	109	0.7	0.7	0.6	143	0.7	0.7	0.6	0.8	0.6	0.4	0.7
USA, White NH (1998-2012)	375	0.7	0.9	0.5	466	0.7	0.9	0.5	0.9	0.7	0.5	0.5
USA, NPCR (1998-2012)	561	0.7	0.8	0.5	702	0.6	0.8	0.5	0.9	0.7	0.4	0.5
USA, SEER 18 (1993-2012)	121	0.4	0.6	0.3	154	0.4	0.5	0.3	0.5	0.4	0.3	0.3
ASIA												
CHINA, 6 registries (1990-2013)	100	2.0	1.9	2.1	120	1.7	1.7	1.7	3.1	1.7	0.9	0.7
INDIA, 7 registries (1990-2013)	38	0.2	0.3	0.2	45	0.2	0.2	0.2	0.3	0.3	0.1	0.1
ISRAEL (1990-2012)	23	0.6	0.7	0.4	29	0.5	0.8	0.3	0.6	0.7	0.3	0.5
ISRAEL, Jews (1990-2012)	19	0.6	0.8	0.5	24	0.6	0.9	0.4	0.8	0.8	0.3	0.5
REPUBLIC OF KOREA (1999-2012)	64	0.5	0.6	0.4	79	0.5	0.6	0.4	0.7	0.5	0.3	0.3
PHILIPPINES, 2 registries (1993-2012)	32	0.4	0.5	0.4	36	0.4	0.4	0.3	0.8	0.2	0.2	0.2
TURKEY, 8 registries (1992-2012)	39	1.1	1.5	0.7	53	1.1	1.5	0.7	2.1	0.3	0.6	1.0
EUROPE												
AUSTRIA (1990-2012)	20	0.6	1.0	0.3	26	0.6	0.9	0.3	0.4	1.0	0.6	0.5
BELARUS, paediatric (1990-2014)	26	0.6	0.8	0.4	33	0.5	0.7	0.4	0.5	0.8	0.4	0.4
CZECH REPUBLIC (1990-2012)	24	0.7	0.5	0.8	32	0.6	0.6	0.7	1.1	0.5	0.3	0.5
FRANCE, paediatric (2000-2012)	225	1.5	2.2	0.8	-	-	-	-	1.4	2.1	1.1	-
FRANCE, paediatric, haematological malignancies (1990-1999)	152	1.3	2.0	0.6	-	-	-	-	1.1	1.8	1.1	-
FRANCE, 13 registries (1993-2012)	21	0.7	1.1	0.3	22	0.5	0.8	0.2	0.6	1.1	0.4	0.1
GERMANY, paediatric (1996-2012)	200	1.0	1.4	0.5	-	-	-	-	0.7	1.4	0.8	-
GERMANY, 5 Western registries (1994-2012)	53	1.1	1.3	0.9	68	1.0	1.3	0.8	1.2	1.3	0.8	0.8
GREECE, paediatric, haematological neoplasms (1996-2014)	30	0.9	1.3	0.5	-	-	-	-	0.9	1.1	0.8	-
HUNGARY, paediatric (1991-2014)	27	0.7	1.1	0.2	-	-	-	-	0.5	0.8	0.7	-
ITALY, 26 registries (1992-2013)	20	0.5	0.6	0.3	27	0.5	0.7	0.3	0.5	0.4	0.5	0.5
POLAND (2001-2013)	25	0.3	0.4	0.3	30	0.3	0.3	0.3	0.4	0.5	0.1	0.1
PORTUGAL (1991-2012)	36	1.4	1.9	0.9	42	1.2	1.7	0.8	2.1	1.1	0.9	0.6
SPAIN, 2 paediatric registries (1991-2013)	56	1.2	1.5	0.8	-	-	-	-	1.3	1.7	0.5	-
SPAIN, selected regions, paediatric (2000-2013)	48	1.4	1.7	1.1	-	-	-	-	1.8	1.8	0.6	-
SPAIN, 11 registries (1990-2013)	29	1.0	1.3	0.6	34	0.8	1.1	0.5	1.4	1.0	0.4	0.4
SWITZERLAND, paediatric (1990-2013)	27	0.9	1.5	0.2	-	-	-	-	0.7	0.9	1.1	-
UKRAINE (2002-2012)	39	0.6	0.6	0.5	50	0.5	0.6	0.4	0.7	0.6	0.2	0.3
UK (2000-2011)	32	0.2	0.3	0.2	40	0.2	0.3	0.2	0.2	0.3	0.3	0.2
UK, England and Wales, paediatric (1991-2010)	75	0.4	0.6	0.2	-	-	-	-	0.4	0.4	0.3	-
OCEANIA												
AUSTRALIA (1992-2014)	24	0.3	0.3	0.2	33	0.3	0.3	0.2	0.3	0.3	0.2	0.3

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of mature B-cell leukaemia
Please consult registry-specific background information and quality indicators

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Table 9.3. Lymphoid leukaemias, NOS (Ia4): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	65	4.0	4.9	3.0	94	4.0	4.7	3.3	6.1	3.3	2.0	4.3
MAURITIUS (2001-2013)	23	6.2	7.9	4.5	28	5.7	6.1	5.2	6.9	7.1	4.5	3.8
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, 6 registries (1991-2013)	33	1.5	2.1	1.0	40	1.4	1.9	0.9	1.8	1.8	0.9	0.9
BRAZIL, 5 registries (1995-2012)	20	1.2	0.9	1.4	24	1.0	0.7	1.4	1.7	1.0	0.6	0.5
COLOMBIA, 4 registries (1992-2013)	20	1.1	1.3	0.9	27	1.1	1.3	0.9	0.9	1.7	0.8	1.1
CUBA (2000-2012)	14	0.5	0.4	0.6	20	0.5	0.6	0.5	0.5	0.3	0.7	0.6
ECUADOR, 5 registries (1993-2013)	17	0.8	0.9	0.8	21	0.8	0.8	0.7	1.3	0.7	0.4	0.5
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	17	0.2	0.2	0.1	20	0.1	0.2	0.1	0.2	0.2	0.0	0.1
USA (1998-2012)	176	0.2	0.2	0.2	205	0.2	0.2	0.2	0.3	0.2	0.1	0.1
USA, Black (1998-2012)	15	0.1	0.1	0.1	20	0.1	0.1	0.1	0.1	0.1	0.1	0.1
USA, Hispanic White (1998-2012)	41	0.2	0.3	0.2	48	0.2	0.2	0.2	0.3	0.3	0.1	0.1
USA, White NH (1998-2012)	108	0.2	0.2	0.2	122	0.2	0.2	0.2	0.3	0.2	0.1	0.1
USA, NPCR (1998-2012)	171	0.2	0.2	0.2	198	0.2	0.2	0.2	0.3	0.2	0.1	0.1
USA, SEER 18 (1993-2012)	22	0.1	0.1	0.1	29	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ASIA												
CHINA, 6 registries (1990-2013)	874	17.2	18.9	15.4	984	14.2	15.8	12.5	26.5	14.1	8.3	3.9
CHINA, Hong Kong (1990-2013)	18	0.7	0.9	0.5	21	0.6	0.8	0.4	0.6	0.8	0.7	0.3
INDIA, 7 registries (1990-2013)	417	2.5	3.2	1.8	509	2.3	2.9	1.6	3.1	2.5	1.8	1.4
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	44	12.8	19.2	6.0	52	11.0	16.5	5.2	13.3	14.9	9.6	4.7
ISRAEL (1990-2012)	20	0.5	0.6	0.3	24	0.5	0.6	0.3	0.7	0.4	0.3	0.3
JORDAN, Jordanians (2000-2012)	13	0.5	0.6	0.4	20	0.6	0.6	0.5	0.6	0.5	0.2	0.9
REPUBLIC OF KOREA (1999-2012)	18	0.2	0.1	0.2	25	0.2	0.2	0.1	0.2	0.1	0.1	0.1
LEBANON (2008-2010)	30	8.0	9.6	6.4	35	7.1	8.5	5.7	4.7	15.1	4.6	4.0
PHILIPPINES, 2 registries (1993-2012)	66	0.9	0.9	0.8	75	0.8	0.9	0.7	0.9	1.0	0.6	0.4
THAILAND, 6 registries (1993-2013)	49	1.3	1.6	1.1	58	1.2	1.4	1.0	2.0	1.3	0.5	0.6
TURKEY, paediatric (2009-2011)	41	0.8	0.7	0.8	-	-	-	-	1.2	0.6	0.4	-
TURKEY, 8 registries (1992-2012)	37	1.0	1.1	0.8	42	0.8	1.0	0.7	1.5	0.4	0.9	0.3
EUROPE												
BULGARIA (1990-2013)	44	1.5	1.5	1.4	53	1.3	1.3	1.3	1.3	2.3	0.8	0.7
CZECH REPUBLIC (1990-2012)	42	1.1	1.7	0.5	52	1.0	1.5	0.5	1.7	0.8	0.8	0.6
GERMANY, paediatric (1996-2012)	36	0.2	0.3	0.0	-	-	-	-	0.1	0.3	0.1	-
GERMANY, 5 Western registries (1994-2012)	31	0.7	0.9	0.4	38	0.6	0.8	0.4	0.9	0.7	0.3	0.4
ITALY, 26 registries (1992-2013)	67	1.7	1.7	1.8	76	1.5	1.5	1.4	2.5	1.6	0.9	0.6
POLAND (2001-2013)	60	0.8	1.0	0.6	77	0.7	1.0	0.5	1.3	0.7	0.3	0.5
PORTUGAL (1991-2012)	23	0.9	1.2	0.6	41	1.1	1.5	0.7	1.3	0.7	0.6	1.8
UKRAINE (2002-2012)	139	1.8	2.4	1.2	218	1.9	2.5	1.3	1.5	2.2	1.8	2.2

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of unspecified lymphoid leukaemia
Please consult registry-specific background information and quality indicators

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Table 9.4. Precursor cell lymphomas (IIb1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
EGYPT, Gharbiah (1999-2010)	64	4.2	5.8	2.6	76	3.8	5.4	2.1	4.0	4.9	3.7	2.2
MOROCCO, 2 registries (2005-2012)	17	1.8	2.2	1.4	31	2.4	3.1	1.6	1.0	1.7	2.9	4.3
UGANDA, Kyadondo (1996-2013)	75	5.5	6.6	4.6	91	5.1	6.6	3.9	2.4	9.1	5.7	3.6
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	286	1.9	2.5	1.3	-	-	-	-	1.3	2.5	2.1	-
ARGENTINA, 6 registries (1991-2013)	66	3.0	3.8	2.2	72	2.5	3.3	1.8	2.9	3.6	2.5	0.8
BRAZIL, 5 registries (1995-2012)	30	1.6	2.1	1.2	40	1.6	2.1	1.0	1.7	1.7	1.5	1.4
CHILE, paediatric (2007-2011)	22	1.1	1.1	1.1	-	-	-	-	0.7	1.5	1.3	-
COLOMBIA, 4 registries (1992-2013)	31	1.7	2.4	1.0	39	1.6	2.1	1.1	1.1	1.9	2.3	1.3
COSTA RICA (1993-2012)	17	0.7	0.7	0.7	30	0.9	1.2	0.6	0.7	0.4	1.1	1.6
ECUADOR, 5 registries (1993-2013)	24	1.1	1.0	1.2	29	1.0	1.1	0.9	0.6	1.9	0.8	0.7
JAMAICA, Kingston and St Andrew (1982-2012)	25	3.9	4.7	3.2	31	3.7	4.5	2.9	1.0	4.7	7.0	3.0
MEXICO, Mexico City, paediatric (1997-2013)	35	2.9	3.9	1.9	-	-	-	-	2.9	3.7	2.3	-
USA, Puerto Rico (1992-2012)	16	0.9	1.1	0.7	24	1.0	1.3	0.7	0.5	1.5	0.6	1.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	267	2.3	3.2	1.4	361	2.3	3.2	1.3	2.2	2.5	2.2	2.2
USA (1998-2012)	2130	2.3	3.0	1.6	2886	2.3	3.1	1.5	1.9	2.7	2.4	2.4
USA, API (1998-2012)	86	1.9	2.3	1.4	117	1.9	2.3	1.5	1.3	2.5	2.0	2.0
USA, Black (1998-2012)	302	1.9	2.5	1.4	415	2.0	2.7	1.3	1.1	2.1	2.8	2.2
USA, Hispanic White (1998-2012)	397	2.3	2.9	1.7	499	2.3	2.9	1.6	2.0	2.6	2.5	2.0
USA, White NH (1998-2012)	1282	2.4	3.1	1.7	1780	2.4	3.3	1.6	2.1	2.9	2.3	2.6
USA, NPCR (1998-2012)	2013	2.3	3.0	1.6	2742	2.3	3.1	1.5	1.9	2.7	2.4	2.4
USA, SEER 18 (1993-2012)	700	2.4	3.0	1.8	949	2.5	3.2	1.7	2.1	2.6	2.6	2.6
ASIA												
CHINA, 6 registries (1990-2013)	26	0.4	0.5	0.4	33	0.4	0.5	0.3	0.3	0.5	0.6	0.2
CHINA, Hong Kong (1990-2013)	29	1.1	1.4	0.8	53	1.4	2.1	0.7	1.1	1.0	1.3	2.3
INDIA, 7 registries (1990-2013)	51	0.3	0.4	0.2	75	0.3	0.4	0.2	0.2	0.2	0.4	0.4
ISRAEL (1990-2012)	90	2.2	2.9	1.4	121	2.3	3.0	1.4	2.1	2.5	1.9	2.5
ISRAEL, Jews (1990-2012)	67	2.2	2.8	1.7	95	2.4	3.0	1.7	2.2	2.4	2.1	3.0
ISRAEL, Non-Jews (1990-2012)	23	2.0	3.3	0.7	26	1.8	3.0	0.6	1.9	2.6	1.5	1.0
JAPAN, 8 registries (1990-2013)	94	1.5	2.0	0.9	122	1.4	1.9	0.9	1.0	1.7	1.9	1.2
JORDAN, Jordanians (2000-2012)	26	1.0	1.3	0.6	34	1.0	1.3	0.6	0.9	1.1	0.9	1.0
REPUBLIC OF KOREA (1999-2012)	246	1.9	2.4	1.3	338	1.9	2.5	1.2	1.4	2.2	2.1	1.9
KUWAIT (1994-2012)	31	2.6	2.1	3.1	48	3.2	3.4	3.0	3.1	2.2	2.2	5.2
KUWAIT, Kuwaitis (1994-2012)	16	2.2	1.9	2.6	26	2.9	3.4	2.5	1.5	2.9	2.3	5.3
KUWAIT, Non-Kuwaitis (1994-2012)	15	3.1	2.4	3.8	22	3.5	3.4	3.7	5.4	1.2	2.0	5.1
PAKISTAN, Lahore (2008-2012)	27	1.4	1.7	1.1	35	1.4	2.0	0.8	1.2	1.4	1.8	1.5
SAUDI ARABIA, Riyadh (1994-2012)	45	1.3	1.8	0.8	55	1.3	1.8	0.7	0.6	1.8	1.8	1.2
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	35	1.2	1.7	0.8	43	1.2	1.6	0.7	0.5	1.8	1.5	1.1
THAILAND, 6 registries (1993-2013)	21	0.5	0.5	0.5	28	0.5	0.6	0.4	0.3	0.7	0.6	0.4
TURKEY, paediatric (2009-2011)	114	2.0	2.7	1.2	-	-	-	-	1.6	2.1	2.3	-
TURKEY, 8 registries (1992-2012)	77	1.9	2.3	1.5	107	2.0	2.6	1.3	1.6	2.1	2.1	2.1
VIET NAM, Ho Chi Minh City (1995-2013)	22	0.9	1.1	0.7	23	0.7	0.9	0.5	0.6	1.1	1.0	0.1
EUROPE												
AUSTRIA (1990-2012)	14	0.5	0.7	0.2	25	0.6	0.9	0.2	0.4	0.5	0.5	1.0
BELARUS, paediatric (1990-2014)	101	2.3	3.3	1.1	117	2.0	2.8	1.0	2.0	2.9	1.9	0.9
BELGIUM (2004-2013)	31	1.7	2.2	1.1	53	2.1	2.7	1.4	1.3	2.3	1.5	3.4
BULGARIA (1990-2013)	24	0.8	0.8	0.8	31	0.7	0.8	0.6	0.7	0.9	0.8	0.6
CZECH REPUBLIC (1990-2012)	59	1.5	2.1	0.8	73	1.3	1.9	0.8	1.1	2.0	1.4	0.8
ESTONIA (1990-2012)	20	3.4	4.0	2.8	26	3.3	4.3	2.2	2.2	6.2	1.9	2.7
FRANCE, paediatric (2000-2012)	331	2.2	3.1	1.2	-	-	-	-	1.6	2.4	2.8	-
FRANCE, paediatric, haematological malignancies (1990-1999)	229	2.0	2.5	1.4	-	-	-	-	1.6	1.8	2.6	-
FRANCE, 13 registries (1993-2012)	71	2.2	3.4	1.1	96	2.2	3.4	1.0	1.8	3.0	2.1	2.3
GERMANY, paediatric (1996-2012)	542	2.6	3.3	1.9	-	-	-	-	1.9	3.5	2.5	-
GERMANY, 6 Eastern states (2001-2007)	16	1.2	1.5	0.8	28	1.3	1.6	0.9	0.5	2.0	1.2	1.6
GERMANY, 5 Western registries (1994-2012)	99	1.9	2.3	1.4	113	1.6	2.1	1.2	1.0	2.5	2.3	0.7
GREECE, paediatric, haematological neoplasms (1996-2014)	100	3.0	4.2	1.7	-	-	-	-	1.2	4.7	3.5	-
HUNGARY, paediatric (1991-2014)	73	1.8	2.2	1.3	-	-	-	-	1.6	1.4	2.4	-
IRELAND (1994-2012)	25	1.5	1.5	1.4	37	1.6	1.7	1.5	1.3	1.3	1.9	2.0
ITALY, 2 paediatric registries (1998-2011)	25	2.9	4.2	1.5	39	3.3	4.8	1.8	1.8	3.2	3.9	4.9
ITALY, Piedmont, paediatric (1990-2011)	32	2.6	3.7	1.4	-	-	-	-	1.5	2.8	3.7	-
ITALY, 26 registries (1992-2013)	102	2.4	3.2	1.5	149	2.5	3.6	1.4	1.2	3.1	3.1	3.1
THE NETHERLANDS (1993-2013)	163	2.6	3.5	1.7	204	2.5	3.5	1.5	2.2	2.8	2.9	2.0
NORWAY (1990-2013)	46	2.1	3.2	1.0	60	2.1	2.9	1.2	1.7	1.8	3.0	2.0
POLAND (2001-2013)	63	0.7	1.0	0.5	87	0.7	0.9	0.5	0.4	1.0	0.9	0.7
PORTUGAL (1991-2012)	60	2.2	2.6	1.7	81	2.1	2.7	1.5	1.8	2.3	2.5	2.0
RUSSIAN FEDERATION, 2 registries (1998-2015)	55	4.7	6.2	3.1	61	3.9	5.3	2.5	3.5	5.6	5.4	1.2
SLOVAKIA (1990-2009)	14	0.7	0.7	0.7	20	0.7	0.7	0.6	0.8	0.7	0.5	0.7
SLOVENIA (1991-2012)	17	2.3	2.9	1.6	25	2.4	3.2	1.5	1.4	2.2	3.5	2.8
SPAIN, 2 paediatric registries (1991-2013)	123	2.5	3.4	1.5	-	-	-	-	1.6	3.1	3.1	-
SPAIN, selected regions, paediatric (2000-2013)	91	2.6	3.4	1.7	-	-	-	-	1.3	3.8	3.0	-
SPAIN, Valencia, paediatric (1991-2010)	32	2.3	3.5	1.0	-	-	-	-	2.4	1.4	3.2	-
SPAIN, 11 registries (1990-2013)	85	2.6	3.7	1.4	127	2.7	3.9	1.5	1.6	3.9	2.4	3.2
SWEDEN (1990-2011)	60	1.7	2.5	0.9	78	1.6	2.4	0.8	1.6	1.7	1.8	1.5
SWITZERLAND, paediatric (1990-2013)	73	2.5	3.7	1.1	-	-	-	-	2.0	2.5	3.0	-
SWITZERLAND, 7 registries (1990-2013)	23	2.1	2.7	1.4	28	1.9	2.6	1.2	1.7	1.7	3.1	1.4
UKRAINE (2002-2012)	65	0.9	1.2	0.5	113	1.0	1.3	0.6	1.1	1.0	0.6	1.3
UK (2000-2011)	239	1.8	2.3	1.3	297	1.7	2.2	1.1	1.3	2.4	1.8	1.2
UK, England and Wales, paediatric (1991-2010)	405	2.0	2.7	1.4	-	-	-	-	1.5	2.6	2.1	-
OCEANIA												
AUSTRALIA (1992-2014)	206	2.3	3.3	1.4	279	2.4	3.3	1.3	2.1	2.8	2.1	2.4
NEW ZEALAND (1993-2012)	37	2.0	2.6	1.4	43	1.8	2.3	1.2	1.0	1.9	3.4	1.0
NEW ZEALAND, Other (1993-2012)	25	2.0	2.3	1.7	30	1.8	2.2	1.5	1.1	2.0	3.2	1.2
NEW ZEALAND, paediatric (2000-2012)	30	2.4	2.9	1.9	-	-	-	-	1.0	2.1	4.5	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	25	2.6	2.7	2.5	-	-	-	-	1.1	2.1	5.2	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of precursor cell lymphoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.5. Mature B-cell lymphomas (except Burkitt lymphoma) (IIb2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	22	1.2	1.8	0.6	34	1.4	1.7	1.0	1.0	1.3	1.5	1.8
CAMEROON, Yaoundé (2004-2006)	42	17.7	20.7	14.7	53	17.7	19.8	15.7	11.9	20.4	22.2	18.0
EGYPT, Gharbiah (1999-2010)	59	3.8	5.0	2.6	107	4.9	6.9	2.9	3.6	3.8	4.2	8.8
KENYA, 2 registries (2000-2012)	15	1.4	2.1	0.7	20	1.5	2.3	0.7	1.4	1.1	1.7	1.7
MALI, Bamako (2005-2014)	14	1.9	2.3	1.6	21	2.1	2.6	1.7	0.7	2.1	3.3	2.7
MOROCCO, 2 registries (2005-2012)	14	1.5	2.1	1.0	30	2.3	3.1	1.5	1.3	1.4	1.9	4.9
SOUTH AFRICA, paediatric (1998-2012)	44	0.2	0.3	0.1	-	-	-	-	0.1	0.3	0.2	-
SOUTH AFRICA, paediatric, Black (1998-2012)	38	0.2	0.3	0.1	-	-	-	-	0.1	0.3	0.2	-
TUNISIA, 2 registries (1993-2007)	42	2.0	3.1	1.0	81	2.8	3.9	1.7	0.9	2.4	3.2	5.6
UGANDA, Kyadondo (1996-2013)	21	1.5	1.9	1.3	28	1.5	1.8	1.3	1.2	1.6	1.9	1.6
ZIMBABWE, Harare, African (1995-2013)	32	3.8	5.9	1.8	47	4.1	6.3	2.1	2.0	4.9	5.1	5.1
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	25	0.2	0.2	0.1	-	-	-	-	0.0	0.2	0.3	-
ARGENTINA, 6 registries (1991-2013)	40	1.7	1.8	1.7	65	2.1	2.5	1.7	1.3	1.4	2.8	3.4
BRAZIL, 5 registries (1995-2012)	25	1.4	1.7	1.0	62	2.2	2.9	1.5	1.5	1.2	1.4	5.0
CHILE, paediatric (2007-2011)	24	1.3	1.9	0.6	-	-	-	-	1.2	1.3	1.3	-
COLOMBIA, 4 registries (1992-2013)	39	2.1	2.2	2.0	76	3.0	3.7	2.3	1.3	2.1	3.3	6.0
COSTA RICA (1993-2012)	58	2.3	3.4	1.1	108	3.2	4.3	2.0	1.2	1.9	4.2	6.3
ECUADOR, 5 registries (1993-2013)	65	2.9	3.8	2.0	120	3.9	5.0	2.9	2.5	3.0	3.4	7.5
PERU, Lima (2010-2012)	8	1.1	1.9	0.3	22	2.1	3.4	0.7	0.8	1.3	1.3	5.3
USA, Puerto Rico (1992-2012)	40	2.1	2.7	1.4	83	3.1	3.7	2.5	1.1	2.3	3.2	6.8
URUGUAY (1993-2012)	10	0.6	0.6	0.6	28	1.3	1.2	1.4	0.4	0.6	1.0	3.5
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	238	2.0	2.4	1.5	548	3.2	3.9	2.5	1.4	2.0	2.7	7.4
USA (1998-2012)	1910	2.0	2.4	1.6	4351	3.3	3.9	2.6	1.3	1.7	3.3	7.7
USA, API (1998-2012)	86	1.8	2.1	1.5	183	2.8	3.0	2.6	0.6	1.6	3.5	6.3
USA, Black (1998-2012)	332	2.1	2.7	1.5	756	3.5	4.3	2.6	1.1	1.5	3.9	8.3
USA, Hispanic White (1998-2012)	349	2.0	2.4	1.6	683	3.0	3.7	2.3	1.3	1.9	3.1	6.5
USA, Native American (1998-2012)	16	1.0	1.5	0.6	29	1.4	1.8	0.9	0.4	1.0	1.8	2.6
USA, White NH (1998-2012)	1065	1.9	2.2	1.5	2583	3.2	3.8	2.6	1.3	1.5	3.1	7.9
USA, NPCR (1998-2012)	1851	2.0	2.4	1.6	4195	3.3	4.0	2.6	1.3	1.7	3.3	7.7
USA, SEER 18 (1993-2012)	586	1.9	2.3	1.4	1344	3.2	3.9	2.6	0.9	1.5	3.7	7.9
ASIA												
CHINA, 6 registries (1990-2013)	35	0.5	0.7	0.4	75	0.7	0.9	0.6	0.2	0.3	1.2	1.4
CHINA, Hong Kong (1990-2013)	23	0.9	1.3	0.4	74	1.8	2.3	1.3	0.9	0.6	1.2	4.9
INDIA, 7 registries (1990-2013)	63	0.4	0.5	0.2	108	0.4	0.6	0.3	0.3	0.5	0.3	0.7
ISRAEL (1990-2012)	120	2.8	3.4	2.2	233	4.3	4.7	3.8	1.3	3.3	4.3	9.3
ISRAEL, Jews (1990-2012)	78	2.5	3.2	1.8	158	3.9	4.3	3.4	0.8	3.1	4.0	8.6
ISRAEL, Non-Jews (1990-2012)	42	3.7	3.9	3.4	75	5.4	5.7	5.0	2.4	3.9	5.1	11.2
JAPAN, 8 registries (1990-2013)	77	1.2	1.3	1.0	147	1.6	1.8	1.3	0.7	1.1	1.9	2.9
JORDAN, Jordanians (2000-2012)	29	1.0	1.2	0.8	61	1.7	2.0	1.3	0.4	0.9	2.0	4.0
REPUBLIC OF KOREA (1999-2012)	269	1.9	2.4	1.4	566	2.9	3.5	2.2	1.1	1.8	3.2	6.2
KUWAIT (1994-2012)	31	2.6	2.6	2.5	47	3.1	3.3	3.0	3.8	2.5	1.1	4.9
KUWAIT, Kuwaitis (1994-2012)	22	3.1	3.4	2.8	35	4.0	4.0	3.9	3.8	3.4	1.9	6.9
LEBANON (2008-2010)	16	4.4	6.9	1.7	37	7.2	10.7	3.6	3.8	6.4	3.0	16.9
PAKISTAN, Karachi (1995-2002)	23	3.9	4.6	3.2	48	6.9	9.4	4.2	1.5	4.6	6.4	17.3
PAKISTAN, Lahore (2008-2012)	21	1.0	1.6	0.4	32	1.3	1.9	0.6	0.3	0.8	2.2	2.0
PHILIPPINES, 2 registries (1993-2012)	84	1.1	1.5	0.7	140	1.4	1.7	1.0	0.7	1.0	1.8	2.3
SAUDI ARABIA, Riyadh (1994-2012)	52	1.5	1.7	1.3	122	3.0	3.3	2.7	0.8	1.8	2.1	8.1
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	39	1.4	1.5	1.3	101	2.9	3.1	2.7	0.6	1.9	1.7	8.3
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	13	2.3	2.7	1.9	21	3.3	4.2	2.2	1.9	1.5	3.7	6.6
THAILAND, 6 registries (1993-2013)	82	2.0	2.3	1.6	156	2.6	3.0	2.1	1.5	1.9	2.8	4.6
TURKEY, paediatric (2009-2011)	81	1.4	1.7	1.0	-	-	-	-	0.8	1.4	2.0	-
TURKEY, 8 registries (1992-2012)	79	1.9	2.5	1.2	162	2.8	3.6	1.9	1.1	1.7	3.1	5.8
VIET NAM, Ho Chi Minh City (1995-2013)	96	3.9	4.6	3.0	142	3.9	4.6	3.2	2.7	4.2	5.1	4.1
EUROPE												
AUSTRIA (1990-2012)	33	1.0	1.3	0.7	70	1.5	2.1	1.0	0.7	1.0	1.5	3.3
BELARUS, paediatric (1990-2014)	24	0.5	0.7	0.4	69	1.0	1.2	0.8	0.5	0.4	0.7	2.5
BELGIUM (2004-2013)	37	1.9	2.4	1.3	101	3.7	4.6	2.8	0.8	1.7	3.6	10.0
BULGARIA (1990-2013)	28	0.9	1.3	0.5	53	1.2	1.6	0.7	1.1	0.5	1.2	2.0
CROATIA (2001-2014)	20	2.0	1.9	2.2	45	3.2	3.3	3.0	1.4	1.9	3.0	7.0
CZECH REPUBLIC (1990-2012)	92	2.1	3.1	1.1	190	2.9	4.2	1.7	1.0	1.8	3.9	5.9
FRANCE, paediatric (2000-2012)	182	1.1	1.4	0.9	-	-	-	-	0.3	1.1	2.3	-
FRANCE, paediatric, haematological malignancies (1990-1999)	110	0.9	1.1	0.7	-	-	-	-	0.4	1.0	1.6	-
FRANCE, 13 registries (1993-2012)	72	2.2	2.6	1.7	148	3.2	3.4	3.0	1.2	1.5	4.1	6.9
GERMANY, paediatric (1996-2012)	276	1.2	1.5	0.9	-	-	-	-	0.4	1.4	2.1	-
GERMANY, 6 Eastern states (2001-2007)	19	1.4	2.0	0.9	59	2.3	3.0	1.5	1.4	1.7	1.2	5.3
GERMANY, 5 Western registries (1994-2012)	81	1.5	1.9	1.1	180	2.4	3.0	1.7	0.7	1.8	2.3	5.3
GREECE, paediatric, haematological neoplasms (1996-2014)	26	0.8	1.2	0.3	-	-	-	-	0.3	0.9	1.3	-
HUNGARY, paediatric (1991-2014)	52	1.2	1.4	0.9	-	-	-	-	0.6	0.8	2.3	-
IRELAND (1994-2012)	26	1.5	2.3	0.6	64	2.6	3.8	1.4	0.9	1.3	2.5	6.4
ITALY, 2 paediatric registries (1998-2011)	15	1.8	2.8	0.6	40	3.3	3.7	2.9	1.8	1.1	2.5	8.7
ITALY, Piedmont, paediatric (1990-2011)	23	1.8	2.7	0.9	-	-	-	-	1.3	1.0	3.5	-
ITALY, 26 registries (1992-2013)	104	2.4	2.9	1.9	240	3.9	4.6	3.1	1.2	2.1	4.3	9.0
LITHUANIA (2000-2012)	12	1.4	2.2	0.6	24	1.9	2.9	0.9	1.0	0.0	3.5	3.8
THE NETHERLANDS (1993-2013)	94	1.4	1.7	1.1	251	2.9	3.3	2.4	0.7	1.3	2.7	7.7
NORWAY (1990-2013)	32	1.5	1.9	1.0	68	2.3	2.8	1.8	1.4	1.3	1.9	5.1
POLAND (2001-2013)	115	1.3	1.8	0.8	255	1.9	2.4	1.4	0.7	1.6	1.9	3.9
PORTUGAL (1991-2012)	27	0.9	0.9	0.9	67	1.6	1.4	1.8	0.5	0.4	2.0	3.9
RUSSIAN FEDERATION, 2 registries (1998-2015)	13	1.1	1.3	0.8	33	1.7	2.0	1.4	0.8	0.6	2.0	3.9
SLOVAKIA (1990-2009)	51	2.3	2.4	2.2	91	2.8	3.1	2.5	1.1	3.8	2.1	4.6
SPAIN, 2 paediatric registries (1991-2013)	64	1.3	1.5	1.1	-	-	-	-	1.1	0.8	2.1	-
SPAIN, selected regions, paediatric (2000-2013)	34	1.0	1.0	0.9	-	-	-	-	0.6	0.6	1.9	-
SPAIN, Valencia, paediatric (1991-2010)	30	2.2	2.6	1.8	-	-	-	-	2.6	1.4	2.6	-
SPAIN, 11 registries (1990-2013)	55	1.6	2.1	1.0	149	2.8	3.8	1.8	1.0	1.1	3.0	7.2
SWEDEN (1990-2011)	30	0.8	1.1	0.5	69	1.4	1.8	0.9	0.5	0.9	1.2	3.2

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of mature B-cell lymphoma (except Burkitt lymphoma)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.5. Mature B-cell lymphomas (except Burkitt lymphoma) (IIb2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
SWITZERLAND, paediatric (1990-2013)	48	1.5	1.7	1.3	-	-	-	-	0.7	1.6	2.6	-
SWITZERLAND, 7 registries (1990-2013)	34	3.1	3.7	2.4	76	5.0	5.3	4.6	2.0	3.7	3.9	11.5
UKRAINE (2002-2012)	83	1.0	1.2	0.8	179	1.4	1.7	1.1	0.7	0.9	1.5	2.6
UK (2000-2011)	182	1.3	1.6	0.9	454	2.3	2.9	1.7	0.6	1.3	2.3	5.8
UK, England and Wales, paediatric (1991-2010)	236	1.1	1.5	0.8	-	-	-	-	0.5	0.9	2.2	-
OCEANIA												
AUSTRALIA (1992-2014)	148	1.6	1.8	1.4	376	2.9	3.5	2.4	0.9	1.2	2.9	7.6
NEW ZEALAND (1993-2012)	33	1.7	1.9	1.6	64	2.5	2.9	2.2	0.7	1.4	3.6	5.3
NEW ZEALAND, Other (1993-2012)	25	1.9	2.1	1.8	50	2.9	3.4	2.2	0.8	1.5	3.9	6.0
NEW ZEALAND, paediatric (2000-2012)	23	1.9	2.2	1.5	-	-	-	-	0.8	2.4	2.8	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	21	2.2	2.7	1.8	-	-	-	-	0.7	3.1	3.3	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of mature B-cell lymphoma (except Burkitt lymphoma)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.6. Mature T-cell and NK-cell lymphomas (IIb3): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	201	0.9	1.1	0.7	-	-	-	-	0.4	1.2	1.2	-
SOUTH AFRICA, paediatric, Black (1998-2012)	146	0.8	0.9	0.6	-	-	-	-	0.3	1.0	1.0	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	27	1.4	2.1	0.7	-	-	-	-	0.6	2.6	1.1	-
SOUTH AFRICA, paediatric, White (1998-2012)	25	1.9	2.3	1.6	-	-	-	-	1.6	1.0	3.4	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	108	0.7	0.9	0.5	-	-	-	-	0.4	0.6	1.2	-
ARGENTINA, 6 registries (1991-2013)	15	0.7	0.8	0.5	20	0.7	0.8	0.6	0.6	0.8	0.7	0.7
BRAZIL, 5 registries (1995-2012)	16	0.8	0.8	0.8	24	0.9	0.9	0.9	0.8	0.5	1.2	1.1
COLOMBIA, 4 registries (1992-2013)	17	0.9	1.0	0.8	24	1.0	1.0	0.9	0.7	0.9	1.3	1.1
COSTA RICA (1993-2012)	16	0.6	1.0	0.2	25	0.7	1.1	0.4	0.4	0.6	1.0	1.1
ECUADOR, 5 registries (1993-2013)	17	0.7	0.6	0.9	29	0.9	0.8	1.1	0.0	1.5	0.8	1.6
PERU, Lima (2010-2012)	19	2.5	2.1	2.9	29	2.8	2.6	3.0	0.8	2.1	5.1	3.8
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	187	1.5	1.8	1.2	311	1.9	2.1	1.6	1.0	1.5	2.3	3.0
USA (1998-2012)	1497	1.6	1.9	1.2	2466	1.9	2.2	1.5	0.8	1.7	2.5	3.1
USA, API (1998-2012)	83	1.8	2.1	1.4	125	2.0	2.4	1.6	1.4	1.6	2.6	2.7
USA, Black (1998-2012)	278	1.7	2.0	1.4	448	2.1	2.3	1.8	0.7	1.7	3.1	3.3
USA, Hispanic White (1998-2012)	247	1.4	1.7	1.2	362	1.6	1.9	1.3	0.7	1.5	2.2	2.2
USA, Native American (1998-2012)	14	0.9	1.1	0.8	22	1.1	1.2	0.9	0.6	0.6	1.6	1.6
USA, White NH (1998-2012)	820	1.4	1.8	1.1	1419	1.8	2.2	1.4	0.7	1.6	2.3	3.1
USA, NPCR (1998-2012)	1422	1.5	1.8	1.2	2340	1.9	2.2	1.5	0.8	1.7	2.5	3.0
USA, SEER 18 (1993-2012)	469	1.5	1.8	1.2	772	1.9	2.2	1.6	0.8	1.7	2.5	3.1
ASIA												
CHINA, 6 registries (1990-2013)	49	0.8	0.8	0.6	79	0.8	0.9	0.7	0.2	0.8	1.4	1.1
CHINA, Hong Kong (1990-2013)	28	1.0	1.0	1.1	47	1.2	1.2	1.2	0.9	0.7	1.6	1.8
INDIA, 7 registries (1990-2013)	24	0.1	0.2	0.1	38	0.2	0.2	0.1	0.1	0.1	0.2	0.2
ISRAEL (1990-2012)	78	1.8	2.0	1.6	134	2.5	2.8	2.1	0.9	2.6	2.3	4.6
ISRAEL, Jews (1990-2012)	55	1.8	2.0	1.5	99	2.4	3.0	1.9	0.8	2.9	1.9	4.7
ISRAEL, Non-Jews (1990-2012)	23	2.0	2.1	2.0	35	2.5	2.3	2.6	1.2	1.8	3.3	4.1
JAPAN, 8 registries (1990-2013)	88	1.4	1.5	1.3	129	1.5	1.7	1.3	1.2	1.3	1.8	1.7
JORDAN, Jordanians (2000-2012)	13	0.5	0.6	0.4	21	0.6	0.6	0.5	0.3	0.7	0.5	1.0
REPUBLIC OF KOREA (1999-2012)	240	1.7	1.9	1.6	427	2.2	2.6	1.8	0.9	1.9	2.7	3.9
KUWAIT (1994-2012)	37	3.1	4.1	2.1	50	3.3	4.5	2.0	4.2	2.2	2.5	4.0
KUWAIT, Kuwaitis (1994-2012)	21	3.0	3.6	2.3	26	2.9	3.5	2.3	4.2	1.3	3.3	2.7
KUWAIT, Non-Kuwaitis (1994-2012)	16	3.2	4.7	1.7	24	3.8	5.8	1.6	4.3	3.6	1.3	5.9
PHILIPPINES, 2 registries (1993-2012)	22	0.3	0.3	0.3	27	0.3	0.2	0.3	0.1	0.3	0.5	0.2
SAUDI ARABIA, Riyadh (1994-2012)	45	1.3	1.3	1.3	75	1.8	1.6	2.0	0.2	1.7	2.4	3.5
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	43	1.5	1.5	1.4	71	2.0	1.8	2.2	0.1	2.0	2.7	3.7
THAILAND, 6 registries (1993-2013)	29	0.7	0.8	0.6	67	1.1	1.1	1.0	0.3	0.7	1.1	2.4
TURKEY, paediatric (2009-2011)	24	0.4	0.5	0.3	-	-	-	-	0.2	0.4	0.7	-
TURKEY, 8 registries (1992-2012)	40	1.0	1.3	0.6	78	1.3	1.6	1.1	0.6	1.2	1.2	2.7
EUROPE												
AUSTRIA (1990-2012)	41	1.3	1.7	0.9	66	1.5	2.0	1.0	0.8	1.4	1.8	2.2
BELARUS, paediatric (1990-2014)	34	0.7	0.8	0.6	55	0.8	1.0	0.6	0.4	0.8	1.1	1.2
BELGIUM (2004-2013)	36	1.9	2.2	1.6	63	2.4	2.8	2.0	1.1	2.2	2.6	4.2
CZECH REPUBLIC (1990-2012)	30	0.7	1.0	0.4	59	1.0	1.3	0.6	0.5	0.9	0.8	1.7
FRANCE, paediatric (2000-2012)	231	1.5	1.6	1.4	-	-	-	-	0.8	1.7	2.2	-
FRANCE, paediatric, haematological malignancies (1990-1999)	143	1.2	1.3	1.1	-	-	-	-	0.6	1.5	1.6	-
FRANCE, 13 registries (1993-2012)	48	1.4	1.4	1.4	83	1.8	1.7	1.9	0.4	1.5	2.6	3.2
GERMANY, paediatric (1996-2012)	293	1.3	1.7	0.9	-	-	-	-	0.7	1.4	2.0	-
GERMANY, 6 Eastern states (2001-2007)	20	1.4	1.9	0.8	41	1.7	2.1	1.2	0.7	1.7	2.0	2.8
GERMANY, 5 Western registries (1994-2012)	85	1.6	2.1	1.1	153	2.1	2.7	1.4	1.0	2.2	1.9	3.6
GREECE, paediatric, haematological neoplasms (1996-2014)	47	1.4	1.7	1.0	-	-	-	-	0.5	1.5	2.3	-
HUNGARY, paediatric (1991-2014)	32	0.7	0.7	0.7	-	-	-	-	0.2	0.7	1.4	-
IRELAND (1994-2012)	14	0.8	0.8	0.8	22	0.9	0.8	1.1	0.4	1.3	0.9	1.3
ITALY, 26 registries (1992-2013)	64	1.5	1.8	1.1	110	1.8	2.2	1.5	0.7	1.8	2.2	3.1
THE NETHERLANDS (1993-2013)	94	1.5	1.7	1.3	162	1.9	2.2	1.6	1.0	1.5	2.2	3.4
NORWAY (1990-2013)	26	1.2	0.9	1.4	41	1.4	1.4	1.3	0.4	1.1	2.1	2.1
POLAND (2001-2013)	107	1.3	1.5	1.0	164	1.3	1.6	1.1	1.0	1.3	1.6	1.6
PORTUGAL (1991-2012)	27	1.0	0.9	1.1	45	1.1	1.2	1.1	0.7	1.1	1.2	1.8
SLOVENIA (1991-2012)	17	2.2	2.9	1.6	25	2.4	2.8	1.9	0.9	3.0	3.1	2.8
SPAIN, 2 paediatric registries (1991-2013)	65	1.3	1.5	1.1	-	-	-	-	0.4	1.7	2.1	-
SPAIN, selected regions, paediatric (2000-2013)	44	1.2	1.3	1.2	-	-	-	-	0.3	1.7	1.9	-
SPAIN, Valencia, paediatric (1991-2010)	21	1.4	1.8	1.0	-	-	-	-	0.5	1.6	2.4	-
SPAIN, 11 registries (1990-2013)	25	0.7	0.8	0.7	54	1.1	1.1	1.0	0.3	1.0	1.0	2.2
SWEDEN (1990-2011)	32	0.9	1.0	0.7	60	1.2	1.4	1.0	0.5	0.9	1.3	2.3
SWITZERLAND, paediatric (1990-2013)	26	0.8	0.9	0.8	-	-	-	-	0.5	0.7	1.4	-
UKRAINE (2002-2012)	57	0.7	0.9	0.6	84	0.7	0.9	0.5	0.7	0.7	0.8	0.7
UK (2000-2011)	172	1.2	1.5	1.0	279	1.5	1.8	1.1	0.9	1.0	2.0	2.3
UK, England and Wales, paediatric (1991-2010)	223	1.1	1.3	0.8	-	-	-	-	0.5	1.1	1.8	-
OCEANIA												
AUSTRALIA (1992-2014)	107	1.1	1.4	0.9	175	1.4	1.7	1.1	0.4	1.2	2.0	2.3
NEW ZEALAND (1993-2012)	24	1.3	2.1	0.4	40	1.6	2.2	1.0	0.5	1.2	2.4	2.7
NEW ZEALAND, Other (1993-2012)	17	1.3	2.1	0.5	26	1.5	2.2	0.7	0.3	1.5	2.5	2.1

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of mature T-cell or NK-cell lymphoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.7. Non-Hodgkin lymphomas, NOS (IIb4): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	101	5.8	8.7	2.7	149	6.1	8.4	3.7	5.2	6.3	5.9	7.1
BOTSWANA (1999-2007)	13	2.3	2.8	1.7	20	2.6	3.2	2.1	1.5	3.7	1.6	3.9
CAMEROON, Yaoundé (2004-2006)	25	10.5	12.9	8.2	30	10.0	12.3	7.8	3.3	15.3	14.8	8.2
EGYPT, Gharbiah (1999-2010)	37	2.6	3.7	1.4	44	2.3	3.1	1.4	3.4	2.8	1.3	1.3
KENYA, 2 registries (2000-2012)	110	10.2	13.1	7.3	141	10.3	13.7	7.0	7.7	12.7	10.8	10.5
MALI, Bamako (2005-2014)	33	4.5	6.9	2.3	42	4.3	6.6	2.3	1.1	4.2	9.5	3.5
MAURITIUS (2001-2013)	11	3.0	4.3	1.8	23	4.4	6.3	2.4	4.3	1.6	3.0	9.1
MOROCCO, 2 registries (2005-2012)	10	1.1	1.9	0.2	25	1.9	3.0	0.7	0.3	2.1	1.0	4.6
SOUTH AFRICA, paediatric (1998-2012)	272	1.2	1.6	0.9	-	-	-	-	1.2	1.5	1.1	-
SOUTH AFRICA, paediatric, Black (1998-2012)	210	1.1	1.4	0.9	-	-	-	-	1.2	1.2	1.0	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	24	1.2	1.6	0.9	-	-	-	-	0.6	2.3	0.9	-
SOUTH AFRICA, paediatric, White (1998-2012)	31	2.5	3.4	1.6	-	-	-	-	1.6	3.8	2.3	-
TUNISIA, 2 registries (1993-2007)	35	1.8	2.4	1.2	56	2.1	2.8	1.3	1.2	2.7	1.6	3.0
UGANDA, Kyadondo (1996-2013)	44	3.2	3.7	2.8	54	3.0	3.5	2.6	1.6	4.4	4.0	2.2
ZIMBABWE, Harare, African (1995-2013)	51	6.1	8.1	4.2	74	6.5	8.7	4.5	3.1	6.4	9.7	7.8
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	197	1.3	1.8	0.9	-	-	-	-	1.0	1.5	1.6	-
ARGENTINA, 6 registries (1991-2013)	34	1.5	1.5	1.5	59	1.9	1.9	1.9	1.3	1.6	1.7	3.4
BRAZIL, 5 registries (1995-2012)	36	2.0	2.6	1.4	60	2.3	3.2	1.4	2.4	2.0	1.5	3.3
COLOMBIA, 4 registries (1992-2013)	32	1.9	2.4	1.5	48	2.1	2.5	1.7	2.5	2.4	0.7	2.6
COSTA RICA (1993-2012)	55	2.4	3.4	1.3	71	2.3	3.3	1.2	2.6	2.5	1.8	2.0
CUBA (2000-2012)	345	12.9	18.3	7.2	446	12.2	17.0	7.1	13.8	13.3	11.1	9.7
ECUADOR, 5 registries (1993-2013)	66	3.1	3.8	2.4	93	3.2	4.1	2.3	3.6	3.3	2.2	3.7
MEXICO, Mexico City, paediatric (1997-2013)	24	1.9	2.5	1.3	-	-	-	-	1.3	1.9	2.8	-
USA, Puerto Rico (1992-2012)	9	0.5	0.9	0.1	20	0.8	1.0	0.5	0.4	0.7	0.5	1.7
URUGUAY (1993-2012)	52	3.3	3.9	2.6	69	3.3	4.1	2.4	2.2	3.8	4.0	3.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	67	0.6	0.8	0.4	111	0.7	0.9	0.4	0.4	0.7	0.6	1.0
USA (1998-2012)	355	0.4	0.5	0.3	623	0.5	0.6	0.3	0.3	0.3	0.6	0.8
USA, API (1998-2012)	17	0.4	0.6	0.2	28	0.5	0.6	0.3	0.4	0.4	0.3	0.7
USA, Black (1998-2012)	53	0.3	0.5	0.2	104	0.5	0.6	0.3	0.2	0.3	0.6	1.0
USA, Hispanic White (1998-2012)	58	0.3	0.5	0.2	97	0.4	0.6	0.3	0.2	0.3	0.6	0.8
USA, White NH (1998-2012)	206	0.4	0.5	0.3	358	0.5	0.6	0.3	0.3	0.3	0.5	0.8
USA, NPCR (1998-2012)	331	0.4	0.5	0.3	582	0.5	0.6	0.3	0.3	0.3	0.5	0.8
USA, SEER 18 (1993-2012)	124	0.4	0.6	0.2	209	0.5	0.8	0.3	0.2	0.4	0.7	0.9
ASIA												
CHINA, 6 registries (1990-2013)	82	1.4	1.6	1.2	198	2.0	2.4	1.6	1.1	1.5	1.6	4.1
CHINA, Hong Kong (1990-2013)	16	0.7	0.7	0.6	25	0.7	0.8	0.6	0.7	1.2	0.1	0.9
INDIA, 7 registries (1990-2013)	788	4.5	6.3	2.6	1125	4.7	6.4	2.7	3.7	5.2	4.8	5.3
ISRAEL (1990-2012)	48	1.2	1.2	1.1	67	1.3	1.4	1.1	1.4	1.2	0.9	1.6
ISRAEL, Jews (1990-2012)	38	1.3	1.4	1.2	55	1.4	1.6	1.2	1.6	1.2	0.9	1.8
JAPAN, 8 registries (1990-2013)	75	1.2	1.4	0.9	103	1.2	1.4	0.9	0.9	1.1	1.6	1.2
JORDAN, Jordanians (2000-2012)	44	1.6	2.0	1.1	77	2.1	2.3	2.0	1.0	2.0	2.0	4.1
REPUBLIC OF KOREA (1999-2012)	42	0.3	0.4	0.2	58	0.3	0.4	0.2	0.3	0.3	0.3	0.3
LEBANON (2008-2010)	10	2.6	3.7	1.5	20	3.9	5.0	2.7	1.9	3.2	3.0	8.1
PAKISTAN, Lahore (2008-2012)	37	1.9	2.5	1.2	55	2.2	3.1	1.2	0.8	2.3	2.7	3.3
PHILIPPINES, 2 registries (1993-2012)	143	1.9	2.2	1.6	228	2.3	2.5	2.0	1.5	1.6	2.8	3.5
SAUDI ARABIA, Riyadh (1994-2012)	36	1.1	1.6	0.5	45	1.1	1.6	0.5	0.9	1.6	0.7	1.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	26	0.9	1.3	0.6	31	0.9	1.2	0.6	0.8	1.4	0.6	0.7
THAILAND, 6 registries (1993-2013)	53	1.2	1.6	0.9	83	1.4	1.8	1.0	0.6	1.5	1.9	1.9
TURKEY, paediatric (2009-2011)	43	0.7	1.1	0.3	-	-	-	-	0.4	0.8	1.0	-
TURKEY, 8 registries (1992-2012)	103	2.5	3.5	1.5	135	2.5	3.4	1.5	1.6	3.5	2.6	2.2
VIET NAM, Ho Chi Minh City (1995-2013)	25	1.1	1.4	0.8	32	1.0	1.2	0.8	1.8	0.7	0.5	0.6
EUROPE												
AUSTRIA (1990-2012)	78	2.4	3.5	1.3	137	3.1	4.1	2.0	1.8	2.3	3.4	5.3
BELARUS, paediatric (1990-2014)	38	0.9	1.1	0.6	93	1.4	1.8	0.9	0.9	0.9	0.8	3.1
BULGARIA (1990-2013)	129	4.1	5.1	3.0	192	4.3	5.4	3.1	2.8	4.7	5.0	5.0
CROATIA (2001-2014)	48	5.0	7.3	2.6	81	5.9	8.2	3.5	3.8	5.5	6.0	9.3
CZECH REPUBLIC (1990-2012)	107	2.7	3.6	1.7	154	2.7	3.6	1.7	2.3	3.0	2.8	2.8
FRANCE, paediatric, haematological malignancies (1990-1999)	45	0.4	0.5	0.2	-	-	-	-	0.2	0.6	0.4	-
FRANCE, 13 registries (1993-2012)	13	0.4	0.7	0.1	23	0.5	0.7	0.3	0.4	0.6	0.3	0.9
GERMANY, paediatric (1996-2012)	172	0.8	1.0	0.5	-	-	-	-	0.4	0.8	1.3	-
GERMANY, 6 Eastern states (2001-2007)	21	1.5	2.0	1.1	46	1.9	2.5	1.3	1.4	1.7	1.6	3.3
GERMANY, 5 Western registries (1994-2012)	55	1.1	1.5	0.6	102	1.4	1.9	0.9	0.8	1.1	1.3	2.5
HUNGARY, paediatric (1991-2014)	79	1.9	2.7	1.1	-	-	-	-	1.4	2.3	2.1	-
IRELAND (1994-2012)	28	1.6	2.2	1.0	45	1.9	2.3	1.5	1.1	1.6	2.3	2.9
ITALY, 26 registries (1992-2013)	50	1.2	1.6	0.7	93	1.5	2.1	1.0	0.7	1.2	1.7	2.9
THE NETHERLANDS (1993-2013)	19	0.3	0.4	0.2	36	0.4	0.4	0.4	0.2	0.5	0.2	0.8
NORWAY (1990-2013)	19	0.9	1.1	0.7	37	1.3	1.4	1.0	0.6	1.0	1.1	2.6
POLAND (2001-2013)	102	1.2	1.6	0.8	152	1.3	1.6	0.9	0.7	1.7	1.3	1.4
PORTUGAL (1991-2012)	73	2.7	4.6	0.6	118	3.1	4.7	1.3	2.6	2.9	2.6	4.4
RUSSIAN FEDERATION, 2 registries (1998-2015)	16	1.4	1.6	1.1	27	1.5	1.9	1.1	1.3	0.8	2.0	2.2
SLOVAKIA (1990-2009)	67	3.1	3.9	2.2	92	3.1	4.0	2.1	2.5	4.2	2.6	2.9
SLOVAKIA, paediatric (2000-2012)	45	3.8	5.0	2.5	-	-	-	-	3.4	4.2	3.8	-
SPAIN, 2 paediatric registries (1991-2013)	68	1.4	1.9	0.9	-	-	-	-	1.3	1.7	1.3	-
SPAIN, selected regions, paediatric (2000-2013)	65	1.9	2.5	1.2	-	-	-	-	1.6	2.3	1.8	-
SPAIN, 11 registries (1990-2013)	32	1.0	1.3	0.6	61	1.2	1.6	0.9	0.8	0.8	1.4	2.2
SWEDEN (1990-2011)	64	1.8	2.4	1.2	91	1.9	2.6	1.1	1.5	2.5	1.5	2.2
SWITZERLAND, paediatric (1990-2013)	32	1.1	1.6	0.5	-	-	-	-	0.4	1.8	1.1	-
SWITZERLAND, 7 registries (1990-2013)	22	2.0	2.5	1.5	27	1.9	2.3	1.4	1.1	3.1	2.0	1.4
UKRAINE (2002-2012)	109	1.3	2.1	0.6	235	1.8	2.6	1.0	0.8	1.2	2.1	3.4
UK (2000-2011)	78	0.6	0.8	0.3	135	0.7	1.0	0.4	0.4	0.6	0.8	1.2
UK, England and Wales, paediatric (1991-2010)	206	1.0	1.4	0.6	-	-	-	-	0.8	1.3	1.1	-
OCEANIA												
AUSTRALIA (1992-2014)	82	0.9	1.5	0.3	138	1.1	1.7	0.5	0.7	1.2	0.9	1.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of unspecified non-hodgkin lymphoma
Please consult registry-specific background information and quality indicators

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Table 9.8. Precursor cell neoplasms (Ia1, IIb1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	135	8.0	10.8	5.1	158	7.0	9.8	4.1	9.6	8.7	5.2	3.4
BOTSWANA (1999-2007)	21	3.7	4.2	3.3	30	4.0	4.5	3.6	3.6	5.8	1.6	5.1
EGYPT, Gharbiah (1999-2010)	363	24.9	29.1	20.5	456	23.1	28.3	17.7	31.8	23.9	16.8	17.0
FRANCE, Réunion (1990-2011)	103	24.2	27.6	20.8	122	21.7	25.7	17.7	33.5	20.3	16.1	13.2
KENYA, 2 registries (2000-2012)	142	13.2	16.3	10.2	160	11.6	14.5	8.8	11.1	14.7	14.2	6.1
LIBYA, Benghazi (2003-2008)	15	5.3	5.1	5.6	22	5.7	6.1	5.3	7.9	5.2	2.0	7.0
MAURITIUS (2001-2013)	19	5.4	5.3	5.5	22	4.7	4.7	4.6	7.8	4.7	3.0	2.3
MOROCCO, 2 registries (2005-2012)	133	15.1	19.7	10.4	185	15.3	19.8	10.7	17.1	14.8	12.7	16.0
SOUTH AFRICA, paediatric (1998-2012)	1533	7.2	8.6	5.7	-	-	-	-	9.2	7.1	4.6	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	105	29.8	35.9	23.5	-	-	-	-	50.8	26.2	5.7	-
SOUTH AFRICA, paediatric, Black (1998-2012)	857	4.7	5.7	3.7	-	-	-	-	5.0	5.2	3.8	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	270	14.9	18.0	11.8	-	-	-	-	21.6	13.4	7.7	-
SOUTH AFRICA, paediatric, White (1998-2012)	301	27.6	31.5	23.5	-	-	-	-	45.9	21.1	10.4	-
TUNISIA, 2 registries (1993-2007)	340	18.5	20.0	16.9	417	16.8	18.9	14.7	20.6	20.5	13.3	11.0
UGANDA, Kyadondo (1996-2013)	134	9.9	11.9	8.2	158	8.8	11.4	6.9	5.1	14.7	10.9	5.3
ZIMBABWE, Harare, African (1995-2013)	75	8.8	11.1	6.7	84	7.5	9.8	5.5	6.5	10.1	10.6	3.0
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	5552	39.6	43.7	35.3	-	-	-	-	52.3	35.5	27.2	-
ARGENTINA, 6 registries (1991-2013)	691	32.6	34.8	30.2	792	28.3	30.8	25.7	42.6	29.2	22.9	13.6
BRAZIL, 5 registries (1995-2012)	573	32.6	35.0	30.2	667	28.2	31.4	25.0	44.2	30.6	19.6	12.8
CHILE, paediatric (2007-2011)	758	42.7	46.2	39.0	-	-	-	-	59.3	38.2	25.6	-
CHILE, 4 registries (1998-2012)	194	46.3	52.7	39.7	214	38.5	44.4	32.4	71.6	38.5	21.2	11.8
COLOMBIA, 4 registries (1992-2013)	765	45.9	49.2	42.5	901	40.5	44.7	36.3	60.9	43.0	29.2	22.0
COSTA RICA (1993-2012)	1046	46.5	49.1	43.9	1222	41.1	45.2	36.7	66.9	42.2	24.3	22.1
CUBA (2000-2012)	710	28.1	31.5	24.4	808	23.9	27.4	20.1	40.7	24.7	15.0	9.5
ECUADOR, 5 registries (1993-2013)	1011	48.0	51.8	44.1	1192	42.7	47.5	37.9	63.8	45.6	29.5	24.6
FRANCE, 3 registries (1990-2012)	68	21.9	27.9	15.8	77	18.9	25.0	12.7	25.5	19.0	20.3	8.5
HONDURAS, Francisco Morazán (2002-2012)	154	30.4	35.9	24.7	178	27.2	33.1	21.2	36.5	28.4	24.4	16.1
JAMAICA, Kingston and St Andrew (1982-2012)	95	16.4	16.6	16.2	113	14.7	15.4	14.1	17.3	16.5	15.1	8.9
MEXICO, Mexico City, paediatric (1997-2013)	609	53.3	59.2	47.1	-	-	-	-	72.9	47.3	33.8	-
PERU, Lima (2010-2012)	295	43.3	48.6	37.9	369	39.9	46.6	33.1	59.9	33.7	31.9	28.0
PERU, Trujillo (1990-2002)	70	30.2	29.8	30.7	85	27.3	28.6	26.2	37.7	28.5	22.1	17.1
USA, Puerto Rico (1992-2012)	443	26.4	28.5	24.2	513	22.9	25.4	20.3	39.4	21.2	14.8	11.0
URUGUAY (1993-2012)	462	31.9	36.3	27.4	528	27.6	31.2	23.9	47.3	26.5	17.5	12.7
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	4736	44.1	48.8	39.2	5351	37.5	42.3	32.5	70.0	35.2	19.5	14.6
USA (1998-2012)	35616	41.8	45.6	37.9	41118	36.3	40.6	31.8	63.4	34.3	21.3	17.4
USA, API (1998-2012)	1512	34.9	37.9	31.8	1713	30.0	33.3	26.6	52.3	30.0	17.2	13.1
USA, Black (1998-2012)	3175	22.2	25.5	18.9	3720	19.6	23.0	16.1	29.3	19.2	16.1	10.6
USA, Hispanic White (1998-2012)	8528	51.6	55.6	47.4	9915	46.0	51.1	40.6	72.5	45.2	30.9	26.8
USA, Native American (1998-2012)	329	24.1	27.8	20.2	385	21.1	25.0	17.1	37.6	18.8	12.0	11.0
USA, White NH (1998-2012)	21153	43.4	47.2	39.5	24375	37.4	41.7	33.0	68.5	34.6	19.8	16.7
USA, NPCR (1998-2012)	33998	41.7	45.5	37.8	39269	36.3	40.6	31.7	63.3	34.3	21.3	17.4
USA, SEER 18 (1993-2012)	12005	44.3	48.1	40.3	13843	38.6	43.0	34.0	67.1	36.3	22.9	19.1
USA, Hawaii, Hawaiian (1993-2012)	63	40.1	36.2	44.2	68	33.3	31.6	35.2	51.8	46.8	17.0	10.0
ASIA												
BAHRAIN (1998-2012)	58	18.9	21.8	15.9	66	16.6	18.3	14.9	24.0	19.9	11.1	8.7
CHINA, 6 registries (1990-2013)	761	14.9	17.2	12.5	961	13.2	15.2	10.9	22.8	12.0	7.6	7.1
CHINA, Hong Kong (1990-2013)	799	36.0	39.3	32.4	915	30.4	33.9	26.6	57.3	26.8	17.7	11.2
INDIA, 7 registries (1990-2013)	3757	22.8	28.3	16.9	4468	20.2	25.2	14.7	28.2	22.7	15.9	11.2
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	52	15.1	16.8	13.3	63	13.2	14.6	11.7	15.1	18.7	11.1	6.5
ISRAEL (1990-2012)	1108	27.2	31.2	23.0	1290	24.5	28.6	20.1	36.1	26.0	16.8	14.9
ISRAEL, Jews (1990-2012)	821	27.8	31.6	23.9	961	25.0	29.0	20.7	36.6	27.1	16.9	15.1
ISRAEL, Non-Jews (1990-2012)	287	25.7	30.1	21.0	329	23.1	27.4	18.6	34.9	22.9	16.4	14.3
JAPAN, 8 registries (1990-2013)	1686	29.4	32.0	26.7	1974	25.5	28.3	22.5	41.1	26.3	17.3	11.9
JORDAN, Jordanians (2000-2012)	619	23.3	27.0	19.5	734	21.3	25.0	17.5	29.9	21.5	16.5	14.4
REPUBLIC OF KOREA (1999-2012)	3507	29.8	33.2	26.1	4126	26.0	29.4	22.3	43.0	24.2	18.5	12.8
KUWAIT (1994-2012)	408	33.9	35.9	31.8	537	35.2	36.9	33.4	43.2	24.0	32.4	39.8
KUWAIT, Kuwaitis (1994-2012)	241	34.0	37.7	30.1	314	35.1	37.5	32.6	43.4	23.1	33.4	38.8
KUWAIT, Non-Kuwaitis (1994-2012)	167	33.7	33.4	34.1	223	35.4	36.0	34.7	42.8	25.3	31.0	41.1
LEBANON (2008-2010)	99	28.6	28.8	28.5	112	24.6	25.8	23.2	34.2	33.4	16.0	10.5
PAKISTAN, Karachi (1995-2002)	105	18.5	23.9	12.8	121	16.8	21.7	11.6	20.9	20.8	12.8	11.1
PAKISTAN, Lahore (2008-2012)	377	20.5	26.0	14.7	417	17.6	22.6	12.2	23.6	17.8	19.5	7.4
PHILIPPINES, 2 registries (1993-2012)	2290	30.8	36.8	24.7	2544	26.3	31.6	20.8	41.5	30.2	17.3	10.6
QATAR (2002-2014)	72	24.4	26.2	22.4	86	22.9	24.1	21.6	29.0	25.1	17.5	17.5
SAUDI ARABIA, Riyadh (1994-2012)	1103	33.5	36.7	30.2	1267	30.2	34.1	26.2	47.2	29.2	19.9	18.9
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	869	31.8	36.3	27.3	999	28.6	33.6	23.5	44.5	28.1	19.0	17.4
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	234	41.3	38.7	44.1	268	38.3	36.7	40.0	59.4	34.6	24.7	27.9
THAILAND, 6 registries (1993-2013)	971	26.0	29.3	22.5	1102	22.0	25.1	18.7	35.6	23.9	15.5	8.1
TURKEY, paediatric (2009-2011)	1450	27.1	30.9	23.0	-	-	-	-	39.9	22.0	15.5	-
TURKEY, 8 registries (1992-2012)	1488	40.6	45.2	35.8	1721	35.1	39.6	30.4	63.1	32.2	19.9	16.3
VIET NAM, Ho Chi Minh City (1995-2013)	551	23.5	25.2	21.7	618	19.5	21.3	17.7	32.7	20.1	15.0	5.9
EUROPE												
AUSTRIA (1990-2012)	1094	38.2	42.5	33.6	1256	32.8	37.4	28.0	57.8	32.5	18.3	14.5
BELARUS, paediatric (1990-2014)	1497	36.7	38.7	34.5	1699	30.9	33.5	28.2	55.1	31.3	18.1	11.2
BELGIUM (2004-2013)	676	38.9	44.5	33.0	798	34.4	39.8	28.8	58.0	30.6	22.6	19.1
BULGARIA (1990-2013)	893	31.7	35.3	27.9	1008	26.6	30.1	22.9	45.2	29.0	16.8	9.1
CROATIA (2001-2014)	428	49.1	57.1	40.6	478	41.2	48.2	33.8	73.4	38.8	28.1	14.0
CYPRUS, South-West (1998-2012)	93	45.2	52.3	37.8	115	40.6	46.0	35.0	65.0	38.6	26.2	24.8
CZECH REPUBLIC (1990-2012)	1333	36.7	41.0	32.1	1534	31.1	35.5	26.5	58.6	27.2	18.0	12.1
ESTONIA (1990-2012)	194	36.1	32.3	40.0	227	31.3	29.4	33.3	54.4	28.4	20.1	14.8
FRANCE, paediatric (2000-2012)	5136	36.4	39.7	33.0	-	-	-	-	52.1	31.3	21.3	-
FRANCE, paediatric, haematological malignancies (1990-1999)	3714	34.8	38.5	30.9	-	-	-	-	51.2	29.5	18.8	-
FRANCE, 13 registries (1993-2012)	1069	36.0	40.1	31.6	1245	31.5	36.1	26.6	51.9	32.6	18.6	15.9
GERMANY, paediatric (1996-2012)	8429	44.7	48.5	40.7	-	-	-	-	67.7	37.4	22.2	-
GERMANY, 6 Eastern states (2001-2007)	491	39.2	43.1	35.1	608	33.9	38.2	29.3	61.2	30.2	19.8	15.5

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of precursor cell neoplasm
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.8. Precursor cell neoplasms (Ia1, IIb1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
GERMANY, 5 Western registries (1994-2012)	1879	41.2	45.2	37.0	2157	35.2	39.3	31.0	60.9	34.5	22.2	14.9
GREECE, paediatric, haematological neoplasms (1996-2014)	1459	49.3	55.6	42.6	-	-	-	-	75.7	39.5	24.7	-
HUNGARY, paediatric (1991-2014)	1370	37.0	40.8	33.0	-	-	-	-	55.9	32.4	16.9	-
ICELAND (1990-2014)	53	34.4	33.8	35.0	58	28.7	28.6	28.8	57.7	24.0	14.7	9.1
IRELAND (1994-2012)	611	38.7	40.3	37.0	698	33.3	35.1	31.4	58.8	30.0	21.6	14.7
ITALY, 2 paediatric registries (1998-2011)	409	51.0	55.7	46.1	476	44.8	49.8	39.4	78.4	40.8	25.8	23.3
ITALY, Piedmont, paediatric (1990-2011)	565	51.0	55.6	46.0	-	-	-	-	78.0	41.9	24.9	-
ITALY, 26 registries (1992-2013)	1858	47.2	52.2	41.9	2140	40.8	46.2	35.1	66.2	43.1	26.5	18.7
LITHUANIA (2000-2012)	255	40.8	40.0	41.7	302	35.0	35.3	34.6	63.0	37.2	15.2	14.8
MALTA (1994-2013)	64	47.4	54.2	40.2	74	40.7	48.2	32.8	66.4	39.8	30.5	17.8
THE NETHERLANDS (1993-2013)	2383	40.8	46.1	35.2	2703	35.2	40.4	29.7	60.3	34.2	22.1	15.8
NORWAY (1990-2013)	845	41.8	42.7	40.8	965	36.2	38.1	34.2	63.9	32.5	22.5	17.1
POLAND (2001-2013)	2444	33.2	35.8	30.3	2869	28.4	31.3	25.3	51.2	27.2	15.7	11.9
PORTUGAL (1991-2012)	827	32.2	36.0	28.0	947	27.6	31.0	23.9	44.8	29.7	17.9	11.7
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	295	37.6	40.9	34.0	-	-	-	-	62.1	26.5	17.2	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	445	41.3	43.5	39.0	496	34.2	36.7	31.7	56.6	40.5	21.8	10.0
SLOVAKIA (1990-2009)	623	32.2	37.5	26.7	719	27.4	32.2	22.5	50.5	24.8	16.2	11.0
SLOVAKIA, paediatric (2000-2012)	375	34.7	40.4	28.7	-	-	-	-	51.2	30.1	17.8	-
SLOVENIA (1991-2012)	227	35.7	35.9	35.5	277	31.6	32.7	30.4	60.7	21.8	17.8	17.4
SPAIN, 2 paediatric registries (1991-2013)	1804	38.7	43.6	33.5	-	-	-	-	54.1	34.2	23.2	-
SPAIN, selected regions, paediatric (2000-2013)	1284	37.8	43.3	32.0	-	-	-	-	50.3	35.1	24.1	-
SPAIN, Valencia, paediatric (1991-2010)	520	41.8	45.3	38.1	-	-	-	-	65.3	32.0	21.3	-
SPAIN, 11 registries (1990-2013)	1192	39.9	46.6	32.9	1420	34.8	41.1	28.3	58.6	34.8	20.7	17.4
SWEDEN (1990-2011)	1401	42.2	46.7	37.4	1566	35.7	39.8	31.5	65.4	33.2	21.1	13.5
SWITZERLAND, paediatric (1990-2013)	1210	44.3	51.2	36.9	-	-	-	-	67.7	35.4	22.9	-
SWITZERLAND, 7 registries (1990-2013)	427	42.3	47.9	36.4	465	35.1	40.3	29.7	65.1	30.8	24.8	10.4
UKRAINE (2002-2012)	2356	34.1	39.3	28.7	2812	29.3	33.7	24.6	51.4	31.0	14.6	12.5
UK (2000-2011)	4769	38.5	42.5	34.2	5436	33.0	37.3	28.6	59.0	30.9	19.5	14.3
UK, England and Wales, paediatric (1991-2010)	7138	38.5	42.4	34.3	-	-	-	-	58.8	31.1	19.5	-
OCEANIA												
AUSTRALIA (1992-2014)	3799	45.7	49.0	42.1	4347	39.5	43.6	35.2	70.3	37.0	22.5	18.3
AUSTRALIA, 3 registries, Indigenous (1992-2014)	53	22.7	20.2	25.2	63	21.1	21.9	20.3	34.7	18.7	11.0	15.7
FRANCE, 2 registries (1990-2013)	66	22.8	23.1	22.5	73	19.3	19.7	18.8	33.2	18.5	13.8	7.1
NEW ZEALAND (1993-2012)	745	44.4	49.8	38.7	850	38.4	44.3	32.3	65.9	36.2	24.7	18.0
NEW ZEALAND, Maori (1993-2012)	145	34.0	42.8	24.8	165	30.1	38.3	21.5	48.3	26.6	23.2	16.5
NEW ZEALAND, Pacific peoples (1993-2012)	81	53.4	57.8	48.8	92	47.0	53.9	39.9	71.9	56.5	25.3	24.8
NEW ZEALAND, Other (1993-2012)	519	47.3	51.7	42.6	593	40.6	45.6	35.4	72.4	37.0	25.1	17.7
NEW ZEALAND, paediatric (2000-2012)	489	44.5	49.0	39.7	-	-	-	-	66.4	36.0	24.7	-
NEW ZEALAND, paediatric, Maori (2000-2012)	82	29.2	37.1	20.8	-	-	-	-	37.3	28.9	18.6	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	407	49.8	53.3	46.2	-	-	-	-	76.9	38.3	26.5	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of precursor cell neoplasm
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.9. Mature B-cell neoplasms including Burkitt lymphoma (Ia2, IIb2, IIc): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	41	2.4	3.8	1.0	58	2.4	3.4	1.5	2.8	2.5	1.8	2.5
CAMEROON, Yaoundé (2004-2006)	154	64.5	76.7	52.8	175	57.7	66.3	49.5	42.3	93.0	62.3	34.4
EGYPT, Gharbiah (1999-2010)	163	11.1	15.6	6.5	219	10.9	15.4	6.2	14.1	10.5	7.9	10.2
FRANCE, Réunion (1990-2011)	21	4.7	4.9	4.4	34	5.6	7.2	4.0	4.1	4.1	6.1	9.0
KENYA, 2 registries (2000-2012)	80	7.4	9.9	5.0	87	6.3	8.5	4.1	5.8	9.9	6.8	2.4
LIBYA, Benghazi (2003-2008)	24	8.1	9.2	7.0	27	7.0	7.1	6.8	5.9	12.6	6.1	3.0
MALI, Bamako (2005-2014)	146	20.0	24.3	16.0	157	16.5	20.3	13.0	6.4	31.9	24.8	4.3
MOROCCO, 2 registries (2005-2012)	67	7.5	11.9	2.9	93	7.6	11.9	3.2	6.4	9.6	6.5	8.0
SOUTH AFRICA, paediatric (1998-2012)	505	2.4	3.3	1.4	-	-	-	-	3.0	2.5	1.4	-
SOUTH AFRICA, paediatric, Black (1998-2012)	357	2.0	2.8	1.1	-	-	-	-	2.6	2.2	1.0	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	83	4.5	6.4	2.6	-	-	-	-	5.8	4.5	2.8	-
SOUTH AFRICA, paediatric, White (1998-2012)	48	3.9	5.6	2.2	-	-	-	-	3.2	4.8	3.9	-
TUNISIA, 2 registries (1993-2007)	57	2.9	4.1	1.6	97	3.5	4.8	2.1	1.5	3.8	3.5	5.7
UGANDA, Kyadondo (1996-2013)	387	28.9	32.3	25.7	412	23.6	26.7	20.8	18.1	49.7	20.1	5.6
ZIMBABWE, Harare, African (1995-2013)	52	6.2	9.3	3.2	69	6.1	9.3	3.2	3.4	9.0	6.8	5.7
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	397	2.7	3.9	1.6	-	-	-	-	2.7	3.0	2.5	-
ARGENTINA, 6 registries (1991-2013)	107	4.8	5.1	4.5	137	4.6	5.3	3.9	4.2	5.1	5.3	4.0
BRAZIL, 5 registries (1995-2012)	101	5.5	7.9	3.1	151	5.8	8.2	3.4	5.3	7.1	4.1	6.8
CHILE, paediatric (2007-2011)	65	3.5	5.8	1.1	-	-	-	-	3.5	3.6	3.3	-
CHILE, 4 registries (1998-2012)	15	3.2	5.1	1.4	21	3.3	5.2	1.3	2.1	5.3	2.4	3.5
COLOMBIA, 4 registries (1992-2013)	150	8.6	11.8	5.4	198	8.4	11.7	5.1	8.3	10.5	7.0	7.8
COSTA RICA (1993-2012)	113	4.6	6.2	2.9	170	5.2	6.7	3.6	3.6	3.9	6.7	7.2
CUBA (2000-2012)	40	1.5	1.8	1.2	54	1.5	1.8	1.2	1.9	1.5	1.1	1.4
ECUADOR, 5 registries (1993-2013)	104	4.8	6.7	2.8	166	5.6	7.6	3.5	4.7	5.2	4.3	8.4
MEXICO, Mexico City, paediatric (1997-2013)	44	3.5	4.2	2.9	-	-	-	-	2.1	4.9	4.0	-
PERU, Lima (2010-2012)	26	3.8	5.7	1.8	41	4.2	6.5	1.9	4.2	4.3	2.6	5.7
USA, Puerto Rico (1992-2012)	91	5.0	6.9	3.1	141	5.7	7.4	3.9	4.9	4.8	5.4	7.9
URUGUAY (1993-2012)	78	5.1	7.2	3.0	104	5.1	6.8	3.3	4.5	7.5	3.3	5.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	603	5.1	7.1	2.9	1024	6.2	8.4	3.8	3.7	5.8	6.0	10.0
USA (1998-2012)	4754	5.1	7.0	3.1	8018	6.3	8.4	4.1	3.8	5.5	6.4	10.3
USA, API (1998-2012)	204	4.4	5.7	3.0	334	5.3	6.6	4.0	2.8	5.1	5.8	8.5
USA, Black (1998-2012)	601	3.9	5.2	2.5	1093	5.2	6.7	3.5	2.5	3.8	5.7	9.6
USA, Hispanic White (1998-2012)	766	4.5	5.7	3.2	1211	5.4	6.9	3.8	3.8	4.7	5.3	8.6
USA, Native American (1998-2012)	34	2.2	3.5	0.9	54	2.6	3.7	1.5	1.5	2.1	3.4	3.9
USA, White NH (1998-2012)	3013	5.5	7.8	3.1	5122	6.7	9.2	4.2	4.1	6.1	6.8	10.9
USA, NPCR (1998-2012)	4565	5.1	7.0	3.1	7697	6.3	8.4	4.1	3.8	5.5	6.4	10.3
USA, SEER 18 (1993-2012)	1398	4.7	6.6	2.7	2409	6.0	8.1	3.8	3.0	5.0	6.6	10.5
ASIA												
CHINA, 6 registries (1990-2013)	165	3.1	3.3	2.8	228	2.9	3.2	2.5	3.9	2.5	2.5	2.2
CHINA, Hong Kong (1990-2013)	84	3.4	5.2	1.4	155	4.2	5.9	2.3	3.6	3.2	3.3	6.8
INDIA, 7 registries (1990-2013)	205	1.2	1.6	0.8	262	1.1	1.5	0.8	1.2	1.6	0.8	0.9
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	20	4.9	6.8	3.0	31	5.3	6.6	3.9	0.9	5.6	9.6	6.5
ISRAEL (1990-2012)	373	8.9	12.2	5.5	526	9.8	12.7	6.6	7.6	10.9	8.6	12.5
ISRAEL, Jews (1990-2012)	266	8.8	12.2	5.3	377	9.5	12.5	6.4	7.8	11.2	7.5	12.0
ISRAEL, Non-Jews (1990-2012)	107	9.4	12.5	6.2	149	10.5	13.5	7.3	7.0	10.0	11.9	14.3
JAPAN, 8 registries (1990-2013)	191	3.1	4.3	1.8	276	3.2	4.4	1.9	2.4	3.5	3.5	3.5
JORDAN, Jordanians (2000-2012)	104	3.8	5.3	2.2	142	4.0	5.4	2.6	3.6	4.3	3.7	4.8
REPUBLIC OF KOREA (1999-2012)	633	4.8	6.8	2.7	996	5.4	7.4	3.3	4.1	4.9	5.8	7.5
KUWAIT (1994-2012)	61	5.0	5.5	4.5	87	5.7	6.3	5.1	5.6	5.0	4.4	8.0
KUWAIT, Kuwaitis (1994-2012)	41	5.7	6.4	5.1	59	6.6	7.3	5.9	6.1	6.3	4.6	9.6
KUWAIT, Non-Kuwaitis (1994-2012)	20	4.0	4.3	3.8	28	4.4	4.9	4.0	4.9	3.0	4.0	5.9
LEBANON (2008-2010)	24	6.4	9.8	2.7	47	9.1	13.6	4.3	3.8	11.1	4.6	18.5
PAKISTAN, Karachi (1995-2002)	33	5.7	7.5	3.9	58	8.3	11.6	4.7	4.5	5.6	7.6	17.3
PAKISTAN, Lahore (2008-2012)	57	2.9	4.4	1.2	68	2.7	4.1	1.2	1.0	4.4	3.7	2.0
PHILIPPINES, 2 registries (1993-2012)	163	2.2	3.0	1.3	229	2.3	3.1	1.5	2.3	1.8	2.5	2.8
SAUDI ARABIA, Riyadh (1994-2012)	172	5.1	6.4	3.8	256	6.1	7.5	4.7	4.9	5.7	4.7	9.7
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	138	4.9	6.1	3.7	213	6.1	7.3	4.8	4.2	6.0	4.5	10.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	34	6.0	7.9	4.0	43	6.3	8.6	3.9	8.0	4.1	5.6	7.4
THAILAND, 6 registries (1993-2013)	121	3.0	4.0	2.1	202	3.5	4.4	2.5	2.9	3.2	3.1	5.0
TURKEY, paediatric (2009-2011)	316	5.5	8.2	2.7	-	-	-	-	4.9	6.5	5.4	-
TURKEY, 8 registries (1992-2012)	282	7.1	9.7	4.4	395	7.3	9.9	4.6	7.0	7.7	6.7	7.9
VIET NAM, Ho Chi Minh City (1995-2013)	107	4.3	5.4	3.2	154	4.3	5.2	3.3	3.4	4.7	5.2	4.2
EUROPE												
AUSTRIA (1990-2012)	132	4.1	6.5	1.5	195	4.4	6.8	1.9	1.9	5.4	5.3	5.7
BELARUS, paediatric (1990-2014)	251	5.6	8.7	2.5	324	5.3	7.9	2.5	4.8	7.6	4.7	4.0
BELGIUM (2004-2013)	145	7.7	10.9	4.5	228	8.9	12.4	5.3	4.9	10.5	8.4	13.0
BULGARIA (1990-2013)	78	2.6	4.0	1.2	110	2.6	3.8	1.3	2.8	2.6	2.3	2.5
CROATIA (2001-2014)	59	6.3	8.4	4.0	92	6.9	9.0	4.8	6.1	5.8	6.9	9.3
CYPRUS, South-West (1998-2012)	12	5.1	9.3	0.7	21	6.3	10.7	1.6	1.5	9.7	5.0	10.2
CZECH REPUBLIC (1990-2012)	218	5.3	7.9	2.6	342	5.8	8.4	3.1	4.1	5.5	6.6	7.4
ESTONIA (1990-2012)	24	3.7	5.4	1.9	34	3.9	5.6	2.1	0.6	5.2	6.2	4.5
FRANCE, paediatric (2000-2012)	1026	6.8	10.3	3.1	-	-	-	-	4.5	9.2	7.2	-
FRANCE, paediatric, haematological malignancies (1990-1999)	728	6.3	9.1	3.4	-	-	-	-	4.4	8.3	6.6	-
FRANCE, 13 registries (1993-2012)	251	7.8	11.5	3.8	352	8.1	11.2	4.8	5.1	9.6	9.3	9.1
GERMANY, paediatric (1996-2012)	1142	5.4	8.1	2.5	-	-	-	-	3.2	7.4	5.9	-
GERMANY, 6 Eastern states (2001-2007)	62	4.8	6.4	3.1	110	5.1	6.9	3.2	4.8	6.2	3.1	6.4
GERMANY, 5 Western registries (1994-2012)	290	5.6	7.8	3.2	446	6.2	8.7	3.6	3.5	7.4	6.4	8.3
GREECE, paediatric, haematological neoplasms (1996-2014)	195	6.1	9.8	2.3	-	-	-	-	6.0	6.7	5.8	-
HUNGARY, paediatric (1991-2014)	188	4.5	7.1	1.8	-	-	-	-	3.1	5.6	5.2	-
IRELAND (1994-2012)	53	3.1	4.7	1.4	100	4.2	6.3	1.9	2.2	3.7	3.7	7.9
ITALY, 2 paediatric registries (1998-2011)	65	7.4	12.2	2.4	104	8.8	12.3	5.1	4.9	7.2	11.1	13.6
ITALY, Piedmont, paediatric (1990-2011)	106	8.7	13.1	4.1	-	-	-	-	7.2	6.5	13.2	-
ITALY, 26 registries (1992-2013)	320	7.5	10.5	4.3	491	8.4	11.3	5.3	4.6	9.0	9.7	11.4
LITHUANIA (2000-2012)	37	4.9	7.4	2.4	57	5.2	7.9	2.4	5.5	1.8	7.8	6.3

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of mature B-cell neoplasms (including Burkitt lymphoma)
Please consult registry-specific background information and quality indicators

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Table 9.9. Mature B-cell neoplasms including Burkitt lymphoma (Ia2, IIb2, IIc): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
THE NETHERLANDS (1993-2013)	364	5.8	8.8	2.6	568	6.7	9.5	3.8	4.0	7.0	6.8	10.1
NORWAY (1990-2013)	95	4.4	6.8	1.9	157	5.4	7.9	2.7	3.5	4.4	5.6	8.8
POLAND (2001-2013)	321	3.9	5.6	2.0	515	4.2	5.8	2.6	2.4	5.4	4.0	5.4
PORTUGAL (1991-2012)	187	6.9	9.9	3.8	250	6.8	9.1	4.3	7.1	7.3	6.4	6.1
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	40	4.3	6.5	2.0	-	-	-	-	1.9	6.1	5.5	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	20	1.7	1.8	1.6	41	2.3	2.5	2.0	1.3	2.0	2.0	4.1
SLOVAKIA (1990-2009)	94	4.3	5.5	3.0	142	4.6	5.9	3.3	3.0	6.6	3.5	5.5
SLOVAKIA, paediatric (2000-2012)	32	2.6	3.7	1.4	-	-	-	-	1.1	4.0	2.9	-
SLOVENIA (1991-2012)	42	6.2	9.1	3.0	61	6.3	9.2	3.2	6.0	8.7	3.5	6.6
SPAIN, 2 paediatric registries (1991-2013)	395	8.2	11.9	4.3	-	-	-	-	7.4	10.1	7.2	-
SPAIN, selected regions, paediatric (2000-2013)	267	7.7	11.0	4.3	-	-	-	-	6.6	10.5	6.1	-
SPAIN, Valencia, paediatric (1991-2010)	128	9.5	14.2	4.5	-	-	-	-	9.8	9.1	9.5	-
SPAIN, 11 registries (1990-2013)	255	7.9	12.0	3.6	393	8.5	12.6	4.2	7.2	8.3	8.3	10.5
SWEDEN (1990-2011)	101	2.8	3.9	1.7	159	3.2	4.4	2.0	1.8	3.9	2.9	4.7
SWITZERLAND, paediatric (1990-2013)	193	6.5	9.7	3.0	-	-	-	-	4.6	7.6	7.7	-
SWITZERLAND, 7 registries (1990-2013)	87	8.2	11.8	4.4	137	9.4	12.3	6.4	7.4	10.5	6.8	13.7
UKRAINE (2002-2012)	304	4.0	5.5	2.3	442	3.9	5.4	2.3	3.3	4.5	4.2	3.8
UK (2000-2011)	558	4.1	6.0	2.1	913	4.9	6.9	2.8	2.8	4.6	5.3	7.6
UK, England and Wales, paediatric (1991-2010)	764	3.8	5.6	1.8	-	-	-	-	2.7	4.1	4.8	-
OCEANIA												
AUSTRALIA (1992-2014)	431	4.7	6.9	2.5	737	6.0	8.3	3.5	3.3	5.3	6.1	10.2
NEW ZEALAND (1993-2012)	79	4.3	5.5	3.1	130	5.3	6.9	3.7	2.5	5.3	5.6	8.7
NEW ZEALAND, Maori (1993-2012)	19	4.4	5.9	2.8	26	4.7	6.0	3.3	4.5	4.2	4.5	5.8
NEW ZEALAND, Other (1993-2012)	50	4.0	5.0	2.9	91	5.3	7.0	3.6	1.9	4.9	5.9	9.8
NEW ZEALAND, paediatric (2000-2012)	49	4.1	5.5	2.6	-	-	-	-	2.1	6.3	4.3	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	41	4.5	6.0	2.9	-	-	-	-	1.4	8.0	4.6	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of mature B-cell neoplasms (including Burkitt lymphoma)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.10. Mature T-cell and NK-cell neoplasms (Ia3, IIb3): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	201	0.9	1.1	0.7	-	-	-	-	0.4	1.2	1.2	-
SOUTH AFRICA, paediatric, Black (1998-2012)	146	0.8	0.9	0.6	-	-	-	-	0.3	1.0	1.0	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	27	1.4	2.1	0.7	-	-	-	-	0.6	2.6	1.1	-
SOUTH AFRICA, paediatric, White (1998-2012)	25	1.9	2.3	1.6	-	-	-	-	1.6	1.0	3.4	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	109	0.7	0.9	0.5	-	-	-	-	0.4	0.6	1.2	-
ARGENTINA, 6 registries (1991-2013)	20	0.9	1.0	0.8	25	0.9	0.9	0.8	0.7	1.4	0.7	0.7
BRAZIL, 5 registries (1995-2012)	18	0.9	0.8	1.0	28	1.0	1.0	1.0	0.8	0.7	1.4	1.4
COLOMBIA, 4 registries (1992-2013)	19	1.1	1.2	1.0	26	1.1	1.1	1.0	0.9	1.0	1.3	1.1
COSTA RICA (1993-2012)	17	0.7	1.1	0.2	28	0.8	1.2	0.4	0.4	0.6	1.1	1.4
ECUADOR, 5 registries (1993-2013)	17	0.7	0.6	0.9	31	1.0	0.9	1.1	0.0	1.5	0.8	1.9
PERU, Lima (2010-2012)	19	2.5	2.1	2.9	30	2.9	2.8	3.0	0.8	2.1	5.1	4.2
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	206	1.7	2.0	1.4	339	2.0	2.3	1.7	1.1	1.7	2.5	3.2
USA (1998-2012)	1557	1.6	1.9	1.3	2578	2.0	2.3	1.6	0.8	1.8	2.6	3.2
USA, API (1998-2012)	87	1.9	2.3	1.5	131	2.1	2.5	1.7	1.4	1.8	2.6	2.9
USA, Black (1998-2012)	286	1.8	2.1	1.5	464	2.2	2.4	1.9	0.7	1.8	3.2	3.5
USA, Hispanic White (1998-2012)	263	1.5	1.8	1.3	387	1.7	2.0	1.4	0.9	1.6	2.3	2.4
USA, Native American (1998-2012)	14	0.9	1.1	0.8	24	1.1	1.3	1.0	0.6	0.6	1.6	2.0
USA, White NH (1998-2012)	851	1.5	1.8	1.2	1481	1.9	2.3	1.5	0.7	1.7	2.3	3.3
USA, NPCR (1998-2012)	1481	1.6	1.9	1.3	2448	2.0	2.3	1.6	0.8	1.7	2.5	3.2
USA, SEER 18 (1993-2012)	483	1.6	1.9	1.3	797	2.0	2.3	1.6	0.8	1.7	2.5	3.3
ASIA												
CHINA, 6 registries (1990-2013)	49	0.8	0.8	0.6	80	0.8	1.0	0.7	0.2	0.8	1.4	1.1
CHINA, Hong Kong (1990-2013)	28	1.0	1.0	1.1	47	1.2	1.2	1.2	0.9	0.7	1.6	1.8
INDIA, 7 registries (1990-2013)	33	0.2	0.2	0.1	48	0.2	0.3	0.1	0.1	0.2	0.2	0.2
ISRAEL (1990-2012)	81	1.9	2.1	1.7	142	2.6	3.0	2.2	1.0	2.7	2.3	5.0
ISRAEL, Jews (1990-2012)	57	1.8	2.1	1.6	104	2.6	3.1	2.0	0.9	2.9	1.9	5.1
ISRAEL, Non-Jews (1990-2012)	24	2.1	2.2	2.0	38	2.7	2.8	2.6	1.2	2.1	3.3	4.8
JAPAN, 8 registries (1990-2013)	95	1.5	1.6	1.4	137	1.6	1.8	1.4	1.3	1.4	2.0	1.7
JORDAN, Jordanians (2000-2012)	15	0.5	0.6	0.4	23	0.6	0.7	0.6	0.4	0.7	0.6	1.0
REPUBLIC OF KOREA (1999-2012)	248	1.8	2.0	1.6	439	2.3	2.7	1.8	0.9	1.9	2.8	4.0
KUWAIT (1994-2012)	37	3.1	4.1	2.1	51	3.4	4.6	2.0	4.2	2.2	2.5	4.3
KUWAIT, Kuwaitis (1994-2012)	21	3.0	3.6	2.3	27	3.0	3.7	2.3	4.2	1.3	3.3	3.2
KUWAIT, Non-Kuwaitis (1994-2012)	16	3.2	4.7	1.7	24	3.8	5.8	1.6	4.3	3.6	1.3	5.9
PHILIPPINES, 2 registries (1993-2012)	23	0.3	0.3	0.3	28	0.3	0.2	0.3	0.1	0.3	0.5	0.2
SAUDI ARABIA, Riyadh (1994-2012)	51	1.5	1.5	1.4	84	2.0	1.9	2.1	0.4	1.8	2.5	3.8
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	46	1.6	1.6	1.5	77	2.2	2.1	2.2	0.2	2.2	2.7	4.1
THAILAND, 6 registries (1993-2013)	32	0.8	1.0	0.6	70	1.1	1.3	1.0	0.5	0.8	1.1	2.4
TURKEY, paediatric (2009-2011)	45	0.7	0.9	0.6	-	-	-	-	0.3	0.8	1.3	-
TURKEY, 8 registries (1992-2012)	47	1.2	1.7	0.6	88	1.5	1.9	1.2	0.9	1.5	1.2	2.9
EUROPE												
AUSTRIA (1990-2012)	43	1.3	1.7	0.9	69	1.6	2.1	1.0	0.8	1.5	1.9	2.3
BELARUS, paediatric (1990-2014)	34	0.7	0.8	0.6	55	0.8	1.0	0.6	0.4	0.8	1.1	1.2
BELGIUM (2004-2013)	37	2.0	2.3	1.6	64	2.5	2.9	2.0	1.3	2.2	2.6	4.2
CZECH REPUBLIC (1990-2012)	38	0.9	1.3	0.6	68	1.1	1.5	0.8	0.8	1.0	1.0	1.8
FRANCE, paediatric (2000-2012)	233	1.5	1.6	1.4	-	-	-	-	0.8	1.7	2.2	-
FRANCE, paediatric, haematological malignancies (1990-1999)	143	1.2	1.3	1.1	-	-	-	-	0.6	1.5	1.6	-
FRANCE, 13 registries (1993-2012)	48	1.4	1.4	1.4	85	1.8	1.8	1.9	0.4	1.5	2.6	3.3
GERMANY, paediatric (1996-2012)	294	1.3	1.7	0.9	-	-	-	-	0.7	1.4	2.1	-
GERMANY, 6 Eastern states (2001-2007)	20	1.4	1.9	0.8	41	1.7	2.1	1.2	0.7	1.7	2.0	2.8
GERMANY, 5 Western registries (1994-2012)	87	1.7	2.2	1.1	160	2.2	2.8	1.4	1.0	2.2	1.9	3.9
GREECE, paediatric, haematological neoplasms (1996-2014)	47	1.4	1.7	1.0	-	-	-	-	0.5	1.5	2.3	-
HUNGARY, paediatric (1991-2014)	32	0.7	0.7	0.7	-	-	-	-	0.2	0.7	1.4	-
IRELAND (1994-2012)	14	0.8	0.8	0.8	22	0.9	0.8	1.1	0.4	1.3	0.9	1.3
ITALY, 2 paediatric registries (1998-2011)	11	1.2	1.9	0.4	20	1.6	2.3	1.0	0.7	0.0	3.2	3.1
ITALY, 26 registries (1992-2013)	66	1.5	1.9	1.1	113	1.9	2.3	1.5	0.7	1.9	2.2	3.1
LITHUANIA (2000-2012)	14	1.8	1.7	2.0	22	2.0	2.0	2.0	1.5	1.3	2.8	2.5
THE NETHERLANDS (1993-2013)	94	1.5	1.7	1.3	162	1.9	2.2	1.6	1.0	1.5	2.2	3.4
NORWAY (1990-2013)	26	1.2	0.9	1.4	41	1.4	1.4	1.3	0.4	1.1	2.1	2.1
POLAND (2001-2013)	125	1.5	1.9	1.1	192	1.6	1.9	1.3	1.3	1.7	1.7	1.9
PORTUGAL (1991-2012)	29	1.0	1.0	1.1	47	1.2	1.3	1.1	0.8	1.2	1.2	1.8
SLOVENIA (1991-2012)	17	2.2	2.9	1.6	26	2.4	3.0	1.9	0.9	3.0	3.1	3.1
SPAIN, 2 paediatric registries (1991-2013)	65	1.3	1.5	1.1	-	-	-	-	0.4	1.7	2.1	-
SPAIN, selected regions, paediatric (2000-2013)	44	1.2	1.3	1.2	-	-	-	-	0.3	1.7	1.9	-
SPAIN, Valencia, paediatric (1991-2010)	21	1.4	1.8	1.0	-	-	-	-	0.5	1.6	2.4	-
SPAIN, 11 registries (1990-2013)	25	0.7	0.8	0.7	55	1.1	1.1	1.0	0.3	1.0	1.0	2.3
SWEDEN (1990-2011)	33	0.9	1.1	0.7	61	1.2	1.4	1.0	0.6	0.9	1.3	2.3
SWITZERLAND, paediatric (1990-2013)	27	0.9	1.0	0.8	-	-	-	-	0.6	0.7	1.4	-
SWITZERLAND, 7 registries (1990-2013)	13	1.2	1.9	0.5	27	1.8	2.7	0.9	1.1	1.4	1.1	3.8
UKRAINE (2002-2012)	63	0.8	1.0	0.6	91	0.8	1.1	0.6	0.8	0.9	0.9	0.8
UK (2000-2011)	172	1.2	1.5	1.0	286	1.5	1.8	1.2	0.9	1.0	2.0	2.4
UK, England and Wales, paediatric (1991-2010)	224	1.1	1.3	0.8	-	-	-	-	0.5	1.1	1.8	-
OCEANIA												
AUSTRALIA (1992-2014)	110	1.2	1.4	0.9	180	1.4	1.7	1.1	0.4	1.3	2.0	2.3
NEW ZEALAND (1993-2012)	24	1.3	2.1	0.4	41	1.6	2.2	1.0	0.5	1.2	2.4	2.9
NEW ZEALAND, Other (1993-2012)	17	1.3	2.1	0.5	26	1.5	2.2	0.7	0.3	1.5	2.5	2.1

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of mature T-cell or NK-cell neoplasm
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.11. Ependymomas (IIIa1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
EGYPT, Gharbiah (1999-2010)	22	1.6	1.2	1.9	28	1.5	1.2	1.7	2.1	2.0	0.4	1.1
MOROCCO, 2 registries (2005-2012)	28	3.3	4.9	1.6	33	2.9	4.1	1.6	4.0	3.8	1.6	1.5
SOUTH AFRICA, paediatric (1998-2012)	108	0.5	0.6	0.4	-	-	-	-	0.7	0.6	0.2	-
SOUTH AFRICA, paediatric, Black (1998-2012)	61	0.3	0.4	0.3	-	-	-	-	0.4	0.4	0.2	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	27	1.5	1.7	1.3	-	-	-	-	2.2	1.6	0.5	-
TUNISIA, 2 registries (1993-2007)	26	1.4	1.9	0.9	33	1.3	1.7	0.9	1.7	1.4	1.0	1.0
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	326	2.4	3.0	1.7	-	-	-	-	3.5	2.0	1.3	-
ARGENTINA, 6 registries (1991-2013)	55	2.7	3.0	2.4	64	2.4	2.8	1.9	4.6	2.1	0.9	1.2
BRAZIL, 5 registries (1995-2012)	33	1.9	1.8	2.0	42	1.7	1.6	1.9	2.5	1.8	1.1	1.2
CHILE, paediatric (2007-2011)	45	2.5	2.3	2.8	-	-	-	-	4.2	0.8	2.2	-
COLOMBIA, 4 registries (1992-2013)	42	2.5	2.8	2.1	51	2.2	2.6	1.9	2.9	2.6	1.8	1.5
COSTA RICA (1993-2012)	56	2.5	2.7	2.3	60	2.1	2.3	1.9	3.9	2.1	1.1	0.5
CUBA (2000-2012)	52	2.1	2.1	2.1	60	1.8	1.8	1.8	3.5	1.6	0.9	0.8
ECUADOR, 5 registries (1993-2013)	33	1.6	1.7	1.4	34	1.2	1.3	1.1	1.8	2.0	0.7	0.1
MEXICO, Mexico City, paediatric (1997-2013)	31	2.7	2.2	3.1	-	-	-	-	3.1	2.4	2.3	-
PERU, Lima (2010-2012)	23	3.4	3.1	3.6	25	2.8	2.8	2.8	4.2	3.0	2.6	0.8
USA, Puerto Rico (1992-2012)	39	2.3	2.6	2.0	47	2.1	2.4	1.7	3.2	2.5	1.0	1.3
URUGUAY (1993-2012)	63	4.2	5.7	2.7	68	3.5	4.6	2.3	5.7	2.3	4.4	1.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	318	3.0	3.3	2.6	382	2.6	2.9	2.4	5.0	1.7	1.7	1.5
USA (1998-2012)	2502	2.9	3.2	2.7	3148	2.7	2.9	2.5	4.3	2.2	1.9	2.0
USA, API (1998-2012)	86	2.0	2.2	1.7	113	1.9	2.1	1.8	2.9	1.7	1.0	1.8
USA, Black (1998-2012)	308	2.2	2.3	2.1	380	2.0	2.2	1.9	3.4	1.8	1.1	1.4
USA, Hispanic White (1998-2012)	473	2.9	3.1	2.6	578	2.7	2.9	2.5	4.1	2.3	1.8	2.0
USA, Native American (1998-2012)	24	1.8	2.2	1.4	30	1.7	2.2	1.1	3.1	1.3	0.6	1.2
USA, White NH (1998-2012)	1561	3.1	3.4	2.9	1985	2.9	3.2	2.7	4.7	2.2	2.1	2.2
USA, NPCR (1998-2012)	2395	2.9	3.2	2.6	3025	2.7	3.0	2.5	4.3	2.2	1.9	2.1
USA, SEER 18 (1993-2012)	744	2.8	2.9	2.6	891	2.5	2.6	2.3	4.3	1.9	1.6	1.5
ASIA												
CHINA, 6 registries (1990-2013)	92	1.8	1.5	2.2	124	1.7	1.5	1.9	2.8	1.5	0.8	1.1
CHINA, Hong Kong (1990-2013)	47	2.2	1.7	2.7	60	2.0	1.6	2.3	3.7	1.4	0.9	1.2
INDIA, 7 registries (1990-2013)	163	1.0	1.1	0.8	201	0.9	1.0	0.7	1.2	0.9	0.8	0.6
ISRAEL (1990-2012)	115	2.8	3.0	2.7	136	2.6	2.7	2.5	4.3	1.9	2.0	1.7
ISRAEL, Jews (1990-2012)	88	3.0	3.0	3.0	104	2.7	2.7	2.7	4.2	2.1	2.3	1.7
ISRAEL, Non-Jews (1990-2012)	27	2.4	3.2	1.7	32	2.3	2.8	1.8	4.3	1.3	1.2	1.7
JAPAN, 8 registries (1990-2013)	124	2.2	2.3	2.2	133	1.8	1.8	1.8	3.8	1.3	1.2	0.4
JORDAN, Jordanians (2000-2012)	43	1.6	1.9	1.3	52	1.5	1.9	1.1	1.8	1.9	1.0	1.1
REPUBLIC OF KOREA (1999-2012)	213	1.9	1.9	1.8	259	1.7	1.7	1.6	3.1	1.5	0.8	1.0
PAKISTAN, Lahore (2008-2012)	24	1.3	1.3	1.4	33	1.4	1.6	1.3	1.7	1.4	0.8	1.7
PHILIPPINES, 2 registries (1993-2012)	40	0.5	0.7	0.3	46	0.5	0.6	0.3	0.5	0.4	0.7	0.3
SAUDI ARABIA, Riyadh (1994-2012)	51	1.6	1.9	1.2	60	1.4	1.7	1.1	2.3	1.1	1.1	1.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	39	1.4	1.5	1.4	46	1.3	1.4	1.2	2.3	1.2	0.6	0.9
THAILAND, 6 registries (1993-2013)	35	0.9	0.9	1.0	41	0.8	0.8	0.8	1.1	0.7	0.9	0.4
TURKEY, paediatric (2009-2011)	87	1.7	1.6	1.8	-	-	-	-	2.9	0.9	0.9	-
TURKEY, 8 registries (1992-2012)	112	3.1	3.7	2.5	141	2.9	3.5	2.2	5.6	1.5	1.6	2.0
EUROPE												
AUSTRIA (1990-2012)	82	2.8	2.8	2.7	94	2.4	2.5	2.3	3.8	1.6	2.7	1.1
BELARUS, paediatric (1990-2014)	94	2.3	2.6	2.0	114	2.0	2.3	1.8	3.8	1.2	1.5	1.1
BELGIUM (2004-2013)	53	3.1	3.2	2.9	74	3.1	3.4	2.8	5.2	1.3	2.1	3.3
BULGARIA (1990-2013)	30	1.0	1.0	1.1	48	1.1	1.0	1.2	1.5	0.6	0.9	1.4
CROATIA (2001-2014)	40	4.8	5.0	4.7	44	4.0	4.2	3.8	9.6	1.6	2.1	1.1
CZECH REPUBLIC (1990-2012)	137	3.7	3.6	3.7	167	3.2	3.1	3.3	5.3	2.7	2.6	1.8
ESTONIA (1990-2012)	23	4.6	4.9	4.3	25	3.7	4.0	3.5	8.4	3.6	0.5	0.9
FRANCE, paediatric (2000-2012)	379	2.7	3.1	2.3	-	-	-	-	3.9	2.0	1.8	-
FRANCE, 13 registries (1993-2012)	73	2.5	2.8	2.2	89	2.3	2.6	1.9	3.9	2.1	1.0	1.4
GERMANY, paediatric (1996-2012)	553	3.0	3.3	2.6	-	-	-	-	4.9	1.7	1.7	-
GERMANY, 6 Eastern states (2001-2007)	36	2.8	3.1	2.5	50	2.6	2.6	2.6	5.0	0.7	2.2	1.9
GERMANY, 5 Western registries (1994-2012)	155	3.5	3.7	3.3	181	3.0	3.1	2.9	5.9	2.2	1.8	1.4
GREECE, paediatric, CNS tumours (2010-2014)	22	2.9	3.4	2.4	-	-	-	-	5.8	1.1	1.1	-
HUNGARY, paediatric (1991-2014)	123	3.3	3.6	3.0	-	-	-	-	5.3	2.2	1.9	-
IRELAND (1994-2012)	40	2.5	3.2	1.7	52	2.4	3.0	1.7	3.6	1.8	1.8	2.0
ITALY, 2 paediatric registries (1998-2011)	35	4.4	5.4	3.4	44	4.1	4.6	3.6	7.7	2.1	2.5	3.1
ITALY, Piedmont, paediatric (1990-2011)	56	5.0	4.9	5.2	-	-	-	-	7.5	4.1	2.7	-
ITALY, 26 registries (1992-2013)	141	3.6	3.6	3.6	169	3.2	3.2	3.2	5.0	2.9	2.4	1.9
THE NETHERLANDS (1993-2013)	191	3.2	3.5	2.9	241	3.1	3.3	2.8	4.4	2.5	2.5	2.5
NORWAY (1990-2013)	54	2.7	2.5	2.9	69	2.6	2.6	2.6	4.5	1.8	1.3	2.1
POLAND (2001-2013)	199	2.6	2.9	2.3	273	2.5	2.8	2.2	3.8	2.0	1.8	2.1
PORTUGAL (1991-2012)	92	3.6	3.7	3.5	107	3.1	3.2	3.0	5.7	2.1	2.5	1.5
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	21	2.5	2.3	2.8	-	-	-	-	2.6	3.1	1.7	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	22	2.1	2.3	1.9	27	1.9	2.1	1.6	3.8	1.4	0.7	1.0
SLOVAKIA (1990-2009)	60	2.9	3.5	2.3	74	2.6	3.1	2.1	4.0	2.0	2.6	1.6
SLOVAKIA, paediatric (2000-2012)	31	2.7	4.1	1.3	-	-	-	-	3.7	1.8	2.5	-
SLOVENIA (1991-2012)	20	3.3	2.9	3.6	22	2.7	2.3	3.1	6.0	2.2	0.8	0.7
SPAIN, 2 paediatric registries (1991-2013)	166	3.6	4.1	3.0	-	-	-	-	5.2	2.5	2.5	-
SPAIN, selected regions, paediatric (2000-2013)	121	3.6	4.0	3.1	-	-	-	-	5.2	2.4	2.7	-
SPAIN, Valencia, paediatric (1991-2010)	45	3.5	4.5	2.5	-	-	-	-	5.0	3.0	2.2	-
SPAIN, 11 registries (1990-2013)	91	3.1	4.0	2.1	118	2.9	3.7	2.0	5.1	1.8	1.7	2.1
SWEDEN (1990-2011)	121	3.6	4.2	2.8	155	3.4	3.9	2.8	4.8	3.0	2.5	2.8
SWITZERLAND, paediatric (1990-2013)	72	2.7	2.9	2.5	-	-	-	-	4.8	1.9	0.9	-
SWITZERLAND, 7 registries (1990-2013)	40	4.0	4.3	3.6	52	3.8	4.1	3.6	5.9	3.7	1.7	3.3
UKRAINE (2002-2012)	154	2.2	2.4	1.9	190	1.9	2.1	1.7	2.8	2.3	1.2	1.0
UK (2000-2011)	318	2.6	2.8	2.3	371	2.3	2.5	2.0	4.0	2.1	1.2	1.1
UK, England and Wales, paediatric (1991-2010)	513	2.7	3.0	2.5	-	-	-	-	3.9	2.1	1.9	-
OCEANIA												
AUSTRALIA (1992-2014)	233	2.8	3.1	2.6	288	2.6	2.8	2.5	4.8	1.9	1.3	1.8

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of ependymoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.11. Ependymomas (IIIa1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
NEW ZEALAND (1993-2012)	45	2.7	2.9	2.5	55	2.5	2.7	2.2	3.7	2.7	1.2	1.7
NEW ZEALAND, Other (1993-2012)	32	2.9	2.7	3.0	41	2.7	2.7	2.8	4.0	3.1	1.2	2.1
NEW ZEALAND, paediatric (2000-2012)	31	2.8	2.7	2.8	-	-	-	-	3.7	2.1	2.3	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	26	3.1	2.6	3.6	-	-	-	-	4.3	2.1	2.6	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of ependymoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.12. Choroid plexus tumour (IIIa2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	23	0.1	0.1	0.1	-	-	-	-	0.2	0.1	0.0	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	72	0.5	0.5	0.6	-	-	-	-	1.0	0.3	0.1	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	61	0.6	0.7	0.5	64	0.5	0.6	0.4	1.2	0.3	0.1	0.1
USA (1998-2012)	687	0.8	0.9	0.8	781	0.7	0.8	0.7	1.7	0.3	0.3	0.3
USA, API (1998-2012)	24	0.6	0.6	0.6	28	0.5	0.5	0.6	1.4	0.1	0.1	0.3
USA, Black (1998-2012)	68	0.5	0.7	0.4	78	0.4	0.5	0.3	1.1	0.2	0.1	0.2
USA, Hispanic White (1998-2012)	148	0.9	1.0	0.9	162	0.8	0.8	0.8	1.8	0.4	0.3	0.3
USA, White NH (1998-2012)	421	0.9	1.0	0.8	484	0.8	0.9	0.7	1.9	0.3	0.3	0.3
USA, NPCR (1998-2012)	674	0.9	1.0	0.8	768	0.7	0.8	0.7	1.8	0.3	0.3	0.3
USA, SEER 18 (1993-2012)	90	0.4	0.5	0.3	95	0.3	0.4	0.2	0.8	0.1	0.0	0.1
ASIA												
ISRAEL (1990-2012)	27	0.7	0.8	0.6	29	0.6	0.7	0.4	1.4	0.2	0.2	0.2
ISRAEL, Jews (1990-2012)	20	0.7	0.7	0.7	21	0.6	0.6	0.5	1.5	0.1	0.3	0.1
JAPAN, 8 registries (1990-2013)	34	0.7	0.7	0.7	34	0.5	0.5	0.5	1.4	0.2	0.1	0.0
REPUBLIC OF KOREA (1999-2012)	28	0.3	0.3	0.3	30	0.2	0.2	0.2	0.6	0.0	0.1	0.0
TURKEY, 8 registries (1992-2012)	19	0.5	0.6	0.4	24	0.5	0.6	0.4	0.9	0.2	0.4	0.3
EUROPE												
BELGIUM (2004-2013)	36	2.2	1.6	2.8	36	1.7	1.2	2.2	4.8	0.3	0.8	0.0
CZECH REPUBLIC (1990-2012)	28	0.8	1.0	0.6	34	0.7	0.8	0.6	1.5	0.4	0.3	0.4
FRANCE, paediatric (2000-2012)	151	1.1	1.3	1.0	-	-	-	-	2.4	0.3	0.4	-
FRANCE, 13 registries (1993-2012)	21	0.7	0.8	0.6	24	0.6	0.7	0.6	1.3	0.5	0.3	0.3
GERMANY, paediatric (1996-2012)	152	0.9	0.8	0.9	-	-	-	-	1.8	0.3	0.3	-
GERMANY, 5 Western registries (1994-2012)	25	0.6	0.7	0.5	26	0.5	0.5	0.4	1.3	0.2	0.2	0.1
HUNGARY, paediatric (1991-2014)	33	1.0	1.1	0.8	-	-	-	-	2.1	0.2	0.3	-
THE NETHERLANDS (1993-2013)	43	0.8	1.1	0.5	44	0.6	0.8	0.4	1.9	0.1	0.1	0.0
NORWAY (1990-2013)	30	1.5	1.7	1.4	32	1.3	1.3	1.2	3.2	0.4	0.6	0.3
POLAND (2001-2013)	27	0.4	0.5	0.3	27	0.3	0.4	0.3	0.9	0.1	0.1	0.0
PORTUGAL (1991-2012)	26	1.1	1.3	0.9	29	0.9	1.1	0.7	2.7	0.0	0.2	0.3
SLOVAKIA (1990-2009)	18	1.0	1.0	1.1	20	0.9	0.8	0.9	2.2	0.4	0.1	0.2
SPAIN, 2 paediatric registries (1991-2013)	31	0.7	0.6	0.8	-	-	-	-	1.6	0.1	0.2	-
SPAIN, selected regions, paediatric (2000-2013)	23	0.7	0.7	0.8	-	-	-	-	1.7	0.0	0.2	-
SPAIN, 11 registries (1990-2013)	19	0.7	0.8	0.6	22	0.6	0.7	0.5	1.5	0.3	0.1	0.2
SWEDEN (1990-2011)	26	0.8	0.8	0.9	27	0.7	0.7	0.7	1.8	0.4	0.0	0.1
SWITZERLAND, paediatric (1990-2013)	26	1.0	1.1	0.9	-	-	-	-	2.2	0.3	0.2	-
UK (2000-2011)	61	0.5	0.5	0.5	61	0.4	0.4	0.4	1.2	0.1	0.1	0.0
UK, England and Wales, paediatric (1991-2010)	183	1.0	1.2	0.8	-	-	-	-	2.3	0.4	0.2	-
OCEANIA												
AUSTRALIA (1992-2014)	32	0.4	0.6	0.2	32	0.3	0.4	0.2	0.9	0.2	0.1	0.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of choroid plexus tumour
Please consult registry-specific background information and quality indicators

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Table 9.13. Medulloblastomas (IIIc1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	56	3.2	4.3	2.1	64	2.7	3.5	2.0	3.0	3.4	3.3	1.2
EGYPT, Gharbiah (1999-2010)	56	3.6	3.8	3.5	64	3.1	3.4	2.8	2.9	4.7	3.3	1.5
KENYA, 2 registries (2000-2012)	15	1.4	1.3	1.5	20	1.5	1.5	1.4	1.4	1.4	1.4	1.7
MOROCCO, 2 registries (2005-2012)	54	6.1	8.4	3.8	59	5.1	6.6	3.5	5.4	9.6	3.2	1.5
SOUTH AFRICA, paediatric (1998-2012)	210	1.0	1.2	0.8	-	-	-	-	1.2	1.1	0.6	-
SOUTH AFRICA, paediatric, Black (1998-2012)	134	0.7	0.9	0.6	-	-	-	-	0.9	0.8	0.4	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	41	2.2	2.4	2.0	-	-	-	-	2.2	3.2	1.1	-
SOUTH AFRICA, paediatric, White (1998-2012)	27	2.4	3.2	1.6	-	-	-	-	3.5	2.5	0.9	-
TUNISIA, 2 registries (1993-2007)	66	3.5	4.1	2.9	74	3.0	3.5	2.5	3.1	5.1	2.3	1.1
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	657	4.6	5.7	3.5	-	-	-	-	4.9	5.9	2.8	-
ARGENTINA, 6 registries (1991-2013)	113	5.3	6.6	4.0	121	4.3	5.4	3.3	6.3	6.0	3.2	1.1
BRAZIL, 5 registries (1995-2012)	101	5.4	5.6	5.2	114	4.6	4.9	4.3	4.1	7.3	5.1	1.8
CHILE, paediatric (2007-2011)	75	4.0	5.3	2.7	-	-	-	-	4.0	4.4	3.6	-
CHILE, 4 registries (1998-2012)	20	4.6	5.2	4.0	22	3.8	4.5	3.1	6.4	3.3	3.6	1.2
COLOMBIA, 4 registries (1992-2013)	79	4.6	5.0	4.2	91	4.0	4.5	3.5	4.9	5.5	3.3	1.9
COSTA RICA (1993-2012)	87	3.7	4.3	3.0	95	3.1	3.6	2.5	3.6	4.7	2.7	1.0
CUBA (2000-2012)	89	3.4	4.3	2.5	102	2.9	3.7	2.1	4.4	3.3	2.3	1.3
ECUADOR, 5 registries (1993-2013)	99	4.7	4.8	4.5	111	4.0	4.1	3.9	6.3	4.0	3.4	1.6
JAMAICA, Kingston and St Andrew (1982-2012)	16	2.7	1.7	3.8	20	2.6	2.0	3.1	1.6	5.7	1.0	2.0
MEXICO, Mexico City, paediatric (1997-2013)	47	4.1	5.8	2.2	-	-	-	-	5.2	3.4	3.3	-
PERU, Lima (2010-2012)	29	4.3	5.8	2.7	34	3.8	4.7	2.8	5.9	4.7	1.7	1.9
USA, Puerto Rico (1992-2012)	72	4.1	5.6	2.6	83	3.6	4.7	2.5	4.8	4.3	3.0	1.7
URUGUAY (1993-2012)	70	4.7	5.6	3.8	79	4.1	4.8	3.3	5.9	5.4	2.5	1.7
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	516	4.6	5.6	3.6	580	3.9	4.8	3.0	5.4	5.5	2.6	1.5
USA (1998-2012)	4269	4.9	6.0	3.7	4783	4.1	5.1	3.1	5.6	5.8	2.9	1.6
USA, API (1998-2012)	167	3.8	4.7	2.9	179	3.1	3.8	2.4	4.1	5.3	1.6	0.8
USA, Black (1998-2012)	440	3.1	3.7	2.5	518	2.7	3.2	2.3	3.8	3.5	1.7	1.5
USA, Hispanic White (1998-2012)	735	4.4	5.2	3.6	828	3.8	4.6	3.1	5.3	5.2	2.4	1.8
USA, Native American (1998-2012)	36	2.5	2.8	2.2	43	2.2	2.5	1.9	1.9	4.2	1.4	1.4
USA, White NH (1998-2012)	2807	5.5	6.9	4.0	3125	4.6	5.8	3.4	6.2	6.6	3.4	1.6
USA, NPCR (1998-2012)	4067	4.8	5.9	3.7	4554	4.1	5.0	3.1	5.5	5.8	2.9	1.6
USA, SEER 18 (1993-2012)	1277	4.6	5.8	3.4	1430	3.9	4.9	2.9	5.4	5.5	2.5	1.6
ASIA												
CHINA, 6 registries (1990-2013)	206	3.8	4.2	3.3	250	3.3	3.6	2.9	3.7	5.0	2.5	1.6
CHINA, Hong Kong (1990-2013)	112	4.7	5.2	4.1	131	4.1	4.4	3.6	5.3	5.7	2.8	1.8
INDIA, 7 registries (1990-2013)	566	3.3	4.3	2.2	627	2.8	3.6	1.9	3.0	4.6	2.3	1.0
ISRAEL (1990-2012)	209	5.1	6.8	3.2	229	4.3	5.8	2.8	5.3	7.0	2.7	1.6
ISRAEL, Jews (1990-2012)	161	5.4	7.0	3.7	175	4.5	5.8	3.1	5.5	7.3	3.1	1.5
ISRAEL, Non-Jews (1990-2012)	48	4.2	6.3	2.1	54	3.8	5.7	1.8	4.8	6.0	1.5	2.0
JAPAN, 8 registries (1990-2013)	213	3.6	4.4	2.8	239	3.0	3.7	2.4	4.1	4.2	2.3	1.1
JORDAN, Jordanians (2000-2012)	145	5.3	6.5	4.1	153	4.3	5.3	3.3	4.5	7.8	3.6	1.0
REPUBLIC OF KOREA (1999-2012)	523	4.2	5.4	3.0	583	3.6	4.5	2.6	4.4	5.5	2.6	1.2
KUWAIT (1994-2012)	47	3.9	3.9	3.9	58	3.8	3.4	4.2	4.2	3.7	3.6	3.4
KUWAIT, Kuwaitis (1994-2012)	32	4.5	4.9	4.0	40	4.4	4.5	4.3	5.0	4.2	4.2	4.3
LEBANON (2008-2010)	19	5.0	4.8	5.2	23	4.6	4.8	4.4	2.8	7.9	4.6	3.2
PAKISTAN, Lahore (2008-2012)	29	1.6	2.0	1.1	33	1.4	1.9	0.9	1.7	2.2	0.8	0.7
PHILIPPINES, 2 registries (1993-2012)	298	3.9	4.8	3.1	319	3.2	3.9	2.5	3.1	5.3	3.5	0.9
SAUDI ARABIA, Riyadh (1994-2012)	203	6.0	7.2	4.8	221	5.1	6.1	4.2	5.7	8.6	3.6	2.1
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	168	6.0	7.4	4.6	182	5.1	6.2	4.0	6.2	8.5	3.1	1.9
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	35	6.1	6.0	6.1	39	5.4	5.7	5.1	3.3	9.3	6.2	3.3
THAILAND, 6 registries (1993-2013)	131	3.4	4.0	2.8	140	2.8	3.2	2.3	3.8	4.2	2.1	0.6
TURKEY, paediatric (2009-2011)	203	3.7	4.6	2.7	-	-	-	-	3.6	5.3	2.0	-
TURKEY, 8 registries (1992-2012)	198	5.0	6.0	4.0	222	4.3	5.0	3.5	4.6	6.4	4.1	1.7
VIET NAM, Ho Chi Minh City (1995-2013)	44	1.8	2.4	1.2	46	1.5	1.9	1.0	1.9	1.7	1.8	0.2
EUROPE												
AUSTRIA (1990-2012)	157	5.2	6.0	4.5	176	4.4	5.1	3.7	5.7	6.5	3.2	1.7
BELARUS, paediatric (1990-2014)	256	6.0	7.6	4.2	287	5.0	6.4	3.6	6.4	7.6	3.6	1.7
BELGIUM (2004-2013)	99	5.5	6.4	4.6	108	4.6	5.3	3.8	6.1	6.0	4.2	1.4
BULGARIA (1990-2013)	122	4.0	5.2	2.8	143	3.5	4.3	2.6	3.8	4.7	3.6	1.7
CROATIA (2001-2014)	60	6.7	7.9	5.4	68	5.7	7.0	4.3	7.5	8.7	3.3	2.2
CZECH REPUBLIC (1990-2012)	201	5.1	6.1	4.0	224	4.2	5.1	3.3	4.4	6.7	4.2	1.4
ESTONIA (1990-2012)	43	7.9	10.7	5.1	51	7.0	9.2	4.5	10.7	8.8	3.3	3.6
FRANCE, paediatric (2000-2012)	778	5.4	6.7	4.0	-	-	-	-	5.8	6.7	3.4	-
FRANCE, 13 registries (1993-2012)	183	5.9	7.3	4.5	202	5.0	6.3	3.6	5.9	7.9	3.8	1.7
GERMANY, paediatric (1996-2012)	1065	5.4	6.7	4.0	-	-	-	-	5.6	6.9	3.3	-
GERMANY, 6 Eastern states (2001-2007)	76	5.9	6.8	5.0	93	5.1	6.0	4.2	5.5	9.2	2.9	2.3
GERMANY, 5 Western registries (1994-2012)	244	5.1	6.3	3.9	275	4.4	5.4	3.2	5.7	6.8	2.6	1.7
GREECE, paediatric, CNS tumours (2010-2014)	62	7.9	9.4	6.2	-	-	-	-	9.8	8.6	4.5	-
HUNGARY, paediatric (1991-2014)	255	6.5	7.6	5.4	-	-	-	-	7.1	7.2	4.9	-
IRELAND (1994-2012)	60	3.8	5.2	2.3	73	3.4	4.7	2.1	5.1	4.0	1.8	2.2
ITALY, 2 paediatric registries (1998-2011)	54	6.5	8.6	4.3	66	6.0	8.1	3.8	7.4	7.5	4.3	4.2
ITALY, Piedmont, paediatric (1990-2011)	78	6.7	8.8	4.5	-	-	-	-	6.4	8.5	5.0	-
ITALY, 26 registries (1992-2013)	217	5.4	6.5	4.2	260	4.8	5.8	3.8	5.5	7.0	3.4	2.9
LITHUANIA (2000-2012)	30	4.4	6.4	2.3	37	3.9	5.5	2.2	5.5	3.5	3.9	2.2
THE NETHERLANDS (1993-2013)	302	5.0	6.0	4.0	335	4.3	5.1	3.4	5.6	6.2	2.9	1.6
NORWAY (1990-2013)	114	5.4	6.5	4.3	132	4.8	5.8	3.7	5.4	7.8	2.9	2.6
POLAND (2001-2013)	430	5.4	6.9	3.8	495	4.6	5.8	3.3	5.2	6.9	4.1	1.8
PORTUGAL (1991-2012)	167	6.3	8.1	4.4	186	5.3	6.8	3.7	7.6	6.0	4.9	1.9
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	43	5.3	7.4	3.1	-	-	-	-	6.4	6.5	2.6	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	77	7.0	5.8	8.2	89	5.9	5.2	6.7	7.8	8.4	4.4	2.4
SLOVAKIA (1990-2009)	99	5.0	5.9	4.0	114	4.2	5.0	3.5	6.7	5.0	2.7	1.7
SLOVAKIA, paediatric (2000-2012)	59	5.4	6.7	4.0	-	-	-	-	7.0	5.5	2.9	-
SLOVENIA (1991-2012)	38	5.9	7.5	4.2	43	4.9	6.5	3.3	8.3	6.1	2.3	1.7
SPAIN, 2 paediatric registries (1991-2013)	285	6.1	7.5	4.6	-	-	-	-	7.1	7.0	3.6	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of medulloblastoma
Please consult registry-specific background information and quality indicators

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Table 9.13. Medulloblastomas (IIIc1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
SPAIN, selected regions, paediatric (2000-2013)	194	5.7	7.0	4.3	-	-	-	-	6.8	6.7	3.1	-
SPAIN, Valencia, paediatric (1991-2010)	91	6.9	8.7	5.1	-	-	-	-	7.9	7.7	4.9	-
SPAIN, 11 registries (1990-2013)	167	5.4	6.3	4.6	192	4.6	5.3	3.9	5.9	7.3	2.7	1.9
SWEDEN (1990-2011)	183	5.3	6.1	4.4	205	4.5	5.2	3.8	5.7	6.5	3.5	1.8
SWITZERLAND, paediatric (1990-2013)	157	5.5	6.9	3.9	-	-	-	-	5.1	8.1	3.1	-
SWITZERLAND, 7 registries (1990-2013)	63	6.0	8.0	3.9	73	5.3	6.8	3.7	5.7	8.5	3.7	2.7
UKRAINE (2002-2012)	357	4.9	5.9	3.8	414	4.1	5.0	3.2	5.0	6.3	3.2	1.6
UK (2000-2011)	633	4.9	6.3	3.4	713	4.2	5.4	2.9	5.2	5.9	3.3	1.7
UK, England and Wales, paediatric (1991-2010)	947	4.9	6.2	3.6	-	-	-	-	5.3	5.9	3.3	-
OCEANIA												
AUSTRALIA (1992-2014)	426	4.9	6.1	3.7	460	4.1	5.0	3.1	5.3	6.0	3.2	1.1
FRANCE, 2 registries (1990-2013)	22	7.1	8.7	5.4	23	5.7	7.2	4.2	4.0	13.6	3.9	1.0
NEW ZEALAND (1993-2012)	122	7.1	9.8	4.2	132	5.8	7.8	3.8	7.6	8.5	4.6	1.7
NEW ZEALAND, Maori (1993-2012)	37	8.6	10.4	6.7	39	7.0	8.5	5.5	8.9	11.9	4.5	1.7
NEW ZEALAND, Other (1993-2012)	67	5.8	9.0	2.3	74	4.8	7.1	2.5	5.9	6.6	4.7	1.7
NEW ZEALAND, paediatric (2000-2012)	71	6.2	9.3	3.0	-	-	-	-	6.3	7.9	4.3	-
NEW ZEALAND, paediatric, Maori (2000-2012)	23	8.1	12.5	3.6	-	-	-	-	8.8	10.7	4.4	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	48	5.6	8.1	2.8	-	-	-	-	5.3	7.0	4.3	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of medulloblastoma
Please consult registry-specific background information and quality indicators

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Table 9.14. Primitive neuroectodermal tumour (PNET) (IIIc2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	61	0.3	0.3	0.3	-	-	-	-	0.4	0.2	0.2	-
SOUTH AFRICA, paediatric, Black (1998-2012)	32	0.2	0.2	0.2	-	-	-	-	0.3	0.1	0.1	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	76	0.6	0.6	0.5	-	-	-	-	0.8	0.4	0.3	-
CHILE, paediatric (2007-2011)	20	1.2	1.5	0.8	-	-	-	-	1.8	1.0	0.4	-
COLOMBIA, 4 registries (1992-2013)	21	1.3	1.3	1.3	21	1.0	1.0	1.0	2.4	0.3	1.0	0.0
COSTA RICA (1993-2012)	43	1.8	1.3	2.3	54	1.7	1.3	2.2	1.8	1.7	1.8	1.4
USA, Puerto Rico (1992-2012)	46	2.7	3.1	2.2	54	2.4	2.7	2.0	3.5	2.2	2.1	1.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	260	2.4	2.6	2.1	292	2.0	2.3	1.7	3.2	2.0	1.5	0.8
USA (1998-2012)	1599	1.9	2.0	1.7	1953	1.7	1.8	1.5	2.7	1.3	1.3	1.1
USA, API (1998-2012)	57	1.3	1.3	1.2	74	1.3	1.3	1.2	1.7	1.1	1.0	1.1
USA, Black (1998-2012)	192	1.4	1.4	1.3	226	1.2	1.2	1.2	2.0	0.9	1.0	0.7
USA, Hispanic White (1998-2012)	288	1.8	1.8	1.7	346	1.6	1.7	1.5	2.7	1.2	1.1	1.1
USA, White NH (1998-2012)	1017	2.0	2.2	1.9	1254	1.9	2.0	1.7	3.0	1.5	1.4	1.2
USA, NPCR (1998-2012)	1550	1.9	2.0	1.8	1895	1.7	1.8	1.6	2.8	1.3	1.3	1.1
USA, SEER 18 (1993-2012)	644	2.4	2.6	2.2	757	2.1	2.3	1.9	3.5	1.8	1.5	1.2
ASIA												
CHINA, 6 registries (1990-2013)	39	0.7	0.7	0.7	51	0.7	0.7	0.6	0.9	0.7	0.6	0.4
CHINA, Hong Kong (1990-2013)	23	1.0	0.9	1.0	29	0.9	0.9	0.9	1.3	0.7	0.8	0.6
INDIA, 7 registries (1990-2013)	61	0.4	0.4	0.3	89	0.4	0.4	0.3	0.4	0.2	0.4	0.4
ISRAEL (1990-2012)	42	1.0	1.3	0.7	52	1.0	1.3	0.7	1.4	0.7	0.9	0.8
ISRAEL, Jews (1990-2012)	33	1.1	1.4	0.8	43	1.1	1.4	0.8	1.4	0.7	1.2	1.1
JAPAN, 8 registries (1990-2013)	32	0.6	0.6	0.5	42	0.5	0.5	0.5	0.9	0.2	0.5	0.4
REPUBLIC OF KOREA (1999-2012)	203	1.7	1.6	1.8	264	1.6	1.6	1.6	2.4	1.0	1.5	1.3
PHILIPPINES, 2 registries (1993-2012)	23	0.3	0.3	0.3	33	0.3	0.4	0.3	0.5	0.3	0.1	0.4
SAUDI ARABIA, Riyadh (1994-2012)	30	0.9	1.2	0.6	35	0.8	1.0	0.6	1.0	0.8	0.9	0.6
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	26	0.9	1.1	0.7	29	0.8	1.0	0.6	1.1	0.7	0.9	0.4
THAILAND, 6 registries (1993-2013)	21	0.6	0.5	0.6	25	0.5	0.5	0.5	0.8	0.5	0.4	0.2
TURKEY, paediatric (2009-2011)	25	0.5	0.3	0.6	-	-	-	-	0.7	0.2	0.4	-
TURKEY, 8 registries (1992-2012)	50	1.3	1.3	1.3	67	1.3	1.4	1.2	1.5	1.5	0.9	1.2
EUROPE												
AUSTRIA (1990-2012)	53	1.8	1.8	1.8	69	1.7	2.0	1.4	2.6	0.9	1.8	1.4
BELARUS, paediatric (1990-2014)	29	0.7	0.5	1.0	36	0.7	0.5	0.8	1.1	0.8	0.2	0.4
BELGIUM (2004-2013)	20	1.1	1.2	1.0	25	1.0	1.1	1.0	1.3	0.8	1.1	0.8
CZECH REPUBLIC (1990-2012)	30	0.8	1.1	0.5	36	0.7	0.9	0.5	1.3	0.5	0.6	0.4
FRANCE, paediatric (2000-2012)	143	1.0	0.9	1.1	-	-	-	-	1.7	0.7	0.5	-
FRANCE, 13 registries (1993-2012)	23	0.8	0.9	0.8	30	0.8	0.7	0.8	1.6	0.3	0.4	0.6
GERMANY, paediatric (1996-2012)	216	1.2	1.4	1.0	-	-	-	-	2.1	0.8	0.4	-
GERMANY, 5 Western registries (1994-2012)	39	0.9	1.0	0.7	46	0.8	0.9	0.7	1.6	0.4	0.5	0.4
HUNGARY, paediatric (1991-2014)	65	1.8	1.9	1.7	-	-	-	-	3.1	1.4	0.6	-
IRELAND (1994-2012)	53	3.3	3.7	2.9	61	2.9	3.2	2.5	4.0	4.0	1.6	1.3
ITALY, 26 registries (1992-2013)	33	0.9	0.9	0.9	36	0.7	0.7	0.7	1.5	0.4	0.5	0.2
THE NETHERLANDS (1993-2013)	84	1.4	1.3	1.5	93	1.2	1.2	1.3	2.1	1.1	0.9	0.4
NORWAY (1990-2013)	56	2.7	2.8	2.6	72	2.6	2.8	2.5	3.6	2.5	1.7	2.3
POLAND (2001-2013)	133	1.7	1.8	1.6	165	1.5	1.6	1.5	2.2	1.0	1.7	0.9
PORTUGAL (1991-2012)	22	0.8	1.0	0.7	33	0.9	1.1	0.6	1.0	0.7	0.7	1.1
SPAIN, 2 paediatric registries (1991-2013)	58	1.3	1.2	1.3	-	-	-	-	1.9	1.0	0.7	-
SPAIN, selected regions, paediatric (2000-2013)	40	1.2	1.2	1.2	-	-	-	-	1.9	0.9	0.6	-
SPAIN, 11 registries (1990-2013)	38	1.3	1.4	1.1	50	1.2	1.3	1.1	2.1	0.7	0.9	0.9
SWEDEN (1990-2011)	81	2.4	2.7	2.0	96	2.1	2.5	1.7	3.1	2.6	1.3	1.2
SWITZERLAND, paediatric (1990-2013)	42	1.6	2.0	1.0	-	-	-	-	2.3	1.8	0.3	-
SWITZERLAND, 7 registries (1990-2013)	17	1.7	1.5	1.9	20	1.5	1.4	1.6	2.5	1.7	0.6	0.8
UKRAINE (2002-2012)	25	0.4	0.3	0.4	30	0.3	0.3	0.3	0.5	0.3	0.2	0.1
UK (2000-2011)	172	1.4	1.2	1.5	212	1.3	1.1	1.4	2.0	0.9	1.0	0.9
UK, England and Wales, paediatric (1991-2010)	263	1.4	1.4	1.5	-	-	-	-	2.2	0.9	0.8	-
OCEANIA												
AUSTRALIA (1992-2014)	135	1.6	1.7	1.6	162	1.5	1.5	1.4	2.7	1.0	0.9	0.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of primitive neuroectodermal tumour of CNS
Please consult registry-specific background information and quality indicators

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Table 9.15. Atypical teratoid/rhabdoid tumour (IIIc4): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	27	0.1	0.2	0.1	-	-	-	-	0.3	0.0	0.0	-
SOUTH AFRICA, paediatric, Black (1998-2012)	20	0.1	0.2	0.1	-	-	-	-	0.3	0.0	0.0	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	52	0.4	0.5	0.3	-	-	-	-	0.8	0.1	0.1	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	45	0.5	0.5	0.4	45	0.3	0.4	0.3	1.0	0.1	0.1	0.0
USA (1998-2012)	740	1.0	1.0	0.9	754	0.7	0.8	0.7	2.3	0.2	0.1	0.0
USA, API (1998-2012)	26	0.6	0.5	0.8	27	0.5	0.4	0.6	1.5	0.1	0.1	0.1
USA, Black (1998-2012)	99	0.8	0.9	0.7	99	0.6	0.7	0.5	1.9	0.1	0.1	0.0
USA, Hispanic White (1998-2012)	155	1.0	1.0	0.9	156	0.8	0.8	0.7	2.3	0.2	0.1	0.0
USA, White NH (1998-2012)	439	1.0	1.1	0.9	451	0.8	0.9	0.7	2.4	0.1	0.1	0.1
USA, NPCR (1998-2012)	709	1.0	1.0	0.9	722	0.7	0.8	0.7	2.3	0.2	0.1	0.0
USA, SEER 18 (1993-2012)	221	0.9	1.0	0.8	224	0.7	0.8	0.6	2.1	0.1	0.1	0.0
ASIA												
JAPAN, 8 registries (1990-2013)	23	0.5	0.4	0.5	23	0.4	0.3	0.4	1.1	0.0	0.0	0.0
REPUBLIC OF KOREA (1999-2012)	70	0.7	0.6	0.7	74	0.5	0.5	0.6	1.4	0.2	0.2	0.1
EUROPE												
BELARUS, paediatric (1990-2014)	25	0.7	0.7	0.6	26	0.5	0.5	0.5	1.3	0.3	0.1	0.1
BELGIUM (2004-2013)	21	1.3	1.4	1.1	21	1.0	1.1	0.9	2.8	0.5	0.2	0.0
FRANCE, paediatric (2000-2012)	149	1.2	1.2	1.1	-	-	-	-	2.7	0.2	0.1	-
FRANCE, 13 registries (1993-2012)	25	0.9	1.1	0.8	25	0.7	0.9	0.6	2.3	0.1	0.0	0.0
GERMANY, paediatric (1996-2012)	189	1.1	1.3	1.0	-	-	-	-	2.5	0.4	0.1	-
GERMANY, 5 Western registries (1994-2012)	47	1.2	1.6	0.7	49	0.9	1.3	0.6	2.6	0.4	0.2	0.1
THE NETHERLANDS (1993-2013)	40	0.7	0.8	0.7	41	0.6	0.7	0.5	1.7	0.1	0.1	0.0
SPAIN, 2 paediatric registries (1991-2013)	34	0.8	1.0	0.6	-	-	-	-	1.6	0.3	0.2	-
SPAIN, selected regions, paediatric (2000-2013)	28	0.8	1.0	0.7	-	-	-	-	1.6	0.4	0.3	-
SWITZERLAND, paediatric (1990-2013)	20	0.8	0.6	1.0	-	-	-	-	1.9	0.2	0.0	-
UK, England and Wales, paediatric (1991-2010)	96	0.6	0.6	0.5	-	-	-	-	1.2	0.1	0.1	-
OCEANIA												
AUSTRALIA (1992-2014)	57	0.7	0.6	0.9	58	0.6	0.4	0.7	1.7	0.2	0.1	0.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of atypical teratoid/rhabdoid tumour of CNS
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.16. Oligodendrogliomas (IIId1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	58	0.4	0.5	0.2	-	-	-	-	0.2	0.4	0.6	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	47	0.4	0.5	0.2	101	0.6	0.7	0.5	0.4	0.3	0.5	1.3
USA (1998-2012)	554	0.6	0.6	0.6	962	0.7	0.8	0.7	0.4	0.6	0.8	1.3
USA, API (1998-2012)	12	0.3	0.3	0.2	20	0.3	0.4	0.3	0.1	0.5	0.2	0.5
USA, Black (1998-2012)	70	0.5	0.5	0.4	109	0.5	0.7	0.4	0.4	0.4	0.6	0.8
USA, Hispanic White (1998-2012)	72	0.4	0.4	0.4	113	0.5	0.5	0.5	0.3	0.4	0.5	0.8
USA, White NH (1998-2012)	370	0.7	0.7	0.6	672	0.9	0.9	0.9	0.5	0.6	0.9	1.6
USA, NPCR (1998-2012)	516	0.6	0.6	0.5	896	0.7	0.8	0.7	0.4	0.5	0.8	1.3
USA, SEER 18 (1993-2012)	192	0.7	0.7	0.6	341	0.9	0.9	0.8	0.5	0.6	0.8	1.5
ASIA												
CHINA, 6 registries (1990-2013)	20	0.3	0.3	0.3	37	0.4	0.4	0.4	0.2	0.3	0.5	0.6
CHINA, Hong Kong (1990-2013)	13	0.5	0.6	0.4	23	0.6	0.7	0.5	0.4	0.5	0.6	1.0
INDIA, 7 registries (1990-2013)	46	0.2	0.3	0.2	78	0.3	0.4	0.2	0.2	0.1	0.5	0.5
ISRAEL (1990-2012)	20	0.5	0.5	0.4	31	0.6	0.6	0.6	0.2	0.7	0.6	0.9
ISRAEL, Jews (1990-2012)	18	0.6	0.7	0.5	25	0.6	0.7	0.6	0.2	0.9	0.7	0.8
REPUBLIC OF KOREA (1999-2012)	48	0.4	0.3	0.4	87	0.5	0.5	0.4	0.2	0.3	0.6	0.8
TURKEY, 8 registries (1992-2012)	31	0.8	0.8	0.7	43	0.8	0.8	0.7	0.4	1.1	0.8	0.8
EUROPE												
AUSTRIA (1990-2012)	13	0.4	0.4	0.4	24	0.5	0.6	0.4	0.3	0.2	0.7	1.0
BELARUS, paediatric (1990-2014)	46	1.0	1.2	0.7	59	0.9	1.2	0.7	0.6	1.2	1.3	0.7
BELGIUM (2004-2013)	23	1.3	1.5	1.0	32	1.3	1.5	1.0	1.5	0.8	1.5	1.4
BULGARIA (1990-2013)	15	0.5	0.3	0.6	22	0.5	0.4	0.6	0.1	0.7	0.6	0.6
CZECH REPUBLIC (1990-2012)	26	0.6	0.7	0.4	39	0.6	0.7	0.5	0.3	0.5	1.1	0.8
FRANCE, paediatric (2000-2012)	191	1.3	1.4	1.2	-	-	-	-	1.0	1.4	1.5	-
FRANCE, 13 registries (1993-2012)	44	1.4	1.6	1.2	65	1.5	1.6	1.4	1.2	1.1	1.9	1.9
GERMANY, paediatric (1996-2012)	43	0.2	0.2	0.2	-	-	-	-	0.0	0.2	0.4	-
GERMANY, 5 Western registries (1994-2012)	12	0.2	0.2	0.3	20	0.3	0.2	0.3	0.0	0.3	0.4	0.4
HUNGARY, paediatric (1991-2014)	39	0.9	0.9	0.8	-	-	-	-	0.2	1.1	1.4	-
IRELAND (1994-2012)	18	1.0	1.1	0.9	28	1.2	1.4	0.9	0.2	1.5	1.6	1.7
ITALY, 26 registries (1992-2013)	21	0.5	0.4	0.6	36	0.6	0.5	0.7	0.4	0.0	1.2	1.0
THE NETHERLANDS (1993-2013)	42	0.7	0.7	0.6	54	0.7	0.7	0.6	0.6	0.4	1.0	0.6
NORWAY (1990-2013)	11	0.5	0.2	0.8	26	0.9	0.5	1.2	0.1	0.6	0.9	2.1
POLAND (2001-2013)	29	0.4	0.3	0.4	61	0.5	0.5	0.5	0.4	0.4	0.3	0.9
PORTUGAL (1991-2012)	36	1.3	1.9	0.7	61	1.6	2.1	1.0	1.3	1.1	1.6	2.4
RUSSIAN FEDERATION, 2 registries (1998-2015)	15	1.3	1.2	1.4	20	1.2	1.1	1.3	1.3	1.1	1.5	1.0
SLOVAKIA (1990-2009)	26	1.1	1.1	1.2	44	1.3	1.2	1.5	0.8	1.1	1.6	2.1
SPAIN, 11 registries (1990-2013)	15	0.5	0.5	0.5	25	0.5	0.6	0.5	0.4	0.6	0.4	0.8
SWEDEN (1990-2011)	22	0.6	0.9	0.2	40	0.8	1.1	0.4	0.1	0.4	1.3	1.5
UKRAINE (2002-2012)	23	0.3	0.3	0.3	45	0.4	0.4	0.4	0.3	0.3	0.3	0.6
UK (2000-2011)	47	0.3	0.4	0.3	95	0.5	0.6	0.4	0.3	0.3	0.4	1.0
UK, England and Wales, paediatric (1991-2010)	68	0.3	0.4	0.3	-	-	-	-	0.3	0.3	0.5	-
OCEANIA												
AUSTRALIA (1992-2014)	50	0.5	0.6	0.5	80	0.6	0.7	0.6	0.4	0.5	0.8	1.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of oligodendroglioma
Please consult registry-specific background information and quality indicators

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Table 9.17. Mixed and unspecified gliomas (IIId2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	23	1.3	1.2	1.5	29	1.2	1.2	1.3	1.2	1.6	1.1	0.9
EGYPT, Gharbiah (1999-2010)	19	1.2	1.2	1.2	20	1.0	1.0	1.0	0.8	2.0	0.9	0.2
SOUTH AFRICA, paediatric (1998-2012)	249	1.2	1.0	1.3	-	-	-	-	1.1	1.7	0.6	-
SOUTH AFRICA, paediatric, Black (1998-2012)	177	1.0	0.8	1.1	-	-	-	-	0.9	1.5	0.5	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	42	2.3	2.6	2.0	-	-	-	-	2.2	3.5	0.9	-
SOUTH AFRICA, paediatric, White (1998-2012)	25	2.3	2.2	2.4	-	-	-	-	3.7	1.5	1.1	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	117	0.8	0.8	0.9	-	-	-	-	0.9	0.8	0.7	-
ARGENTINA, 6 registries (1991-2013)	23	1.1	1.1	1.0	27	0.9	1.0	0.9	1.0	1.5	0.7	0.5
BRAZIL, 5 registries (1995-2012)	40	2.2	2.0	2.3	50	2.0	1.8	2.1	1.7	3.0	1.8	1.4
CHILE, paediatric (2007-2011)	32	1.7	2.0	1.4	-	-	-	-	1.5	2.1	1.5	-
COLOMBIA, 4 registries (1992-2013)	27	1.6	1.9	1.3	32	1.4	1.8	1.0	1.8	2.1	0.8	0.8
CUBA (2000-2012)	45	1.7	1.6	1.7	54	1.5	1.5	1.5	1.5	1.9	1.5	0.9
URUGUAY (1993-2012)	64	4.2	3.1	5.4	74	3.7	3.0	4.4	4.7	4.4	3.5	1.9
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	501	4.3	4.0	4.7	620	4.0	3.8	4.3	4.1	5.4	3.5	2.8
USA (1998-2012)	4307	4.8	4.6	4.9	5144	4.3	4.2	4.4	4.5	6.1	3.7	2.6
USA, API (1998-2012)	158	3.5	3.4	3.6	182	3.1	3.0	3.1	2.9	4.9	2.7	1.6
USA, Black (1998-2012)	627	4.3	4.1	4.5	715	3.7	3.6	3.9	4.1	6.0	2.7	1.7
USA, Hispanic White (1998-2012)	716	4.2	4.1	4.4	795	3.6	3.6	3.7	4.0	5.5	3.2	1.5
USA, Native American (1998-2012)	34	2.3	2.2	2.4	37	1.9	1.7	2.1	1.9	2.9	2.2	0.6
USA, White NH (1998-2012)	2661	5.1	5.0	5.2	3282	4.7	4.6	4.7	4.8	6.2	4.1	3.2
USA, NPCR (1998-2012)	4111	4.8	4.6	5.0	4919	4.3	4.2	4.4	4.5	6.1	3.7	2.7
USA, SEER 18 (1993-2012)	1297	4.5	4.4	4.7	1517	4.0	4.0	4.1	3.9	6.1	3.6	2.3
ASIA												
CHINA, 6 registries (1990-2013)	88	1.6	1.6	1.5	136	1.6	1.6	1.5	1.3	1.9	1.4	1.7
CHINA, Hong Kong (1990-2013)	49	2.0	2.1	1.9	63	1.9	2.0	1.8	2.0	2.6	1.3	1.3
INDIA, 7 registries (1990-2013)	398	2.3	2.5	2.0	496	2.1	2.3	1.9	1.7	3.1	2.1	1.5
ISRAEL (1990-2012)	150	3.6	3.5	3.8	173	3.2	3.2	3.3	3.7	4.7	2.4	1.9
ISRAEL, Jews (1990-2012)	116	3.9	3.6	4.1	133	3.4	3.3	3.5	3.8	5.2	2.5	1.8
ISRAEL, Non-Jews (1990-2012)	34	3.0	3.1	2.9	40	2.8	2.9	2.7	3.4	3.4	2.1	2.0
JAPAN, 8 registries (1990-2013)	187	3.1	3.0	3.2	208	2.6	2.5	2.7	2.8	4.3	2.2	0.9
JORDAN, Jordanians (2000-2012)	51	1.9	1.8	2.0	57	1.6	1.5	1.7	1.6	2.8	1.1	0.8
REPUBLIC OF KOREA (1999-2012)	232	1.8	1.8	1.8	299	1.7	1.7	1.7	1.5	2.4	1.5	1.4
PAKISTAN, Lahore (2008-2012)	20	1.0	1.6	0.4	24	0.9	1.5	0.3	0.5	1.1	1.6	0.7
PHILIPPINES, 2 registries (1993-2012)	162	2.1	2.3	1.9	182	1.8	2.0	1.6	1.3	3.4	1.9	0.8
SAUDI ARABIA, Riyadh (1994-2012)	68	2.0	2.4	1.5	75	1.7	2.1	1.3	1.3	2.8	2.0	0.8
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	53	1.9	2.2	1.5	58	1.6	1.9	1.2	1.3	2.9	1.5	0.7
THAILAND, 6 registries (1993-2013)	37	0.9	1.0	0.8	45	0.8	0.9	0.8	0.7	1.4	0.8	0.5
TURKEY, paediatric (2009-2011)	91	1.6	1.6	1.7	-	-	-	-	1.3	2.8	0.8	-
TURKEY, 8 registries (1992-2012)	145	3.7	3.4	4.1	185	3.5	3.3	3.8	3.9	4.6	2.6	2.8
EUROPE												
AUSTRIA (1990-2012)	85	2.8	2.2	3.4	108	2.6	2.1	3.1	2.6	3.8	2.0	2.1
BELARUS, paediatric (1990-2014)	64	1.3	1.6	1.0	75	1.2	1.4	0.9	0.7	1.3	2.1	0.6
BELGIUM (2004-2013)	67	3.6	3.7	3.6	71	2.9	3.1	2.8	2.8	4.7	3.6	0.6
CROATIA (2001-2014)	25	2.9	2.2	3.5	32	2.7	2.1	3.2	3.8	3.6	0.9	2.0
CZECH REPUBLIC (1990-2012)	14	0.4	0.4	0.3	25	0.4	0.5	0.3	0.5	0.2	0.3	0.7
FRANCE, paediatric (2000-2012)	543	3.7	3.4	4.0	-	-	-	-	3.5	4.6	3.0	-
FRANCE, 13 registries (1993-2012)	115	3.7	3.6	3.7	134	3.2	3.1	3.4	3.1	4.8	3.1	1.7
GERMANY, paediatric (1996-2012)	494	2.4	2.5	2.3	-	-	-	-	2.2	3.2	1.9	-
GERMANY, 6 Eastern states (2001-2007)	36	2.6	1.7	3.6	44	2.3	1.6	3.0	2.3	3.0	2.7	1.1
GERMANY, 5 Western registries (1994-2012)	154	3.2	3.2	3.1	175	2.7	2.7	2.7	3.2	4.0	2.2	1.1
GREECE, paediatric, CNS tumours (2010-2014)	20	2.5	2.1	2.8	-	-	-	-	1.5	4.8	1.1	-
HUNGARY, paediatric (1991-2014)	138	3.5	3.2	3.7	-	-	-	-	3.4	4.2	2.8	-
IRELAND (1994-2012)	46	2.7	2.7	2.7	57	2.5	2.6	2.4	1.8	3.3	3.2	1.9
ITALY, 2 paediatric registries (1998-2011)	17	2.0	2.1	1.9	21	1.9	2.1	1.6	1.8	2.9	1.4	1.4
ITALY, 26 registries (1992-2013)	101	2.5	2.7	2.3	125	2.3	2.5	2.1	3.1	2.1	2.1	1.6
THE NETHERLANDS (1993-2013)	157	2.5	2.7	2.4	184	2.3	2.4	2.1	2.1	3.5	2.0	1.3
NORWAY (1990-2013)	68	3.2	2.3	4.1	95	3.3	2.8	3.9	2.5	4.4	2.7	3.8
POLAND (2001-2013)	86	1.1	1.0	1.2	123	1.1	1.0	1.2	1.4	0.8	1.0	1.0
PORTUGAL (1991-2012)	73	2.8	2.5	3.1	88	2.5	2.3	2.6	2.6	4.2	1.3	1.5
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	20	2.2	2.2	2.2	-	-	-	-	0.7	3.8	2.3	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	22	2.1	1.7	2.4	24	1.7	1.5	1.9	2.9	2.0	1.0	0.4
SLOVAKIA (1990-2009)	22	1.1	1.0	1.2	29	1.0	1.1	1.0	1.4	1.1	0.6	0.8
SPAIN, 2 paediatric registries (1991-2013)	191	4.0	3.3	4.7	-	-	-	-	3.8	5.3	2.9	-
SPAIN, selected regions, paediatric (2000-2013)	145	4.2	3.5	4.9	-	-	-	-	3.9	5.4	3.3	-
SPAIN, Valencia, paediatric (1991-2010)	46	3.5	3.0	4.1	-	-	-	-	3.6	5.0	1.8	-
SPAIN, 11 registries (1990-2013)	90	2.9	3.6	2.1	110	2.6	3.1	2.0	3.0	3.4	2.2	1.5
SWEDEN (1990-2011)	56	1.6	1.4	1.9	82	1.7	1.4	2.0	1.7	1.5	1.5	2.1
SWITZERLAND, paediatric (1990-2013)	91	3.2	3.2	3.2	-	-	-	-	2.9	4.9	1.7	-
SWITZERLAND, 7 registries (1990-2013)	20	1.9	1.3	2.5	24	1.7	1.3	2.2	1.7	3.1	0.8	1.1
UKRAINE (2002-2012)	67	0.9	1.0	0.8	87	0.8	0.9	0.7	0.6	1.2	0.9	0.5
UK (2000-2011)	432	3.3	3.3	3.2	514	2.9	3.0	2.8	3.1	4.0	2.8	1.8
UK, England and Wales, paediatric (1991-2010)	631	3.2	3.3	3.1	-	-	-	-	2.8	4.3	2.6	-
OCEANIA												
AUSTRALIA (1992-2014)	282	3.2	3.3	3.2	337	2.9	3.0	2.8	3.5	3.6	2.5	1.8
NEW ZEALAND (1993-2012)	49	2.8	2.5	3.0	61	2.6	2.3	2.9	2.7	2.7	2.9	2.1
NEW ZEALAND, Other (1993-2012)	37	3.2	2.4	3.9	48	3.0	2.3	3.8	3.2	3.1	3.2	2.6
NEW ZEALAND, paediatric (2000-2012)	44	3.8	3.7	3.9	-	-	-	-	4.2	3.4	3.8	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	37	4.3	3.7	4.8	-	-	-	-	4.6	3.8	4.3	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of mixed or unspecified glioma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.18. Pituitary adenomas and carcinomas (IIIe1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
PERU, Lima (2010-2012)	18	2.4	1.3	3.5	32	3.0	1.2	4.9	0.4	3.8	3.4	5.3
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	25	0.2	0.1	0.2	86	0.5	0.3	0.7	0.1	0.1	0.5	1.5
USA (1998-2012)	870	0.9	0.6	1.1	3189	2.3	1.3	3.4	0.2	0.6	2.1	7.3
USA, API (1998-2012)	30	0.6	0.4	0.8	101	1.5	1.0	2.1	0.1	0.5	1.4	4.6
USA, Black (1998-2012)	117	0.7	0.5	0.9	454	2.0	1.0	3.1	0.1	0.4	1.8	6.6
USA, Hispanic White (1998-2012)	200	1.1	0.7	1.6	654	2.8	1.4	4.4	0.2	0.6	2.9	8.8
USA, Native American (1998-2012)	8	0.5	0.6	0.4	41	1.8	0.9	2.8	0.0	0.0	1.6	6.5
USA, White NH (1998-2012)	478	0.8	0.7	0.9	1774	2.1	1.2	3.1	0.2	0.6	1.8	6.7
USA, NPCR (1998-2012)	869	0.9	0.7	1.1	3188	2.4	1.3	3.6	0.2	0.6	2.1	7.7
ASIA												
CHINA, 6 registries (1990-2013)	4	0.1	0.1	0.0	23	0.2	0.1	0.3	0.0	0.0	0.2	0.7
JAPAN, 8 registries (1990-2013)	26	0.4	0.5	0.2	102	1.0	0.7	1.2	0.0	0.0	1.2	3.1
TURKEY, 8 registries (1992-2012)	36	0.8	0.3	1.3	157	2.5	0.9	4.2	0.1	0.5	2.0	8.5
EUROPE												
BELGIUM (2004-2013)	15	0.7	0.9	0.5	34	1.2	1.5	1.0	0.0	0.3	2.1	3.0
FRANCE, paediatric (2000-2012)	36	0.2	0.3	0.2	-	-	-	-	0.0	0.2	0.5	-
GERMANY, paediatric (1996-2012)	65	0.3	0.3	0.3	-	-	-	-	0.1	0.1	0.7	-
IRELAND (1994-2012)	5	0.3	0.1	0.4	28	1.1	0.7	1.5	0.0	0.2	0.7	3.9
ITALY, 26 registries (1992-2013)	10	0.2	0.2	0.2	30	0.5	0.3	0.6	0.1	0.0	0.6	1.3
THE NETHERLANDS (1993-2013)	30	0.4	0.3	0.6	139	1.5	0.7	2.4	0.0	0.3	1.1	5.4
SPAIN, 11 registries (1990-2013)	3	0.1	0.0	0.1	22	0.4	0.2	0.5	0.0	0.0	0.3	1.4
UK (2000-2011)	7	0.0	0.0	0.1	36	0.2	0.1	0.3	0.0	0.0	0.1	0.6
UK, England and Wales, paediatric (1991-2010)	81	0.4	0.3	0.4	-	-	-	-	0.0	0.1	1.1	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of pituitary adenoma or carcinoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.19. Tumours of the sellar region (craniopharyngiomas) (IIIe2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	173	1.2	1.3	1.0	-	-	-	-	0.6	1.5	1.4	-
ARGENTINA, 6 registries (1991-2013)	22	1.0	1.1	0.8	27	0.9	1.0	0.8	0.4	1.6	0.9	0.7
USA, Puerto Rico (1992-2012)	17	0.9	1.3	0.6	26	1.1	1.5	0.6	0.9	1.2	0.8	1.4
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	90	0.7	0.7	0.7	131	0.8	0.8	0.8	0.4	1.0	0.9	1.0
USA (1998-2012)	1095	1.2	1.2	1.2	1362	1.1	1.1	1.1	0.8	1.6	1.2	0.8
USA, API (1998-2012)	41	0.9	1.0	0.8	47	0.8	0.9	0.6	0.6	1.1	1.0	0.4
USA, Black (1998-2012)	186	1.2	1.4	1.1	223	1.1	1.2	1.1	0.8	1.8	1.2	0.7
USA, Hispanic White (1998-2012)	216	1.3	1.0	1.5	272	1.2	1.0	1.5	0.8	1.7	1.3	1.1
USA, White NH (1998-2012)	602	1.1	1.1	1.1	755	1.0	1.1	1.0	0.7	1.5	1.2	0.8
USA, NPCR (1998-2012)	1095	1.2	1.2	1.2	1362	1.2	1.1	1.2	0.8	1.7	1.3	0.9
ASIA												
JAPAN, 8 registries (1990-2013)	105	1.7	1.5	1.9	128	1.5	1.3	1.7	1.5	1.9	1.7	0.9
TURKEY, 8 registries (1992-2012)	42	1.0	0.9	1.2	54	1.0	0.8	1.2	0.9	1.1	1.1	0.8
EUROPE												
AUSTRIA (1990-2012)	38	1.2	1.0	1.4	47	1.1	1.0	1.2	0.7	1.4	1.6	0.8
BELARUS, paediatric (1990-2014)	64	1.4	1.5	1.2	79	1.2	1.4	1.1	0.7	2.1	1.5	0.8
BELGIUM (2004-2013)	37	2.0	2.3	1.6	44	1.8	1.9	1.7	1.0	3.5	1.6	1.1
CZECH REPUBLIC (1990-2012)	41	1.0	1.1	0.9	45	0.8	0.9	0.8	0.5	1.7	0.9	0.2
FRANCE, paediatric (2000-2012)	274	1.8	1.8	1.8	-	-	-	-	1.3	2.5	1.8	-
FRANCE, 13 registries (1993-2012)	30	1.0	1.3	0.6	35	0.9	1.2	0.6	1.3	1.0	0.7	0.5
GERMANY, paediatric (1996-2012)	328	1.5	1.5	1.6	-	-	-	-	1.0	2.0	1.7	-
GERMANY, 5 Western registries (1994-2012)	41	0.8	1.1	0.5	56	0.8	1.0	0.6	0.7	0.7	1.0	0.8
HUNGARY, paediatric (1991-2014)	73	1.8	1.8	1.7	-	-	-	-	1.4	2.0	2.0	-
IRELAND (1994-2012)	35	2.0	2.4	1.5	44	1.9	2.3	1.4	0.5	3.1	2.7	1.5
ITALY, 2 paediatric registries (1998-2011)	19	2.2	3.0	1.4	21	1.9	2.6	1.1	2.1	1.8	2.9	0.7
ITALY, Piedmont, paediatric (1990-2011)	20	1.6	1.6	1.7	-	-	-	-	1.0	2.1	2.0	-
ITALY, 26 registries (1992-2013)	26	0.6	0.5	0.7	35	0.6	0.6	0.6	0.4	1.0	0.5	0.6
THE NETHERLANDS (1993-2013)	89	1.4	1.0	1.8	107	1.3	1.0	1.6	0.8	1.9	1.7	0.9
NORWAY (1990-2013)	35	1.7	1.9	1.4	47	1.7	2.0	1.3	1.5	2.3	1.1	1.7
PORTUGAL (1991-2012)	34	1.2	1.5	0.9	41	1.1	1.4	0.8	0.7	1.9	1.2	0.7
SLOVAKIA (1990-2009)	35	1.7	1.8	1.6	45	1.6	1.6	1.5	2.1	1.4	1.5	1.1
SPAIN, 2 paediatric registries (1991-2013)	76	1.5	1.6	1.5	-	-	-	-	0.9	2.0	1.9	-
SPAIN, selected regions, paediatric (2000-2013)	46	1.3	1.6	1.0	-	-	-	-	0.7	1.7	1.7	-
SPAIN, Valencia, paediatric (1991-2010)	30	2.1	1.6	2.7	-	-	-	-	1.4	2.7	2.4	-
SPAIN, 11 registries (1990-2013)	35	1.0	1.3	0.7	45	0.9	1.2	0.7	0.3	1.3	1.6	0.8
SWITZERLAND, paediatric (1990-2013)	44	1.4	1.1	1.8	-	-	-	-	1.0	1.4	2.1	-
UK (2000-2011)	36	0.3	0.3	0.2	43	0.2	0.3	0.2	0.1	0.4	0.3	0.2
UK, England and Wales, paediatric (1991-2010)	353	1.7	1.8	1.6	-	-	-	-	1.0	2.2	2.2	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of tumour of the sellar region (craniopharyngioma)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.20. Pineal parenchymal tumours (IIIe3): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	58	0.3	0.2	0.3	-	-	-	-	0.2	0.3	0.3	-
SOUTH AFRICA, paediatric, Black (1998-2012)	43	0.2	0.2	0.3	-	-	-	-	0.1	0.3	0.3	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	49	0.3	0.5	0.2	-	-	-	-	0.4	0.3	0.2	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	31	0.3	0.2	0.3	40	0.3	0.2	0.3	0.3	0.2	0.2	0.2
USA (1998-2012)	371	0.4	0.4	0.4	487	0.4	0.4	0.4	0.5	0.4	0.3	0.4
USA, Black (1998-2012)	114	0.8	0.6	0.9	141	0.7	0.5	0.9	0.8	0.9	0.6	0.5
USA, Hispanic White (1998-2012)	60	0.4	0.4	0.3	74	0.3	0.4	0.3	0.4	0.3	0.3	0.3
USA, White NH (1998-2012)	179	0.4	0.4	0.3	250	0.4	0.4	0.3	0.5	0.3	0.3	0.4
USA, NPCR (1998-2012)	356	0.4	0.4	0.4	470	0.4	0.4	0.4	0.5	0.4	0.3	0.4
USA, SEER 18 (1993-2012)	97	0.4	0.4	0.3	124	0.3	0.3	0.3	0.5	0.3	0.2	0.3
ASIA												
INDIA, 7 registries (1990-2013)	23	0.1	0.1	0.2	36	0.1	0.1	0.2	0.1	0.1	0.2	0.2
JAPAN, 8 registries (1990-2013)	17	0.3	0.5	0.0	27	0.3	0.5	0.1	0.4	0.2	0.2	0.4
REPUBLIC OF KOREA (1999-2012)	26	0.2	0.3	0.2	31	0.2	0.2	0.2	0.4	0.2	0.1	0.1
EUROPE												
FRANCE, paediatric (2000-2012)	41	0.3	0.2	0.3	-	-	-	-	0.2	0.2	0.3	-
GERMANY, paediatric (1996-2012)	60	0.3	0.3	0.3	-	-	-	-	0.3	0.2	0.4	-
ITALY, 26 registries (1992-2013)	11	0.3	0.2	0.3	20	0.3	0.3	0.4	0.2	0.4	0.2	0.6
THE NETHERLANDS (1993-2013)	19	0.3	0.4	0.3	24	0.3	0.4	0.3	0.5	0.1	0.3	0.2
POLAND (2001-2013)	24	0.3	0.2	0.3	36	0.3	0.2	0.4	0.2	0.3	0.4	0.3
SPAIN, 2 paediatric registries (1991-2013)	22	0.5	0.5	0.4	-	-	-	-	0.4	0.6	0.4	-
UK (2000-2011)	56	0.4	0.4	0.5	66	0.4	0.4	0.4	0.4	0.4	0.4	0.2
UK, England and Wales, paediatric (1991-2010)	84	0.4	0.4	0.4	-	-	-	-	0.5	0.4	0.4	-
OCEANIA												
AUSTRALIA (1992-2014)	19	0.2	0.3	0.2	26	0.2	0.2	0.2	0.2	0.2	0.2	0.2

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of pineal parenchymal tumour
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.21. Neuronal and mixed neuronal-glial tumours (IIIe4): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	70	0.5	0.4	0.5	-	-	-	-	0.4	0.3	0.7	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	103	0.9	0.9	0.8	164	1.0	1.1	0.9	0.8	0.7	1.1	1.5
USA (1998-2012)	1740	1.9	2.0	1.7	2581	2.0	2.2	1.9	1.5	1.8	2.5	2.7
USA, API (1998-2012)	31	0.7	0.7	0.7	56	0.9	1.0	0.8	0.9	0.5	0.7	1.6
USA, Black (1998-2012)	211	1.4	1.5	1.3	313	1.5	1.7	1.4	1.2	1.4	1.7	2.0
USA, Hispanic White (1998-2012)	231	1.3	1.5	1.2	326	1.5	1.6	1.3	1.1	1.1	1.9	1.8
USA, Native American (1998-2012)	14	0.9	1.1	0.7	21	1.0	1.2	0.8	0.6	0.6	1.6	1.4
USA, White NH (1998-2012)	1194	2.2	2.3	2.0	1783	2.4	2.5	2.2	1.7	2.1	2.9	3.1
USA, NPCR (1998-2012)	1738	2.0	2.1	1.8	2578	2.1	2.3	2.0	1.6	1.8	2.6	2.8
USA, SEER 18 (1993-2012)	33	0.1	0.2	0.1	43	0.1	0.2	0.1	0.1	0.1	0.1	0.1
ASIA												
ISRAEL (1990-2012)	50	1.2	1.1	1.3	73	1.4	1.2	1.5	1.4	0.9	1.2	1.9
ISRAEL, Jews (1990-2012)	36	1.2	1.2	1.2	52	1.3	1.2	1.5	1.2	1.2	1.2	1.7
ISRAEL, Non-Jews (1990-2012)	14	1.3	1.1	1.5	21	1.5	1.4	1.6	1.9	0.3	1.5	2.4
JAPAN, 8 registries (1990-2013)	48	0.8	0.9	0.7	72	0.8	0.9	0.8	0.8	0.6	1.0	1.0
TURKEY, 8 registries (1992-2012)	35	0.9	0.9	0.9	48	0.9	0.8	1.0	0.8	0.8	1.0	0.9
EUROPE												
AUSTRIA (1990-2012)	33	1.1	1.1	1.0	48	1.1	1.2	1.1	1.1	0.9	1.2	1.3
BELARUS, paediatric (1990-2014)	36	0.8	0.8	0.8	45	0.7	0.7	0.8	0.8	0.8	0.8	0.5
BELGIUM (2004-2013)	53	3.0	4.1	1.8	95	3.8	5.2	2.3	3.6	2.5	2.6	6.6
CROATIA (2001-2014)	12	1.3	1.4	1.1	22	1.6	1.5	1.8	0.7	2.3	0.9	2.8
CZECH REPUBLIC (1990-2012)	28	0.7	0.9	0.4	40	0.7	1.0	0.4	0.6	0.4	1.0	0.7
FRANCE, paediatric (2000-2012)	546	3.6	4.1	3.1	-	-	-	-	2.8	3.4	4.9	-
FRANCE, 13 registries (1993-2012)	96	3.0	3.6	2.3	139	3.2	3.7	2.7	2.2	2.7	4.2	3.9
GERMANY, paediatric (1996-2012)	430	2.1	2.3	1.8	-	-	-	-	1.9	1.8	2.5	-
GERMANY, 5 Western registries (1994-2012)	57	1.1	1.3	0.9	100	1.4	1.6	1.1	1.1	1.0	1.4	2.3
HUNGARY, paediatric (1991-2014)	57	1.4	1.7	1.2	-	-	-	-	1.7	1.1	1.5	-
IRELAND (1994-2012)	15	0.9	0.7	1.0	27	1.1	1.2	1.0	0.9	0.2	1.6	2.0
ITALY, 2 paediatric registries (1998-2011)	49	5.9	6.1	5.7	60	5.4	5.9	4.9	7.7	3.6	6.1	3.8
ITALY, Piedmont, paediatric (1990-2011)	54	4.6	4.9	4.3	-	-	-	-	5.4	3.9	4.5	-
ITALY, 26 registries (1992-2013)	65	1.6	1.7	1.5	98	1.7	1.8	1.6	1.8	1.3	1.7	2.2
THE NETHERLANDS (1993-2013)	130	2.1	1.9	2.2	188	2.2	2.3	2.2	1.6	1.7	3.0	2.9
NORWAY (1990-2013)	61	2.7	3.2	2.2	89	3.0	3.5	2.4	1.4	2.1	5.2	4.0
PORTUGAL (1991-2012)	36	1.3	1.2	1.4	46	1.2	1.1	1.4	1.3	1.5	1.3	1.0
SPAIN, 2 paediatric registries (1991-2013)	68	1.4	1.8	1.1	-	-	-	-	1.9	1.0	1.3	-
SPAIN, selected regions, paediatric (2000-2013)	55	1.6	1.8	1.4	-	-	-	-	1.9	1.2	1.6	-
SPAIN, 11 registries (1990-2013)	24	0.8	0.9	0.7	39	0.9	0.9	0.8	1.1	0.5	0.7	1.1
SWEDEN (1990-2011)	68	1.9	2.2	1.6	98	2.0	2.4	1.7	1.8	1.4	2.6	2.5
SWITZERLAND, paediatric (1990-2013)	60	2.0	2.0	2.0	-	-	-	-	1.4	2.1	2.7	-
SWITZERLAND, 7 registries (1990-2013)	26	2.3	2.4	2.2	39	2.6	3.2	2.0	1.4	2.5	3.4	3.6
UK (2000-2011)	42	0.3	0.4	0.3	57	0.3	0.4	0.3	0.4	0.3	0.2	0.3
UK, England and Wales, paediatric (1991-2010)	346	1.7	1.8	1.6	-	-	-	-	1.6	1.7	2.0	-
OCEANIA												
AUSTRALIA (1992-2014)	36	0.4	0.4	0.4	57	0.5	0.5	0.4	0.3	0.3	0.5	0.7

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of neuronal or mixed neuronal-glial tumour
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.22. Meningiomas (IIIe5): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	39	0.3	0.3	0.2	-	-	-	-	0.1	0.3	0.4	-
COLOMBIA, 4 registries (1992-2013)	12	0.6	0.5	0.7	21	0.8	0.9	0.7	0.2	0.3	1.5	1.5
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	35	0.3	0.3	0.2	74	0.4	0.4	0.4	0.2	0.2	0.5	0.9
USA (1998-2012)	481	0.5	0.5	0.5	980	0.8	0.7	0.8	0.4	0.4	0.8	1.6
USA, API (1998-2012)	17	0.4	0.4	0.3	35	0.5	0.5	0.6	0.3	0.2	0.6	1.2
USA, Black (1998-2012)	81	0.5	0.6	0.5	153	0.7	0.7	0.7	0.3	0.4	0.9	1.4
USA, Hispanic White (1998-2012)	61	0.4	0.4	0.3	118	0.5	0.6	0.4	0.2	0.3	0.6	1.1
USA, White NH (1998-2012)	310	0.6	0.5	0.6	642	0.8	0.7	0.9	0.5	0.4	0.8	1.7
USA, NPCR (1998-2012)	478	0.5	0.5	0.5	976	0.8	0.7	0.8	0.5	0.4	0.8	1.6
USA, SEER 18 (1993-2012)	17	0.1	0.1	0.0	26	0.1	0.1	0.1	0.1	0.0	0.1	0.1
ASIA												
CHINA, 6 registries (1990-2013)	22	0.3	0.4	0.3	42	0.4	0.5	0.4	0.1	0.4	0.6	0.7
ISRAEL (1990-2012)	19	0.5	0.5	0.4	45	0.8	0.8	0.8	0.3	0.7	0.4	2.1
ISRAEL, Jews (1990-2012)	16	0.5	0.5	0.5	34	0.8	0.8	0.9	0.5	0.7	0.4	1.9
JAPAN, 8 registries (1990-2013)	22	0.4	0.4	0.4	42	0.5	0.5	0.5	0.4	0.4	0.3	0.8
REPUBLIC OF KOREA (1999-2012)	15	0.1	0.1	0.1	20	0.1	0.1	0.1	0.1	0.1	0.2	0.1
TURKEY, 8 registries (1992-2012)	28	0.6	0.7	0.5	49	0.8	0.9	0.7	0.2	0.4	1.4	1.5
EUROPE												
AUSTRIA (1990-2012)	10	0.3	0.3	0.3	21	0.5	0.5	0.4	0.2	0.3	0.5	1.0
BELARUS, paediatric (1990-2014)	31	0.6	0.8	0.5	44	0.7	0.8	0.5	0.2	0.8	1.0	0.7
BELGIUM (2004-2013)	17	1.0	1.1	0.8	32	1.3	1.3	1.3	1.5	0.2	1.1	2.4
CROATIA (2001-2014)	16	1.7	2.5	0.9	24	1.9	2.3	1.4	2.0	1.3	1.8	2.2
FRANCE, paediatric (2000-2012)	89	0.6	0.5	0.6	-	-	-	-	0.3	0.5	1.0	-
FRANCE, 13 registries (1993-2012)	13	0.4	0.4	0.4	33	0.7	0.8	0.6	0.2	0.4	0.7	1.8
GERMANY, paediatric (1996-2012)	86	0.4	0.4	0.4	-	-	-	-	0.2	0.5	0.5	-
GERMANY, 5 Western registries (1994-2012)	22	0.4	0.5	0.4	30	0.4	0.5	0.4	0.5	0.4	0.5	0.4
ITALY, 26 registries (1992-2013)	23	0.5	0.5	0.6	42	0.7	0.7	0.7	0.4	0.3	0.9	1.3
THE NETHERLANDS (1993-2013)	28	0.5	0.6	0.3	66	0.8	0.9	0.7	0.5	0.1	0.7	1.9
NORWAY (1990-2013)	17	0.7	0.8	0.6	32	1.0	0.8	1.3	0.1	0.3	2.0	2.1
SLOVAKIA (1990-2009)	16	0.8	1.1	0.4	29	0.9	1.2	0.6	1.1	0.3	0.9	1.5
SPAIN, 2 paediatric registries (1991-2013)	20	0.4	0.5	0.3	-	-	-	-	0.2	0.3	0.8	-
SPAIN, 11 registries (1990-2013)	23	0.7	0.8	0.6	37	0.8	0.9	0.6	0.3	0.7	1.1	1.1
SWEDEN (1990-2011)	26	0.7	0.8	0.6	51	1.0	1.0	1.0	0.3	0.9	1.0	2.0
SWITZERLAND, paediatric (1990-2013)	29	0.9	1.1	0.7	-	-	-	-	0.2	1.2	1.5	-
SWITZERLAND, 7 registries (1990-2013)	19	1.6	2.2	1.1	21	1.4	1.8	1.0	0.0	2.3	3.1	0.5
UKRAINE (2002-2012)	19	0.2	0.2	0.2	45	0.3	0.4	0.3	0.0	0.3	0.4	0.7
UK (2000-2011)	9	0.1	0.1	0.1	29	0.1	0.1	0.2	0.0	0.0	0.2	0.4
UK, England and Wales, paediatric (1991-2010)	98	0.5	0.5	0.4	-	-	-	-	0.3	0.3	0.9	-
OCEANIA												
AUSTRALIA (1992-2014)	17	0.2	0.2	0.1	28	0.2	0.2	0.2	0.2	0.1	0.3	0.4

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of meningioma
Please consult registry-specific background information and quality indicators

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Table 9.23. Nephroblastoma (Vla1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	124	7.9	7.6	8.2	125	6.1	5.9	6.4	15.0	4.9	1.8	0.1
BOTSWANA (1999-2007)	23	4.3	3.2	5.4	23	3.3	2.5	4.2	7.2	3.7	1.1	0.0
EGYPT, Gharbiah (1999-2010)	79	6.0	5.9	6.0	79	4.6	4.6	4.6	11.4	4.2	0.7	0.0
FRANCE, Réunion (1990-2011)	34	8.5	6.7	10.5	35	6.8	5.5	8.1	16.4	6.8	0.0	0.7
KENYA, 2 registries (2000-2012)	100	9.1	7.4	10.7	102	7.2	5.9	8.4	15.1	8.8	1.4	0.7
MALI, Bamako (2005-2014)	153	21.0	22.8	19.3	157	16.6	18.5	14.9	31.1	23.5	4.8	1.6
MOROCCO, 2 registries (2005-2012)	90	11.0	9.6	12.3	92	8.6	7.7	9.6	18.5	10.3	1.6	0.6
SOUTH AFRICA, paediatric (1998-2012)	1191	5.9	5.7	6.1	-	-	-	-	11.9	3.5	0.6	-
SOUTH AFRICA, paediatric, Black (1998-2012)	973	5.7	5.6	5.8	-	-	-	-	11.4	3.5	0.6	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	118	6.9	6.2	7.6	-	-	-	-	14.7	3.1	0.8	-
SOUTH AFRICA, paediatric, White (1998-2012)	85	8.4	7.5	9.3	-	-	-	-	17.9	4.3	0.2	-
TUNISIA, 2 registries (1993-2007)	118	7.3	7.5	7.1	119	5.7	5.8	5.6	14.6	4.8	0.4	0.1
UGANDA, Kyadondo (1996-2013)	134	10.3	12.0	8.8	135	8.1	9.4	6.8	19.7	6.3	2.4	0.2
ZIMBABWE, Harare, African (1995-2013)	130	14.7	13.6	15.7	134	11.7	11.2	12.2	24.8	12.7	3.4	1.4
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	758	5.8	5.6	6.1	-	-	-	-	12.1	3.2	0.4	-
ARGENTINA, 6 registries (1991-2013)	126	6.5	5.9	7.2	127	5.1	4.5	5.6	13.4	3.7	0.4	0.1
BRAZIL, 5 registries (1995-2012)	134	8.4	7.9	9.0	135	6.5	6.1	7.0	17.7	4.5	0.5	0.1
CHILE, paediatric (2007-2011)	88	5.4	4.3	6.6	-	-	-	-	11.6	2.3	0.7	-
CHILE, 4 registries (1998-2012)	24	6.0	4.5	7.5	24	4.6	3.5	5.8	11.3	3.3	1.8	0.0
COLOMBIA, 4 registries (1992-2013)	108	7.1	6.6	7.7	108	5.5	5.1	6.0	14.5	4.5	0.3	0.0
COSTA RICA (1993-2012)	105	4.9	4.6	5.3	105	3.8	3.6	4.1	9.3	3.0	1.2	0.0
CUBA (2000-2012)	164	7.0	6.5	7.6	179	5.8	5.2	6.4	14.3	3.4	1.4	1.4
ECUADOR, 5 registries (1993-2013)	116	5.9	6.3	5.6	117	4.6	4.9	4.3	12.0	3.4	0.7	0.1
HONDURAS, Francisco Morazán (2002-2012)	20	4.3	3.7	4.8	20	3.3	2.9	3.7	10.5	0.6	0.0	0.0
JAMAICA, Kingston and St Andrew (1982-2012)	42	8.2	5.4	11.1	42	6.4	4.2	8.6	17.3	4.7	0.0	0.0
MEXICO, Mexico City, paediatric (1997-2013)	47	4.3	4.3	4.3	-	-	-	-	7.8	2.9	1.3	-
PERU, Lima (2010-2012)	39	6.2	5.6	6.9	40	4.9	4.3	5.5	13.6	2.6	0.4	0.4
USA, Puerto Rico (1992-2012)	107	6.9	6.6	7.2	108	5.3	5.1	5.6	14.0	3.3	1.3	0.2
URUGUAY (1993-2012)	76	5.7	6.0	5.4	76	4.4	4.6	4.2	12.4	2.3	0.6	0.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	889	8.8	7.6	10.0	899	6.9	5.9	7.9	17.7	5.3	0.7	0.2
USA (1998-2012)	6880	8.6	7.9	9.4	6974	6.7	6.1	7.4	17.6	4.9	0.7	0.3
USA, API (1998-2012)	147	3.6	3.4	3.8	152	2.8	2.7	3.0	7.9	1.3	0.4	0.3
USA, Black (1998-2012)	1281	9.8	8.8	10.8	1303	7.7	6.9	8.4	19.5	6.2	0.9	0.4
USA, Hispanic White (1998-2012)	1042	6.5	5.8	7.3	1048	5.1	4.5	5.7	13.6	3.5	0.5	0.1
USA, Native American (1998-2012)	55	4.4	3.6	5.1	56	3.4	2.8	4.1	10.1	1.5	0.0	0.2
USA, White NH (1998-2012)	4167	9.2	8.5	9.9	4225	7.2	6.6	7.7	18.7	5.3	0.7	0.3
USA, NPCR (1998-2012)	6652	8.7	7.9	9.5	6745	6.8	6.2	7.4	17.8	5.0	0.7	0.3
USA, SEER 18 (1993-2012)	2126	8.3	7.6	9.1	2152	6.5	5.9	7.1	17.0	4.9	0.6	0.3
ASIA												
BAHRAIN (1998-2012)	22	7.7	6.8	8.6	22	6.0	5.3	6.7	17.5	2.8	0.0	0.0
CHINA, 6 registries (1990-2013)	176	3.9	4.1	3.7	182	3.1	3.2	2.9	8.8	1.4	0.3	0.2
CHINA, Hong Kong (1990-2013)	68	3.5	3.4	3.6	69	2.7	2.6	2.8	7.8	1.0	0.5	0.1
INDIA, 7 registries (1990-2013)	620	4.3	4.7	3.9	626	3.4	3.6	3.0	8.8	2.5	0.2	0.1
ISRAEL (1990-2012)	257	6.6	6.2	7.0	262	5.2	4.9	5.5	13.7	3.7	0.3	0.4
ISRAEL, Jews (1990-2012)	193	6.8	6.6	7.1	198	5.4	5.2	5.6	13.9	4.1	0.4	0.5
ISRAEL, Non-Jews (1990-2012)	64	5.9	5.2	6.6	64	4.6	4.1	5.1	13.0	2.6	0.0	0.0
JAPAN, 8 registries (1990-2013)	164	3.2	3.1	3.3	166	2.5	2.4	2.6	7.2	0.9	0.4	0.1
JORDAN, Jordanians (2000-2012)	119	4.7	3.8	5.6	119	3.6	3.0	4.3	8.4	3.9	0.6	0.0
REPUBLIC OF KOREA (1999-2012)	449	4.4	4.2	4.7	456	3.4	3.3	3.7	9.7	1.9	0.2	0.1
KUWAIT (1994-2012)	60	5.0	6.7	3.2	72	4.7	6.0	3.4	6.7	3.5	4.4	3.7
KUWAIT, Kuwaitis (1994-2012)	27	3.8	5.9	1.7	35	3.9	5.3	2.5	5.7	2.5	2.8	4.3
KUWAIT, Non-Kuwaitis (1994-2012)	33	6.7	7.8	5.4	37	5.8	7.0	4.6	8.1	4.8	6.7	2.9
PAKISTAN, Lahore (2008-2012)	57	3.5	3.5	3.5	58	2.8	2.8	2.7	7.5	1.9	0.0	0.2
PHILIPPINES, 2 registries (1993-2012)	307	4.3	4.5	4.0	312	3.3	3.5	3.1	9.3	1.6	0.5	0.2
SAUDI ARABIA, Riyadh (1994-2012)	186	5.8	5.0	6.7	186	4.5	3.9	5.2	12.4	2.8	0.5	0.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	159	6.1	5.2	6.9	159	4.7	4.0	5.4	12.7	3.0	0.6	0.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	27	4.8	3.9	5.8	27	3.7	3.0	4.5	10.8	2.1	0.0	0.0
THAILAND, 6 registries (1993-2013)	84	2.6	2.6	2.6	84	2.0	2.0	2.0	5.9	0.8	0.1	0.0
TURKEY, paediatric (2009-2011)	257	5.1	4.5	5.9	-	-	-	-	10.6	3.0	0.3	-
TURKEY, 8 registries (1992-2012)	247	7.3	7.1	7.5	250	5.7	5.6	5.8	15.2	3.8	0.5	0.2
VIET NAM, Ho Chi Minh City (1995-2013)	147	6.7	6.8	6.5	148	5.2	5.3	5.1	14.0	3.2	0.8	0.1
EUROPE												
AUSTRIA (1990-2012)	221	8.3	7.5	9.1	224	6.5	5.9	7.1	17.2	4.2	0.9	0.3
BELARUS, paediatric (1990-2014)	315	8.4	7.8	9.1	318	6.6	6.0	7.1	17.0	5.4	0.4	0.2
BELGIUM (2004-2013)	139	8.5	8.3	8.7	144	6.8	6.6	6.9	18.0	3.8	1.0	0.8
BULGARIA (1990-2013)	154	6.0	6.4	5.5	156	4.7	5.0	4.3	11.6	3.9	0.7	0.2
CROATIA (2001-2014)	89	11.4	13.3	9.4	89	8.8	10.3	7.3	25.9	4.2	0.0	0.0
CZECH REPUBLIC (1990-2012)	312	9.3	7.8	10.8	322	7.3	6.2	8.5	19.2	5.0	0.8	0.6
ESTONIA (1990-2012)	51	10.2	9.2	11.2	52	8.0	7.3	8.7	19.1	7.8	1.0	0.4
FRANCE, paediatric (2000-2012)	1154	8.8	8.0	9.6	-	-	-	-	18.3	4.8	0.5	-
FRANCE, 13 registries (1993-2012)	263	9.5	8.8	10.2	268	7.5	6.9	8.1	19.7	5.3	0.6	0.5
GERMANY, paediatric (1996-2012)	1630	9.4	8.6	10.3	-	-	-	-	19.5	5.2	0.7	-
GERMANY, 6 Eastern states (2001-2007)	115	9.7	9.5	9.9	119	7.7	7.6	7.7	18.0	7.7	1.0	0.5
GERMANY, 5 Western registries (1994-2012)	349	8.5	7.5	9.5	352	6.6	5.8	7.4	17.4	4.5	0.8	0.2
HUNGARY, paediatric (1991-2014)	281	8.3	7.6	8.9	-	-	-	-	17.4	4.2	0.6	-
IRELAND (1994-2012)	114	7.7	6.5	9.0	114	6.0	5.0	7.0	15.9	4.4	0.4	0.0
ITALY, 2 paediatric registries (1998-2011)	67	8.9	9.3	8.5	67	6.9	7.2	6.6	20.4	2.9	0.4	0.0
ITALY, Piedmont, paediatric (1990-2011)	90	8.6	8.6	8.6	-	-	-	-	17.8	4.4	1.0	-
ITALY, 26 registries (1992-2013)	296	8.0	7.2	8.8	297	6.2	5.6	6.9	16.1	4.9	0.6	0.1
LITHUANIA (2000-2012)	54	9.6	8.1	11.1	57	7.6	6.7	8.6	20.3	4.4	1.1	0.9
THE NETHERLANDS (1993-2013)	509	9.3	9.1	9.4	514	7.2	7.1	7.4	19.1	5.0	0.7	0.2
NORWAY (1990-2013)	145	7.5	6.2	8.7	145	5.8	4.8	6.8	14.5	4.7	1.1	0.0
POLAND (2001-2013)	616	9.0	8.1	9.9	635	7.1	6.4	7.8	18.3	5.0	1.1	0.5
PORTUGAL (1991-2012)	214	8.9	7.8	10.1	217	7.0	6.1	7.9	17.8	5.4	1.1	0.3

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of nephroblastoma
Please consult registry-specific background information and quality indicators

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Table 9.23. Nephroblastoma (Vla1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	60	8.2	6.3	10.3	-	-	-	-	16.5	5.0	0.9	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	107	10.5	9.5	11.5	111	8.3	7.6	9.0	20.4	5.6	2.7	0.8
SLOVAKIA (1990-2009)	157	8.9	7.3	10.4	160	6.9	5.8	8.1	17.3	6.2	0.5	0.3
SLOVAKIA, paediatric (2000-2012)	98	10.0	6.9	13.2	-	-	-	-	19.7	6.9	0.5	-
SLOVENIA (1991-2012)	60	10.4	10.2	10.5	61	8.1	7.9	8.3	23.2	3.9	0.4	0.3
SPAIN, 2 paediatric registries (1991-2013)	338	7.7	7.6	7.7	-	-	-	-	16.3	3.6	0.6	-
SPAIN, selected regions, paediatric (2000-2013)	247	7.5	7.6	7.5	-	-	-	-	16.2	3.4	0.6	-
SPAIN, Valencia, paediatric (1991-2010)	91	8.0	7.6	8.3	-	-	-	-	16.7	4.3	0.4	-
SPAIN, 11 registries (1990-2013)	220	8.1	8.2	8.0	225	6.4	6.4	6.3	17.7	3.4	0.5	0.4
SWEDEN (1990-2011)	263	8.4	8.0	8.9	273	6.7	6.2	7.2	18.2	3.7	0.7	0.8
SWITZERLAND, paediatric (1990-2013)	223	8.6	7.5	9.8	-	-	-	-	16.8	5.9	0.7	-
SWITZERLAND, 7 registries (1990-2013)	77	7.9	7.5	8.4	79	6.3	5.8	6.7	14.1	7.1	0.6	0.5
UKRAINE (2002-2012)	624	9.8	9.1	10.6	634	7.7	7.1	8.3	20.8	4.8	0.7	0.3
UK (2000-2011)	962	8.3	7.6	9.0	968	6.4	5.9	7.0	17.2	4.3	0.8	0.1
UK, England and Wales, paediatric (1991-2010)	1369	7.8	7.1	8.6	-	-	-	-	16.3	4.0	0.8	-
OCEANIA												
AUSTRALIA (1992-2014)	649	8.2	7.3	9.2	659	6.5	5.8	7.2	17.0	4.6	0.5	0.3
FRANCE, 2 registries (1990-2013)	21	7.8	6.3	9.4	21	6.0	4.9	7.3	16.1	3.9	1.0	0.0
NEW ZEALAND (1993-2012)	125	8.0	7.0	9.0	130	6.4	5.6	7.2	17.3	3.2	0.7	0.9
NEW ZEALAND, Maori (1993-2012)	22	5.4	5.3	5.6	24	4.6	4.4	4.7	14.0	0.0	0.0	1.7
NEW ZEALAND, Other (1993-2012)	97	9.5	8.1	11.0	99	7.5	6.3	8.7	20.0	4.6	1.0	0.5
NEW ZEALAND, paediatric (2000-2012)	77	7.5	6.2	8.9	-	-	-	-	16.5	2.9	0.8	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	68	9.0	7.1	10.9	-	-	-	-	19.2	3.8	1.0	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of nephroblastoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.24. Rhabdoid renal tumour (VIa2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	21	0.2	0.2	0.2	22	0.2	0.2	0.2	0.5	0.0	0.0	0.0
USA (1998-2012)	176	0.2	0.2	0.2	178	0.2	0.2	0.2	0.6	0.0	0.0	0.0
USA, Black (1998-2012)	23	0.2	0.2	0.1	23	0.1	0.2	0.1	0.4	0.0	0.0	0.0
USA, Hispanic White (1998-2012)	37	0.2	0.2	0.3	38	0.2	0.1	0.2	0.6	0.0	0.0	0.0
USA, White NH (1998-2012)	101	0.2	0.2	0.2	102	0.2	0.2	0.2	0.6	0.0	0.0	0.0
USA, NPCR (1998-2012)	170	0.2	0.2	0.2	172	0.2	0.2	0.2	0.6	0.0	0.0	0.0
USA, SEER 18 (1993-2012)	54	0.2	0.2	0.2	54	0.2	0.2	0.2	0.6	0.0	0.0	0.0
ASIA												
REPUBLIC OF KOREA (1999-2012)	23	0.2	0.2	0.2	23	0.2	0.2	0.2	0.6	0.0	0.0	0.0
EUROPE												
FRANCE, paediatric (2000-2012)	26	0.2	0.2	0.2	-	-	-	-	0.4	0.1	0.0	-
GERMANY, paediatric (1996-2012)	24	0.1	0.1	0.2	-	-	-	-	0.4	0.0	0.0	-
UK (2000-2011)	29	0.3	0.2	0.3	29	0.2	0.2	0.2	0.6	0.0	0.0	0.0
UK, England and Wales, paediatric (1991-2010)	52	0.3	0.3	0.3	-	-	-	-	0.8	0.0	0.0	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of rhabdoid renal tumour
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.25. Malignant chordomas (VIIId2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	16	0.1	0.1	0.2	33	0.2	0.1	0.2	0.1	0.2	0.1	0.4
USA (1998-2012)	134	0.1	0.1	0.2	230	0.2	0.1	0.2	0.1	0.2	0.2	0.3
USA, Black (1998-2012)	14	0.1	0.1	0.1	22	0.1	0.0	0.2	0.0	0.1	0.2	0.2
USA, Hispanic White (1998-2012)	28	0.2	0.1	0.3	43	0.2	0.1	0.3	0.1	0.2	0.2	0.3
USA, White NH (1998-2012)	82	0.2	0.1	0.2	147	0.2	0.2	0.2	0.1	0.1	0.2	0.3
USA, NPCR (1998-2012)	122	0.1	0.1	0.2	211	0.2	0.1	0.2	0.1	0.1	0.2	0.3
USA, SEER 18 (1993-2012)	46	0.2	0.2	0.2	82	0.2	0.2	0.2	0.1	0.2	0.2	0.4
ASIA												
REPUBLIC OF KOREA (1999-2012)	27	0.2	0.2	0.2	42	0.2	0.2	0.2	0.2	0.3	0.2	0.3
EUROPE												
FRANCE, paediatric (2000-2012)	23	0.1	0.1	0.1	-	-	-	-	0.0	0.2	0.3	-
UK (2000-2011)	11	0.1	0.1	0.0	25	0.1	0.1	0.1	0.1	0.1	0.1	0.3

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of malignant chordoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.26. Fibroblastic and myofibroblastic tumours (IXb1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	38	0.2	0.3	0.1	-	-	-	-	0.4	0.0	0.1	-
SOUTH AFRICA, paediatric, Black (1998-2012)	32	0.2	0.2	0.1	-	-	-	-	0.4	0.0	0.1	-
UGANDA, Kyadondo (1996-2013)	10	0.7	1.4	0.1	25	1.3	1.9	0.8	0.8	0.5	0.9	3.3
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	70	0.5	0.7	0.3	-	-	-	-	0.7	0.3	0.4	-
URUGUAY (1993-2012)	15	1.0	0.9	1.2	21	1.1	1.1	1.0	1.6	0.8	0.6	1.2
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	71	0.7	0.7	0.7	107	0.7	0.7	0.7	1.1	0.3	0.4	0.9
USA (1998-2012)	576	0.7	0.7	0.7	809	0.7	0.7	0.7	1.1	0.4	0.5	0.7
USA, API (1998-2012)	15	0.3	0.3	0.4	21	0.4	0.3	0.4	0.6	0.2	0.2	0.4
USA, Black (1998-2012)	85	0.6	0.6	0.6	123	0.6	0.6	0.6	1.0	0.3	0.4	0.7
USA, Hispanic White (1998-2012)	103	0.6	0.6	0.7	138	0.6	0.6	0.7	0.9	0.3	0.6	0.7
USA, White NH (1998-2012)	347	0.7	0.8	0.7	496	0.7	0.8	0.7	1.2	0.4	0.4	0.8
USA, NPCR (1998-2012)	547	0.7	0.7	0.7	770	0.7	0.7	0.7	1.1	0.4	0.5	0.7
USA, SEER 18 (1993-2012)	192	0.7	0.7	0.7	269	0.7	0.7	0.8	1.2	0.3	0.5	0.8
ASIA												
CHINA, 6 registries (1990-2013)	33	0.6	0.8	0.4	59	0.7	0.8	0.6	0.8	0.2	0.7	0.9
INDIA, 7 registries (1990-2013)	18	0.1	0.1	0.1	31	0.1	0.2	0.1	0.2	0.1	0.1	0.2
ISRAEL (1990-2012)	32	0.8	0.7	0.8	44	0.8	0.9	0.8	1.4	0.2	0.7	1.0
ISRAEL, Jews (1990-2012)	22	0.8	0.8	0.8	31	0.8	0.8	0.8	1.3	0.2	0.6	1.0
JAPAN, 8 registries (1990-2013)	22	0.4	0.4	0.4	37	0.5	0.4	0.5	0.8	0.1	0.2	0.6
REPUBLIC OF KOREA (1999-2012)	65	0.6	0.7	0.5	87	0.5	0.6	0.5	1.0	0.2	0.5	0.5
PHILIPPINES, 2 registries (1993-2012)	16	0.2	0.3	0.2	24	0.2	0.2	0.2	0.2	0.2	0.3	0.3
TURKEY, paediatric (2009-2011)	30	0.6	0.7	0.4	-	-	-	-	1.0	0.4	0.2	-
TURKEY, 8 registries (1992-2012)	25	0.7	0.5	0.9	35	0.7	0.6	0.8	1.3	0.2	0.4	0.7
EUROPE												
AUSTRIA (1990-2012)	14	0.5	0.7	0.3	20	0.5	0.7	0.4	1.0	0.0	0.4	0.5
BELARUS, paediatric (1990-2014)	24	0.6	0.6	0.5	34	0.6	0.7	0.4	0.8	0.3	0.5	0.6
BULGARIA (1990-2013)	22	0.7	1.1	0.3	47	1.0	1.4	0.5	0.7	0.3	1.2	2.0
CZECH REPUBLIC (1990-2012)	26	0.7	0.7	0.7	34	0.7	0.7	0.7	1.4	0.2	0.4	0.5
FRANCE, paediatric (2000-2012)	67	0.5	0.6	0.3	-	-	-	-	1.0	0.1	0.2	-
FRANCE, 13 registries (1993-2012)	11	0.4	0.6	0.1	21	0.5	0.8	0.2	0.7	0.2	0.2	0.9
GERMANY, paediatric (1996-2012)	88	0.5	0.5	0.5	-	-	-	-	0.9	0.2	0.3	-
GERMANY, 5 Western registries (1994-2012)	27	0.6	0.7	0.5	40	0.6	0.7	0.6	1.1	0.4	0.2	0.7
HUNGARY, paediatric (1991-2014)	31	0.9	1.0	0.8	-	-	-	-	1.8	0.2	0.5	-
ITALY, 26 registries (1992-2013)	25	0.6	0.7	0.5	35	0.6	0.7	0.6	0.8	0.6	0.4	0.7
THE NETHERLANDS (1993-2013)	26	0.4	0.6	0.3	37	0.5	0.6	0.4	0.6	0.1	0.5	0.5
POLAND (2001-2013)	35	0.5	0.5	0.5	46	0.4	0.5	0.4	0.9	0.2	0.3	0.3
SLOVAKIA (1990-2009)	17	0.8	0.7	1.0	25	0.9	0.7	1.0	1.4	0.0	1.0	0.9
SPAIN, 2 paediatric registries (1991-2013)	36	0.8	0.9	0.7	-	-	-	-	1.4	0.4	0.3	-
SPAIN, selected regions, paediatric (2000-2013)	23	0.7	0.9	0.5	-	-	-	-	1.0	0.5	0.4	-
SWEDEN (1990-2011)	27	0.8	1.1	0.5	37	0.8	1.0	0.6	1.0	0.7	0.6	0.8
UKRAINE (2002-2012)	60	0.8	0.8	0.8	119	1.0	1.0	1.0	0.9	0.4	1.0	1.6
UK (2000-2011)	70	0.6	0.6	0.5	86	0.5	0.5	0.5	0.9	0.3	0.5	0.3
UK, England and Wales, paediatric (1991-2010)	87	0.5	0.4	0.5	-	-	-	-	0.7	0.2	0.5	-
OCEANIA												
AUSTRALIA (1992-2014)	51	0.6	0.7	0.5	69	0.6	0.7	0.5	0.9	0.4	0.4	0.6

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of fibroblastic or myofibroblastic tumour
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.27. Ewing sarcoma, Askin tumours and PNET of soft tissue (IXd1, IXd2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
EGYPT, Gharbiah (1999-2010)	17	1.2	1.4	0.9	37	1.7	2.2	1.2	1.5	1.0	0.9	3.6
SOUTH AFRICA, paediatric (1998-2012)	35	0.2	0.2	0.2	-	-	-	-	0.3	0.1	0.2	-
SOUTH AFRICA, paediatric, Black (1998-2012)	26	0.2	0.2	0.1	-	-	-	-	0.3	0.1	0.1	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	143	1.0	1.0	1.0	-	-	-	-	0.9	0.9	1.2	-
CHILE, paediatric (2007-2011)	28	1.5	1.9	1.0	-	-	-	-	1.7	0.7	2.1	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	92	0.8	0.8	0.7	144	0.9	1.0	0.8	0.6	0.6	1.1	1.2
USA (1998-2012)	605	0.6	0.7	0.6	1027	0.8	0.9	0.7	0.5	0.5	1.0	1.3
USA, API (1998-2012)	12	0.3	0.3	0.2	27	0.4	0.5	0.4	0.1	0.1	0.5	1.0
USA, Black (1998-2012)	50	0.3	0.3	0.4	67	0.3	0.3	0.4	0.5	0.2	0.4	0.3
USA, Hispanic White (1998-2012)	119	0.7	0.7	0.7	200	0.9	1.0	0.8	0.5	0.5	1.1	1.6
USA, White NH (1998-2012)	408	0.7	0.7	0.7	703	0.9	1.0	0.9	0.5	0.6	1.2	1.5
USA, NPCR (1998-2012)	572	0.6	0.7	0.6	966	0.8	0.8	0.7	0.5	0.5	1.0	1.3
USA, SEER 18 (1993-2012)	227	0.8	0.8	0.8	386	1.0	1.0	0.9	0.6	0.6	1.2	1.7
ASIA												
CHINA, 6 registries (1990-2013)	25	0.5	0.4	0.5	39	0.5	0.5	0.5	0.6	0.3	0.4	0.5
CHINA, Hong Kong (1990-2013)	13	0.5	0.5	0.6	22	0.6	0.6	0.7	0.7	0.4	0.5	0.9
INDIA, 7 registries (1990-2013)	40	0.2	0.3	0.2	59	0.2	0.3	0.2	0.2	0.2	0.2	0.3
ISRAEL (1990-2012)	24	0.6	0.4	0.8	37	0.7	0.5	0.8	0.3	0.8	0.7	1.1
ISRAEL, Jews (1990-2012)	18	0.6	0.4	0.8	28	0.7	0.6	0.8	0.3	0.8	0.7	1.1
JAPAN, 8 registries (1990-2013)	32	0.5	0.6	0.4	53	0.6	0.6	0.6	0.4	0.3	0.8	0.9
REPUBLIC OF KOREA (1999-2012)	44	0.4	0.3	0.4	61	0.4	0.3	0.4	0.5	0.2	0.3	0.4
KUWAIT (1994-2012)	21	1.7	2.3	1.2	32	2.1	2.7	1.5	2.2	1.0	1.9	3.4
SAUDI ARABIA, Riyadh (1994-2012)	28	0.8	1.1	0.5	55	1.3	1.4	1.3	0.4	0.8	1.4	3.1
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	24	0.8	1.2	0.4	45	1.3	1.4	1.1	0.4	0.7	1.5	2.8
TURKEY, paediatric (2009-2011)	46	0.8	0.9	0.7	-	-	-	-	0.6	0.8	1.0	-
TURKEY, 8 registries (1992-2012)	27	0.6	0.7	0.5	44	0.8	0.9	0.7	0.5	0.5	1.1	1.2
EUROPE												
AUSTRIA (1990-2012)	24	0.8	0.8	0.7	39	0.9	1.0	0.8	0.7	0.5	1.1	1.3
BELARUS, paediatric (1990-2014)	40	0.9	0.7	1.0	65	1.0	0.8	1.1	0.7	0.6	1.3	1.4
BELGIUM (2004-2013)	10	0.5	0.4	0.6	24	0.9	0.7	1.0	0.3	0.2	1.1	2.2
CZECH REPUBLIC (1990-2012)	33	0.8	0.7	0.9	46	0.8	0.7	0.8	0.3	0.7	1.4	0.8
FRANCE, paediatric (2000-2012)	130	0.9	0.9	0.8	-	-	-	-	0.7	0.6	1.4	-
FRANCE, 13 registries (1993-2012)	23	0.7	0.7	0.8	42	0.9	1.0	0.9	0.6	0.7	0.9	1.7
GERMANY, paediatric (1996-2012)	188	0.9	0.9	0.9	-	-	-	-	0.6	0.8	1.3	-
GERMANY, 5 Western registries (1994-2012)	34	0.7	0.9	0.4	52	0.7	1.0	0.5	0.4	0.9	0.7	1.0
HUNGARY, paediatric (1991-2014)	47	1.1	1.1	1.2	-	-	-	-	1.0	1.1	1.4	-
ITALY, 26 registries (1992-2013)	37	0.9	0.9	1.0	58	1.0	1.1	1.0	1.4	0.4	0.9	1.4
THE NETHERLANDS (1993-2013)	42	0.7	0.8	0.5	86	1.0	1.2	0.8	0.4	0.7	0.9	2.2
POLAND (2001-2013)	22	0.3	0.3	0.2	37	0.3	0.3	0.3	0.4	0.2	0.3	0.4
PORTUGAL (1991-2012)	30	1.1	1.1	1.0	57	1.4	1.6	1.3	1.1	0.4	1.7	2.6
SPAIN, 2 paediatric registries (1991-2013)	49	1.0	0.8	1.2	-	-	-	-	0.9	1.0	1.2	-
SPAIN, selected regions, paediatric (2000-2013)	44	1.3	1.1	1.5	-	-	-	-	1.1	1.1	1.6	-
SPAIN, 11 registries (1990-2013)	32	1.0	0.9	1.0	78	1.5	1.6	1.5	0.7	1.1	1.2	3.5
SWEDEN (1990-2011)	48	1.4	1.4	1.4	67	1.5	1.5	1.4	2.3	0.7	1.1	1.6
SWITZERLAND, paediatric (1990-2013)	28	0.9	0.6	1.3	-	-	-	-	0.8	0.9	1.1	-
UKRAINE (2002-2012)	37	0.4	0.4	0.5	55	0.5	0.4	0.5	0.3	0.3	0.8	0.5
UK (2000-2011)	123	0.9	0.8	1.0	175	0.9	0.9	1.0	0.6	0.7	1.4	1.1
UK, England and Wales, paediatric (1991-2010)	285	1.4	1.3	1.5	-	-	-	-	1.1	1.3	2.0	-
OCEANIA												
AUSTRALIA (1992-2014)	84	0.9	0.9	0.9	124	1.0	1.1	1.0	0.7	0.5	1.7	1.3
NEW ZEALAND (1993-2012)	16	0.9	0.8	1.0	35	1.4	1.0	1.8	0.5	0.5	1.7	3.3

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of Ewing sarcoma, Askin tumour or peripheral neuroectodermal tumour of soft tissue
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.28. Ewing sarcoma, Askin tumours and PNET of bone and soft tissue (VIIIc1, VIIIc2, IXd1, IXd2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	34	1.8	2.0	1.6	61	2.3	2.6	1.9	0.9	1.5	3.4	4.0
EGYPT, Gharbiah (1999-2010)	54	3.4	4.3	2.4	89	4.1	5.3	2.8	2.5	3.4	4.6	6.4
MOROCCO, 2 registries (2005-2012)	47	4.9	5.1	4.7	70	5.4	5.2	5.5	1.7	6.2	7.8	7.1
SOUTH AFRICA, paediatric (1998-2012)	120	0.5	0.6	0.5	-	-	-	-	0.5	0.4	0.7	-
SOUTH AFRICA, paediatric, Black (1998-2012)	68	0.4	0.4	0.3	-	-	-	-	0.5	0.3	0.3	-
SOUTH AFRICA, paediatric, White (1998-2012)	36	2.7	2.9	2.5	-	-	-	-	1.3	2.5	4.8	-
TUNISIA, 2 registries (1993-2007)	67	3.2	4.1	2.3	112	4.0	4.9	3.0	1.2	3.7	5.4	6.5
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	434	2.9	3.0	2.7	-	-	-	-	1.7	2.8	4.5	-
ARGENTINA, 6 registries (1991-2013)	60	2.6	2.9	2.4	78	2.6	2.9	2.2	1.8	3.3	3.0	2.4
BRAZIL, 5 registries (1995-2012)	60	3.1	2.8	3.3	93	3.4	3.1	3.7	1.4	4.0	4.3	4.5
CHILE, paediatric (2007-2011)	73	3.6	4.2	3.0	-	-	-	-	2.7	2.3	6.4	-
COLOMBIA, 4 registries (1992-2013)	38	2.0	2.0	2.0	61	2.4	2.8	2.0	0.7	1.9	3.8	3.7
COSTA RICA (1993-2012)	45	1.7	1.7	1.7	77	2.2	2.5	1.9	0.3	1.4	3.9	4.0
CUBA (2000-2012)	44	1.5	1.6	1.3	64	1.6	1.8	1.4	1.0	0.8	2.9	1.9
ECUADOR, 5 registries (1993-2013)	33	1.5	1.5	1.4	51	1.7	1.9	1.4	1.3	1.1	2.2	2.4
MEXICO, Mexico City, paediatric (1997-2013)	40	3.1	3.5	2.7	-	-	-	-	1.3	2.9	5.8	-
USA, Puerto Rico (1992-2012)	35	1.8	1.8	1.8	51	2.0	2.0	2.0	0.4	2.8	2.5	2.5
URUGUAY (1993-2012)	63	3.8	4.4	3.2	97	4.4	5.7	3.1	1.4	4.2	6.5	6.6
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	420	3.4	3.4	3.3	673	4.0	4.4	3.6	1.8	3.3	5.5	6.0
USA (1998-2012)	2769	2.8	3.0	2.7	4529	3.5	3.8	3.1	1.3	2.6	5.1	5.6
USA, API (1998-2012)	70	1.5	1.6	1.4	131	2.0	2.4	1.6	0.9	1.2	2.6	4.0
USA, Black (1998-2012)	122	0.8	0.8	0.8	183	0.9	0.9	0.8	0.6	0.6	1.2	1.2
USA, Hispanic White (1998-2012)	461	2.6	2.8	2.5	728	3.2	3.6	2.8	1.4	2.2	4.8	5.2
USA, Native American (1998-2012)	27	1.8	2.6	0.9	42	2.0	2.5	1.6	1.3	1.5	2.8	2.9
USA, White NH (1998-2012)	2044	3.5	3.7	3.4	3366	4.3	4.7	3.8	1.5	3.4	6.4	6.9
USA, NPCR (1998-2012)	2628	2.8	3.0	2.7	4300	3.4	3.8	3.0	1.3	2.6	5.1	5.5
USA, SEER 18 (1993-2012)	858	2.8	3.1	2.5	1414	3.5	4.1	2.8	1.4	2.6	4.9	5.8
ASIA												
CHINA, 6 registries (1990-2013)	62	1.0	1.1	1.0	101	1.1	1.2	1.0	0.9	0.9	1.4	1.4
CHINA, Hong Kong (1990-2013)	35	1.4	1.4	1.4	52	1.4	1.4	1.4	1.3	1.3	1.5	1.6
INDIA, 7 registries (1990-2013)	440	2.4	2.7	2.0	670	2.6	3.1	2.1	1.3	2.3	3.9	3.6
ISRAEL (1990-2012)	187	4.3	5.1	3.6	286	5.2	6.2	4.2	1.5	4.5	8.0	8.1
ISRAEL, Jews (1990-2012)	151	4.8	5.4	4.1	235	5.7	6.7	4.8	1.3	4.9	9.2	9.1
ISRAEL, Non-Jews (1990-2012)	36	3.1	4.2	2.0	51	3.6	4.6	2.5	1.9	3.4	4.5	5.1
JAPAN, 8 registries (1990-2013)	103	1.6	1.8	1.3	166	1.8	2.1	1.5	0.9	1.4	2.6	2.6
JORDAN, Jordanians (2000-2012)	89	3.2	2.8	3.5	144	4.0	4.4	3.6	1.7	3.4	4.8	6.9
REPUBLIC OF KOREA (1999-2012)	224	1.7	1.7	1.7	325	1.8	1.9	1.6	1.5	1.5	2.2	2.1
KUWAIT (1994-2012)	23	1.9	2.3	1.5	36	2.4	2.8	1.9	2.7	1.0	1.9	4.0
KUWAIT, Kuwaitis (1994-2012)	11	1.6	2.2	0.9	21	2.4	3.4	1.4	2.7	0.4	1.4	5.3
LEBANON (2008-2010)	22	5.7	6.2	5.2	39	7.5	8.3	6.6	3.8	5.6	8.4	13.7
PAKISTAN, Karachi (1995-2002)	23	3.9	4.8	2.8	34	4.7	5.2	4.2	0.5	3.0	9.3	7.6
PAKISTAN, Lahore (2008-2012)	63	3.2	3.6	2.8	102	4.1	5.0	3.2	1.8	3.1	5.1	7.2
PHILIPPINES, 2 registries (1993-2012)	83	1.1	1.1	1.0	111	1.1	1.2	1.0	0.7	1.1	1.6	1.2
QATAR (2002-2014)	13	4.3	3.2	5.6	20	5.3	4.8	5.7	0.0	5.0	9.3	8.8
SAUDI ARABIA, Riyadh (1994-2012)	111	3.2	3.8	2.7	185	4.4	5.3	3.6	1.6	3.3	5.3	8.5
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	94	3.3	4.1	2.5	154	4.3	5.3	3.4	1.6	3.2	5.6	8.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	17	3.0	2.3	3.6	31	4.9	5.4	4.3	1.4	4.1	3.7	11.5
THAILAND, 6 registries (1993-2013)	43	1.1	1.1	1.0	63	1.1	1.2	1.0	1.1	0.7	1.4	1.2
TURKEY, paediatric (2009-2011)	190	3.2	3.4	2.9	-	-	-	-	1.7	3.4	4.9	-
TURKEY, 8 registries (1992-2012)	141	3.3	3.2	3.3	253	4.3	4.8	3.8	1.6	2.7	6.1	7.8
VIET NAM, Ho Chi Minh City (1995-2013)	24	1.0	1.5	0.4	26	0.8	1.2	0.4	0.9	1.0	1.1	0.2
EUROPE												
AUSTRIA (1990-2012)	131	4.0	4.4	3.5	201	4.5	5.2	3.7	1.9	3.8	6.8	6.3
BELARUS, paediatric (1990-2014)	164	3.3	2.9	3.8	255	3.7	3.5	3.9	1.5	3.2	5.9	5.0
BELGIUM (2004-2013)	83	4.2	4.4	4.1	132	5.0	5.2	4.8	1.6	3.8	8.1	7.7
BULGARIA (1990-2013)	94	2.8	2.7	2.9	166	3.4	3.7	3.1	1.1	2.6	5.2	5.7
CROATIA (2001-2014)	36	3.6	4.4	2.8	56	4.1	4.0	4.1	2.0	3.6	5.7	5.6
CYPRUS, South-West (1998-2012)	13	5.0	4.4	5.6	24	6.6	5.9	7.4	0.0	4.1	12.5	12.4
CZECH REPUBLIC (1990-2012)	160	3.7	4.1	3.3	262	4.2	4.7	3.8	1.8	3.7	6.3	6.1
ESTONIA (1990-2012)	19	3.0	2.5	3.5	29	3.3	3.3	3.3	1.7	2.1	5.7	4.5
FRANCE, paediatric (2000-2012)	607	3.9	4.1	3.6	-	-	-	-	1.6	4.0	6.7	-
FRANCE, 13 registries (1993-2012)	127	3.8	4.0	3.5	219	4.8	5.4	4.2	1.6	3.5	7.0	8.3
GERMANY, paediatric (1996-2012)	807	3.6	3.9	3.3	-	-	-	-	1.8	3.5	6.3	-
GERMANY, 6 Eastern states (2001-2007)	55	3.7	3.6	3.8	110	4.5	4.8	4.2	1.8	3.2	6.7	7.3
GERMANY, 5 Western registries (1994-2012)	205	3.8	4.2	3.3	333	4.5	5.2	3.7	1.8	3.7	6.5	6.8
HUNGARY, paediatric (1991-2014)	181	4.2	4.3	4.2	-	-	-	-	2.5	4.6	6.1	-
IRELAND (1994-2012)	56	3.2	3.4	2.9	91	3.8	4.4	3.1	1.4	3.5	5.1	5.9
ITALY, 2 paediatric registries (1998-2011)	31	3.4	2.5	4.3	51	4.2	3.5	4.9	0.7	2.5	7.9	6.9
ITALY, Piedmont, paediatric (1990-2011)	54	4.2	3.7	4.7	-	-	-	-	1.5	3.4	8.7	-
ITALY, 26 registries (1992-2013)	203	4.7	4.8	4.5	302	5.1	5.7	4.5	2.8	4.0	8.0	6.6
LITHUANIA (2000-2012)	23	3.0	2.3	3.6	39	3.4	3.5	3.4	2.0	2.6	4.6	5.0
THE NETHERLANDS (1993-2013)	238	3.7	4.1	3.3	382	4.5	5.0	3.9	1.9	3.9	5.8	7.1
NORWAY (1990-2013)	55	2.4	2.5	2.4	85	2.8	2.8	2.8	0.7	2.1	5.0	4.3
POLAND (2001-2013)	233	2.6	2.8	2.4	371	2.9	3.2	2.6	1.4	2.1	4.8	3.8
PORTUGAL (1991-2012)	113	3.9	3.8	4.0	189	4.7	4.9	4.5	2.3	3.7	6.4	7.4
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	39	4.1	4.0	4.1	-	-	-	-	3.4	2.7	6.6	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	15	1.1	0.9	1.4	26	1.4	1.0	1.7	0.3	0.6	2.9	2.2
SLOVAKIA (1990-2009)	73	3.1	3.2	2.9	127	3.8	4.3	3.3	1.4	3.1	5.2	6.2
SLOVAKIA, paediatric (2000-2012)	45	3.3	3.8	2.8	-	-	-	-	0.8	3.4	6.5	-
SLOVENIA (1991-2012)	18	2.2	1.9	2.6	35	3.0	3.1	3.0	0.5	1.7	5.0	5.9
SPAIN, 2 paediatric registries (1991-2013)	289	5.7	6.5	4.9	-	-	-	-	2.5	6.1	9.6	-
SPAIN, selected regions, paediatric (2000-2013)	220	6.2	7.1	5.2	-	-	-	-	2.8	6.2	10.7	-
SPAIN, Valencia, paediatric (1991-2010)	69	4.7	5.0	4.3	-	-	-	-	1.7	5.9	7.3	-
SPAIN, 11 registries (1990-2013)	188	5.3	5.5	5.1	312	6.2	6.8	5.6	2.1	4.6	10.4	9.4

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of Ewing sarcoma, Askin tumour or peripheral neuroectodermal tumour of bone or soft tissue
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.28. Ewing sarcoma, Askin tumours and PNET of bone and soft tissue (VIIIc1, VIIIc2, IXd1, IXd2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
SWEDEN (1990-2011)	120	3.4	3.3	3.4	192	3.9	4.4	3.4	3.0	3.3	4.0	5.9
SWITZERLAND, paediatric (1990-2013)	122	3.9	3.6	4.2	-	-	-	-	1.6	4.1	6.7	-
SWITZERLAND, 7 registries (1990-2013)	49	4.3	3.7	5.0	72	4.8	4.4	5.1	1.4	5.4	7.0	6.3
UKRAINE (2002-2012)	171	2.0	1.9	2.1	283	2.3	2.3	2.2	0.8	2.1	3.6	3.1
UK (2000-2011)	455	3.2	3.2	3.2	716	3.7	4.0	3.4	1.3	3.1	5.8	5.6
UK, England and Wales, paediatric (1991-2010)	706	3.4	3.3	3.5	-	-	-	-	1.6	3.2	6.0	-
OCEANIA												
AUSTRALIA (1992-2014)	358	3.8	4.0	3.6	549	4.4	4.9	3.9	2.0	3.3	6.8	6.4
FRANCE, 2 registries (1990-2013)	18	5.6	8.0	3.0	32	7.5	10.2	4.6	3.0	3.9	10.8	14.2
NEW ZEALAND (1993-2012)	78	4.1	4.2	4.0	131	5.2	5.2	5.3	1.4	3.9	8.0	9.1
NEW ZEALAND, Maori (1993-2012)	24	5.3	4.7	5.9	45	8.0	7.7	8.3	0.0	6.3	11.2	17.4
NEW ZEALAND, Pacific peoples (1993-2012)	15	9.3	9.8	8.8	20	9.8	8.6	10.9	1.8	7.8	21.1	11.3
NEW ZEALAND, Other (1993-2012)	39	3.1	3.4	2.8	66	3.9	4.0	3.7	1.9	2.6	5.4	6.4
NEW ZEALAND, paediatric (2000-2012)	51	4.0	3.4	4.6	-	-	-	-	0.8	3.9	8.3	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	35	3.6	3.3	3.9	-	-	-	-	1.1	3.1	7.5	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of Ewing sarcoma, Askin tumour or periphral neuroectodermal tumour of bone or soft tissue
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.29. Extrarenal extrahepatic rhabdoid tumour (IXd3): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	20	0.2	0.2	0.3	22	0.2	0.1	0.2	0.5	0.0	0.0	0.0
USA (1998-2012)	216	0.3	0.3	0.3	230	0.2	0.2	0.2	0.6	0.1	0.1	0.0
USA, Black (1998-2012)	28	0.2	0.2	0.2	32	0.2	0.2	0.2	0.4	0.1	0.1	0.1
USA, Hispanic White (1998-2012)	39	0.2	0.2	0.2	41	0.2	0.2	0.2	0.6	0.0	0.0	0.0
USA, White NH (1998-2012)	138	0.3	0.3	0.3	146	0.2	0.2	0.2	0.6	0.1	0.1	0.0
USA, NPCR (1998-2012)	204	0.3	0.3	0.3	217	0.2	0.2	0.2	0.6	0.1	0.1	0.0
USA, SEER 18 (1993-2012)	68	0.3	0.3	0.2	72	0.2	0.2	0.2	0.6	0.1	0.1	0.0
ASIA												
REPUBLIC OF KOREA (1999-2012)	17	0.2	0.1	0.2	21	0.1	0.1	0.1	0.3	0.0	0.1	0.1
EUROPE												
FRANCE, paediatric (2000-2012)	56	0.4	0.4	0.4	-	-	-	-	0.9	0.2	0.1	-
GERMANY, paediatric (1996-2012)	39	0.2	0.3	0.2	-	-	-	-	0.4	0.0	0.1	-
POLAND (2001-2013)	31	0.4	0.4	0.5	38	0.4	0.4	0.4	0.8	0.2	0.2	0.2
UK (2000-2011)	35	0.3	0.3	0.3	35	0.2	0.2	0.2	0.7	0.1	0.0	0.0
UK, England and Wales, paediatric (1991-2010)	38	0.2	0.2	0.3	-	-	-	-	0.5	0.1	0.0	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of extrarenal extrahepatic rhabdoid tumour
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.30. Fibrohistiocytic tumours (IXd5): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
USA, Puerto Rico (1992-2012)	13	0.7	0.6	0.8	30	1.1	1.1	1.2	0.4	0.8	1.0	2.7
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	93	0.7	0.6	0.9	178	1.0	0.8	1.2	0.3	0.7	1.3	2.0
USA (1998-2012)	797	0.8	0.9	0.8	1476	1.1	1.1	1.2	0.6	0.7	1.3	2.1
USA, API (1998-2012)	20	0.4	0.4	0.4	42	0.7	0.7	0.6	0.3	0.3	0.7	1.4
USA, Black (1998-2012)	181	1.1	1.2	1.0	349	1.6	1.6	1.7	0.6	0.9	2.1	3.3
USA, Hispanic White (1998-2012)	130	0.8	0.7	0.8	202	0.9	0.9	0.9	0.4	0.7	1.2	1.4
USA, White NH (1998-2012)	415	0.8	0.8	0.7	779	1.0	1.0	1.0	0.6	0.7	1.0	1.9
USA, NPCR (1998-2012)	750	0.8	0.9	0.8	1401	1.1	1.1	1.2	0.6	0.7	1.3	2.2
USA, SEER 18 (1993-2012)	258	0.8	0.9	0.8	499	1.2	1.2	1.2	0.4	0.7	1.5	2.5
ASIA												
CHINA, 6 registries (1990-2013)	32	0.5	0.5	0.6	77	0.8	0.7	0.9	0.4	0.4	0.8	1.6
CHINA, Hong Kong (1990-2013)	18	0.7	0.5	0.9	44	1.1	0.8	1.4	0.4	0.7	0.9	2.5
INDIA, 7 registries (1990-2013)	23	0.1	0.1	0.1	54	0.2	0.2	0.2	0.1	0.2	0.2	0.5
ISRAEL (1990-2012)	24	0.6	0.6	0.5	55	1.0	1.0	1.1	0.2	0.6	1.0	2.5
ISRAEL, Jews (1990-2012)	17	0.5	0.6	0.5	45	1.1	1.1	1.1	0.2	0.6	0.9	3.0
JAPAN, 8 registries (1990-2013)	28	0.4	0.5	0.4	59	0.6	0.7	0.6	0.4	0.3	0.6	1.3
REPUBLIC OF KOREA (1999-2012)	78	0.6	0.7	0.4	152	0.8	0.9	0.6	0.5	0.3	1.1	1.5
PHILIPPINES, 2 registries (1993-2012)	12	0.2	0.2	0.1	21	0.2	0.3	0.1	0.1	0.2	0.3	0.4
THAILAND, 6 registries (1993-2013)	13	0.3	0.3	0.3	36	0.5	0.4	0.7	0.1	0.2	0.6	1.4
TURKEY, 8 registries (1992-2012)	17	0.4	0.5	0.2	42	0.7	0.7	0.7	0.1	0.1	1.1	1.7
EUROPE												
BELARUS, paediatric (1990-2014)	14	0.3	0.3	0.2	32	0.4	0.5	0.4	0.1	0.1	0.7	1.0
BELGIUM (2004-2013)	18	0.9	0.8	1.0	43	1.6	1.0	2.2	0.3	0.5	2.1	3.9
CZECH REPUBLIC (1990-2012)	19	0.4	0.5	0.3	44	0.7	0.6	0.8	0.1	0.4	0.9	1.5
FRANCE, paediatric (2000-2012)	58	0.4	0.4	0.4	-	-	-	-	0.3	0.4	0.5	-
FRANCE, 13 registries (1993-2012)	21	0.6	0.7	0.6	44	1.0	1.0	0.9	0.6	0.3	1.1	2.1
GERMANY, paediatric (1996-2012)	45	0.2	0.2	0.2	-	-	-	-	0.2	0.2	0.2	-
GERMANY, 5 Western registries (1994-2012)	10	0.2	0.2	0.1	36	0.4	0.5	0.4	0.0	0.2	0.4	1.4
IRELAND (1994-2012)	10	0.6	0.6	0.5	20	0.8	0.6	1.0	0.2	0.5	1.1	1.7
ITALY, 26 registries (1992-2013)	27	0.6	0.6	0.7	74	1.2	1.1	1.3	0.5	0.4	1.1	3.1
THE NETHERLANDS (1993-2013)	42	0.7	0.8	0.6	102	1.2	1.4	0.9	0.6	0.5	0.9	3.0
NORWAY (1990-2013)	17	0.8	0.7	0.8	34	1.1	1.2	1.1	0.6	0.7	1.1	2.4
POLAND (2001-2013)	17	0.2	0.3	0.2	43	0.3	0.4	0.3	0.2	0.2	0.2	0.7
SLOVAKIA (1990-2009)	6	0.3	0.3	0.3	21	0.6	0.4	0.8	0.2	0.3	0.4	1.7
SPAIN, 11 registries (1990-2013)	21	0.6	0.8	0.4	69	1.3	1.4	1.2	0.4	0.6	1.0	3.7
SWEDEN (1990-2011)	19	0.5	0.7	0.4	40	0.8	0.8	0.8	0.4	0.3	0.9	1.7
SWITZERLAND, paediatric (1990-2013)	20	0.6	0.6	0.7	-	-	-	-	0.0	1.0	1.0	-
UKRAINE (2002-2012)	19	0.2	0.2	0.3	50	0.4	0.3	0.4	0.2	0.2	0.3	0.8
UK (2000-2011)	26	0.2	0.2	0.2	42	0.2	0.2	0.2	0.0	0.1	0.4	0.3
UK, England and Wales, paediatric (1991-2010)	84	0.4	0.5	0.3	-	-	-	-	0.2	0.4	0.7	-
OCEANIA												
AUSTRALIA (1992-2014)	60	0.7	0.8	0.6	97	0.8	0.9	0.7	0.5	0.5	1.1	1.2

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of fibrohistiocytic tumour
Please consult registry-specific background information and quality indicators

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Table 9.31. Intracranial and intraspinal germinomas (Xa1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	85	0.5	0.7	0.4	-	-	-	-	0.0	0.5	1.2	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	121	0.9	1.1	0.7	198	1.1	1.6	0.6	0.1	0.6	2.4	1.8
USA (1998-2012)	885	0.9	1.1	0.6	1488	1.1	1.6	0.6	0.1	0.8	2.1	1.9
USA, API (1998-2012)	86	1.7	2.3	1.2	140	2.1	3.0	1.2	0.1	1.3	4.4	3.5
USA, Black (1998-2012)	75	0.4	0.5	0.4	142	0.6	0.9	0.4	0.1	0.4	1.0	1.3
USA, Hispanic White (1998-2012)	187	1.0	1.5	0.6	290	1.3	1.8	0.6	0.1	0.8	2.6	2.0
USA, White NH (1998-2012)	517	0.9	1.0	0.7	887	1.1	1.5	0.6	0.1	0.8	2.0	1.9
USA, NPCR (1998-2012)	844	0.9	1.1	0.6	1416	1.1	1.5	0.6	0.1	0.8	2.0	1.9
USA, SEER 18 (1993-2012)	304	0.9	1.4	0.5	522	1.2	1.9	0.6	0.1	0.8	2.3	2.3
ASIA												
CHINA, 6 registries (1990-2013)	96	1.4	1.7	1.1	150	1.5	2.0	1.0	0.1	1.2	3.4	1.9
CHINA, Hong Kong (1990-2013)	71	2.3	2.8	1.8	115	2.7	3.9	1.5	0.1	1.9	5.6	4.2
ISRAEL (1990-2012)	15	0.3	0.3	0.4	25	0.5	0.6	0.3	0.1	0.6	0.5	0.8
ISRAEL, Jews (1990-2012)	12	0.4	0.4	0.4	21	0.5	0.7	0.3	0.1	0.5	0.6	1.0
JAPAN, 8 registries (1990-2013)	156	2.2	2.9	1.6	247	2.6	3.6	1.5	0.2	2.2	5.0	3.8
REPUBLIC OF KOREA (1999-2012)	288	1.9	2.4	1.3	514	2.5	3.6	1.4	0.1	1.8	4.5	4.7
PHILIPPINES, 2 registries (1993-2012)	27	0.3	0.5	0.2	41	0.4	0.6	0.2	0.1	0.3	0.7	0.6
SAUDI ARABIA, Riyadh (1994-2012)	15	0.4	0.6	0.3	21	0.5	0.6	0.3	0.1	0.4	1.0	0.7
THAILAND, 6 registries (1993-2013)	40	0.9	1.1	0.6	65	1.0	1.4	0.6	0.2	0.5	2.1	1.5
TURKEY, 8 registries (1992-2012)	20	0.4	0.5	0.4	23	0.4	0.5	0.3	0.1	0.4	1.0	0.2
EUROPE												
AUSTRIA (1990-2012)	23	0.7	0.8	0.5	33	0.7	1.0	0.4	0.1	0.6	1.5	0.9
BELARUS, paediatric (1990-2014)	16	0.3	0.3	0.3	23	0.3	0.4	0.2	0.0	0.4	0.6	0.4
BELGIUM (2004-2013)	15	0.7	0.9	0.5	30	1.1	1.6	0.5	0.0	0.5	1.9	2.4
CZECH REPUBLIC (1990-2012)	27	0.6	0.6	0.5	41	0.6	0.8	0.5	0.1	0.3	1.5	0.8
FRANCE, paediatric (2000-2012)	118	0.7	1.0	0.5	-	-	-	-	0.1	0.5	1.8	-
FRANCE, 13 registries (1993-2012)	22	0.6	0.8	0.4	38	0.8	1.2	0.4	0.0	0.6	1.5	1.4
GERMANY, paediatric (1996-2012)	130	0.5	0.6	0.4	-	-	-	-	0.0	0.5	1.3	-
GERMANY, 5 Western registries (1994-2012)	37	0.6	0.7	0.5	71	0.9	1.2	0.5	0.0	0.4	1.7	1.8
ITALY, 26 registries (1992-2013)	33	0.7	0.7	0.7	53	0.9	1.0	0.7	0.1	0.6	1.7	1.3
THE NETHERLANDS (1993-2013)	44	0.6	0.8	0.5	80	0.9	1.3	0.5	0.0	0.6	1.5	1.8
NORWAY (1990-2013)	17	0.7	0.8	0.6	30	1.0	1.3	0.6	0.0	0.4	2.0	1.9
POLAND (2001-2013)	55	0.6	0.8	0.4	96	0.7	1.0	0.4	0.1	0.5	1.3	1.1
PORTUGAL (1991-2012)	31	1.0	1.5	0.6	49	1.2	1.8	0.5	0.2	1.0	2.1	1.8
SPAIN, 2 paediatric registries (1991-2013)	41	0.8	1.1	0.5	-	-	-	-	0.0	1.0	1.6	-
SPAIN, selected regions, paediatric (2000-2013)	36	1.0	1.3	0.6	-	-	-	-	0.0	1.3	1.9	-
SPAIN, 11 registries (1990-2013)	18	0.5	0.7	0.4	32	0.6	0.9	0.4	0.0	1.0	0.7	1.1
SWEDEN (1990-2011)	14	0.4	0.4	0.3	35	0.7	0.9	0.4	0.1	0.3	0.8	1.7
SWITZERLAND, paediatric (1990-2013)	20	0.6	0.8	0.4	-	-	-	-	0.0	0.5	1.5	-
UKRAINE (2002-2012)	21	0.2	0.3	0.2	35	0.3	0.4	0.1	0.0	0.2	0.5	0.4
UK (2000-2011)	137	0.9	1.3	0.5	215	1.1	1.7	0.5	0.0	0.8	2.2	1.7
UK, England and Wales, paediatric (1991-2010)	191	0.9	1.1	0.7	-	-	-	-	0.1	0.7	2.1	-
OCEANIA												
AUSTRALIA (1992-2014)	94	1.0	1.2	0.7	150	1.2	1.6	0.7	0.1	0.7	2.4	1.9
NEW ZEALAND (1993-2012)	25	1.3	1.2	1.4	36	1.4	1.6	1.2	0.0	1.0	3.2	1.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of intracranial or intraspinal germinoma
Please consult registry-specific background information and quality indicators

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Table 9.32. Intracranial and intraspinal teratomas (Xa2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	26	0.2	0.3	0.1	35	0.2	0.3	0.1	0.3	0.2	0.2	0.2
USA (1998-2012)	405	0.5	0.5	0.4	485	0.4	0.5	0.4	0.8	0.3	0.3	0.3
USA, API (1998-2012)	18	0.4	0.5	0.3	20	0.3	0.4	0.3	0.6	0.1	0.4	0.1
USA, Black (1998-2012)	49	0.4	0.4	0.4	57	0.3	0.3	0.3	0.6	0.2	0.2	0.2
USA, Hispanic White (1998-2012)	67	0.4	0.5	0.3	85	0.4	0.5	0.3	0.7	0.2	0.3	0.3
USA, White NH (1998-2012)	242	0.5	0.6	0.4	293	0.4	0.5	0.4	0.9	0.3	0.3	0.3
USA, NPCR (1998-2012)	397	0.5	0.5	0.4	477	0.4	0.5	0.4	0.8	0.3	0.3	0.3
USA, SEER 18 (1993-2012)	69	0.3	0.3	0.2	74	0.2	0.2	0.2	0.5	0.1	0.1	0.1
ASIA												
CHINA, 6 registries (1990-2013)	26	0.5	0.4	0.5	38	0.5	0.5	0.5	0.6	0.2	0.6	0.4
JAPAN, 8 registries (1990-2013)	54	0.9	1.2	0.7	62	0.8	1.0	0.6	1.3	0.9	0.5	0.3
REPUBLIC OF KOREA (1999-2012)	45	0.3	0.5	0.1	48	0.3	0.4	0.1	0.2	0.3	0.5	0.1
EUROPE												
FRANCE, paediatric (2000-2012)	127	0.9	0.9	0.9	-	-	-	-	1.6	0.4	0.6	-
GERMANY, paediatric (1996-2012)	40	0.2	0.3	0.1	-	-	-	-	0.3	0.2	0.2	-
THE NETHERLANDS (1993-2013)	29	0.5	0.6	0.4	36	0.5	0.6	0.4	0.8	0.3	0.2	0.3
SWEDEN (1990-2011)	29	0.9	0.8	1.0	32	0.8	0.7	0.8	1.7	0.4	0.3	0.2
UK (2000-2011)	16	0.1	0.2	0.1	23	0.1	0.2	0.1	0.2	0.0	0.1	0.2
UK, England and Wales, paediatric (1991-2010)	95	0.5	0.5	0.5	-	-	-	-	0.9	0.3	0.3	-
OCEANIA												
AUSTRALIA (1992-2014)	29	0.4	0.4	0.3	31	0.3	0.4	0.2	0.6	0.2	0.2	0.1

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of intracranial or intraspinal teratoma
Please consult registry-specific background information and quality indicators

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Table 9.33. Malignant germinomas of extracranial and extragonadal sites (Xb1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	64	0.3	0.2	0.4	-	-	-	-	0.4	0.2	0.2	-
SOUTH AFRICA, paediatric, Black (1998-2012)	47	0.3	0.1	0.4	-	-	-	-	0.3	0.2	0.3	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	37	0.3	0.2	0.4	-	-	-	-	0.5	0.0	0.2	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	10	0.1	0.1	0.0	33	0.2	0.3	0.1	0.1	0.0	0.1	0.5
USA (1998-2012)	59	0.1	0.1	0.1	174	0.1	0.2	0.1	0.1	0.0	0.1	0.4
USA, Hispanic White (1998-2012)	12	0.1	0.1	0.1	61	0.3	0.4	0.1	0.0	0.0	0.2	0.9
USA, White NH (1998-2012)	30	0.1	0.1	0.1	76	0.1	0.1	0.1	0.1	0.0	0.1	0.2
USA, NPCR (1998-2012)	56	0.1	0.1	0.1	166	0.1	0.2	0.1	0.1	0.0	0.1	0.4
USA, SEER 18 (1993-2012)	23	0.1	0.1	0.1	69	0.2	0.3	0.1	0.1	0.0	0.2	0.5
ASIA												
CHINA, 6 registries (1990-2013)	33	0.5	0.7	0.3	76	0.8	1.2	0.3	0.5	0.2	1.0	1.5
CHINA, Hong Kong (1990-2013)	17	0.7	0.9	0.5	37	1.0	1.5	0.4	1.0	0.2	0.8	1.9
JAPAN, 8 registries (1990-2013)	8	0.1	0.1	0.1	31	0.3	0.5	0.2	0.1	0.1	0.2	0.9
REPUBLIC OF KOREA (1999-2012)	17	0.1	0.1	0.2	57	0.3	0.4	0.2	0.2	0.0	0.2	0.8
THAILAND, 6 registries (1993-2013)	11	0.3	0.4	0.2	29	0.5	0.8	0.1	0.2	0.1	0.5	1.1
EUROPE												
AUSTRIA (1990-2012)	14	0.5	0.4	0.5	21	0.5	0.5	0.5	0.5	0.2	0.7	0.6
UK (2000-2011)	13	0.1	0.1	0.1	25	0.1	0.1	0.2	0.2	0.0	0.1	0.3

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of malignant germinoma of extracranial or extragonadal sites
Please consult registry-specific background information and quality indicators

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Table 9.34. Malignant teratomas of extracranial and extragonadal sites (Xb2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	82	0.4	0.2	0.6	-	-	-	-	0.9	0.1	0.1	-
SOUTH AFRICA, paediatric, Black (1998-2012)	70	0.4	0.2	0.6	-	-	-	-	1.0	0.1	0.1	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	77	0.8	0.5	1.1	79	0.6	0.4	0.8	1.9	0.0	0.1	0.0
USA (1998-2012)	648	0.8	0.6	1.1	690	0.7	0.5	0.8	2.1	0.0	0.1	0.1
USA, API (1998-2012)	30	0.7	0.5	1.0	34	0.6	0.5	0.8	1.7	0.1	0.1	0.3
USA, Black (1998-2012)	85	0.7	0.5	0.9	90	0.6	0.4	0.7	1.8	0.0	0.0	0.1
USA, Hispanic White (1998-2012)	116	0.7	0.7	0.8	126	0.6	0.6	0.6	1.8	0.1	0.1	0.2
USA, White NH (1998-2012)	382	0.9	0.6	1.1	401	0.7	0.5	0.9	2.2	0.0	0.1	0.1
USA, NPCR (1998-2012)	605	0.8	0.6	1.0	647	0.7	0.5	0.8	2.0	0.0	0.1	0.1
USA, SEER 18 (1993-2012)	246	1.0	0.8	1.2	267	0.8	0.7	0.9	2.5	0.1	0.1	0.2
ASIA												
CHINA, 6 registries (1990-2013)	37	0.8	0.5	1.1	50	0.7	0.6	0.9	1.9	0.1	0.2	0.5
CHINA, Hong Kong (1990-2013)	17	0.9	0.7	1.1	24	0.9	0.8	0.9	2.3	0.0	0.1	0.7
INDIA, 7 registries (1990-2013)	23	0.2	0.1	0.2	23	0.1	0.1	0.2	0.4	0.1	0.0	0.0
ISRAEL (1990-2012)	21	0.5	0.2	0.8	24	0.5	0.3	0.7	0.9	0.1	0.5	0.2
ISRAEL, Jews (1990-2012)	18	0.6	0.2	1.1	21	0.5	0.3	0.9	1.0	0.1	0.6	0.3
JAPAN, 8 registries (1990-2013)	56	1.1	0.6	1.6	64	0.9	0.6	1.3	2.6	0.1	0.1	0.3
REPUBLIC OF KOREA (1999-2012)	111	1.1	0.9	1.4	117	0.9	0.7	1.1	2.8	0.1	0.1	0.1
PHILIPPINES, 2 registries (1993-2012)	17	0.2	0.1	0.4	20	0.2	0.1	0.3	0.4	0.1	0.1	0.1
THAILAND, 6 registries (1993-2013)	17	0.5	0.4	0.5	20	0.4	0.4	0.4	1.0	0.0	0.4	0.2
TURKEY, paediatric (2009-2011)	31	0.6	0.3	1.0	-	-	-	-	1.6	0.1	0.0	-
TURKEY, 8 registries (1992-2012)	30	0.9	0.6	1.2	31	0.7	0.5	1.0	2.2	0.1	0.1	0.1
VIET NAM, Ho Chi Minh City (1995-2013)	18	0.8	0.5	1.2	21	0.7	0.5	0.9	2.1	0.1	0.0	0.3
EUROPE												
BELARUS, paediatric (1990-2014)	22	0.6	0.4	0.9	24	0.5	0.3	0.7	1.5	0.1	0.0	0.1
CZECH REPUBLIC (1990-2012)	20	0.6	0.4	0.9	25	0.5	0.4	0.7	1.4	0.2	0.0	0.3
FRANCE, paediatric (2000-2012)	102	0.8	0.5	1.1	-	-	-	-	2.0	0.0	0.1	-
FRANCE, 13 registries (1993-2012)	26	1.0	0.7	1.2	28	0.8	0.6	1.0	2.3	0.1	0.1	0.2
GERMANY, paediatric (1996-2012)	128	0.8	0.6	1.0	-	-	-	-	2.0	0.0	0.0	-
GERMANY, 5 Western registries (1994-2012)	23	0.6	0.5	0.7	24	0.5	0.4	0.5	1.4	0.1	0.1	0.1
ITALY, 26 registries (1992-2013)	25	0.7	0.4	1.0	26	0.6	0.4	0.8	1.8	0.0	0.0	0.1
THE NETHERLANDS (1993-2013)	43	0.8	0.5	1.1	48	0.7	0.5	0.8	2.1	0.0	0.0	0.2
POLAND (2001-2013)	40	0.6	0.4	0.8	46	0.5	0.4	0.6	1.5	0.1	0.0	0.2
SPAIN, 2 paediatric registries (1991-2013)	23	0.5	0.4	0.7	-	-	-	-	1.3	0.1	0.1	-
SPAIN, 11 registries (1990-2013)	20	0.8	0.5	1.0	22	0.6	0.5	0.8	1.8	0.2	0.0	0.2
SWEDEN (1990-2011)	25	0.8	0.5	1.1	32	0.8	0.6	0.9	2.0	0.0	0.2	0.6
UKRAINE (2002-2012)	85	1.3	1.1	1.5	97	1.1	0.9	1.3	3.0	0.1	0.4	0.3
UK (2000-2011)	79	0.7	0.5	0.9	86	0.6	0.4	0.7	1.7	0.0	0.1	0.2
UK, England and Wales, paediatric (1991-2010)	109	0.6	0.5	0.8	-	-	-	-	1.6	0.0	0.1	-
OCEANIA												
AUSTRALIA (1992-2014)	64	0.8	0.7	1.0	74	0.7	0.7	0.8	2.1	0.1	0.0	0.3
NEW ZEALAND (1993-2012)	20	1.3	1.4	1.2	20	1.0	1.1	0.9	3.4	0.0	0.0	0.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of malignant teratoma of extracranial or extragonadal sites
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.35. Yolk sac tumour of extracranial and extragonadal sites (Xb4): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	55	0.3	0.1	0.4	-	-	-	-	0.5	0.1	0.1	-
SOUTH AFRICA, paediatric, Black (1998-2012)	43	0.2	0.1	0.4	-	-	-	-	0.5	0.1	0.1	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	33	0.3	0.2	0.4	-	-	-	-	0.6	0.1	0.0	-
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	50	0.5	0.4	0.7	51	0.4	0.3	0.5	1.2	0.0	0.1	0.0
USA (1998-2012)	346	0.4	0.2	0.7	399	0.4	0.2	0.5	1.1	0.0	0.0	0.2
USA, API (1998-2012)	21	0.5	0.5	0.6	29	0.5	0.6	0.5	1.3	0.0	0.1	0.5
USA, Black (1998-2012)	48	0.4	0.2	0.5	54	0.3	0.2	0.4	1.0	0.0	0.0	0.1
USA, Hispanic White (1998-2012)	54	0.3	0.2	0.5	68	0.3	0.2	0.4	0.8	0.1	0.1	0.3
USA, White NH (1998-2012)	208	0.5	0.2	0.7	231	0.4	0.2	0.6	1.2	0.0	0.0	0.1
USA, NPCR (1998-2012)	324	0.4	0.2	0.6	377	0.4	0.2	0.5	1.1	0.0	0.0	0.2
USA, SEER 18 (1993-2012)	120	0.5	0.3	0.7	133	0.4	0.3	0.5	1.2	0.0	0.1	0.1
ASIA												
REPUBLIC OF KOREA (1999-2012)	44	0.4	0.2	0.7	61	0.4	0.3	0.5	1.1	0.0	0.1	0.4
PHILIPPINES, 2 registries (1993-2012)	23	0.3	0.3	0.4	28	0.3	0.2	0.3	0.7	0.0	0.1	0.2
TURKEY, paediatric (2009-2011)	38	0.8	0.5	1.1	-	-	-	-	1.8	0.1	0.1	-
EUROPE												
BELARUS, paediatric (1990-2014)	21	0.6	0.3	0.9	23	0.5	0.3	0.7	1.3	0.1	0.1	0.1
FRANCE, paediatric (2000-2012)	75	0.6	0.4	0.8	-	-	-	-	1.3	0.0	0.2	-
GERMANY, paediatric (1996-2012)	107	0.7	0.3	1.0	-	-	-	-	1.7	0.0	0.0	-
THE NETHERLANDS (1993-2013)	33	0.6	0.2	1.1	34	0.5	0.2	0.8	1.6	0.0	0.0	0.0
SPAIN, 2 paediatric registries (1991-2013)	28	0.6	0.4	0.8	-	-	-	-	1.5	0.1	0.1	-
SPAIN, selected regions, paediatric (2000-2013)	23	0.7	0.5	0.9	-	-	-	-	1.7	0.1	0.1	-
UK (2000-2011)	35	0.3	0.2	0.5	36	0.2	0.1	0.4	0.7	0.0	0.0	0.0
UK, England and Wales, paediatric (1991-2010)	96	0.6	0.2	0.9	-	-	-	-	1.3	0.1	0.1	-
OCEANIA												
AUSTRALIA (1992-2014)	58	0.8	0.6	0.9	62	0.6	0.6	0.7	2.0	0.0	0.0	0.1

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of yolk sac tumour of extracranial or extragonadal sites
Please consult registry-specific background information and quality indicators

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Table 9.36. Choriocarcinomas of extracranial and extragonadal sites (Xb5): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	1	0.0	0.0	0.0	24	0.1	0.0	0.2	0.0	0.0	0.0	0.5
USA (1998-2012)	23	0.0	0.0	0.0	251	0.2	0.0	0.3	0.0	0.0	0.0	0.7
USA, Black (1998-2012)	7	0.0	0.0	0.1	73	0.3	0.0	0.7	0.0	0.0	0.1	1.3
USA, Hispanic White (1998-2012)	8	0.0	0.1	0.0	78	0.3	0.1	0.6	0.0	0.0	0.1	1.4
USA, White NH (1998-2012)	8	0.0	0.0	0.0	78	0.1	0.0	0.2	0.0	0.0	0.0	0.4
USA, NPCR (1998-2012)	23	0.0	0.0	0.0	245	0.2	0.0	0.3	0.0	0.0	0.1	0.7
USA, SEER 18 (1993-2012)	10	0.0	0.0	0.0	91	0.2	0.1	0.4	0.0	0.0	0.1	0.8
ASIA												
THAILAND, 6 registries (1993-2013)	1	0.0	0.0	0.0	21	0.3	0.0	0.6	0.0	0.0	0.1	1.2
EUROPE												
UKRAINE (2002-2012)	0	0.0	0.0	0.0	33	0.2	0.0	0.4	0.0	0.0	0.0	0.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of choriocarcinoma of extracranial or extragonadal sites
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.37. Malignant gonadal germinomas (Xc1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	46	0.2	0.1	0.3	-	-	-	-	0.1	0.2	0.3	-
SOUTH AFRICA, paediatric, Black (1998-2012)	29	0.1	0.0	0.3	-	-	-	-	0.0	0.2	0.2	-
TUNISIA, 2 registries (1993-2007)	7	0.3	0.1	0.5	21	0.7	0.4	1.0	0.0	0.2	0.9	2.0
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	141	0.9	0.5	1.3	-	-	-	-	0.6	0.5	1.8	-
ARGENTINA, 6 registries (1991-2013)	33	1.4	0.8	2.1	83	2.6	2.9	2.3	0.8	1.4	2.2	6.7
BRAZIL, 5 registries (1995-2012)	12	0.6	0.3	0.8	35	1.2	1.0	1.3	0.3	0.3	1.2	3.1
CHILE, paediatric (2007-2011)	20	0.9	0.7	1.2	-	-	-	-	0.3	0.3	2.4	-
COLOMBIA, 4 registries (1992-2013)	11	0.6	0.1	1.0	32	1.2	0.8	1.6	0.2	0.2	1.5	3.4
COSTA RICA (1993-2012)	26	0.9	0.3	1.6	70	2.0	1.3	2.7	0.1	0.2	2.8	5.5
CUBA (2000-2012)	19	0.6	0.3	0.9	37	0.9	0.5	1.3	0.2	0.4	1.3	1.7
ECUADOR, 5 registries (1993-2013)	24	1.0	0.7	1.4	75	2.4	1.8	2.9	0.7	1.0	1.6	6.9
PERU, Lima (2010-2012)	7	1.1	1.9	0.3	24	2.3	2.6	1.9	2.1	0.0	0.9	6.4
USA, Puerto Rico (1992-2012)	10	0.5	0.2	0.8	41	1.5	1.4	1.6	0.4	0.2	1.1	4.9
URUGUAY (1993-2012)	11	0.6	0.1	1.2	35	1.5	1.5	1.6	0.2	0.4	1.5	4.6
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	54	0.4	0.1	0.7	242	1.3	1.3	1.4	0.1	0.2	1.1	4.5
USA (1998-2012)	373	0.4	0.1	0.6	1726	1.3	1.3	1.2	0.1	0.3	0.8	4.3
USA, API (1998-2012)	16	0.3	0.2	0.5	49	0.7	0.7	0.8	0.0	0.3	0.7	2.1
USA, Black (1998-2012)	50	0.3	0.0	0.6	118	0.5	0.3	0.8	0.0	0.3	0.6	1.3
USA, Hispanic White (1998-2012)	88	0.5	0.2	0.8	381	1.7	1.5	1.8	0.1	0.4	1.1	5.7
USA, White NH (1998-2012)	207	0.4	0.1	0.6	1111	1.3	1.5	1.2	0.1	0.2	0.8	4.7
USA, NPCR (1998-2012)	355	0.4	0.1	0.6	1636	1.2	1.3	1.2	0.1	0.3	0.8	4.2
USA, SEER 18 (1993-2012)	121	0.4	0.1	0.7	540	1.3	1.2	1.3	0.1	0.3	0.9	4.3
ASIA												
CHINA, 6 registries (1990-2013)	22	0.3	0.3	0.4	73	0.7	0.5	0.8	0.1	0.3	0.7	1.8
CHINA, Hong Kong (1990-2013)	12	0.4	0.5	0.3	40	0.9	1.0	0.9	0.3	0.4	0.7	2.7
INDIA, 7 registries (1990-2013)	122	0.7	0.4	1.0	289	1.1	0.7	1.6	0.7	0.3	1.1	2.6
ISRAEL (1990-2012)	12	0.3	0.1	0.4	50	0.9	0.9	1.0	0.1	0.1	0.8	3.1
ISRAEL, Jews (1990-2012)	11	0.3	0.2	0.5	43	1.0	1.0	1.0	0.1	0.0	1.0	3.5
JAPAN, 8 registries (1990-2013)	33	0.5	0.1	0.9	57	0.6	0.2	1.1	0.2	0.8	0.6	1.0
REPUBLIC OF KOREA (1999-2012)	72	0.5	0.1	0.9	208	1.0	0.3	1.8	0.1	0.3	1.2	2.8
PAKISTAN, Lahore (2008-2012)	11	0.5	0.3	0.9	22	0.9	0.4	1.4	0.3	0.0	1.4	2.0
PHILIPPINES, 2 registries (1993-2012)	45	0.6	0.7	0.5	92	0.9	1.0	0.8	0.7	0.2	0.9	2.0
SAUDI ARABIA, Riyadh (1994-2012)	14	0.4	0.1	0.7	29	0.7	0.1	1.3	0.0	0.3	1.1	1.7
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	13	0.4	0.1	0.8	28	0.8	0.2	1.4	0.0	0.2	1.3	2.0
THAILAND, 6 registries (1993-2013)	39	0.9	0.7	1.1	82	1.3	1.1	1.5	0.3	0.8	1.8	2.7
TURKEY, 8 registries (1992-2012)	25	0.5	0.1	1.0	84	1.4	1.2	1.5	0.2	0.2	1.5	4.1
VIET NAM, Ho Chi Minh City (1995-2013)	8	0.3	0.2	0.5	21	0.5	0.3	0.8	0.2	0.1	0.6	1.2
EUROPE												
AUSTRIA (1990-2012)	22	0.6	0.5	0.8	100	2.1	2.7	1.4	0.2	0.4	1.5	7.0
BELARUS, paediatric (1990-2014)	22	0.4	0.1	0.8	75	1.0	0.5	1.5	0.1	0.3	0.9	2.9
BELGIUM (2004-2013)	10	0.5	0.0	1.0	37	1.3	1.3	1.3	0.0	0.2	1.5	4.2
BULGARIA (1990-2013)	23	0.6	0.2	1.1	65	1.2	0.9	1.6	0.2	0.2	1.7	3.3
CROATIA (2001-2014)	8	0.7	0.3	1.1	22	1.4	1.4	1.5	0.0	0.3	2.1	3.9
CZECH REPUBLIC (1990-2012)	25	0.5	0.1	0.9	107	1.5	1.4	1.6	0.1	0.3	1.4	4.9
FRANCE, paediatric (2000-2012)	45	0.3	0.0	0.5	-	-	-	-	0.0	0.1	0.8	-
FRANCE, 13 registries (1993-2012)	11	0.3	0.1	0.5	56	1.2	1.2	1.2	0.2	0.4	0.5	4.1
GERMANY, paediatric (1996-2012)	53	0.2	0.0	0.4	-	-	-	-	0.0	0.2	0.5	-
GERMANY, 6 Eastern states (2001-2007)	4	0.2	0.1	0.4	42	1.3	1.8	0.8	0.0	0.0	0.8	5.0
GERMANY, 5 Western registries (1994-2012)	34	0.6	0.2	1.0	162	2.0	2.1	2.0	0.2	0.6	1.2	6.8
IRELAND (1994-2012)	10	0.6	0.2	0.9	39	1.5	1.8	1.2	0.2	0.7	0.9	4.9
ITALY, 26 registries (1992-2013)	27	0.6	0.2	1.0	135	2.1	2.3	1.8	0.1	0.3	1.6	7.2
THE NETHERLANDS (1993-2013)	26	0.4	0.0	0.8	90	1.0	0.8	1.2	0.0	0.2	1.0	3.2
NORWAY (1990-2013)	8	0.4	0.2	0.5	29	1.0	0.8	1.1	0.1	0.4	0.6	3.0
POLAND (2001-2013)	37	0.4	0.2	0.6	191	1.3	1.4	1.2	0.4	0.1	0.8	4.3
PORTUGAL (1991-2012)	12	0.4	0.1	0.7	40	0.9	0.6	1.3	0.2	0.2	0.9	2.7
RUSSIAN FEDERATION, 2 registries (1998-2015)	15	1.2	0.4	2.1	51	2.5	1.1	4.1	0.8	0.8	2.2	7.1
SLOVAKIA (1990-2009)	15	0.6	0.6	0.6	61	1.6	1.4	1.9	0.2	0.3	1.5	5.3
SLOVENIA (1991-2012)	6	0.7	0.5	0.9	22	1.8	1.4	2.2	0.0	0.4	1.9	5.6
SPAIN, 11 registries (1990-2013)	14	0.4	0.2	0.7	51	1.0	0.8	1.1	0.3	0.6	0.4	2.8
SWEDEN (1990-2011)	12	0.3	0.2	0.4	54	1.0	1.0	1.0	0.2	0.0	0.8	3.4
SWITZERLAND, 7 registries (1990-2013)	6	0.5	0.2	0.8	26	1.6	1.9	1.4	0.3	0.0	1.4	5.5
UKRAINE (2002-2012)	51	0.6	0.2	1.0	159	1.1	0.7	1.6	0.1	0.5	1.3	3.0
UK (2000-2011)	46	0.3	0.1	0.5	207	1.0	1.1	0.9	0.0	0.3	0.7	3.5
UK, England and Wales, paediatric (1991-2010)	64	0.3	0.1	0.5	-	-	-	-	0.0	0.3	0.7	-
OCEANIA												
AUSTRALIA (1992-2014)	38	0.4	0.1	0.7	187	1.4	1.8	1.0	0.1	0.2	1.1	5.0
NEW ZEALAND (1993-2012)	9	0.5	0.0	0.9	25	1.0	0.8	1.1	0.0	0.2	1.4	2.7

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of malignant gonadal germinoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.38. Malignant gonadal teratomas (Xc2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	27	0.2	0.1	0.3	-	-	-	-	0.1	0.2	0.2	-
ARGENTINA, 6 registries (1991-2013)	16	0.8	0.7	0.8	53	1.7	2.4	1.0	1.3	0.1	0.8	5.0
BRAZIL, 5 registries (1995-2012)	7	0.4	0.3	0.4	22	0.7	0.9	0.6	0.2	0.5	0.5	2.0
CHILE, 4 registries (1998-2012)	7	1.5	0.9	2.2	25	3.6	5.1	2.0	2.1	0.0	2.4	10.6
COLOMBIA, 4 registries (1992-2013)	10	0.6	0.3	0.9	35	1.4	1.4	1.3	0.7	0.2	0.8	4.0
COSTA RICA (1993-2012)	15	0.6	0.2	0.9	46	1.3	1.6	1.0	0.0	0.5	1.3	3.9
CUBA (2000-2012)	31	1.1	0.4	1.8	41	1.1	0.4	1.8	1.0	0.9	1.5	1.0
ECUADOR, 5 registries (1993-2013)	16	0.7	0.1	1.3	32	1.0	0.7	1.4	0.4	0.5	1.2	2.2
USA, Puerto Rico (1992-2012)	11	0.6	0.1	1.0	27	1.0	0.7	1.4	0.2	0.8	0.8	2.5
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	79	0.6	0.3	1.0	266	1.5	1.5	1.5	0.4	0.4	1.2	4.5
USA (1998-2012)	617	0.6	0.3	1.0	1630	1.2	1.0	1.4	0.5	0.4	1.1	3.2
USA, API (1998-2012)	47	1.0	0.5	1.5	84	1.3	0.7	2.0	0.6	0.8	1.8	2.4
USA, Black (1998-2012)	118	0.7	0.1	1.4	235	1.1	0.1	2.0	0.3	0.7	1.3	2.3
USA, Hispanic White (1998-2012)	167	1.0	0.5	1.5	392	1.7	1.3	2.1	0.7	0.4	2.0	4.4
USA, White NH (1998-2012)	261	0.5	0.3	0.7	851	1.1	1.1	1.0	0.4	0.3	0.7	3.1
USA, NPCR (1998-2012)	587	0.6	0.3	1.0	1543	1.2	1.0	1.5	0.5	0.4	1.1	3.2
USA, SEER 18 (1993-2012)	247	0.8	0.4	1.2	653	1.6	1.3	1.9	0.5	0.5	1.5	4.2
ASIA												
CHINA, 6 registries (1990-2013)	76	1.3	0.9	1.8	155	1.7	0.8	2.5	1.6	0.7	1.7	2.8
CHINA, Hong Kong (1990-2013)	50	2.0	1.5	2.6	97	2.6	1.4	3.8	2.7	1.0	2.4	4.5
INDIA, 7 registries (1990-2013)	61	0.4	0.3	0.4	95	0.4	0.3	0.5	0.5	0.2	0.3	0.5
ISRAEL (1990-2012)	29	0.7	0.2	1.2	43	0.8	0.4	1.3	0.8	0.4	0.9	1.1
ISRAEL, Jews (1990-2012)	21	0.7	0.2	1.2	34	0.9	0.4	1.3	0.8	0.4	0.9	1.4
JAPAN, 8 registries (1990-2013)	62	1.0	0.4	1.6	125	1.3	0.7	2.1	0.8	0.7	1.5	2.6
JORDAN, Jordanians (2000-2012)	13	0.5	0.6	0.4	27	0.8	0.6	0.9	0.6	0.2	0.6	1.8
REPUBLIC OF KOREA (1999-2012)	214	1.6	0.8	2.5	341	1.8	0.6	3.2	1.2	1.5	2.2	2.6
PHILIPPINES, 2 registries (1993-2012)	44	0.6	0.2	0.9	73	0.7	0.2	1.2	0.6	0.5	0.7	1.2
THAILAND, 6 registries (1993-2013)	36	0.8	0.2	1.4	59	1.0	0.2	1.7	0.4	0.7	1.6	1.4
TURKEY, 8 registries (1992-2012)	29	0.7	0.5	0.9	71	1.2	1.4	1.0	0.7	0.5	1.0	2.9
VIET NAM, Ho Chi Minh City (1995-2013)	25	1.0	0.4	1.6	37	1.0	0.3	1.7	0.5	0.7	1.9	1.1
EUROPE												
AUSTRIA (1990-2012)	21	0.6	0.5	0.8	90	1.9	2.8	0.9	0.4	0.4	1.2	6.2
BELARUS, paediatric (1990-2014)	24	0.5	0.1	0.9	48	0.7	0.5	0.9	0.4	0.4	0.8	1.3
BELGIUM (2004-2013)	17	0.9	0.4	1.4	48	1.8	2.1	1.5	0.5	0.8	1.5	4.9
BULGARIA (1990-2013)	19	0.6	0.7	0.6	63	1.3	1.9	0.6	0.9	0.4	0.6	3.5
CROATIA (2001-2014)	8	0.8	0.6	1.0	26	1.7	2.6	0.9	0.3	0.6	1.5	5.0
CZECH REPUBLIC (1990-2012)	28	0.7	0.5	0.8	156	2.2	3.4	1.0	0.4	0.7	1.0	7.7
FRANCE, paediatric (2000-2012)	60	0.4	0.3	0.5	-	-	-	-	0.3	0.3	0.5	-
FRANCE, 13 registries (1993-2012)	18	0.6	0.5	0.6	75	1.6	2.1	1.1	0.6	0.4	0.8	5.2
GERMANY, paediatric (1996-2012)	93	0.4	0.3	0.6	-	-	-	-	0.4	0.3	0.7	-
GERMANY, 6 Eastern states (2001-2007)	4	0.3	0.3	0.2	66	2.1	3.7	0.4	0.5	0.0	0.4	8.2
GERMANY, 5 Western registries (1994-2012)	31	0.7	0.6	0.7	148	1.9	3.0	0.8	0.9	0.4	0.6	6.3
IRELAND (1994-2012)	6	0.3	0.2	0.5	36	1.4	1.7	1.1	0.4	0.0	0.7	5.1
ITALY, 2 paediatric registries (1998-2011)	8	1.0	0.8	1.1	21	1.8	2.3	1.2	1.1	0.7	1.1	4.5
ITALY, 26 registries (1992-2013)	28	0.6	0.4	0.9	107	1.7	2.3	1.0	0.4	0.4	1.3	5.2
THE NETHERLANDS (1993-2013)	52	0.8	0.4	1.2	210	2.4	3.3	1.3	0.4	0.4	1.7	7.8
NORWAY (1990-2013)	22	1.1	1.4	0.6	66	2.2	3.3	1.1	1.5	0.1	1.4	6.3
POLAND (2001-2013)	36	0.5	0.3	0.6	230	1.6	2.3	0.8	0.5	0.3	0.5	5.4
PORTUGAL (1991-2012)	15	0.5	0.2	0.8	49	1.1	1.2	1.1	0.5	0.0	1.2	3.3
SLOVAKIA (1990-2009)	12	0.6	0.8	0.3	105	2.9	5.2	0.4	1.0	0.0	0.7	10.7
SLOVENIA (1991-2012)	9	1.1	0.2	2.0	24	2.0	1.7	2.3	0.0	0.9	2.7	5.2
SPAIN, 2 paediatric registries (1991-2013)	40	0.8	0.5	1.1	-	-	-	-	0.6	0.3	1.6	-
SPAIN, selected regions, paediatric (2000-2013)	28	0.8	0.6	1.0	-	-	-	-	0.7	0.4	1.4	-
SPAIN, 11 registries (1990-2013)	27	0.8	0.4	1.2	86	1.6	1.9	1.3	0.4	0.8	1.3	4.5
SWEDEN (1990-2011)	31	0.8	0.6	1.0	122	2.3	3.2	1.3	0.3	0.6	1.7	7.4
SWITZERLAND, paediatric (1990-2013)	23	0.8	0.5	1.1	-	-	-	-	0.5	0.6	1.2	-
SWITZERLAND, 7 registries (1990-2013)	10	0.9	0.7	1.1	36	2.3	3.0	1.6	1.1	0.3	1.4	7.1
UKRAINE (2002-2012)	60	0.8	0.7	1.0	126	1.0	1.0	1.1	0.9	0.7	0.8	1.8
UK (2000-2011)	84	0.6	0.3	0.9	548	2.7	4.2	1.1	0.5	0.2	1.2	10.0
UK, England and Wales, paediatric (1991-2010)	134	0.6	0.3	1.0	-	-	-	-	0.3	0.3	1.4	-
OCEANIA												
AUSTRALIA (1992-2014)	61	0.7	0.3	1.0	213	1.7	1.8	1.5	0.5	0.3	1.3	5.1
NEW ZEALAND (1993-2012)	12	0.6	0.5	0.8	40	1.6	1.7	1.4	0.5	0.0	1.5	4.8
NEW ZEALAND, Other (1993-2012)	7	0.5	0.3	0.7	25	1.4	1.4	1.3	0.3	0.0	1.5	4.3

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of malignant gonadal teratoma
Please consult registry-specific background information and quality indicators

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Table 9.39. Gonadal embryonal carcinomas (Xc3): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, 6 registries (1991-2013)	1	0.0	0.0	0.1	30	0.9	1.7	0.1	0.0	0.0	0.1	3.9
BRAZIL, 5 registries (1995-2012)	5	0.3	0.3	0.2	25	0.8	1.4	0.2	0.2	0.2	0.5	2.7
COSTA RICA (1993-2012)	0	0.0	0.0	0.0	24	0.7	1.3	0.1	0.0	0.0	0.0	3.0
ECUADOR, 5 registries (1993-2013)	7	0.3	0.5	0.2	24	0.8	1.4	0.2	0.7	0.0	0.3	2.3
URUGUAY (1993-2012)	1	0.1	0.2	0.0	22	1.0	1.9	0.0	0.2	0.0	0.0	4.0
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	9	0.1	0.1	0.1	123	0.7	1.3	0.0	0.0	0.1	0.1	2.7
USA (1998-2012)	49	0.1	0.1	0.0	940	0.7	1.3	0.0	0.0	0.0	0.1	2.8
USA, Hispanic White (1998-2012)	12	0.1	0.1	0.0	175	0.8	1.4	0.0	0.0	0.0	0.2	3.2
USA, White NH (1998-2012)	33	0.1	0.1	0.0	702	0.8	1.6	0.0	0.0	0.0	0.1	3.5
USA, NPCR (1998-2012)	46	0.0	0.1	0.0	886	0.7	1.3	0.0	0.0	0.0	0.1	2.8
USA, SEER 18 (1993-2012)	19	0.1	0.1	0.0	303	0.7	1.4	0.0	0.1	0.0	0.1	2.9
ASIA												
INDIA, 7 registries (1990-2013)	9	0.1	0.1	0.0	32	0.1	0.1	0.1	0.1	0.0	0.1	0.4
ISRAEL (1990-2012)	4	0.1	0.2	0.0	35	0.6	1.3	0.0	0.1	0.0	0.2	2.5
ISRAEL, Jews (1990-2012)	2	0.1	0.1	0.0	31	0.8	1.5	0.0	0.0	0.0	0.2	3.1
JAPAN, 8 registries (1990-2013)	3	0.0	0.1	0.0	20	0.2	0.3	0.0	0.1	0.0	0.0	0.7
TURKEY, 8 registries (1992-2012)	4	0.1	0.1	0.1	25	0.4	0.7	0.1	0.2	0.0	0.1	1.5
EUROPE												
AUSTRIA (1990-2012)	3	0.1	0.1	0.1	57	1.2	2.1	0.1	0.0	0.0	0.3	4.8
BELARUS, paediatric (1990-2014)	6	0.1	0.1	0.1	29	0.4	0.6	0.1	0.1	0.0	0.3	1.3
BELGIUM (2004-2013)	0	0.0	0.0	0.0	26	0.9	1.7	0.1	0.0	0.0	0.0	4.1
BULGARIA (1990-2013)	9	0.3	0.7	0.0	46	0.9	1.8	0.0	0.7	0.1	0.2	2.9
CZECH REPUBLIC (1990-2012)	10	0.2	0.3	0.2	116	1.6	3.0	0.2	0.1	0.2	0.5	6.4
FRANCE, 13 registries (1993-2012)	4	0.1	0.2	0.1	41	0.9	1.6	0.1	0.2	0.0	0.2	3.3
GERMANY, 6 Eastern states (2001-2007)	2	0.1	0.2	0.0	33	1.0	2.0	0.0	0.0	0.0	0.4	4.1
GERMANY, 5 Western registries (1994-2012)	2	0.0	0.1	0.0	106	1.3	2.5	0.0	0.0	0.0	0.1	5.6
IRELAND (1994-2012)	0	0.0	0.0	0.0	24	0.9	1.7	0.1	0.0	0.0	0.0	4.0
ITALY, 26 registries (1992-2013)	3	0.1	0.1	0.0	74	1.1	2.1	0.0	0.0	0.0	0.2	4.7
THE NETHERLANDS (1993-2013)	3	0.0	0.1	0.0	117	1.3	2.5	0.0	0.0	0.0	0.1	5.6
NORWAY (1990-2013)	5	0.2	0.4	0.0	40	1.3	2.5	0.0	0.0	0.1	0.6	5.0
POLAND (2001-2013)	23	0.3	0.4	0.2	237	1.6	2.8	0.3	0.5	0.0	0.3	6.0
PORTUGAL (1991-2012)	5	0.2	0.3	0.1	42	1.0	1.8	0.1	0.3	0.0	0.2	3.6
SLOVAKIA (1990-2009)	6	0.3	0.5	0.0	42	1.1	2.2	0.0	0.3	0.0	0.5	4.1
SPAIN, 11 registries (1990-2013)	6	0.2	0.2	0.2	45	0.8	1.4	0.2	0.1	0.0	0.4	3.0
SWEDEN (1990-2011)	6	0.2	0.2	0.2	74	1.4	2.6	0.1	0.2	0.3	0.1	5.6
UKRAINE (2002-2012)	26	0.4	0.6	0.2	107	0.8	1.3	0.2	0.7	0.1	0.2	2.2
UK (2000-2011)	2	0.0	0.0	0.0	61	0.3	0.5	0.0	0.0	0.0	0.0	1.3
OCEANIA												
AUSTRALIA (1992-2014)	5	0.1	0.1	0.0	80	0.6	1.2	0.0	0.0	0.0	0.1	2.5

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of gonadal embryonal carcinoma
Please consult registry-specific background information and quality indicators

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Table 9.40. Gonadal yolk sac tumour (Xc4): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	29	0.1	0.2	0.1	-	-	-	-	0.2	0.1	0.1	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	118	0.9	1.4	0.3	-	-	-	-	1.8	0.2	0.4	-
ARGENTINA, 6 registries (1991-2013)	24	1.2	1.8	0.5	26	1.0	1.5	0.5	2.2	0.4	0.7	0.3
CHILE, paediatric (2007-2011)	22	1.3	2.1	0.5	-	-	-	-	2.7	0.5	0.4	-
COLOMBIA, 4 registries (1992-2013)	19	1.2	1.7	0.6	26	1.2	1.6	0.8	2.2	0.7	0.5	1.1
COSTA RICA (1993-2012)	21	1.0	1.4	0.4	32	1.1	1.2	0.9	1.7	0.2	0.7	1.4
ECUADOR, 5 registries (1993-2013)	26	1.4	2.5	0.2	31	1.2	2.1	0.3	3.2	0.3	0.1	0.7
MEXICO, Mexico City, paediatric (1997-2013)	32	2.9	4.1	1.6	-	-	-	-	5.4	0.2	2.5	-
URUGUAY (1993-2012)	14	1.0	1.5	0.5	20	1.0	1.2	0.8	2.0	0.2	0.6	1.2
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	69	0.7	1.0	0.3	100	0.7	0.9	0.5	1.3	0.2	0.3	0.7
USA (1998-2012)	592	0.7	1.0	0.4	895	0.8	0.9	0.6	1.4	0.1	0.5	1.0
USA, API (1998-2012)	54	1.3	2.0	0.5	76	1.3	1.7	1.0	2.7	0.1	0.7	1.4
USA, Black (1998-2012)	58	0.4	0.3	0.5	125	0.6	0.2	1.0	0.4	0.2	0.6	1.3
USA, Hispanic White (1998-2012)	177	1.1	1.6	0.5	236	1.1	1.5	0.7	2.2	0.2	0.7	1.1
USA, White NH (1998-2012)	266	0.6	0.9	0.3	416	0.6	0.8	0.4	1.2	0.1	0.3	0.8
USA, NPCR (1998-2012)	563	0.7	1.0	0.4	850	0.8	0.9	0.6	1.4	0.1	0.5	0.9
USA, SEER 18 (1993-2012)	216	0.8	1.2	0.4	319	0.9	1.1	0.6	1.6	0.2	0.5	1.1
ASIA												
CHINA, 6 registries (1990-2013)	109	2.3	3.3	1.2	148	2.1	2.6	1.5	4.8	0.4	1.0	1.4
CHINA, Hong Kong (1990-2013)	66	3.3	5.0	1.4	86	3.0	3.9	2.0	7.4	0.5	1.0	1.9
INDIA, 7 registries (1990-2013)	97	0.6	0.8	0.5	120	0.6	0.6	0.5	1.2	0.2	0.4	0.4
ISRAEL (1990-2012)	20	0.5	0.6	0.4	28	0.5	0.5	0.6	0.9	0.1	0.4	0.7
ISRAEL, Jews (1990-2012)	14	0.5	0.6	0.4	20	0.5	0.5	0.6	0.8	0.1	0.4	0.6
JAPAN, 8 registries (1990-2013)	73	1.3	2.0	0.6	121	1.5	1.7	1.2	2.6	0.2	0.8	2.0
REPUBLIC OF KOREA (1999-2012)	217	2.1	3.1	0.9	287	1.9	2.5	1.3	4.4	0.2	0.9	1.5
PHILIPPINES, 2 registries (1993-2012)	99	1.4	1.4	1.2	140	1.4	1.3	1.5	2.4	0.6	0.8	1.7
SAUDI ARABIA, Riyadh (1994-2012)	30	0.9	1.3	0.6	40	1.0	1.1	0.8	1.7	0.4	0.6	1.2
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	27	1.0	1.3	0.7	35	1.0	1.2	0.8	1.7	0.4	0.7	1.1
THAILAND, 6 registries (1993-2013)	40	1.1	1.2	1.0	63	1.2	1.0	1.3	1.8	0.5	0.8	1.4
TURKEY, paediatric (2009-2011)	45	0.9	1.2	0.5	-	-	-	-	1.7	0.3	0.4	-
TURKEY, 8 registries (1992-2012)	36	1.1	1.6	0.5	59	1.2	1.6	0.8	2.4	0.2	0.3	1.6
VIET NAM, Ho Chi Minh City (1995-2013)	39	1.8	3.1	0.4	48	1.6	2.4	0.6	4.0	0.2	0.5	0.8
EUROPE												
AUSTRIA (1990-2012)	21	0.8	0.8	0.7	39	1.0	1.2	0.7	1.5	0.2	0.4	1.6
BELARUS, paediatric (1990-2014)	21	0.5	0.6	0.4	27	0.5	0.5	0.5	0.7	0.3	0.4	0.3
BELGIUM (2004-2013)	12	0.7	1.3	0.1	21	0.9	1.3	0.5	1.8	0.0	0.2	1.4
BULGARIA (1990-2013)	19	0.7	0.9	0.5	29	0.7	0.8	0.6	1.4	0.2	0.4	0.8
CZECH REPUBLIC (1990-2012)	18	0.5	0.6	0.4	37	0.6	0.9	0.4	0.9	0.1	0.4	1.1
FRANCE, paediatric (2000-2012)	78	0.6	0.7	0.4	-	-	-	-	0.9	0.2	0.5	-
FRANCE, 13 registries (1993-2012)	16	0.6	0.9	0.2	31	0.7	1.1	0.3	1.1	0.0	0.5	1.4
GERMANY, paediatric (1996-2012)	147	0.8	0.9	0.6	-	-	-	-	1.3	0.3	0.7	-
GERMANY, 6 Eastern states (2001-2007)	10	0.8	1.4	0.2	21	1.0	1.5	0.4	1.8	0.0	0.4	1.5
GERMANY, 5 Western registries (1994-2012)	26	0.6	0.9	0.3	43	0.7	0.9	0.4	1.1	0.2	0.3	0.9
ITALY, 26 registries (1992-2013)	17	0.5	0.7	0.3	41	0.7	0.9	0.5	1.0	0.1	0.1	1.6
THE NETHERLANDS (1993-2013)	30	0.5	0.8	0.2	53	0.7	1.0	0.4	1.1	0.0	0.3	1.1
NORWAY (1990-2013)	11	0.5	0.6	0.4	23	0.8	0.7	0.9	0.8	0.0	0.7	1.7
POLAND (2001-2013)	47	0.6	0.7	0.6	119	1.0	1.3	0.6	1.2	0.2	0.4	2.0
PORTUGAL (1991-2012)	26	1.1	1.5	0.6	32	1.0	1.4	0.6	2.4	0.2	0.3	0.6
SLOVAKIA (1990-2009)	24	1.4	2.0	0.7	39	1.4	2.1	0.7	3.0	0.3	0.4	1.7
SPAIN, 2 paediatric registries (1991-2013)	27	0.6	0.8	0.4	-	-	-	-	1.1	0.1	0.4	-
SPAIN, selected regions, paediatric (2000-2013)	23	0.7	1.0	0.4	-	-	-	-	1.3	0.2	0.5	-
SPAIN, 11 registries (1990-2013)	20	0.7	0.7	0.6	37	0.8	0.9	0.7	1.3	0.0	0.6	1.3
SWEDEN (1990-2011)	17	0.5	1.0	0.1	28	0.6	1.0	0.2	1.2	0.0	0.3	0.9
SWITZERLAND, paediatric (1990-2013)	23	0.9	1.3	0.4	-	-	-	-	1.7	0.0	0.7	-
UK (2000-2011)	78	0.6	0.8	0.5	115	0.7	0.7	0.7	1.3	0.1	0.4	0.8
UK, England and Wales, paediatric (1991-2010)	129	0.7	1.1	0.3	-	-	-	-	1.5	0.1	0.4	-
OCEANIA												
AUSTRALIA (1992-2014)	71	0.9	1.6	0.2	110	1.0	1.4	0.5	2.1	0.1	0.2	1.3
NEW ZEALAND (1993-2012)	24	1.5	2.5	0.5	35	1.6	2.0	1.1	3.4	0.2	0.5	1.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of gonadal yolk sac tumour
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.40. Gonadal yolk sac tumour (Xc4): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
SOUTH AFRICA, paediatric (1998-2012)	29	0.1	0.2	0.1	-	-	-	-	0.2	0.1	0.1	-
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	118	0.9	1.4	0.3	-	-	-	-	1.8	0.2	0.4	-
ARGENTINA, 6 registries (1991-2013)	24	1.2	1.8	0.5	26	1.0	1.5	0.5	2.2	0.4	0.7	0.3
CHILE, paediatric (2007-2011)	22	1.3	2.1	0.5	-	-	-	-	2.7	0.5	0.4	-
COLOMBIA, 4 registries (1992-2013)	19	1.2	1.7	0.6	26	1.2	1.6	0.8	2.2	0.7	0.5	1.1
COSTA RICA (1993-2012)	21	1.0	1.4	0.4	32	1.1	1.2	0.9	1.7	0.2	0.7	1.4
ECUADOR, 5 registries (1993-2013)	26	1.4	2.5	0.2	31	1.2	2.1	0.3	3.2	0.3	0.1	0.7
MEXICO, Mexico City, paediatric (1997-2013)	32	2.9	4.1	1.6	-	-	-	-	5.4	0.2	2.5	-
URUGUAY (1993-2012)	14	1.0	1.5	0.5	20	1.0	1.2	0.8	2.0	0.2	0.6	1.2
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	69	0.7	1.0	0.3	100	0.7	0.9	0.5	1.3	0.2	0.3	0.7
USA (1998-2012)	592	0.7	1.0	0.4	895	0.8	0.9	0.6	1.4	0.1	0.5	1.0
USA, API (1998-2012)	54	1.3	2.0	0.5	76	1.3	1.7	1.0	2.7	0.1	0.7	1.4
USA, Black (1998-2012)	58	0.4	0.3	0.5	125	0.6	0.2	1.0	0.4	0.2	0.6	1.3
USA, Hispanic White (1998-2012)	177	1.1	1.6	0.5	236	1.1	1.5	0.7	2.2	0.2	0.7	1.1
USA, White NH (1998-2012)	266	0.6	0.9	0.3	416	0.6	0.8	0.4	1.2	0.1	0.3	0.8
USA, NPCR (1998-2012)	563	0.7	1.0	0.4	850	0.8	0.9	0.6	1.4	0.1	0.5	0.9
USA, SEER 18 (1993-2012)	216	0.8	1.2	0.4	319	0.9	1.1	0.6	1.6	0.2	0.5	1.1
ASIA												
CHINA, 6 registries (1990-2013)	109	2.3	3.3	1.2	148	2.1	2.6	1.5	4.8	0.4	1.0	1.4
CHINA, Hong Kong (1990-2013)	66	3.3	5.0	1.4	86	3.0	3.9	2.0	7.4	0.5	1.0	1.9
INDIA, 7 registries (1990-2013)	97	0.6	0.8	0.5	120	0.6	0.6	0.5	1.2	0.2	0.4	0.4
ISRAEL (1990-2012)	20	0.5	0.6	0.4	28	0.5	0.5	0.6	0.9	0.1	0.4	0.7
ISRAEL, Jews (1990-2012)	14	0.5	0.6	0.4	20	0.5	0.5	0.6	0.8	0.1	0.4	0.6
JAPAN, 8 registries (1990-2013)	73	1.3	2.0	0.6	121	1.5	1.7	1.2	2.6	0.2	0.8	2.0
REPUBLIC OF KOREA (1999-2012)	217	2.1	3.1	0.9	287	1.9	2.5	1.3	4.4	0.2	0.9	1.5
PHILIPPINES, 2 registries (1993-2012)	99	1.4	1.4	1.2	140	1.4	1.3	1.5	2.4	0.6	0.8	1.7
SAUDI ARABIA, Riyadh (1994-2012)	30	0.9	1.3	0.6	40	1.0	1.1	0.8	1.7	0.4	0.6	1.2
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	27	1.0	1.3	0.7	35	1.0	1.2	0.8	1.7	0.4	0.7	1.1
THAILAND, 6 registries (1993-2013)	40	1.1	1.2	1.0	63	1.2	1.0	1.3	1.8	0.5	0.8	1.4
TURKEY, paediatric (2009-2011)	45	0.9	1.2	0.5	-	-	-	-	1.7	0.3	0.4	-
TURKEY, 8 registries (1992-2012)	36	1.1	1.6	0.5	59	1.2	1.6	0.8	2.4	0.2	0.3	1.6
VIET NAM, Ho Chi Minh City (1995-2013)	39	1.8	3.1	0.4	48	1.6	2.4	0.6	4.0	0.2	0.5	0.8
EUROPE												
AUSTRIA (1990-2012)	21	0.8	0.8	0.7	39	1.0	1.2	0.7	1.5	0.2	0.4	1.6
BELARUS, paediatric (1990-2014)	21	0.5	0.6	0.4	27	0.5	0.5	0.5	0.7	0.3	0.4	0.3
BELGIUM (2004-2013)	12	0.7	1.3	0.1	21	0.9	1.3	0.5	1.8	0.0	0.2	1.4
BULGARIA (1990-2013)	19	0.7	0.9	0.5	29	0.7	0.8	0.6	1.4	0.2	0.4	0.8
CZECH REPUBLIC (1990-2012)	18	0.5	0.6	0.4	37	0.6	0.9	0.4	0.9	0.1	0.4	1.1
FRANCE, paediatric (2000-2012)	78	0.6	0.7	0.4	-	-	-	-	0.9	0.2	0.5	-
FRANCE, 13 registries (1993-2012)	16	0.6	0.9	0.2	31	0.7	1.1	0.3	1.1	0.0	0.5	1.4
GERMANY, paediatric (1996-2012)	147	0.8	0.9	0.6	-	-	-	-	1.3	0.3	0.7	-
GERMANY, 6 Eastern states (2001-2007)	10	0.8	1.4	0.2	21	1.0	1.5	0.4	1.8	0.0	0.4	1.5
GERMANY, 5 Western registries (1994-2012)	26	0.6	0.9	0.3	43	0.7	0.9	0.4	1.1	0.2	0.3	0.9
ITALY, 26 registries (1992-2013)	17	0.5	0.7	0.3	41	0.7	0.9	0.5	1.0	0.1	0.1	1.6
THE NETHERLANDS (1993-2013)	30	0.5	0.8	0.2	53	0.7	1.0	0.4	1.1	0.0	0.3	1.1
NORWAY (1990-2013)	11	0.5	0.6	0.4	23	0.8	0.7	0.9	0.8	0.0	0.7	1.7
POLAND (2001-2013)	47	0.6	0.7	0.6	119	1.0	1.3	0.6	1.2	0.2	0.4	2.0
PORTUGAL (1991-2012)	26	1.1	1.5	0.6	32	1.0	1.4	0.6	2.4	0.2	0.3	0.6
SLOVAKIA (1990-2009)	24	1.4	2.0	0.7	39	1.4	2.1	0.7	3.0	0.3	0.4	1.7
SPAIN, 2 paediatric registries (1991-2013)	27	0.6	0.8	0.4	-	-	-	-	1.1	0.1	0.4	-
SPAIN, selected regions, paediatric (2000-2013)	23	0.7	1.0	0.4	-	-	-	-	1.3	0.2	0.5	-
SPAIN, 11 registries (1990-2013)	20	0.7	0.7	0.6	37	0.8	0.9	0.7	1.3	0.0	0.6	1.3
SWEDEN (1990-2011)	17	0.5	1.0	0.1	28	0.6	1.0	0.2	1.2	0.0	0.3	0.9
SWITZERLAND, paediatric (1990-2013)	23	0.9	1.3	0.4	-	-	-	-	1.7	0.0	0.7	-
UK (2000-2011)	78	0.6	0.8	0.5	115	0.7	0.7	0.7	1.3	0.1	0.4	0.8
UK, England and Wales, paediatric (1991-2010)	129	0.7	1.1	0.3	-	-	-	-	1.5	0.1	0.4	-
OCEANIA												
AUSTRALIA (1992-2014)	71	0.9	1.6	0.2	110	1.0	1.4	0.5	2.1	0.1	0.2	1.3
NEW ZEALAND (1993-2012)	24	1.5	2.5	0.5	35	1.6	2.0	1.1	3.4	0.2	0.5	1.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of gonadal yolk sac tumour
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.41. Gonadal choriocarcinoma (Xc5): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	9	0.1	0.1	0.1	68	0.4	0.6	0.1	0.0	0.0	0.2	1.4
USA (1998-2012)	44	0.0	0.0	0.1	349	0.3	0.4	0.1	0.0	0.0	0.1	1.0
USA, Hispanic White (1998-2012)	19	0.1	0.0	0.2	109	0.5	0.7	0.2	0.0	0.1	0.2	1.7
USA, White NH (1998-2012)	20	0.0	0.0	0.0	212	0.2	0.4	0.1	0.0	0.0	0.1	1.0
USA, NPCR (1998-2012)	42	0.0	0.0	0.1	337	0.3	0.4	0.1	0.0	0.0	0.1	1.0
USA, SEER 18 (1993-2012)	15	0.0	0.0	0.0	132	0.3	0.5	0.1	0.0	0.0	0.1	1.2
EUROPE												
CZECH REPUBLIC (1990-2012)	0	0.0	0.0	0.0	26	0.4	0.7	0.0	0.0	0.0	0.0	1.6
FRANCE, paediatric (2000-2012)	28	0.2	0.1	0.2	-	-	-	-	0.0	0.1	0.5	-
FRANCE, 13 registries (1993-2012)	5	0.1	0.2	0.1	32	0.7	1.2	0.1	0.0	0.0	0.5	2.4
GERMANY, paediatric (1996-2012)	54	0.2	0.1	0.3	-	-	-	-	0.0	0.1	0.6	-
GERMANY, 5 Western registries (1994-2012)	6	0.1	0.1	0.1	25	0.3	0.5	0.1	0.0	0.0	0.3	1.0
ITALY, 26 registries (1992-2013)	2	0.0	0.1	0.0	20	0.3	0.6	0.0	0.1	0.0	0.1	1.2
THE NETHERLANDS (1993-2013)	6	0.1	0.1	0.1	64	0.7	1.3	0.1	0.0	0.0	0.2	2.9
POLAND (2001-2013)	4	0.0	0.0	0.1	31	0.2	0.3	0.1	0.0	0.0	0.1	0.8
SLOVAKIA (1990-2009)	3	0.1	0.0	0.2	22	0.6	1.0	0.2	0.0	0.1	0.2	2.2
UK (2000-2011)	4	0.0	0.0	0.0	31	0.2	0.3	0.0	0.0	0.0	0.1	0.6
OCEANIA												
AUSTRALIA (1992-2014)	3	0.0	0.0	0.0	28	0.2	0.3	0.1	0.0	0.0	0.1	0.8

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of gonadal choriocarcinoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.42. Malignant gonadal tumours of mixed forms (Xc6): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	44	0.3	0.2	0.4	-	-	-	-	0.1	0.2	0.6	-
ARGENTINA, 6 registries (1991-2013)	16	0.7	0.7	0.7	43	1.3	2.0	0.6	0.4	0.4	1.3	3.6
COLOMBIA, 4 registries (1992-2013)	2	0.1	0.1	0.1	23	0.8	1.4	0.3	0.0	0.0	0.3	3.4
COSTA RICA (1993-2012)	4	0.2	0.2	0.2	41	1.2	2.0	0.4	0.3	0.0	0.2	4.7
ECUADOR, 5 registries (1993-2013)	9	0.4	0.4	0.4	44	1.4	2.0	0.7	0.4	0.3	0.5	4.7
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	39	0.3	0.2	0.4	357	1.9	3.3	0.5	0.1	0.2	0.8	7.6
USA (1998-2012)	373	0.4	0.3	0.5	3128	2.2	3.8	0.6	0.1	0.2	0.9	8.7
USA, API (1998-2012)	11	0.2	0.1	0.4	69	1.0	1.5	0.5	0.1	0.2	0.5	3.8
USA, Black (1998-2012)	35	0.2	0.0	0.4	127	0.6	0.6	0.6	0.1	0.1	0.5	1.8
USA, Hispanic White (1998-2012)	102	0.6	0.4	0.7	756	3.3	5.4	0.9	0.2	0.3	1.4	12.7
USA, Native American (1998-2012)	1	0.1	0.1	0.0	28	1.2	2.1	0.4	0.0	0.0	0.2	5.3
USA, White NH (1998-2012)	218	0.4	0.3	0.4	2060	2.4	4.2	0.5	0.2	0.2	0.9	9.5
USA, NPCR (1998-2012)	363	0.4	0.3	0.5	2970	2.2	3.8	0.6	0.1	0.2	0.9	8.6
USA, SEER 18 (1993-2012)	99	0.3	0.2	0.4	950	2.2	3.8	0.6	0.1	0.1	0.8	8.8
ASIA												
CHINA, 6 registries (1990-2013)	12	0.2	0.1	0.3	48	0.4	0.5	0.4	0.0	0.2	0.4	1.3
CHINA, Hong Kong (1990-2013)	6	0.2	0.1	0.2	35	0.8	1.1	0.5	0.0	0.0	0.6	2.8
INDIA, 7 registries (1990-2013)	19	0.1	0.1	0.1	48	0.2	0.1	0.2	0.0	0.1	0.2	0.5
ISRAEL (1990-2012)	16	0.4	0.2	0.6	62	1.1	1.7	0.5	0.1	0.2	0.9	3.8
ISRAEL, Jews (1990-2012)	12	0.4	0.2	0.5	51	1.2	1.9	0.5	0.1	0.2	0.9	4.2
JAPAN, 8 registries (1990-2013)	11	0.2	0.2	0.2	40	0.4	0.5	0.3	0.2	0.0	0.3	1.2
JORDAN, Jordanians (2000-2012)	10	0.3	0.1	0.6	29	0.8	1.0	0.6	0.0	0.1	1.0	2.4
REPUBLIC OF KOREA (1999-2012)	60	0.4	0.2	0.6	147	0.7	0.7	0.8	0.3	0.3	0.8	1.8
SAUDI ARABIA, Riyadh (1994-2012)	7	0.2	0.0	0.4	24	0.6	0.7	0.5	0.1	0.2	0.4	2.0
TURKEY, 8 registries (1992-2012)	15	0.4	0.4	0.3	100	1.6	2.8	0.4	0.3	0.2	0.6	5.9
EUROPE												
BELARUS, paediatric (1990-2014)	20	0.4	0.2	0.6	48	0.6	0.5	0.8	0.1	0.1	1.0	1.6
BELGIUM (2004-2013)	5	0.3	0.1	0.4	45	1.6	2.7	0.5	0.2	0.2	0.5	6.3
BULGARIA (1990-2013)	4	0.1	0.2	0.1	28	0.5	0.8	0.3	0.2	0.0	0.2	1.9
CROATIA (2001-2014)	4	0.4	0.3	0.4	29	1.9	3.4	0.3	0.0	0.3	0.9	7.0
CZECH REPUBLIC (1990-2012)	7	0.2	0.2	0.1	41	0.6	1.0	0.1	0.1	0.0	0.4	2.0
FRANCE, paediatric (2000-2012)	66	0.4	0.3	0.6	-	-	-	-	0.4	0.2	0.7	-
FRANCE, 13 registries (1993-2012)	8	0.2	0.1	0.4	40	0.8	1.2	0.4	0.0	0.2	0.6	2.9
GERMANY, paediatric (1996-2012)	59	0.3	0.2	0.4	-	-	-	-	0.2	0.2	0.4	-
GERMANY, 6 Eastern states (2001-2007)	0	0.0	0.0	0.0	30	0.9	1.7	0.0	0.0	0.0	0.0	4.0
GERMANY, 5 Western registries (1994-2012)	15	0.3	0.2	0.3	91	1.1	1.9	0.4	0.1	0.3	0.4	4.1
IRELAND (1994-2012)	4	0.2	0.4	0.0	30	1.2	2.1	0.2	0.2	0.0	0.5	4.4
ITALY, 26 registries (1992-2013)	4	0.1	0.1	0.0	54	0.8	1.5	0.1	0.0	0.1	0.1	3.3
THE NETHERLANDS (1993-2013)	12	0.2	0.1	0.2	132	1.5	2.6	0.3	0.0	0.1	0.4	5.9
NORWAY (1990-2013)	7	0.3	0.5	0.2	106	3.4	6.4	0.3	0.4	0.0	0.6	14.1
POLAND (2001-2013)	11	0.1	0.1	0.1	131	0.8	1.5	0.2	0.0	0.1	0.3	3.3
PORTUGAL (1991-2012)	5	0.2	0.1	0.3	29	0.7	1.0	0.3	0.0	0.2	0.3	2.3
SLOVAKIA (1990-2009)	3	0.1	0.1	0.1	43	1.1	2.1	0.1	0.0	0.0	0.4	4.6
SLOVENIA (1991-2012)	0	0.0	0.0	0.0	30	2.3	4.1	0.5	0.0	0.0	0.0	10.4
SPAIN, 11 registries (1990-2013)	6	0.2	0.0	0.3	38	0.7	1.1	0.2	0.1	0.1	0.3	2.4
SWITZERLAND, 7 registries (1990-2013)	2	0.2	0.3	0.0	22	1.4	2.4	0.3	0.0	0.0	0.6	5.5
UKRAINE (2002-2012)	16	0.2	0.1	0.4	26	0.2	0.1	0.4	0.2	0.2	0.3	0.3
UK (2000-2011)	33	0.2	0.2	0.3	182	0.9	1.4	0.4	0.1	0.2	0.5	3.2
UK, England and Wales, paediatric (1991-2010)	39	0.2	0.1	0.2	-	-	-	-	0.1	0.1	0.4	-
OCEANIA												
AUSTRALIA (1992-2014)	22	0.2	0.1	0.3	221	1.7	2.9	0.4	0.0	0.1	0.7	6.7
NEW ZEALAND (1993-2012)	2	0.1	0.1	0.1	51	2.0	3.3	0.5	0.0	0.0	0.3	8.4
NEW ZEALAND, Other (1993-2012)	2	0.1	0.1	0.1	35	1.9	3.2	0.6	0.0	0.0	0.5	7.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of malignant gonadal tumour of mixed forms
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.43. Carcinomas of salivary glands (XIf1): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	60	0.4	0.3	0.6	136	0.8	0.5	1.0	0.1	0.2	1.2	1.8
USA (1998-2012)	463	0.4	0.4	0.5	1055	0.8	0.6	0.9	0.0	0.3	1.2	1.9
USA, API (1998-2012)	20	0.4	0.5	0.3	47	0.7	0.7	0.7	0.0	0.2	1.2	1.8
USA, Black (1998-2012)	86	0.5	0.4	0.7	173	0.8	0.6	1.0	0.1	0.3	1.2	1.7
USA, Hispanic White (1998-2012)	70	0.4	0.4	0.4	141	0.6	0.6	0.6	0.0	0.2	1.1	1.4
USA, White NH (1998-2012)	271	0.4	0.3	0.6	651	0.8	0.6	1.0	0.0	0.2	1.2	2.0
USA, NPCR (1998-2012)	443	0.4	0.4	0.5	1003	0.8	0.6	0.9	0.0	0.3	1.2	1.8
USA, SEER 18 (1993-2012)	138	0.4	0.4	0.5	317	0.7	0.6	0.9	0.0	0.2	1.2	1.9
ASIA												
CHINA, 6 registries (1990-2013)	28	0.4	0.4	0.4	87	0.8	0.7	0.9	0.1	0.3	1.0	2.1
CHINA, Hong Kong (1990-2013)	14	0.4	0.3	0.6	39	0.9	0.6	1.1	0.0	0.0	1.4	2.4
INDIA, 7 registries (1990-2013)	50	0.3	0.2	0.3	102	0.4	0.3	0.5	0.1	0.3	0.4	0.8
ISRAEL (1990-2012)	13	0.3	0.1	0.5	37	0.7	0.3	1.0	0.1	0.1	0.8	2.0
ISRAEL, Jews (1990-2012)	12	0.4	0.2	0.6	34	0.8	0.4	1.2	0.1	0.2	0.9	2.4
JAPAN, 8 registries (1990-2013)	15	0.2	0.2	0.2	27	0.3	0.3	0.3	0.0	0.1	0.6	0.5
REPUBLIC OF KOREA (1999-2012)	61	0.4	0.4	0.4	129	0.6	0.6	0.7	0.0	0.3	1.0	1.4
PHILIPPINES, 2 registries (1993-2012)	33	0.4	0.4	0.5	63	0.6	0.5	0.7	0.1	0.3	1.0	1.3
THAILAND, 6 registries (1993-2013)	6	0.1	0.2	0.1	21	0.3	0.3	0.3	0.0	0.2	0.2	0.9
EUROPE												
BELARUS, paediatric (1990-2014)	7	0.1	0.1	0.2	23	0.3	0.3	0.3	0.1	0.1	0.3	0.9
BELGIUM (2004-2013)	11	0.5	0.5	0.6	22	0.8	0.6	1.0	0.0	0.3	1.5	1.7
CZECH REPUBLIC (1990-2012)	8	0.2	0.2	0.2	26	0.4	0.3	0.4	0.0	0.3	0.3	1.1
FRANCE, paediatric (2000-2012)	49	0.3	0.2	0.4	-	-	-	-	0.0	0.2	0.8	-
FRANCE, 13 registries (1993-2012)	14	0.4	0.2	0.6	30	0.6	0.4	0.9	0.0	0.1	1.2	1.4
GERMANY, paediatric (1996-2012)	25	0.1	0.1	0.1	-	-	-	-	0.0	0.1	0.3	-
GERMANY, 5 Western registries (1994-2012)	11	0.2	0.1	0.3	35	0.4	0.3	0.6	0.0	0.2	0.4	1.3
ITALY, 26 registries (1992-2013)	15	0.3	0.2	0.4	44	0.7	0.5	0.9	0.0	0.2	0.9	1.9
THE NETHERLANDS (1993-2013)	22	0.3	0.2	0.4	56	0.6	0.5	0.8	0.0	0.0	1.0	1.7
NORWAY (1990-2013)	12	0.5	0.2	0.8	24	0.8	0.4	1.1	0.0	0.0	1.7	1.7
POLAND (2001-2013)	17	0.2	0.0	0.3	48	0.3	0.2	0.5	0.0	0.0	0.5	0.9
SPAIN, 11 registries (1990-2013)	13	0.3	0.3	0.4	27	0.5	0.3	0.7	0.0	0.3	0.9	1.1
SWEDEN (1990-2011)	18	0.5	0.1	0.8	39	0.7	0.4	1.1	0.0	0.3	1.2	1.7
UKRAINE (2002-2012)	6	0.1	0.1	0.1	24	0.2	0.1	0.2	0.0	0.1	0.1	0.5
UK (2000-2011)	60	0.4	0.2	0.6	140	0.7	0.4	1.0	0.0	0.2	1.1	1.7
UK, England and Wales, paediatric (1991-2010)	74	0.3	0.2	0.5	-	-	-	-	0.0	0.2	0.9	-
OCEANIA												
AUSTRALIA (1992-2014)	37	0.4	0.3	0.5	90	0.7	0.5	0.9	0.0	0.2	1.1	1.8

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of carcinoma of salivary glands
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.44. Carcinomas of colon and rectum (XIf2): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	3	0.2	0.2	0.1	32	1.1	1.1	1.0	0.2	0.0	0.3	4.3
EGYPT, Gharbiah (1999-2010)	3	0.2	0.0	0.4	32	1.3	1.6	1.0	0.0	0.2	0.4	5.3
TUNISIA, 2 registries (1993-2007)	3	0.1	0.3	0.0	20	0.7	0.7	0.6	0.0	0.2	0.3	2.4
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	20	0.1	0.2	0.1	-	-	-	-	0.0	0.0	0.4	-
BRAZIL, 5 registries (1995-2012)	5	0.2	0.5	0.0	21	0.7	0.9	0.5	0.2	0.0	0.6	2.2
COLOMBIA, 4 registries (1992-2013)	4	0.2	0.3	0.1	24	0.9	1.0	0.8	0.0	0.0	0.7	3.2
COSTA RICA (1993-2012)	0	0.0	0.0	0.0	20	0.6	0.8	0.3	0.0	0.0	0.0	2.5
CUBA (2000-2012)	2	0.1	0.1	0.1	20	0.4	0.6	0.3	0.0	0.0	0.2	1.7
ECUADOR, 5 registries (1993-2013)	2	0.1	0.0	0.2	23	0.7	0.6	0.8	0.0	0.0	0.3	2.8
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	20	0.2	0.2	0.1	72	0.4	0.4	0.4	0.1	0.1	0.4	1.2
USA (1998-2012)	104	0.1	0.1	0.1	687	0.5	0.5	0.5	0.0	0.0	0.3	1.8
USA, API (1998-2012)	6	0.1	0.2	0.1	41	0.6	0.7	0.5	0.0	0.0	0.4	2.3
USA, Black (1998-2012)	19	0.1	0.1	0.1	115	0.5	0.6	0.4	0.0	0.0	0.3	1.9
USA, Hispanic White (1998-2012)	19	0.1	0.1	0.1	106	0.5	0.5	0.5	0.0	0.0	0.3	1.7
USA, White NH (1998-2012)	58	0.1	0.1	0.1	407	0.5	0.5	0.5	0.0	0.0	0.3	1.8
USA, NPCR (1998-2012)	102	0.1	0.1	0.1	658	0.5	0.5	0.5	0.0	0.0	0.3	1.8
USA, SEER 18 (1993-2012)	29	0.1	0.1	0.1	230	0.5	0.6	0.4	0.0	0.0	0.3	2.1
ASIA												
CHINA, 6 registries (1990-2013)	9	0.1	0.1	0.1	61	0.5	0.6	0.4	0.0	0.0	0.4	1.8
CHINA, Hong Kong (1990-2013)	3	0.1	0.2	0.0	27	0.6	0.8	0.4	0.0	0.0	0.3	2.3
INDIA, 7 registries (1990-2013)	37	0.2	0.3	0.1	121	0.5	0.6	0.3	0.2	0.1	0.4	1.3
ISRAEL (1990-2012)	10	0.2	0.3	0.1	29	0.5	0.5	0.5	0.0	0.1	0.7	1.6
ISRAEL, Jews (1990-2012)	7	0.2	0.3	0.1	21	0.5	0.5	0.5	0.0	0.0	0.7	1.5
JAPAN, 8 registries (1990-2013)	6	0.1	0.2	0.0	50	0.5	0.6	0.4	0.0	0.0	0.2	1.8
REPUBLIC OF KOREA (1999-2012)	36	0.2	0.3	0.2	163	0.8	0.9	0.6	0.0	0.1	0.7	2.6
PAKISTAN, Lahore (2008-2012)	5	0.2	0.3	0.2	31	1.3	1.8	0.7	0.0	0.0	0.8	4.8
PHILIPPINES, 2 registries (1993-2012)	19	0.2	0.3	0.2	82	0.8	0.9	0.6	0.1	0.1	0.7	2.6
THAILAND, 6 registries (1993-2013)	13	0.3	0.4	0.2	52	0.8	1.0	0.6	0.2	0.1	0.7	2.4
TURKEY, 8 registries (1992-2012)	9	0.2	0.1	0.3	32	0.5	0.4	0.6	0.0	0.2	0.5	1.6
EUROPE												
BELARUS, paediatric (1990-2014)	10	0.2	0.2	0.2	24	0.3	0.4	0.3	0.0	0.0	0.6	0.8
BULGARIA (1990-2013)	3	0.1	0.2	0.0	22	0.4	0.5	0.3	0.0	0.0	0.3	1.5
CZECH REPUBLIC (1990-2012)	5	0.1	0.1	0.1	28	0.4	0.4	0.3	0.0	0.0	0.3	1.4
GERMANY, paediatric (1996-2012)	20	0.1	0.1	0.1	-	-	-	-	0.0	0.1	0.2	-
GERMANY, 5 Western registries (1994-2012)	10	0.2	0.2	0.1	38	0.5	0.6	0.3	0.0	0.0	0.6	1.5
THE NETHERLANDS (1993-2013)	8	0.1	0.1	0.2	32	0.4	0.4	0.3	0.0	0.0	0.3	1.2
POLAND (2001-2013)	3	0.0	0.0	0.0	28	0.2	0.2	0.2	0.0	0.0	0.1	0.7
PORTUGAL (1991-2012)	4	0.1	0.1	0.2	22	0.5	0.4	0.6	0.1	0.1	0.2	1.8
SWEDEN (1990-2011)	5	0.1	0.0	0.2	21	0.4	0.4	0.3	0.0	0.0	0.4	1.3
UKRAINE (2002-2012)	6	0.1	0.1	0.1	52	0.3	0.4	0.3	0.0	0.0	0.2	1.3
UK (2000-2011)	9	0.1	0.1	0.1	76	0.4	0.4	0.3	0.0	0.0	0.2	1.4
OCEANIA												
AUSTRALIA (1992-2014)	15	0.1	0.2	0.1	89	0.7	0.6	0.7	0.0	0.0	0.5	2.5

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of carcinoma of colon or rectum
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.45. Carcinomas of lung (Xlf4): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	27	0.2	0.1	0.3	76	0.4	0.4	0.5	0.1	0.1	0.5	1.2
USA (1998-2012)	160	0.2	0.2	0.2	541	0.4	0.4	0.4	0.0	0.1	0.4	1.2
USA, Black (1998-2012)	21	0.1	0.1	0.1	82	0.4	0.3	0.4	0.0	0.0	0.4	1.2
USA, Hispanic White (1998-2012)	14	0.1	0.1	0.1	66	0.3	0.3	0.3	0.0	0.1	0.2	1.0
USA, White NH (1998-2012)	114	0.2	0.2	0.2	359	0.4	0.4	0.4	0.0	0.2	0.4	1.3
USA, NPCR (1998-2012)	158	0.2	0.2	0.2	524	0.4	0.4	0.4	0.0	0.1	0.4	1.2
USA, SEER 18 (1993-2012)	44	0.1	0.1	0.1	134	0.3	0.3	0.4	0.0	0.1	0.3	0.9
ASIA												
CHINA, 6 registries (1990-2013)	3	0.0	0.1	0.0	22	0.2	0.2	0.2	0.0	0.1	0.1	0.7
INDIA, 7 registries (1990-2013)	24	0.1	0.2	0.1	47	0.2	0.3	0.1	0.2	0.1	0.2	0.4
JAPAN, 8 registries (1990-2013)	5	0.1	0.1	0.1	33	0.3	0.3	0.3	0.0	0.0	0.2	1.2
REPUBLIC OF KOREA (1999-2012)	19	0.1	0.1	0.1	70	0.3	0.4	0.3	0.0	0.1	0.3	1.1
THAILAND, 6 registries (1993-2013)	7	0.2	0.2	0.2	21	0.3	0.5	0.2	0.4	0.0	0.1	0.9
EUROPE												
AUSTRIA (1990-2012)	5	0.1	0.2	0.1	23	0.5	0.6	0.3	0.0	0.1	0.4	1.6
BELGIUM (2004-2013)	5	0.2	0.3	0.2	21	0.8	0.8	0.7	0.0	0.2	0.6	2.5
CZECH REPUBLIC (1990-2012)	5	0.1	0.1	0.1	24	0.3	0.4	0.3	0.0	0.1	0.3	1.1
FRANCE, paediatric (2000-2012)	24	0.1	0.1	0.2	-	-	-	-	0.0	0.1	0.4	-
FRANCE, 13 registries (1993-2012)	10	0.3	0.2	0.4	24	0.5	0.5	0.5	0.1	0.3	0.6	1.3
GERMANY, 5 Western registries (1994-2012)	3	0.1	0.1	0.0	24	0.3	0.3	0.2	0.0	0.1	0.1	1.1
ITALY, 26 registries (1992-2013)	2	0.0	0.1	0.0	26	0.4	0.4	0.4	0.0	0.1	0.1	1.6
THE NETHERLANDS (1993-2013)	12	0.2	0.3	0.1	38	0.4	0.5	0.3	0.0	0.0	0.5	1.3
UKRAINE (2002-2012)	14	0.2	0.2	0.1	57	0.4	0.3	0.5	0.1	0.0	0.4	1.2
UK (2000-2011)	13	0.1	0.1	0.1	71	0.3	0.4	0.3	0.0	0.1	0.2	1.2
OCEANIA												
AUSTRALIA (1992-2014)	13	0.1	0.1	0.2	54	0.4	0.4	0.4	0.0	0.1	0.4	1.4

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of lung carcinoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.46. Carcinomas of breast (XIf6): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	5	0.0	0.0	0.1	41	0.2	0.0	0.4	0.0	0.0	0.1	0.9
USA (1998-2012)	54	0.1	0.0	0.1	249	0.2	0.0	0.4	0.0	0.0	0.1	0.6
USA, Black (1998-2012)	18	0.1	0.0	0.2	71	0.3	0.0	0.6	0.1	0.0	0.3	1.0
USA, Hispanic White (1998-2012)	5	0.0	0.0	0.1	37	0.2	0.0	0.3	0.0	0.0	0.1	0.6
USA, White NH (1998-2012)	27	0.0	0.0	0.1	120	0.1	0.0	0.3	0.0	0.0	0.1	0.5
USA, NPCR (1998-2012)	51	0.1	0.0	0.1	238	0.2	0.0	0.4	0.0	0.0	0.1	0.6
USA, SEER 18 (1993-2012)	13	0.0	0.0	0.1	75	0.2	0.0	0.4	0.0	0.0	0.1	0.6
ASIA												
INDIA, 7 registries (1990-2013)	20	0.1	0.0	0.2	68	0.3	0.1	0.5	0.1	0.1	0.1	0.8
REPUBLIC OF KOREA (1999-2012)	6	0.0	0.0	0.1	42	0.2	0.0	0.4	0.0	0.0	0.1	0.7
PHILIPPINES, 2 registries (1993-2012)	4	0.1	0.0	0.1	30	0.3	0.0	0.5	0.1	0.0	0.1	1.1
EUROPE												
UK (2000-2011)	2	0.0	0.0	0.0	23	0.1	0.0	0.2	0.0	0.0	0.0	0.5

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of breast carcinoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.47. Carcinomas of bladder (XIf8): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	5	0.0	0.0	0.1	30	0.2	0.2	0.2	0.0	0.0	0.1	0.6
USA (1998-2012)	31	0.0	0.1	0.0	127	0.1	0.1	0.1	0.0	0.0	0.0	0.3
USA, White NH (1998-2012)	24	0.0	0.1	0.0	98	0.1	0.2	0.1	0.1	0.0	0.0	0.4
USA, NPCR (1998-2012)	30	0.0	0.1	0.0	112	0.1	0.1	0.1	0.0	0.0	0.0	0.3
USA, SEER 18 (1993-2012)	23	0.1	0.1	0.0	109	0.3	0.3	0.2	0.0	0.1	0.2	0.9
ASIA												
INDIA, 7 registries (1990-2013)	13	0.1	0.1	0.0	24	0.1	0.1	0.0	0.0	0.1	0.1	0.2
ISRAEL (1990-2012)	8	0.2	0.2	0.1	29	0.5	0.6	0.4	0.0	0.1	0.5	1.7
ISRAEL, Jews (1990-2012)	7	0.2	0.2	0.2	28	0.7	0.8	0.5	0.0	0.2	0.5	2.3
REPUBLIC OF KOREA (1999-2012)	7	0.0	0.1	0.0	23	0.1	0.2	0.1	0.0	0.0	0.1	0.3
TURKEY, 8 registries (1992-2012)	6	0.1	0.1	0.1	22	0.4	0.5	0.2	0.1	0.2	0.2	1.1
EUROPE												
CZECH REPUBLIC (1990-2012)	6	0.1	0.1	0.1	20	0.3	0.4	0.2	0.0	0.2	0.3	0.8
ITALY, 26 registries (1992-2013)	3	0.1	0.1	0.0	23	0.3	0.4	0.3	0.0	0.1	0.1	1.3
POLAND (2001-2013)	6	0.1	0.1	0.0	23	0.2	0.2	0.1	0.0	0.1	0.1	0.5
UKRAINE (2002-2012)	4	0.0	0.0	0.0	31	0.2	0.2	0.2	0.0	0.0	0.1	0.7

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of bladder carcinoma
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.48. Carcinomas of other specified sites (XIf10): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AFRICA												
ALGERIA, 5 registries (1996-2014)	22	1.2	1.7	0.7	50	1.8	2.4	1.3	0.7	0.9	2.1	4.1
KENYA, 2 registries (2000-2012)	17	1.6	2.3	0.9	39	2.9	4.1	1.8	1.2	1.7	2.0	7.4
MALI, Bamako (2005-2014)	13	1.8	2.2	1.3	30	2.9	3.2	2.6	1.1	2.9	1.4	6.6
MOROCCO, 2 registries (2005-2012)	12	1.4	1.7	1.2	20	1.7	1.7	1.6	2.4	0.7	1.0	2.5
SOUTH AFRICA, paediatric (1998-2012)	24	0.1	0.0	0.2	-	-	-	-	0.0	0.1	0.2	-
UGANDA, Kyadondo (1996-2013)	8	0.6	0.6	0.6	20	1.0	1.3	0.9	0.4	0.2	1.2	2.7
AMERICA, LATIN AND THE CARIBBEAN												
ARGENTINA, paediatric (2000-2013)	22	0.1	0.1	0.1	-	-	-	-	0.0	0.1	0.4	-
ARGENTINA, 6 registries (1991-2013)	9	0.4	0.5	0.2	30	0.9	0.9	1.0	0.3	0.4	0.5	2.8
BRAZIL, 5 registries (1995-2012)	16	0.8	0.9	0.8	34	1.2	1.0	1.3	0.3	1.2	1.1	2.5
COLOMBIA, 4 registries (1992-2013)	11	0.5	0.5	0.6	32	1.2	1.1	1.2	0.0	0.5	1.3	3.4
COSTA RICA (1993-2012)	6	0.2	0.2	0.2	39	1.1	0.8	1.4	0.0	0.1	0.6	4.1
CUBA (2000-2012)	25	0.8	0.9	0.7	63	1.5	1.4	1.5	0.5	0.2	1.9	3.7
ECUADOR, 5 registries (1993-2013)	6	0.3	0.3	0.2	27	0.8	0.7	1.0	0.1	0.1	0.5	2.8
USA, Puerto Rico (1992-2012)	8	0.4	0.3	0.5	26	0.9	0.7	1.2	0.0	0.3	1.0	2.8
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	56	0.5	0.5	0.4	157	0.9	0.9	0.9	0.3	0.3	0.8	2.4
USA (1998-2012)	402	0.4	0.4	0.4	1173	0.9	0.8	0.9	0.2	0.3	0.8	2.4
USA, API (1998-2012)	12	0.3	0.3	0.2	46	0.7	0.8	0.6	0.1	0.3	0.4	2.2
USA, Black (1998-2012)	67	0.4	0.4	0.5	183	0.8	0.7	1.0	0.2	0.3	0.9	2.3
USA, Hispanic White (1998-2012)	65	0.4	0.3	0.4	185	0.8	0.6	1.0	0.0	0.3	0.8	2.3
USA, White NH (1998-2012)	237	0.4	0.4	0.4	703	0.9	0.8	0.9	0.2	0.3	0.8	2.4
USA, NPCR (1998-2012)	385	0.4	0.4	0.4	1111	0.9	0.8	0.9	0.2	0.3	0.8	2.4
USA, SEER 18 (1993-2012)	112	0.4	0.3	0.4	376	0.9	0.8	1.0	0.1	0.3	0.8	2.7
ASIA												
CHINA, 6 registries (1990-2013)	19	0.3	0.2	0.4	101	0.9	0.7	1.0	0.1	0.3	0.6	2.9
CHINA, Hong Kong (1990-2013)	7	0.3	0.2	0.3	37	0.9	0.9	0.9	0.3	0.1	0.4	2.9
INDIA, 7 registries (1990-2013)	177	1.0	1.2	0.7	395	1.5	1.7	1.3	0.6	1.1	1.3	3.4
ISRAEL (1990-2012)	24	0.6	0.6	0.5	64	1.2	1.0	1.4	0.3	0.6	0.9	3.3
ISRAEL, Jews (1990-2012)	20	0.6	0.7	0.5	51	1.2	1.1	1.4	0.3	0.5	1.3	3.3
JAPAN, 8 registries (1990-2013)	26	0.4	0.3	0.4	94	0.9	0.8	1.0	0.1	0.2	1.0	2.8
REPUBLIC OF KOREA (1999-2012)	70	0.5	0.3	0.6	243	1.2	1.0	1.3	0.0	0.3	1.2	3.6
PAKISTAN, Karachi (1995-2002)	11	1.8	2.2	1.4	24	3.5	3.8	3.1	0.0	1.5	4.7	9.0
PAKISTAN, Lahore (2008-2012)	3	0.1	0.3	0.0	21	0.9	0.7	1.0	0.0	0.2	0.3	3.3
PHILIPPINES, 2 registries (1993-2012)	52	0.7	0.6	0.7	118	1.2	1.0	1.3	0.6	0.6	1.0	2.8
SAUDI ARABIA, Riyadh (1994-2012)	10	0.3	0.3	0.3	24	0.6	0.5	0.6	0.1	0.2	0.7	1.6
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	8	0.3	0.3	0.3	20	0.6	0.5	0.6	0.1	0.0	0.8	1.6
THAILAND, 6 registries (1993-2013)	38	0.9	1.1	0.8	77	1.3	1.5	1.0	0.9	0.5	1.4	2.4
TURKEY, 8 registries (1992-2012)	24	0.5	0.5	0.6	59	1.0	0.8	1.2	0.2	0.3	1.2	2.4
VIET NAM, Ho Chi Minh City (1995-2013)	9	0.4	0.5	0.2	27	0.6	0.8	0.4	0.2	0.4	0.5	1.6
EUROPE												
AUSTRIA (1990-2012)	15	0.4	0.3	0.6	40	0.8	0.7	1.0	0.1	0.5	0.8	2.2
BELARUS, paediatric (1990-2014)	21	0.4	0.3	0.5	74	1.0	0.8	1.2	0.1	0.2	1.0	2.9
BELGIUM (2004-2013)	5	0.3	0.2	0.3	24	0.9	0.8	1.0	0.0	0.7	0.2	3.0
BULGARIA (1990-2013)	10	0.3	0.2	0.4	48	0.9	1.0	0.9	0.3	0.1	0.5	3.0
CZECH REPUBLIC (1990-2012)	18	0.4	0.3	0.5	47	0.7	0.5	0.9	0.3	0.3	0.7	1.7
FRANCE, paediatric (2000-2012)	32	0.2	0.2	0.2	-	-	-	-	0.0	0.1	0.5	-
FRANCE, 13 registries (1993-2012)	10	0.3	0.3	0.3	36	0.8	0.7	0.8	0.1	0.2	0.7	2.4
GERMANY, paediatric (1996-2012)	35	0.1	0.1	0.2	-	-	-	-	0.0	0.1	0.3	-
GERMANY, 5 Western registries (1994-2012)	20	0.3	0.3	0.4	59	0.7	0.7	0.8	0.1	0.1	1.0	2.1
IRELAND (1994-2012)	5	0.3	0.2	0.3	23	0.9	0.7	1.0	0.0	0.2	0.7	3.0
ITALY, 26 registries (1992-2013)	20	0.4	0.5	0.4	55	0.9	0.8	0.9	0.1	0.1	1.2	2.3
THE NETHERLANDS (1993-2013)	15	0.2	0.1	0.3	65	0.7	0.7	0.8	0.0	0.1	0.5	2.5
NORWAY (1990-2013)	9	0.4	0.5	0.3	31	1.0	1.1	0.9	0.0	0.1	1.1	3.1
POLAND (2001-2013)	23	0.3	0.3	0.2	84	0.6	0.6	0.6	0.1	0.2	0.5	1.7
PORTUGAL (1991-2012)	13	0.4	0.5	0.4	56	1.3	1.3	1.2	0.1	0.6	0.7	4.2
RUSSIAN FEDERATION, 2 registries (1998-2015)	7	0.6	0.5	0.7	27	1.4	1.3	1.4	0.5	0.6	0.7	3.9
SLOVAKIA (1990-2009)	4	0.2	0.1	0.2	26	0.7	0.5	0.9	0.2	0.1	0.2	2.5
SPAIN, 11 registries (1990-2013)	13	0.4	0.2	0.6	42	0.8	0.6	1.0	0.2	0.2	0.8	2.2
SWEDEN (1990-2011)	16	0.4	0.5	0.3	41	0.8	0.8	0.8	0.1	0.1	1.2	2.0
UKRAINE (2002-2012)	69	0.9	0.8	0.9	237	1.7	1.6	1.7	0.6	0.7	1.3	4.6
UK (2000-2011)	39	0.3	0.3	0.2	155	0.8	0.9	0.7	0.1	0.2	0.6	2.5
UK, England and Wales, paediatric (1991-2010)	53	0.2	0.3	0.2	-	-	-	-	0.0	0.2	0.6	-
OCEANIA												
AUSTRALIA (1992-2014)	44	0.4	0.5	0.4	161	1.2	1.3	1.2	0.1	0.2	1.2	3.9
NEW ZEALAND (1993-2012)	13	0.7	0.7	0.6	40	1.6	1.5	1.6	0.2	0.0	2.0	4.6

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of carcinoma of other specified sites
Please consult registry-specific background information and quality indicators

More datasets available online

Table 9.49. Pulmonary blastoma and pleuropulmonary blastoma (XIIa3): numbers of cases and incidence rates by age and sex

	Age 0-14 years				Age 0-19 years				Age-specific rates per million			
	N	ASR per million			N	ASR per million			Age group (years)			
		All	Male	Female		All	Male	Female	0-4	5-9	10-14	15-19
AMERICA, NORTH												
CANADA, 9 registries (1992-2013)	21	0.2	0.3	0.2	22	0.2	0.2	0.1	0.5	0.0	0.0	0.0
USA (1998-2012)	180	0.2	0.2	0.2	186	0.2	0.2	0.2	0.5	0.0	0.0	0.0
USA, Black (1998-2012)	24	0.2	0.2	0.2	24	0.1	0.1	0.1	0.5	0.0	0.0	0.0
USA, Hispanic White (1998-2012)	30	0.2	0.2	0.2	31	0.2	0.1	0.2	0.4	0.0	0.0	0.0
USA, White NH (1998-2012)	118	0.3	0.3	0.2	123	0.2	0.2	0.2	0.6	0.0	0.0	0.0
USA, NPCR (1998-2012)	175	0.2	0.3	0.2	180	0.2	0.2	0.2	0.6	0.0	0.0	0.0
USA, SEER 18 (1993-2012)	43	0.2	0.2	0.2	45	0.1	0.1	0.1	0.4	0.0	0.0	0.0
ASIA												
REPUBLIC OF KOREA (1999-2012)	22	0.2	0.2	0.3	25	0.2	0.1	0.2	0.5	0.0	0.1	0.1
EUROPE												
FRANCE, paediatric (2000-2012)	21	0.2	0.1	0.2	-	-	-	-	0.4	0.0	0.0	-
UK, England and Wales, paediatric (1991-2010)	22	0.1	0.1	0.1	-	-	-	-	0.3	0.0	0.0	-
OCEANIA												
AUSTRALIA (1992-2014)	20	0.3	0.3	0.3	21	0.2	0.2	0.2	0.7	0.0	0.0	0.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of pulmonary blastoma or pleuropulmonary blastoma
Please consult registry-specific background information and quality indicators

More datasets available online

Chapter 10. CNS tumours by behaviour

Table 10.1. CNS and miscellaneous intracranial and intraspinal neoplasms (III): numbers of cases and incidence rates per million by age and behaviour

Age group (years)	0-14				0-19				0-4				5-9				10-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	ASR	N	ASR	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
AFRICA																								
ALGERIA, 5 registries (1996-2014)	10	0.6	214	12.3	15	0.6	298	12.3	5	0.9	63	11.0	2	0.4	77	14.0	3	0.5	74	12.1	5	0.7	84	12.4
BOTSWANA (1999-2007)	0	0.0	32	5.3	0	0.0	38	4.9	0	0.0	3	1.5	0	0.0	14	7.4	0	0.0	15	8.1	0	0.0	6	3.4
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*4*	*1.7*	*0*	*0.0*	*5*	*1.7*	*0*	*0.0*	*2*	*2.2*	*0*	*0.0*	*2*	*2.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*1.6*
EGYPT, Gharbiah (1999-2010)	10	0.6	266	17.6	14	0.7	338	16.6	2	0.4	84	17.7	4	0.8	100	19.8	4	0.7	82	15.1	4	0.7	72	13.1
FRANCE, Réunion (1990-2011)	0	0.0	65	15.1	0	0.0	80	14.1	0	0.0	26	17.8	0	0.0	26	17.6	0	0.0	13	8.7	0	0.0	15	10.4
KENYA, 2 registries (2000-2012)	1	0.1	70	6.5	1	0.1	88	6.4	0	0.0	22	5.1	0	0.0	23	6.5	1	0.3	25	8.5	0	0.0	18	6.1
LIBYA, Benghazi (2003-2008)	5	1.7	42	14.2	5	1.3	51	13.0	1	1.0	16	15.7	3	3.1	11	11.5	1	1.0	15	15.2	0	0.0	9	9.0
MALI, Bamako (2005-2014)	1	0.1	21	2.9	1	0.1	26	2.7	0	0.0	8	2.9	0	0.0	9	3.8	1	0.5	4	1.9	0	0.0	5	2.0
MAURITIUS (2001-2013)	0	0.0	42	11.4	0	0.0	61	12.1	0	0.0	15	12.9	0	0.0	16	12.6	0	0.0	11	8.2	0	0.0	19	14.4
MOROCCO, 2 registries (2005-2012)	23	2.5	150	16.9	31	2.5	176	14.9	4	1.3	47	15.8	9	3.1	62	21.3	10	3.2	41	13.3	8	2.5	26	8.0
SOUTH AFRICA, paediatric (1998-2012)	86	0.4	1214	5.7	-	-	-	-	22	0.3	492	6.6	41	0.6	474	6.6	23	0.3	248	3.4	-	-	-	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	3	0.7	31	8.0	-	-	-	-	1	0.8	10	8.1	0	0.0	12	9.3	2	1.4	9	6.4	-	-	-	-
SOUTH AFRICA, paediatric, Black (1998-2012)	63	0.3	787	4.3	-	-	-	-	18	0.3	306	4.8	28	0.5	312	5.1	17	0.3	169	2.8	-	-	-	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	12	0.6	233	12.6	-	-	-	-	2	0.3	90	14.1	9	1.4	98	15.8	1	0.2	45	7.1	-	-	-	-
SOUTH AFRICA, paediatric, White (1998-2012)	8	0.6	163	14.8	-	-	-	-	1	0.3	86	22.9	4	1.0	52	13.2	3	0.7	25	5.7	-	-	-	-
TUNISIA, 2 registries (1993-2007)	26	1.4	248	13.1	34	1.3	324	12.6	8	1.4	67	11.5	10	1.6	109	17.4	8	1.2	72	10.6	8	1.1	76	10.9
UGANDA, Kyadondo (1996-2013)	0	0.0	46	3.4	0	0.0	56	3.2	0	0.0	15	3.0	0	0.0	17	4.0	0	0.0	14	3.3	0	0.0	10	2.2
ZIMBABWE, Harare, African (1995-2013)	8	0.9	101	12.0	8	0.7	125	11.1	3	0.8	27	7.6	3	1.1	38	14.2	2	0.8	36	15.2	0	0.0	24	8.1
AMERICA, LATIN AND THE CARIBBEAN																								
ARGENTINA, paediatric (2000-2013)	506	3.5	2890	20.3	-	-	-	-	167	3.5	1137	23.5	173	3.6	1007	20.9	166	3.4	746	15.4	-	-	-	-
ARGENTINA, 6 registries (1991-2013)	61	2.7	459	21.3	76	2.6	554	19.4	14	2.0	174	24.3	27	3.7	163	22.4	20	2.6	122	16.1	15	2.0	95	12.8
BRAZIL, 5 registries (1995-2012)	32	1.8	419	23.0	35	1.5	542	21.6	11	1.9	142	24.1	12	2.0	155	25.6	9	1.4	122	18.7	3	0.4	123	16.8
CHILE, paediatric (2007-2011)	65	3.5	308	16.9	-	-	-	-	20	3.3	122	20.4	28	4.6	92	15.1	17	2.5	94	14.1	-	-	-	-
CHILE, 4 registries (1998-2012)	19	4.3	86	20.0	23	3.9	104	17.9	7	5.0	43	30.5	7	4.6	17	11.3	5	3.0	26	15.8	4	2.4	18	10.6
COLOMBIA, 4 registries (1992-2013)	79	4.5	355	20.7	102	4.3	435	19.0	26	4.7	126	22.8	20	3.4	126	21.7	33	5.4	103	16.8	23	3.7	80	12.9
COSTA RICA (1993-2012)	0	0.0	430	18.4	0	0.0	523	16.9	0	0.0	156	20.5	0	0.0	166	20.7	0	0.0	108	13.2	0	0.0	93	11.7
CUBA (2000-2012)	17	0.6	548	20.5	19	0.5	660	18.3	3	0.4	190	22.6	7	0.8	180	20.2	7	0.7	178	18.0	2	0.2	112	10.8
ECUADOR, 5 registries (1993-2013)	2	0.1	383	17.8	5	0.2	473	16.6	0	0.0	143	19.9	0	0.0	151	20.6	2	0.3	89	12.0	3	0.4	90	12.2
FRANCE, 3 registries (1990-2012)	20	6.5	46	15.2	31	7.4	53	13.2	9	8.8	20	19.6	4	3.8	15	14.3	7	6.5	11	10.2	11	10.4	7	6.6
HONDURAS, Francisco Morazán (2002-2012)	16	3.1	64	12.3	20	3.0	79	11.8	4	2.2	16	8.8	4	2.3	25	14.5	8	5.0	23	14.4	4	2.7	15	10.1
JAMAICA, Kingston and St Andrew (1982-2012)	4	0.7	57	9.9	5	0.6	75	9.7	1	0.5	18	9.4	1	0.5	26	13.4	2	1.0	13	6.5	1	0.5	18	8.9
MEXICO, Mexico City, paediatric (1997-2013)	15	1.3	206	17.6	-	-	-	-	6	1.6	78	20.2	7	1.7	72	17.5	2	0.5	56	14.1	-	-	-	-
PERU, Lima (2010-2012)	78	11.0	134	19.3	114	11.6	170	18.0	22	9.3	50	21.2	30	12.8	48	20.5	26	11.1	36	15.3	36	13.6	36	13.6
PERU, Trujillo (1990-2002)	0	0.0	39	16.2	0	0.0	51	15.7	0	0.0	8	10.1	0	0.0	21	27.2	0	0.0	10	12.3	0	0.0	12	13.7
USA, Puerto Rico (1992-2012)	49	2.7	417	23.8	77	3.1	522	22.2	15	2.7	156	27.6	14	2.3	145	24.2	20	3.2	116	18.5	28	4.4	105	16.5
URUGUAY (1993-2012)	0	0.0	382	25.6	0	0.0	443	22.5	0	0.0	150	30.5	0	0.0	133	25.6	0	0.0	99	19.0	0	0.0	61	11.8
AMERICA, NORTH																								
CANADA, 9 registries (1992-2013)	429	3.6	3259	28.9	684	4.2	4046	26.6	116	3.1	1271	34.4	128	3.3	1086	28.2	185	4.6	902	22.3	255	6.1	787	18.7
USA (2004-2012)	5608	9.9	18294	34.3	10178	13.0	22500	31.4	1449	8.0	7471	41.4	1633	9.1	5998	33.4	2526	13.4	4825	25.7	4570	23.3	4206	21.5
USA, API (2004-2012)	165	5.6	621	21.6	306	7.5	746	19.5	55	5.4	279	27.4	46	4.7	204	21.0	64	6.7	138	14.5	141	14.1	125	12.5
USA, Black (2004-2012)	771	8.3	2368	26.9	1388	10.6	2903	24.5	186	6.3	916	30.8	237	8.1	826	28.3	348	11.1	626	20.0	617	18.8	535	16.3
USA, Hispanic White (2004-2012)	998	8.9	3014	27.9	1763	12.0	3545	25.1	276	7.0	1364	34.6	275	7.7	975	27.3	447	12.8	675	19.4	765	22.6	531	15.7
USA, Native American (2004-2012)	46	4.6	143	15.3	104	7.4	184	14.6	8	2.5	52	16.3	12	3.9	53	17.2	26	8.1	38	11.8	58	17.3	41	12.2
USA, White NH (2004-2012)	3425	10.7	11622	38.8	6211	13.7	14503	35.7	862	8.8	4645	47.3	1003	9.9	3747	36.9	1560	14.3	3230	29.6	2786	24.1	2881	24.9
USA, NPCR (2004-2012)	5608	10.4	17470	34.2	10178	13.5	21524	31.4	1449	8.4	7116	41.2	1633	9.5	5741	33.5	2526	14.0	4613	25.6	4570	24.4	4054	21.6
USA, SEER 18 (2004-2012)	0	0.0	5112	33.3	0	0.0	6268	30.5	0	0.0	2078	39.9	0	0.0	1701	33.2	0	0.0	1333	24.7	0	0.0	1156	20.8
USA, Hawaii, Hawaiian (2004-2012)	0	0.0	21	28.3	0	0.0	26	26.6	0	0.0	9	33.5	0	0.0	8	32.8	0	0.0	4	16.3	0	0.0	5	20.9
ASIA																								
BAHRAIN (1998-2012)	14	4.3	45	14.4	17	4.1	54	13.4	3	2.8	17	15.7	4	3.8	12	11.4	7	7.1	16	16.1	3	3.3	9	9.8
CHINA, 6 registries (1990-2013)	211	3.7	991	17.9	301	3.6	1406	17.2	56	3.4	318	19.2	71	3.9	336	18.5	84	3.9	337	15.5	90	3.2	415	14.7
CHINA, Hong Kong (1990-2013)	0	0.0	545	22.5	0	0.0	704	20.9	0	0.0	178	25.3	0	0.0	204	24.4	0	0.0	163	16.8	0	0.0	159	15.3
INDIA, 7 registries (1990-2013)	0	0.0	2217	12.8	0	0.0	2838	12.1	0	0.0	590	11.3	0	0.0	855	14.9	0	0.0	772	12.4	0	0.0	621	9.8
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	0	0.0	45	12.0	0	0.0	85	14.6	0	0.0	7	6.2	0	0.0	16	14.9	0	0.0	22	16.3	0	0.0	40	23.7
ISRAEL (1990-2012)	177	4.3	1104	26.8	261	4.9	1332	24.9	65	4.4	424	28.7	54	3.9	377	27.3	58	4.5	303	23.5	84	6.9	228	18.7

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of CNS tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

More datasets available online

Table 10.1. CNS and miscellaneous intracranial and intraspinal neoplasms (III): numbers of cases and incidence rates per million by age and behaviour

Age group (years)	0-14				0-19				0-4				5-9				10-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	ASR	N	ASR	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
ISRAEL, Jews (1990-2012)	128	4.2	863	28.7	187	4.7	1031	26.3	45	4.2	314	29.5	40	4.0	302	30.2	43	4.5	247	25.9	59	6.4	168	18.1
ISRAEL, Non-Jews (1990-2012)	49	4.4	241	21.5	74	5.3	301	21.2	20	4.8	110	26.5	14	3.7	75	19.7	15	4.5	56	16.7	25	8.5	60	20.4
JAPAN, 8 registries (1990-2013)	444	7.3	1130	19.1	647	7.5	1365	17.0	138	7.2	423	22.2	147	7.3	374	18.6	159	7.4	333	15.4	203	8.4	235	9.7
JORDAN, Jordanians (2000-2012)	3	0.1	474	17.5	3	0.1	555	15.8	1	0.1	161	17.3	1	0.1	196	21.4	1	0.1	117	13.4	0	0.0	81	10.1
REPUBLIC OF KOREA (1999-2012)	0	0.0	2260	18.3	0	0.0	2908	17.2	0	0.0	781	21.1	0	0.0	784	18.1	0	0.0	695	14.9	0	0.0	648	13.4
KUWAIT (1994-2012)	29	2.4	104	8.6	46	3.1	139	9.1	15	3.4	39	8.7	7	1.7	32	7.9	7	1.9	33	9.1	17	5.2	35	10.8
KUWAIT, Kuwaitis (1994-2012)	23	3.3	64	9.0	32	3.6	90	10.1	12	4.6	26	9.9	5	2.1	17	7.1	6	2.8	21	9.8	9	4.8	26	13.8
KUWAIT, Non-Kuwaitis (1994-2012)	6	1.2	40	8.0	14	2.3	49	7.7	3	1.6	13	7.0	2	1.2	15	9.0	1	0.7	12	8.1	8	5.9	9	6.6
LEBANON (2008-2010)	0	0.0	74	21.0	0	0.0	91	19.3	0	0.0	26	24.7	0	0.0	23	18.3	0	0.0	25	19.0	0	0.0	17	13.7
PAKISTAN, Karachi (1995-2002)	0	0.0	77	13.0	0	0.0	108	14.9	0	0.0	9	4.5	0	0.0	35	17.8	0	0.0	33	19.2	0	0.0	31	21.5
PAKISTAN, Lahore (2008-2012)	46	2.4	126	6.7	72	2.9	169	7.0	9	1.5	35	5.9	15	2.3	50	7.8	22	3.5	41	6.5	26	4.8	43	8.0
PHILIPPINES, 2 registries (1993-2012)	5	0.1	891	11.8	5	0.0	1065	10.7	0	0.0	257	9.3	2	0.1	378	15.1	3	0.1	256	11.2	0	0.0	174	7.3
QATAR (2002-2014)	7	2.4	34	11.5	8	2.1	42	11.2	4	3.6	15	13.6	1	1.0	13	13.0	2	2.3	6	7.0	1	1.3	8	10.0
SAUDI ARABIA, Riyadh (1994-2012)	0	0.0	523	15.6	0	0.0	613	14.4	0	0.0	189	15.7	0	0.0	202	17.7	0	0.0	132	12.9	0	0.0	90	10.4
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	0	0.0	430	15.5	0	0.0	500	14.1	0	0.0	169	17.1	0	0.0	166	17.6	0	0.0	95	11.1	0	0.0	70	9.4
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	0	0.0	93	16.2	0	0.0	113	16.3	0	0.0	20	9.4	0	0.0	36	18.6	0	0.0	37	22.8	0	0.0	20	16.4
THAILAND, 6 registries (1993-2013)	35	0.9	571	14.5	40	0.7	714	13.2	9	0.7	172	14.0	14	1.1	214	16.1	12	0.9	185	13.2	5	0.3	143	8.9
TURKEY, paediatric (2009-2011)	170	3.1	583	10.6	-	-	-	-	64	3.5	224	12.1	57	3.1	232	12.6	49	2.5	127	6.5	-	-	-	-
TURKEY, 8 registries (1992-2012)	351	8.5	817	21.2	571	10.1	1058	20.2	78	6.3	301	24.1	112	8.5	295	22.5	161	11.5	221	15.8	220	15.4	241	16.9
VIET NAM, Ho Chi Minh City (1995-2013)	16	0.7	272	11.2	20	0.6	345	10.1	5	0.6	90	10.9	7	0.9	95	11.6	4	0.5	87	11.0	4	0.4	73	6.5
EUROPE																								
AUSTRIA (1990-2012)	275	9.0	804	26.8	351	8.5	1005	24.8	92	9.4	311	31.9	87	8.5	263	25.6	96	9.0	230	21.5	76	6.8	201	18.0
BELARUS, paediatric (1990-2014)	416	9.3	1021	23.7	479	8.0	1265	21.4	117	8.6	372	27.4	142	9.8	352	24.4	157	9.5	297	18.0	63	3.5	244	13.5
BELGIUM (2004-2013)	424	23.5	420	23.3	576	23.6	517	21.5	165	27.0	164	26.9	129	21.6	129	21.6	130	21.1	127	20.6	152	23.8	97	15.2
BULGARIA (1990-2013)	40	1.3	524	17.5	54	1.3	706	16.8	9	1.0	173	18.8	18	1.8	176	17.7	13	1.2	175	15.6	14	1.1	182	14.4
CROATIA (2001-2014)	124	12.8	291	32.7	199	14.7	374	30.6	30	10.2	127	43.3	37	12.0	93	30.1	57	17.2	71	21.4	75	21.0	83	23.3
CYPRUS, South-West (1998-2012)	0	0.0	52	25.2	0	0.0	64	22.6	0	0.0	24	35.5	0	0.0	16	22.1	0	0.0	12	15.0	0	0.0	12	13.5
CZECH REPUBLIC (1990-2012)	339	8.6	984	25.4	418	7.8	1256	23.4	113	9.2	357	29.0	110	8.6	325	25.3	116	8.0	302	20.9	79	4.7	272	16.3
ESTONIA (1990-2012)	74	12.3	153	27.3	105	12.7	197	25.6	20	11.2	59	33.1	18	9.3	50	25.8	36	17.2	44	21.1	31	13.9	44	19.8
FRANCE, paediatric (2000-2012)	2414	16.3	3012	21.1	-	-	-	-	795	16.2	1322	27.0	778	15.9	1009	20.7	841	17.0	681	13.8	-	-	-	-
FRANCE, 13 registries (1993-2012)	404	12.8	667	21.8	530	12.5	786	19.3	127	12.4	258	25.1	126	12.1	238	22.8	151	14.2	171	16.1	126	11.4	119	10.8
GERMANY, paediatric (1996-2012)	2973	14.6	4226	21.5	-	-	-	-	915	14.6	1670	26.6	1039	15.3	1439	21.1	1019	13.9	1117	15.2	-	-	-	-
GERMANY, 6 Eastern states (2001-2007)	0	0.0	295	22.5	0	0.0	406	20.8	0	0.0	109	24.8	0	0.0	99	24.7	0	0.0	87	17.1	0	0.0	111	14.7
GERMANY, 5 Western registries (1994-2012)	435	8.9	1118	23.5	587	8.7	1387	21.4	143	9.6	432	29.1	137	8.3	358	21.6	155	8.6	328	18.1	152	8.1	269	14.4
GREECE, paediatric, CNS tumours (2010-2014)	77	9.7	174	22.3	-	-	-	-	30	10.9	85	31.0	31	11.5	58	21.6	16	6.0	31	11.5	-	-	-	-
HUNGARY, paediatric (1991-2014)	467	11.9	993	25.2	-	-	-	-	168	13.5	357	28.7	158	11.9	323	24.4	141	9.7	313	21.6	-	-	-	-
ICELAND (1990-2014)	27	16.2	43	26.0	36	16.2	52	23.8	7	12.6	15	27.0	10	18.5	9	16.6	10	18.4	19	35.0	9	16.4	9	16.4
IRELAND (1994-2012)	238	14.2	405	24.8	341	14.9	534	24.1	76	13.7	158	28.6	69	12.6	140	25.6	93	16.4	107	18.9	103	17.4	129	21.7
ITALY, 2 paediatric registries (1998-2011)	193	23.0	216	26.2	236	21.2	273	24.7	73	25.7	92	32.4	55	19.7	66	23.6	65	23.3	58	20.8	43	14.9	57	19.8
ITALY, Piedmont, paediatric (1990-2011)	266	22.6	277	23.9	-	-	-	-	90	23.2	103	26.5	82	21.2	98	25.4	94	23.4	76	18.9	-	-	-	-
ITALY, 26 registries (1992-2013)	540	13.2	1014	25.1	772	13.7	1270	23.3	186	13.6	392	28.6	169	12.5	356	26.3	185	13.3	266	19.2	232	15.4	256	17.0
LITHUANIA (2000-2012)	13	1.8	138	20.3	15	1.5	204	20.4	3	1.5	52	25.8	4	1.8	39	17.1	6	2.1	47	16.6	2	0.6	66	20.8
MALTA (1994-2013)	4	2.8	41	28.6	7	3.4	46	24.2	1	2.3	13	29.8	2	4.2	13	27.2	1	1.9	15	28.6	3	5.3	5	8.9
THE NETHERLANDS (1993-2013)	827	13.4	1236	20.6	1177	14.2	1504	18.9	243	11.9	505	24.8	295	14.3	411	20.0	289	14.2	320	15.7	350	17.3	268	13.2
NORWAY (1990-2013)	495	23.4	521	25.2	709	25.0	665	24.1	186	26.0	220	30.7	133	18.8	186	26.3	176	25.2	115	16.5	214	30.5	144	20.5
POLAND (2001-2013)	153	2.0	1831	23.3	207	1.9	2534	22.4	63	2.5	647	26.0	49	1.9	602	23.4	41	1.4	582	19.4	54	1.5	703	19.6
PORTUGAL (1991-2012)	324	12.1	654	24.8	433	11.8	802	22.5	118	13.5	267	30.5	109	12.2	203	22.7	97	10.3	184	19.6	109	10.6	148	14.4
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	100	11.0	170	20.5	-	-	-	-	22	8.2	60	22.4	33	12.7	65	24.9	45	12.9	45	12.9	-	-	-	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	9	0.7	285	26.0	9	0.6	343	22.7	2	0.5	124	33.3	2	0.6	89	24.8	5	1.2	72	17.6	0	0.0	58	11.4
SLOVAKIA (1990-2009)	228	10.9	454	22.0	308	10.5	608	21.0	79	12.5	168	26.7	69	9.8	145	20.5	80	9.9	141	17.5	80	9.2	154	17.6
SLOVAKIA, paediatric (2000-2012)	123	10.5	240	21.2	-	-	-	-	34	9.6	92	25.9	47	12.4	76	20.1	42	9.5	72	16.2	-	-	-	-
SLOVENIA (1991-2012)	43	6.1	150	22.3	55	5.6	194	20.7	14	6.5	60	27.8	10	4.4	50	21.8	19	7.4	40	15.5	12	4.2	44	15.3
SPAIN, 2 paediatric registries (1991-2013)	533	11.1	1177	24.9	-	-	-	-	182	10.9	500	30.0	171	10.9	396	25.2	180	11.5	281	17.9	-	-	-	-
SPAIN, selected regions, paediatric (2000-2013)	379	11.0	796	23.3	-	-	-	-	137	11.0	354	28.4	126	11.1	262	23.2	116	10.8	180	16.7	-	-	-	-
SPAIN, Valencia, paediatric (1991-2010)	154	11.2	381	29.2	-	-	-	-	45	10.7	146	34.8	45	10.2	134	30.4	64	13.0	101	20.5	-	-	-	-
SPAIN, 11 registries (1990-2013)	316	9.7	745	24.2	460	10.0	972	22.6	87	8.6	303	30.0	108	10.3	245	23.5	121	10.6	197	17.2	144	11.0	227	17.3

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of CNS tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

More datasets available online

Table 10.1. CNS and miscellaneous intracranial and intraspinal neoplasms (III): numbers of cases and incidence rates per million by age and behaviour

Age group (years)	0-14				0-19				0-4				5-9				10-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	ASR	N	ASR	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
SWEDEN (1990-2011)	510	14.5	858	24.8	653	13.9	1076	23.2	176	15.1	331	28.4	161	13.8	280	24.0	173	14.6	247	20.8	143	11.7	218	17.8
SWITZERLAND, paediatric (1990-2013)	404	13.7	580	20.6	-	-	-	-	112	11.8	228	24.1	134	13.9	234	24.2	158	15.9	118	11.9	-	-	-	-
SWITZERLAND, 7 registries (1990-2013)	179	16.6	217	20.7	232	16.1	270	19.3	50	14.1	78	22.1	57	16.1	87	24.6	72	20.3	52	14.6	53	14.5	53	14.5
UKRAINE (2002-2012)	0	0.0	1749	23.6	0	0.0	2380	22.2	0	0.0	591	25.0	0	0.0	586	25.1	0	0.0	572	20.0	0	0.0	631	17.2
UK (2000-2011)	1246	9.5	2742	21.3	1539	8.8	3369	19.5	412	9.6	1071	24.8	421	9.8	948	22.0	413	9.0	723	15.8	293	6.3	627	13.5
UK, England and Wales, paediatric (1991-2010)	2767	14.0	4282	22.3	-	-	-	-	842	13.0	1720	26.5	907	13.9	1476	22.6	1018	15.4	1086	16.4	-	-	-	-
OCEANIA																								
AUSTRALIA (1992-2014)	188	2.1	1983	23.2	239	2.0	2442	21.4	57	2.0	858	29.4	69	2.4	651	22.2	62	2.1	474	16.1	51	1.7	459	15.4
AUSTRALIA, 3 registries, Indigenous (1992-2014)	7	2.9	38	16.0	8	2.6	44	14.5	1	1.2	17	19.7	4	5.0	14	17.5	2	2.8	7	9.6	1	1.6	6	9.4
FRANCE, 2 registries (1990-2013)	16	5.1	56	18.5	17	4.2	63	15.9	3	3.0	16	16.1	8	7.8	30	29.2	5	4.9	10	9.8	1	1.0	7	7.1
NEW ZEALAND (1993-2012)	0	0.0	441	25.5	0	0.0	537	23.5	0	0.0	174	29.6	0	0.0	152	26.0	0	0.0	115	19.6	0	0.0	96	16.4
NEW ZEALAND, Maori (1993-2012)	0	0.0	96	22.3	0	0.0	109	19.7	0	0.0	40	25.4	0	0.0	35	24.5	0	0.0	21	15.7	0	0.0	13	10.7
NEW ZEALAND, Pacific peoples (1993-2012)	0	0.0	49	32.0	0	0.0	58	29.4	0	0.0	20	36.0	0	0.0	19	37.0	0	0.0	10	21.1	0	0.0	9	20.3
NEW ZEALAND, Other (1993-2012)	0	0.0	296	25.8	0	0.0	370	24.0	0	0.0	114	30.4	0	0.0	98	25.0	0	0.0	84	20.7	0	0.0	74	17.7
NEW ZEALAND, paediatric (2000-2012)	153	13.2	224	19.8	-	-	-	-	49	12.8	91	23.8	56	14.7	72	18.9	48	12.1	61	15.4	-	-	-	-
NEW ZEALAND, paediatric, Maori (2000-2012)	26	9.0	48	17.0	-	-	-	-	8	7.9	20	19.6	10	10.7	18	19.3	8	8.8	10	10.9	-	-	-	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	127	14.6	176	20.7	-	-	-	-	41	14.6	71	25.3	46	16.0	54	18.8	40	13.1	51	16.7	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of CNS tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

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Table 10.2. Ependymomas and choroid plexus tumour (IIIa): numbers of cases and incidence rates per million by age and behaviour

	Ependymoma and choroid plexus tumour (IIIa)								Ependymoma (IIIa1)								Choroid plexus tumour (IIIa2)							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
AFRICA																								
ALGERIA, 5 registries (1996-2014)	*0*	*0.0*	*6*	*0.4*	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*6*	*0.4*	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
BOTSWANA (1999-2007)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
EGYPT, Gharbiah (1999-2010)	0	0.0	23	1.6	0	0.0	6	1.1	0	0.0	22	1.6	0	0.0	6	1.1	0	0.0	1	0.1	0	0.0	0	0.0
FRANCE, Réunion (1990-2011)	*0*	*0.0*	*8*	*1.9*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*7*	*1.6*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*3*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*3*	*1.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*1.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MAURITIUS (2001-2013)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*1.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*1.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MOROCCO, 2 registries (2005-2012)	0	0.0	29	3.4	0	0.0	5	1.5	0	0.0	28	3.3	0	0.0	5	1.5	0	0.0	1	0.1	0	0.0	0	0.0
SOUTH AFRICA, paediatric (1998-2012)	4	0.0	127	0.6	-	-	-	-	0	0.0	108	0.5	-	-	-	-	4	0.0	19	0.1	-	-	-	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*1*	*0.2*	-	-	-	-	*0*	*0.0*	*1*	*0.2*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-
SOUTH AFRICA, paediatric, Black (1998-2012)	2	0.0	73	0.4	-	-	-	-	0	0.0	61	0.3	-	-	-	-	2	0.0	12	0.1	-	-	-	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	1	0.1	33	1.9	-	-	-	-	0	0.0	27	1.5	-	-	-	-	1	0.1	6	0.4	-	-	-	-
SOUTH AFRICA, paediatric, White (1998-2012)	1	0.1	20	1.8	-	-	-	-	0	0.0	19	1.7	-	-	-	-	1	0.1	1	0.1	-	-	-	-
TUNISIA, 2 registries (1993-2007)	0	0.0	26	1.4	0	0.0	7	1.0	0	0.0	26	1.4	0	0.0	7	1.0	0	0.0	0	0.0	0	0.0	0	0.0
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*0*	*0.0*	*4*	*0.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN																								
ARGENTINA, paediatric (2000-2013)	1	0.0	397	2.9	-	-	-	-	1	0.0	325	2.4	-	-	-	-	0	0.0	72	0.5	-	-	-	-
ARGENTINA, 6 registries (1991-2013)	4	0.2	61	3.0	1	0.1	8	1.1	1	0.0	54	2.7	1	0.1	8	1.1	3	0.2	7	0.3	0	0.0	0	0.0
BRAZIL, 5 registries (1995-2012)	0	0.0	47	2.8	0	0.0	12	1.6	0	0.0	33	1.9	0	0.0	9	1.2	0	0.0	14	0.9	0	0.0	3	0.4
CHILE, paediatric (2007-2011)	5	0.3	46	2.6	-	-	-	-	1	0.0	44	2.5	-	-	-	-	4	0.3	2	0.1	-	-	-	-
CHILE, 4 registries (1998-2012)	*4*	*1.1*	*12*	*3.0*	*2*	*1.2*	*0*	*0.0*	*0*	*0.0*	*11*	*2.7*	*2*	*1.2*	*0*	*0.0*	*4*	*1.1*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	3	0.2	44	2.6	1	0.2	8	1.3	1	0.1	41	2.4	1	0.2	8	1.3	2	0.1	3	0.2	0	0.0	0	0.0
COSTA RICA (1993-2012)	0	0.0	57	2.6	0	0.0	4	0.5	0	0.0	56	2.5	0	0.0	4	0.5	0	0.0	1	0.1	0	0.0	0	0.0
CUBA (2000-2012)	0	0.0	55	2.2	0	0.0	9	0.9	0	0.0	52	2.1	0	0.0	8	0.8	0	0.0	3	0.1	0	0.0	1	0.1
ECUADOR, 5 registries (1993-2013)	0	0.0	33	1.6	0	0.0	1	0.1	0	0.0	33	1.6	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
FRANCE, 3 registries (1990-2012)	*1*	*0.4*	*10*	*3.6*	*1*	*0.9*	*1*	*0.9*	*0*	*0.0*	*9*	*3.2*	*1*	*0.9*	*1*	*0.9*	*1*	*0.4*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*0*	*0.0*	*10*	*2.0*	*0*	*0.0*	*2*	*1.3*	*0*	*0.0*	*10*	*2.0*	*0*	*0.0*	*2*	*1.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	*0*	*0.0*	*5*	*0.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*5*	*0.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	2	0.2	32	2.8	-	-	-	-	0	0.0	31	2.7	-	-	-	-	2	0.2	1	0.1	-	-	-	-
PERU, Lima (2010-2012)	3	0.4	24	3.5	0	0.0	2	0.8	1	0.1	22	3.2	0	0.0	2	0.8	2	0.3	2	0.3	0	0.0	0	0.0
PERU, Trujillo (1990-2002)	*0*	*0.0*	*3*	*1.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*1.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
USA, Puerto Rico (1992-2012)	8	0.5	43	2.6	4	0.6	6	0.9	3	0.1	36	2.2	3	0.5	5	0.8	5	0.3	7	0.4	1	0.2	1	0.2
URUGUAY (1993-2012)	0	0.0	63	4.2	0	0.0	5	1.0	0	0.0	63	4.2	0	0.0	5	1.0	0	0.0	0	0.0	0	0.0	0	0.0
AMERICA, NORTH																								
CANADA, 9 registries (1992-2013)	35	0.3	344	3.3	7	0.2	60	1.4	14	0.1	304	2.9	6	0.1	58	1.4	21	0.2	40	0.4	1	0.0	2	0.0
USA (2004-2012)	596	1.1	1602	3.1	240	1.2	331	1.7	162	0.3	1436	2.8	161	0.8	324	1.7	434	0.9	166	0.3	79	0.4	7	0.0
USA, API (2004-2012)	19	0.7	68	2.4	10	1.0	15	1.5	7	0.2	58	2.1	7	0.7	14	1.4	12	0.4	10	0.4	3	0.3	1	0.1
USA, Black (2004-2012)	61	0.7	210	2.5	18	0.5	37	1.1	14	0.1	197	2.3	10	0.3	35	1.1	47	0.6	13	0.2	8	0.2	2	0.1
USA, Hispanic White (2004-2012)	109	1.0	339	3.2	35	1.0	60	1.8	22	0.2	295	2.8	23	0.7	60	1.8	87	0.8	44	0.4	12	0.4	0	0.0
USA, Native American (2004-2012)	4	0.4	16	1.8	5	1.5	3	0.9	1	0.1	16	1.8	3	0.9	3	0.9	3	0.3	0	0.0	2	0.6	0	0.0
USA, White NH (2004-2012)	385	1.3	932	3.3	163	1.4	212	1.8	113	0.3	839	2.9	110	1.0	208	1.8	272	1.0	93	0.4	53	0.5	4	0.0
USA, NPCR (2004-2012)	596	1.2	1527	3.1	240	1.3	321	1.7	162	0.3	1370	2.8	161	0.9	314	1.7	434	0.9	157	0.3	79	0.4	7	0.0
USA, SEER 18 (2004-2012)	0	0.0	478	3.3	0	0.0	92	1.7	0	0.0	425	2.9	0	0.0	90	1.6	0	0.0	53	0.4	0	0.0	2	0.0
USA, Hawaii, Hawaiian (2004-2012)	*0*	*0.0*	*2*	*2.9*	*0*	*0.0*	*1*	*4.2*	*0*	*0.0*	*2*	*2.9*	*0*	*0.0*	*1*	*4.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ASIA																								
BAHRAIN (1998-2012)	*0*	*0.0*	*6*	*2.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*4*	*1.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.7*	*0*	*0.0*	*0*	*0.0*
CHINA, 6 registries (1990-2013)	11	0.2	99	2.0	1	0.0	32	1.1	1	0.0	91	1.8	1	0.0	31	1.1	10	0.2	8	0.2	0	0.0	1	0.0
CHINA, Hong Kong (1990-2013)	0	0.0	53	2.5	0	0.0	13	1.2	0	0.0	47	2.2	0	0.0	13	1.2	0	0.0	6	0.3	0	0.0	0	0.0
INDIA, 7 registries (1990-2013)	0	0.0	171	1.0	0	0.0	38	0.6	0	0.0	163	1.0	0	0.0	38	0.6	0	0.0	8	0.1	0	0.0	0	0.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of ependymoma or choroid plexus tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

More datasets available online

Table 10.2. Ependymomas and choroid plexus tumour (IIIa): numbers of cases and incidence rates per million by age and behaviour

	Ependymoma and choroid plexus tumour (IIIa)								Ependymoma (IIIa1)								Choroid plexus tumour (IIIa2)							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*0*	*0.0*	*4*	*1.2*	*0*	*0.0*	*4*	*2.4*	*0*	*0.0*	*4*	*1.2*	*0*	*0.0*	*3*	*1.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.6*
ISRAEL (1990-2012)	24	0.6	118	2.9	4	0.3	19	1.6	9	0.2	106	2.6	3	0.2	18	1.5	15	0.4	12	0.3	1	0.1	1	0.1
ISRAEL, Jews (1990-2012)	20	0.7	88	3.0	3	0.3	14	1.5	7	0.2	81	2.8	2	0.2	14	1.5	13	0.5	7	0.2	1	0.1	0	0.0
ISRAEL, Non-Jews (1990-2012)	4	0.4	30	2.7	1	0.3	5	1.7	2	0.2	25	2.3	1	0.3	4	1.4	2	0.2	5	0.5	0	0.0	1	0.3
JAPAN, 8 registries (1990-2013)	27	0.5	131	2.4	0	0.0	9	0.4	0	0.0	124	2.2	0	0.0	9	0.4	27	0.5	7	0.1	0	0.0	0	0.0
JORDAN, Jordanians (2000-2012)	0	0.0	48	1.8	0	0.0	9	1.1	0	0.0	43	1.6	0	0.0	9	1.1	0	0.0	5	0.2	0	0.0	0	0.0
REPUBLIC OF KOREA (1999-2012)	0	0.0	241	2.2	0	0.0	48	1.0	0	0.0	213	1.9	0	0.0	46	1.0	0	0.0	28	0.3	0	0.0	2	0.0
KUWAIT (1994-2012)	*0*	*0.0*	*10*	*0.8*	*0*	*0.0*	*7*	*2.2*	*0*	*0.0*	*10*	*0.8*	*0*	*0.0*	*6*	*1.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*6*	*0.8*	*0*	*0.0*	*4*	*2.1*	*0*	*0.0*	*6*	*0.8*	*0*	*0.0*	*3*	*1.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.5*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*4*	*0.8*	*0*	*0.0*	*3*	*2.2*	*0*	*0.0*	*4*	*0.8*	*0*	*0.0*	*3*	*2.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
LEBANON (2008-2010)	*0*	*0.0*	*6*	*2.1*	*0*	*0.0*	*1*	*0.8*	*0*	*0.0*	*5*	*1.8*	*0*	*0.0*	*1*	*0.8*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*0*	*0.0*	*7*	*1.2*	*0*	*0.0*	*2*	*1.4*	*0*	*0.0*	*6*	*1.1*	*0*	*0.0*	*2*	*1.4*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*
PAKISTAN, Lahore (2008-2012)	4	0.2	23	1.3	5	0.9	4	0.7	2	0.1	22	1.2	5	0.9	4	0.7	2	0.1	1	0.1	0	0.0	0	0.0
PHILIPPINES, 2 registries (1993-2012)	0	0.0	42	0.6	0	0.0	7	0.3	0	0.0	40	0.5	0	0.0	6	0.3	0	0.0	2	0.0	0	0.0	1	0.0
QATAR (2002-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	0	0.0	55	1.7	0	0.0	9	1.0	0	0.0	51	1.6	0	0.0	9	1.0	0	0.0	4	0.1	0	0.0	0	0.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	0	0.0	43	1.6	0	0.0	7	0.9	0	0.0	39	1.4	0	0.0	7	0.9	0	0.0	4	0.2	0	0.0	0	0.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*0*	*0.0*	*12*	*2.1*	*0*	*0.0*	*2*	*1.6*	*0*	*0.0*	*12*	*2.1*	*0*	*0.0*	*2*	*1.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
THAILAND, 6 registries (1993-2013)	0	0.0	38	1.0	0	0.0	6	0.4	0	0.0	35	0.9	0	0.0	6	0.4	0	0.0	3	0.1	0	0.0	0	0.0
TURKEY, paediatric (2009-2011)	13	0.2	87	1.7	-	-	-	-	5	0.1	82	1.6	-	-	-	-	8	0.2	5	0.1	-	-	-	-
TURKEY, 8 registries (1992-2012)	15	0.4	116	3.3	7	0.5	27	1.9	3	0.1	109	3.0	5	0.3	24	1.7	12	0.3	7	0.2	2	0.1	3	0.2
VIET NAM, Ho Chi Minh City (1995-2013)	*0*	*0.0*	*11*	*0.5*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*10*	*0.4*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*
EUROPE																								
AUSTRIA (1990-2012)	8	0.3	91	3.1	1	0.1	11	1.0	3	0.1	79	2.7	1	0.1	11	1.0	5	0.2	12	0.5	0	0.0	0	0.0
BELARUS, paediatric (1990-2014)	17	0.4	93	2.3	2	0.1	21	1.2	4	0.1	90	2.2	0	0.0	20	1.1	13	0.3	3	0.1	2	0.1	1	0.1
BELGIUM (2004-2013)	23	1.4	66	3.9	8	1.3	13	2.0	1	0.0	52	3.0	8	1.3	13	2.0	22	1.3	14	0.8	0	0.0	0	0.0
BULGARIA (1990-2013)	0	0.0	35	1.2	0	0.0	19	1.5	0	0.0	30	1.0	0	0.0	18	1.4	0	0.0	5	0.2	0	0.0	1	0.1
CROATIA (2001-2014)	2	0.2	38	4.7	1	0.3	4	1.1	2	0.2	38	4.7	0	0.0	4	1.1	0	0.0	0	0.0	1	0.3	0	0.0
CYPRUS, South-West (1998-2012)	*0*	*0.0*	*5*	*2.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*4*	*2.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.6*	*0*	*0.0*	*0*	*0.0*
CZECH REPUBLIC (1990-2012)	16	0.4	149	4.0	4	0.2	32	1.9	7	0.2	130	3.5	1	0.1	29	1.7	9	0.2	19	0.6	3	0.2	3	0.2
ESTONIA (1990-2012)	4	0.9	26	5.1	1	0.4	1	0.4	0	0.0	23	4.6	1	0.4	1	0.4	4	0.9	3	0.5	0	0.0	0	0.0
FRANCE, paediatric (2000-2012)	146	1.0	384	2.8	-	-	-	-	38	0.2	341	2.4	-	-	-	-	108	0.8	43	0.3	-	-	-	-
FRANCE, 13 registries (1993-2012)	20	0.7	74	2.5	7	0.6	12	1.1	3	0.1	70	2.4	4	0.4	12	1.1	17	0.6	4	0.1	3	0.3	0	0.0
GERMANY, paediatric (1996-2012)	129	0.7	576	3.1	-	-	-	-	28	0.1	525	2.8	-	-	-	-	101	0.6	51	0.3	-	-	-	-
GERMANY, 6 Eastern states (2001-2007)	0	0.0	37	2.9	0	0.0	14	1.9	0	0.0	36	2.8	0	0.0	14	1.9	0	0.0	1	0.1	0	0.0	0	0.0
GERMANY, 5 Western registries (1994-2012)	15	0.3	165	3.7	5	0.3	22	1.2	4	0.1	151	3.4	4	0.2	22	1.2	11	0.3	14	0.3	1	0.1	0	0.0
GREECE, paediatric, CNS tumours (2010-2014)	3	0.4	22	3.0	-	-	-	-	1	0.1	21	2.8	-	-	-	-	2	0.3	1	0.1	-	-	-	-
HUNGARY, paediatric (1991-2014)	28	0.8	128	3.5	-	-	-	-	10	0.2	113	3.1	-	-	-	-	18	0.5	15	0.4	-	-	-	-
ICELAND (1990-2014)	*1*	*0.6*	*2*	*1.1*	*0*	*0.0*	*1*	*1.8*	*1*	*0.6*	*2*	*1.1*	*0*	*0.0*	*1*	*1.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
IRELAND (1994-2012)	9	0.6	40	2.5	6	1.0	8	1.3	2	0.1	38	2.4	4	0.7	8	1.3	7	0.5	2	0.1	2	0.3	0	0.0
ITALY, 2 paediatric registries (1998-2011)	12	1.5	38	4.8	1	0.3	10	3.5	2	0.2	33	4.2	0	0.0	9	3.1	10	1.3	5	0.6	1	0.3	1	0.3
ITALY, Piedmont, paediatric (1990-2011)	17	1.6	57	5.1	-	-	-	-	2	0.2	54	4.9	-	-	-	-	15	1.4	3	0.3	-	-	-	-
ITALY, 26 registries (1992-2013)	28	0.7	128	3.3	6	0.4	23	1.5	16	0.4	125	3.2	6	0.4	22	1.5	12	0.3	3	0.1	0	0.0	1	0.1
LITHUANIA (2000-2012)	*1*	*0.1*	*13*	*1.8*	*0*	*0.0*	*5*	*1.6*	*0*	*0.0*	*13*	*1.8*	*0*	*0.0*	*5*	*1.6*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MALTA (1994-2013)	*0*	*0.0*	*2*	*1.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*1.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
THE NETHERLANDS (1993-2013)	46	0.8	188	3.2	17	0.8	34	1.7	20	0.3	171	2.9	17	0.8	33	1.6	26	0.5	17	0.3	0	0.0	1	0.0
NORWAY (1990-2013)	33	1.6	51	2.6	14	2.0	3	0.4	9	0.4	45	2.3	12	1.7	3	0.4	24	1.2	6	0.3	2	0.3	0	0.0
POLAND (2001-2013)	0	0.0	226	3.0	0	0.0	74	2.1	0	0.0	199	2.6	0	0.0	74	2.1	0	0.0	27	0.4	0	0.0	0	0.0
PORTUGAL (1991-2012)	15	0.6	103	4.1	1	0.1	17	1.7	3	0.1	89	3.5	0	0.0	15	1.5	12	0.5	14	0.6	1	0.1	2	0.2
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	4	0.4	25	3.2	-	-	-	-	2	0.2	19	2.3	-	-	-	-	2	0.3	6	0.8	-	-	-	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	1	0.1	28	2.7	0	0.0	5	1.0	1	0.1	21	2.0	0	0.0	5	1.0	0	0.0	7	0.7	0	0.0	0	0.0
SLOVAKIA (1990-2009)	11	0.6	67	3.3	2	0.2	14	1.6	5	0.3	55	2.7	2	0.2	12	1.4	6	0.4	12	0.7	0	0.0	2	0.2
SLOVAKIA, paediatric (2000-2012)	1	0.1	32	2.8	-	-	-	-	1	0.1	30	2.6	-	-	-	-	0	0.0	2	0.1	-	-	-	-
SLOVENIA (1991-2012)	3	0.5	26	4.3	0	0.0	2	0.7	0	0.0	20	3.3	0	0.0	2	0.7	3	0.5	6	1.0	0	0.0	0	0.0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of ependymoma or choroid plexus tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

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Table 10.2. Ependymomas and choroid plexus tumour (IIIa): numbers of cases and incidence rates per million by age and behaviour

	Ependymoma and choroid plexus tumour (IIIa)								Ependymoma (IIIa1)								Choroid plexus tumour (IIIa2)							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
SPAIN, 2 paediatric registries (1991-2013)	34	0.7	163	3.6	-	-	-	-	15	0.3	151	3.3	-	-	-	-	19	0.4	12	0.3	-	-	-	-
SPAIN, selected regions, paediatric (2000-2013)	22	0.6	122	3.6	-	-	-	-	8	0.2	113	3.4	-	-	-	-	14	0.4	9	0.3	-	-	-	-
SPAIN, Valencia, paediatric (1991-2010)	12	0.8	41	3.4	-	-	-	-	7	0.4	38	3.1	-	-	-	-	5	0.4	3	0.3	-	-	-	-
SPAIN, 11 registries (1990-2013)	17	0.6	93	3.2	9	0.7	21	1.6	5	0.1	86	3.0	6	0.5	21	1.6	12	0.4	7	0.3	3	0.2	0	0.0
SWEDEN (1990-2011)	21	0.7	126	3.7	3	0.2	32	2.6	2	0.1	119	3.5	2	0.2	32	2.6	19	0.6	7	0.2	1	0.1	0	0.0
SWITZERLAND, paediatric (1990-2013)	22	0.8	76	2.9	-	-	-	-	3	0.1	69	2.6	-	-	-	-	19	0.7	7	0.3	-	-	-	-
SWITZERLAND, 7 registries (1990-2013)	19	1.9	28	2.8	5	1.4	7	1.9	12	1.2	28	2.8	5	1.4	7	1.9	7	0.7	0	0.0	0	0.0	0	0.0
UKRAINE (2002-2012)	0	0.0	158	2.2	0	0.0	36	1.0	0	0.0	154	2.2	0	0.0	36	1.0	0	0.0	4	0.1	0	0.0	0	0.0
UK (2000-2011)	18	0.1	361	3.0	7	0.2	46	1.0	3	0.0	315	2.6	7	0.2	46	1.0	15	0.1	46	0.4	0	0.0	0	0.0
UK, England and Wales, paediatric (1991-2010)	162	0.9	534	2.9	-	-	-	-	48	0.2	465	2.5	-	-	-	-	114	0.6	69	0.4	-	-	-	-
OCEANIA																								
AUSTRALIA (1992-2014)	17	0.2	248	3.0	1	0.0	54	1.8	6	0.1	227	2.8	1	0.0	54	1.8	11	0.1	21	0.3	0	0.0	0	0.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*0*	*0.0*	*5*	*2.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*5*	*2.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
FRANCE, 2 registries (1990-2013)	*1*	*0.3*	*6*	*2.2*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	*6*	*2.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND (1993-2012)	0	0.0	48	2.9	0	0.0	10	1.7	0	0.0	45	2.7	0	0.0	10	1.7	0	0.0	3	0.2	0	0.0	0	0.0
NEW ZEALAND, Maori (1993-2012)	*0*	*0.0*	*9*	*2.1*	*0*	*0.0*	*1*	*0.8*	*0*	*0.0*	*9*	*2.1*	*0*	*0.0*	*1*	*0.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*4*	*2.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*4*	*2.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Other (1993-2012)	0	0.0	35	3.2	0	0.0	9	2.1	0	0.0	32	2.9	0	0.0	9	2.1	0	0.0	3	0.3	0	0.0	0	0.0
NEW ZEALAND, paediatric (2000-2012)	6	0.5	32	2.9	-	-	-	-	2	0.1	29	2.6	-	-	-	-	4	0.4	3	0.3	-	-	-	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*6*	*2.1*	-	-	-	-	*0*	*0.0*	*5*	*1.8*	-	-	-	-	*0*	*0.0*	*1*	*0.4*	-	-	-	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	6	0.7	26	3.2	-	-	-	-	2	0.2	24	2.9	-	-	-	-	4	0.5	2	0.3	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of ependymoma or choroid plexus tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets
Please consult registry-specific background information and quality indicators

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Table 10.3. Astrocytomas (IIIb): numbers of cases and incidence rates per million by age and coded behaviour

	Astrocytoma (IIIb)								Pilocytic astrocytoma (M-9421)								Other astrocytomas							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
AFRICA																								
ALGERIA, 5 registries (1996-2014)	2	0.1	52	2.9	0	0.0	25	3.7	1	0.1	0	0.0	0	0.0	1	0.1	1	0.1	52	2.9	0	0.0	24	3.5
BOTSWANA (1999-2007)	*0*	*0.0*	*10*	*1.6*	*0*	*0.0*	*3*	*1.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*10*	*1.6*	*0*	*0.0*	*3*	*1.7*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*3*	*1.3*	*0*	*0.0*	*1*	*1.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*1.3*	*0*	*0.0*	*1*	*1.6*
EGYPT, Gharbiah (1999-2010)	2	0.1	78	5.0	0	0.0	37	6.8	1	0.1	8	0.5	0	0.0	0	0.0	1	0.1	70	4.5	0	0.0	37	6.8
FRANCE, Réunion (1990-2011)	*0*	*0.0*	*12*	*2.7*	*0*	*0.0*	*6*	*4.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*12*	*2.7*	*0*	*0.0*	*6*	*4.2*
KENYA, 2 registries (2000-2012)	0	0.0	15	1.4	0	0.0	6	2.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	15	1.4	0	0.0	6	2.0
LIBYA, Benghazi (2003-2008)	4	1.4	12	4.1	0	0.0	4	4.0	4	1.4	0	0.0	0	0.0	0	0.0	0	0.0	12	4.1	0	0.0	4	4.0
MALI, Bamako (2005-2014)	*0*	*0.0*	*3*	*0.4*	*0*	*0.0*	*2*	*0.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*0.4*	*0*	*0.0*	*2*	*0.8*
MAURITIUS (2001-2013)	*0*	*0.0*	*12*	*3.2*	*0*	*0.0*	*4*	*3.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*12*	*3.2*	*0*	*0.0*	*4*	*3.0*
MOROCCO, 2 registries (2005-2012)	14	1.6	30	3.2	5	1.5	9	2.8	14	1.6	3	0.3	5	1.5	0	0.0	0	0.0	27	2.8	0	0.0	9	2.8
SOUTH AFRICA, paediatric (1998-2012)	0	0.0	335	1.5	-	-	-	-	0	0.0	0	0.0	-	-	-	-	0	0.0	335	1.5	-	-	-	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*10*	*2.7*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	*10*	*2.7*	-	-	-	-
SOUTH AFRICA, paediatric, Black (1998-2012)	0	0.0	194	1.1	-	-	-	-	0	0.0	0	0.0	-	-	-	-	0	0.0	194	1.1	-	-	-	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	0	0.0	72	3.8	-	-	-	-	0	0.0	0	0.0	-	-	-	-	0	0.0	72	3.8	-	-	-	-
SOUTH AFRICA, paediatric, White (1998-2012)	0	0.0	59	5.3	-	-	-	-	0	0.0	0	0.0	-	-	-	-	0	0.0	59	5.3	-	-	-	-
TUNISIA, 2 registries (1993-2007)	25	1.3	89	4.6	8	1.1	39	5.6	25	1.3	0	0.0	8	1.1	0	0.0	0	0.0	89	4.6	0	0.0	39	5.6
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*6*	*0.4*	*0*	*0.0*	*2*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*6*	*0.4*	*0*	*0.0*	*2*	*0.4*
ZIMBABWE, Harare, African (1995-2013)	6	0.7	17	2.0	0	0.0	6	2.0	6	0.7	1	0.1	0	0.0	0	0.0	0	0.0	16	1.9	0	0.0	6	2.0
AMERICA, LATIN AND THE CARIBBEAN																								
ARGENTINA, paediatric (2000-2013)	301	2.1	651	4.5	-	-	-	-	294	2.1	21	0.1	-	-	-	-	7	0.0	630	4.4	-	-	-	-
ARGENTINA, 6 registries (1991-2013)	24	1.1	144	6.5	4	0.5	34	4.6	24	1.1	0	0.0	4	0.5	0	0.0	0	0.0	144	6.5	0	0.0	34	4.6
BRAZIL, 5 registries (1995-2012)	32	1.8	136	7.3	2	0.3	51	7.0	31	1.7	32	1.8	2	0.3	5	0.7	1	0.1	104	5.6	0	0.0	46	6.3
CHILE, paediatric (2007-2011)	22	1.2	77	4.1	-	-	-	-	22	1.2	0	0.0	-	-	-	-	0	0.0	77	4.1	-	-	-	-
CHILE, 4 registries (1998-2012)	7	1.6	26	5.8	0	0.0	8	4.7	7	1.6	0	0.0	0	0.0	0	0.0	0	0.0	26	5.8	0	0.0	8	4.7
COLOMBIA, 4 registries (1992-2013)	40	2.2	122	7.1	2	0.3	32	5.2	39	2.2	0	0.0	2	0.3	0	0.0	1	0.0	122	7.1	0	0.0	32	5.2
COSTA RICA (1993-2012)	0	0.0	122	5.1	0	0.0	38	4.8	0	0.0	12	0.5	0	0.0	6	0.8	0	0.0	110	4.6	0	0.0	32	4.0
CUBA (2000-2012)	11	0.4	189	6.8	1	0.1	40	3.9	11	0.4	0	0.0	1	0.1	0	0.0	0	0.0	189	6.8	0	0.0	40	3.9
ECUADOR, 5 registries (1993-2013)	1	0.0	145	6.7	0	0.0	52	7.1	1	0.0	13	0.6	0	0.0	3	0.4	0	0.0	132	6.1	0	0.0	49	6.6
FRANCE, 3 registries (1990-2012)	*8*	*2.6*	*8*	*2.6*	*1*	*0.9*	*2*	*1.9*	*8*	*2.6*	*1*	*0.4*	*1*	*0.9*	*0*	*0.0*	*0*	*0.0*	*7*	*2.3*	*0*	*0.0*	*2*	*1.9*
HONDURAS, Francisco Morazán (2002-2012)	6	1.1	22	4.1	1	0.7	6	4.0	6	1.1	1	0.2	1	0.7	0	0.0	0	0.0	21	3.9	0	0.0	6	4.0
JAMAICA, Kingston and St Andrew (1982-2012)	3	0.5	14	2.4	1	0.5	8	3.9	3	0.5	0	0.0	1	0.5	0	0.0	0	0.0	14	2.4	0	0.0	8	3.9
MEXICO, Mexico City, paediatric (1997-2013)	0	0.0	95	8.0	-	-	-	-	0	0.0	17	1.5	-	-	-	-	0	0.0	78	6.5	-	-	-	-
PERU, Lima (2010-2012)	11	1.6	32	4.4	1	0.4	11	4.2	11	1.6	0	0.0	1	0.4	0	0.0	0	0.0	32	4.4	0	0.0	11	4.2
PERU, Trujillo (1990-2002)	*0*	*0.0*	*13*	*5.2*	*0*	*0.0*	*3*	*3.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*13*	*5.2*	*0*	*0.0*	*3*	*3.4*
USA, Puerto Rico (1992-2012)	8	0.4	194	11.1	0	0.0	51	8.0	1	0.1	120	6.9	0	0.0	20	3.1	7	0.4	74	4.2	0	0.0	31	4.9
URUGUAY (1993-2012)	0	0.0	105	7.0	0	0.0	13	2.5	0	0.0	32	2.2	0	0.0	1	0.2	0	0.0	73	4.8	0	0.0	12	2.3
AMERICA, NORTH																								
CANADA, 9 registries (1992-2013)	84	0.7	1310	11.4	13	0.3	386	9.2	62	0.5	570	5.0	10	0.2	123	2.9	22	0.2	740	6.4	3	0.1	263	6.3
USA (2004-2012)	344	0.6	8995	16.6	76	0.4	2388	12.2	0	0.0	4990	9.2	0	0.0	1145	5.8	344	0.6	4005	7.5	76	0.4	1243	6.3
USA, API (2004-2012)	18	0.6	261	9.0	3	0.3	72	7.2	0	0.0	131	4.6	0	0.0	29	2.9	18	0.6	130	4.4	3	0.3	43	4.3
USA, Black (2004-2012)	62	0.7	1112	12.5	17	0.5	296	9.0	0	0.0	620	7.0	0	0.0	138	4.2	62	0.7	492	5.5	17	0.5	158	4.8
USA, Hispanic White (2004-2012)	60	0.6	1319	12.1	9	0.3	291	8.6	0	0.0	726	6.7	0	0.0	112	3.3	60	0.6	593	5.4	9	0.3	179	5.3
USA, Native American (2004-2012)	0	0.0	72	7.6	0	0.0	17	5.1	0	0.0	40	4.2	0	0.0	6	1.8	0	0.0	32	3.4	0	0.0	11	3.3
USA, White NH (2004-2012)	197	0.6	5941	19.6	44	0.4	1655	14.3	0	0.0	3303	10.8	0	0.0	828	7.2	197	0.6	2638	8.8	44	0.4	827	7.1
USA, NPCR (2004-2012)	344	0.7	8585	16.6	76	0.4	2299	12.3	0	0.0	4756	9.1	0	0.0	1097	5.8	344	0.7	3829	7.5	76	0.4	1202	6.4
USA, SEER 18 (2004-2012)	0	0.0	2483	16.0	0	0.0	660	11.9	0	0.0	1397	9.0	0	0.0	306	5.5	0	0.0	1086	7.0	0	0.0	354	6.4
USA, Hawaii, Hawaiian (2004-2012)	*0*	*0.0*	*10*	*12.9*	*0*	*0.0*	*2*	*8.4*	*0*	*0.0*	*7*	*9.2*	*0*	*0.0*	*1*	*4.2*	*0*	*0.0*	*3*	*3.7*	*0*	*0.0*	*1*	*4.2*
ASIA																								
BAHRAIN (1998-2012)	3	0.9	14	4.3	1	1.1	4	4.4	3	0.9	0	0.0	1	1.1	0	0.0	0	0.0	14	4.3	0	0.0	4	4.4
CHINA, 6 registries (1990-2013)	110	2.0	271	4.7	36	1.3	134	4.7	110	2.0	1	0.0	35	1.2	0	0.0	0	0.0	270	4.7	1	0.0	134	4.7
CHINA, Hong Kong (1990-2013)	0	0.0	219	8.7	0	0.0	82	7.9	0	0.0	90	3.6	0	0.0	24	2.3	0	0.0	129	5.0	0	0.0	58	5.6
INDIA, 7 registries (1990-2013)	0	0.0	716	4.1	0	0.0	264	4.2	0	0.0	3	0.0	0	0.0	1	0.0	0	0.0	713	4.0	0	0.0	263	4.1
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	0	0.0	16	3.9	0	0.0	10	5.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	16	3.9	0	0.0	10	5.9

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of astrocytoma in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

More datasets available online

Table 10.3. Astrocytomas (IIIb): numbers of cases and incidence rates per million by age and coded behaviour

	Astrocytoma (IIIb)								Pilocytic astrocytoma (M-9421)								Other astrocytomas							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
ISRAEL (1990-2012)	10	0.2	469	11.2	4	0.3	119	9.7	0	0.0	239	5.7	0	0.0	45	3.7	10	0.2	230	5.5	4	0.3	74	6.1
ISRAEL, Jews (1990-2012)	8	0.3	371	12.2	2	0.2	90	9.7	0	0.0	186	6.1	0	0.0	34	3.7	8	0.3	185	6.1	2	0.2	56	6.0
ISRAEL, Non-Jews (1990-2012)	2	0.2	98	8.7	2	0.7	29	9.8	0	0.0	53	4.7	0	0.0	11	3.7	2	0.2	45	4.0	2	0.7	18	6.1
JAPAN, 8 registries (1990-2013)	116	1.9	301	4.9	26	1.1	99	4.1	104	1.7	0	0.0	19	0.8	0	0.0	12	0.2	301	4.9	7	0.3	99	4.1
JORDAN, Jordanians (2000-2012)	0	0.0	168	6.1	0	0.0	44	5.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	168	6.1	0	0.0	44	5.5
REPUBLIC OF KOREA (1999-2012)	0	0.0	453	3.5	0	0.0	200	4.1	0	0.0	11	0.1	0	0.0	0	0.0	0	0.0	442	3.4	0	0.0	200	4.1
KUWAIT (1994-2012)	19	1.6	33	2.7	12	3.7	10	3.1	19	1.6	0	0.0	12	3.7	0	0.0	0	0.0	33	2.7	0	0.0	10	3.1
KUWAIT, Kuwaitis (1994-2012)	17	2.4	18	2.6	8	4.3	7	3.7	17	2.4	0	0.0	8	4.3	0	0.0	0	0.0	18	2.6	0	0.0	7	3.7
KUWAIT, Non-Kuwaitis (1994-2012)	2	0.4	15	3.0	4	2.9	3	2.2	2	0.4	0	0.0	4	2.9	0	0.0	0	0.0	15	3.0	0	0.0	3	2.2
LEBANON (2008-2010)	0	0.0	26	7.5	0	0.0	6	4.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	26	7.5	0	0.0	6	4.8
PAKISTAN, Karachi (1995-2002)	0	0.0	39	6.5	0	0.0	17	11.8	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0	37	6.2	0	0.0	17	11.8
PAKISTAN, Lahore (2008-2012)	21	1.1	31	1.7	8	1.5	22	4.1	20	1.0	0	0.0	8	1.5	0	0.0	1	0.0	31	1.7	0	0.0	22	4.1
PHILIPPINES, 2 registries (1993-2012)	4	0.1	187	2.5	0	0.0	67	2.8	4	0.1	0	0.0	0	0.0	0	0.0	0	0.0	187	2.5	0	0.0	67	2.8
QATAR (2002-2014)	7	2.4	9	3.0	0	0.0	4	5.0	7	2.4	0	0.0	0	0.0	0	0.0	0	0.0	9	3.0	0	0.0	4	5.0
SAUDI ARABIA, Riyadh (1994-2012)	0	0.0	105	3.1	0	0.0	34	3.9	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	104	3.1	0	0.0	34	3.9
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	0	0.0	86	3.1	0	0.0	31	4.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	86	3.1	0	0.0	31	4.1
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	0	0.0	19	3.3	0	0.0	3	2.5	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	18	3.1	0	0.0	3	2.5
THAILAND, 6 registries (1993-2013)	30	0.8	164	4.1	3	0.2	68	4.2	30	0.8	1	0.0	3	0.2	0	0.0	0	0.0	163	4.1	0	0.0	68	4.2
TURKEY, paediatric (2009-2011)	109	2.0	130	2.3	-	-	-	-	107	1.9	0	0.0	-	-	-	-	2	0.0	130	2.3	-	-	-	-
TURKEY, 8 registries (1992-2012)	157	3.9	204	5.2	31	2.2	89	6.2	150	3.7	16	0.4	29	2.0	3	0.2	7	0.2	188	4.8	2	0.1	86	6.0
VIET NAM, Ho Chi Minh City (1995-2013)	4	0.2	97	3.9	0	0.0	33	2.9	4	0.2	4	0.2	0	0.0	0	0.0	0	0.0	93	3.8	0	0.0	33	2.9
EUROPE																								
AUSTRIA (1990-2012)	175	5.8	278	9.1	32	2.9	81	7.3	167	5.6	0	0.0	31	2.8	0	0.0	8	0.2	278	9.1	1	0.1	81	7.3
BELARUS, paediatric (1990-2014)	244	5.5	288	6.4	24	1.3	107	5.9	238	5.4	0	0.0	21	1.2	0	0.0	6	0.1	288	6.4	3	0.2	107	5.9
BELGIUM (2004-2013)	260	14.5	104	5.6	51	8.0	48	7.5	226	12.5	0	0.0	47	7.4	0	0.0	34	2.0	104	5.6	4	0.6	48	7.5
BULGARIA (1990-2013)	40	1.3	144	4.6	14	1.1	86	6.8	40	1.3	0	0.0	14	1.1	0	0.0	0	0.0	144	4.6	0	0.0	86	6.8
CROATIA (2001-2014)	48	5.3	63	6.6	13	3.6	19	5.3	48	5.3	0	0.0	11	3.1	0	0.0	0	0.0	63	6.6	2	0.6	19	5.3
CYPRUS, South-West (1998-2012)	0	0.0	15	7.2	0	0.0	5	5.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	15	7.2	0	0.0	5	5.6
CZECH REPUBLIC (1990-2012)	234	6.0	323	8.2	53	3.2	109	6.5	232	6.0	0	0.0	52	3.1	0	0.0	2	0.0	323	8.2	1	0.1	109	6.5
ESTONIA (1990-2012)	37	6.2	61	10.4	5	2.2	23	10.3	35	6.0	0	0.0	5	2.2	0	0.0	2	0.3	61	10.4	0	0.0	23	10.3
FRANCE, paediatric (2000-2012)	1270	8.7	718	5.1	-	-	-	-	1204	8.3	1	0.0	-	-	-	-	66	0.4	717	5.1	-	-	-	-
FRANCE, 13 registries (1993-2012)	222	7.1	164	5.3	47	4.3	33	3.0	211	6.8	0	0.0	40	3.6	0	0.0	11	0.3	164	5.3	7	0.6	33	3.0
GERMANY, paediatric (1996-2012)	1832	9.1	1535	7.6	-	-	-	-	1757	8.7	19	0.1	-	-	-	-	75	0.4	1516	7.5	-	-	-	-
GERMANY, 6 Eastern states (2001-2007)	0	0.0	89	6.7	0	0.0	47	6.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	89	6.7	0	0.0	47	6.2
GERMANY, 5 Western registries (1994-2012)	274	5.6	371	7.4	58	3.1	155	8.3	261	5.3	17	0.3	56	3.0	2	0.1	13	0.2	354	7.1	2	0.1	153	8.2
GREECE, paediatric, CNS tumours (2010-2014)	42	5.3	40	5.0	-	-	-	-	39	5.0	0	0.0	-	-	-	-	3	0.4	40	5.0	-	-	-	-
HUNGARY, paediatric (1991-2014)	305	7.9	309	7.5	-	-	-	-	298	7.7	0	0.0	-	-	-	-	7	0.2	309	7.5	-	-	-	-
ICELAND (1990-2014)	18	11.3	16	9.9	6	11.0	6	11.0	18	11.3	0	0.0	6	11.0	0	0.0	0	0.0	16	9.9	0	0.0	6	11.0
IRELAND (1994-2012)	162	9.7	145	8.8	46	7.8	60	10.1	158	9.5	0	0.0	40	6.7	0	0.0	4	0.2	145	8.8	6	1.0	60	10.1
ITALY, 2 paediatric registries (1998-2011)	88	10.7	74	8.7	12	4.2	23	8.0	87	10.5	21	2.5	12	4.2	2	0.7	1	0.1	53	6.2	0	0.0	21	7.3
ITALY, Piedmont, paediatric (1990-2011)	138	11.8	78	6.5	-	-	-	-	138	11.8	0	0.0	-	-	-	-	0	0.0	78	6.5	-	-	-	-
ITALY, 26 registries (1992-2013)	262	6.5	268	6.5	45	3.0	90	6.0	251	6.2	4	0.1	44	2.9	0	0.0	11	0.3	264	6.4	1	0.1	90	6.0
LITHUANIA (2000-2012)	8	1.0	44	6.5	1	0.3	28	8.8	8	1.0	0	0.0	1	0.3	0	0.0	0	0.0	44	6.5	0	0.0	28	8.8
MALTA (1994-2013)	1	0.9	22	15.0	3	5.3	1	1.8	1	0.9	7	5.1	2	3.6	0	0.0	0	0.0	15	9.9	1	1.8	1	1.8
THE NETHERLANDS (1993-2013)	493	8.1	292	4.8	101	5.0	126	6.2	470	7.7	0	0.0	96	4.7	0	0.0	23	0.4	292	4.8	5	0.2	126	6.2
NORWAY (1990-2013)	182	8.7	172	8.3	50	7.1	53	7.6	169	8.1	16	0.8	47	6.7	3	0.4	13	0.6	156	7.5	3	0.4	50	7.1
POLAND (2001-2013)	153	2.0	413	5.1	54	1.5	228	6.4	153	2.0	0	0.0	54	1.5	0	0.0	0	0.0	413	5.1	0	0.0	228	6.4
PORTUGAL (1991-2012)	213	8.0	194	7.2	58	5.7	51	5.0	209	7.9	0	0.0	55	5.4	0	0.0	4	0.1	194	7.2	3	0.3	51	5.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	56	6.4	61	7.1	-	-	-	-	54	6.2	0	0.0	-	-	-	-	2	0.2	61	7.1	-	-	-	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	6	0.5	101	9.2	0	0.0	26	5.1	6	0.5	0	0.0	0	0.0	0	0.0	0	0.0	101	9.2	0	0.0	26	5.1
SLOVAKIA (1990-2009)	139	6.5	142	6.7	39	4.5	73	8.4	134	6.2	0	0.0	37	4.2	0	0.0	5	0.3	142	6.7	2	0.2	73	8.4
SLOVAKIA, paediatric (2000-2012)	89	7.5	80	6.8	-	-	-	-	87	7.3	4	0.4	-	-	-	-	2	0.2	76	6.4	-	-	-	-
SLOVENIA (1991-2012)	25	3.4	57	8.1	5	1.7	20	7.0	21	2.9	20	2.7	5	1.7	9	3.1	4	0.5	37	5.4	0	0.0	11	3.8
SPAIN, 2 paediatric registries (1991-2013)	262	5.5	386	8.1	-	-	-	-	253	5.3	0	0.0	-	-	-	-	9	0.2	386	8.1	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

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Table 10.3. Astrocytomas (IIIb): numbers of cases and incidence rates per million by age and coded behaviour

	Astrocytoma (IIIb)								Pilocytic astrocytoma (M-9421)								Other astrocytomas							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
SPAIN, selected regions, paediatric (2000-2013)	197	5.8	229	6.7	-	-	-	-	192	5.6	0	0.0	-	-	-	-	5	0.1	229	6.7	-	-	-	-
SPAIN, Valencia, paediatric (1991-2010)	65	4.9	157	11.9	-	-	-	-	61	4.6	0	0.0	-	-	-	-	4	0.3	157	11.9	-	-	-	-
SPAIN, 11 registries (1990-2013)	181	5.7	239	7.6	57	4.3	103	7.8	175	5.5	0	0.0	50	3.8	0	0.0	6	0.2	239	7.6	7	0.5	103	7.8
SWEDEN (1990-2011)	274	7.8	283	8.1	59	4.8	87	7.1	271	7.7	0	0.0	59	4.8	0	0.0	3	0.1	283	8.1	0	0.0	87	7.1
SWITZERLAND, paediatric (1990-2013)	236	8.1	153	5.3	-	-	-	-	229	7.8	0	0.0	-	-	-	-	7	0.2	153	5.3	-	-	-	-
SWITZERLAND, 7 registries (1990-2013)	102	9.4	50	4.6	23	6.3	23	6.3	99	9.2	4	0.4	19	5.2	3	0.8	3	0.2	46	4.3	4	1.1	20	5.5
UKRAINE (2002-2012)	0	0.0	596	7.8	0	0.0	281	7.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	596	7.8	0	0.0	281	7.7
UK (2000-2011)	1060	8.0	920	7.1	174	3.7	262	5.6	1053	8.0	25	0.2	173	3.7	6	0.1	7	0.1	895	6.9	1	0.0	256	5.5
UK, England and Wales, paediatric (1991-2010)	1445	7.4	1567	8.1	-	-	-	-	1371	7.0	0	0.0	-	-	-	-	74	0.4	1567	8.1	-	-	-	-
OCEANIA																								
AUSTRALIA (1992-2014)	109	1.2	614	7.1	19	0.6	221	7.4	103	1.2	1	0.0	17	0.6	0	0.0	6	0.1	613	7.1	2	0.1	221	7.4
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*3*	*1.2*	*11*	*4.6*	*0*	*0.0*	*3*	*4.7*	*3*	*1.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*11*	*4.6*	*0*	*0.0*	*3*	*4.7*
FRANCE, 2 registries (1990-2013)	9	2.9	11	3.6	1	1.0	3	3.0	8	2.5	0	0.0	1	1.0	0	0.0	1	0.4	11	3.6	0	0.0	3	3.0
NEW ZEALAND (1993-2012)	0	0.0	154	8.9	0	0.0	40	6.8	0	0.0	62	3.6	0	0.0	7	1.2	0	0.0	92	5.3	0	0.0	33	5.6
NEW ZEALAND, Maori (1993-2012)	0	0.0	32	7.4	0	0.0	7	5.8	0	0.0	14	3.3	0	0.0	1	0.8	0	0.0	18	4.2	0	0.0	6	5.0
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*11*	*7.1*	*0*	*0.0*	*5*	*11.3*	*0*	*0.0*	*5*	*3.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*6*	*3.9*	*0*	*0.0*	*5*	*11.3*
NEW ZEALAND, Other (1993-2012)	0	0.0	111	9.7	0	0.0	28	6.7	0	0.0	43	3.8	0	0.0	6	1.4	0	0.0	68	5.9	0	0.0	22	5.3
NEW ZEALAND, paediatric (2000-2012)	105	9.1	56	4.9	-	-	-	-	93	8.1	0	0.0	-	-	-	-	12	1.0	56	4.9	-	-	-	-
NEW ZEALAND, paediatric, Maori (2000-2012)	19	6.6	8	2.8	-	-	-	-	16	5.6	0	0.0	-	-	-	-	3	1.0	8	2.8	-	-	-	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	86	9.9	48	5.6	-	-	-	-	77	8.9	0	0.0	-	-	-	-	9	1.0	48	5.6	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

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Table 10.4. Effect of pilocytic astrocytoma (M-9421) on CNS tumours incidence (III): numbers of cases and incidence rates per million by age and behaviour

	CNS tumours (III)				CNS tumours (III) excluding pilocytic astrocytoma				Pilocytic astrocytoma (M-9421)				CNS tumours (III) malignant and pilocytic astrocytoma (M-9421) any behaviour			
Behaviour	Any				Malignant				Any							
Age group (years)	0-14		15-19		0-14		15-19		0-14		15-19		0-14		15-19	
	N	ASR	N	Rate	N	ASR	N	Rate	N	ASR	N	Rate	N	ASR	N	Rate
AFRICA																
ALGERIA, 5 registries (1996-2014)	*224*	*12.9*	*89*	*13.1*	*214*	*12.3*	*83*	*12.2*	*1*	*0.1*	*1*	*0.1*	*215*	*12.3*	*84*	*12.4*
BOTSWANA (1999-2007)	*32*	*5.3*	*6*	*3.4*	*32*	*5.3*	*6*	*3.4*	*0*	*0.0*	*0*	*0.0*	*32*	*5.3*	*6*	*3.4*
CAMEROON, Yaoundé (2004-2006)	*4*	*1.7*	*1*	*1.6*	*4*	*1.7*	*1*	*1.6*	*0*	*0.0*	*0*	*0.0*	*4*	*1.7*	*1*	*1.6*
EGYPT, Gharbiah (1999-2010)	*276*	*18.3*	*76*	*13.9*	*258*	*17.1*	*72*	*13.1*	*9*	*0.6*	*0*	*0.0*	*267*	*17.7*	*72*	*13.1*
FRANCE, Réunion (1990-2011)	*65*	*15.1*	*15*	*10.4*	*65*	*15.1*	*15*	*10.4*	*0*	*0.0*	*0*	*0.0*	*65*	*15.1*	*15*	*10.4*
KENYA, 2 registries (2000-2012)	*71*	*6.6*	*18*	*6.1*	*70*	*6.5*	*18*	*6.1*	*0*	*0.0*	*0*	*0.0*	*70*	*6.5*	*18*	*6.1*
LIBYA, Benghazi (2003-2008)	*47*	*15.9*	*9*	*9.0*	*42*	*14.2*	*9*	*9.0*	*4*	*1.4*	*0*	*0.0*	*46*	*15.6*	*9*	*9.0*
MALI, Bamako (2005-2014)	*22*	*3.0*	*5*	*2.0*	*21*	*2.9*	*5*	*2.0*	*0*	*0.0*	*0*	*0.0*	*21*	*2.9*	*5*	*2.0*
MAURITIUS (2001-2013)	*42*	*11.4*	*19*	*14.4*	*42*	*11.4*	*19*	*14.4*	*0*	*0.0*	*0*	*0.0*	*42*	*11.4*	*19*	*14.4*
MOROCCO, 2 registries (2005-2012)	173	19.3	34	10.5	147	16.5	26	8.0	17	1.9	5	1.5	164	18.4	31	9.6
SOUTH AFRICA, paediatric (1998-2012)	*1300*	*6.0*	-	-	*1214*	*5.7*	-	-	*0*	*0.0*	-	-	*1214*	*5.7*	-	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*34*	*8.7*	-	-	*31*	*8.0*	-	-	*0*	*0.0*	-	-	*31*	*8.0*	-	-
SOUTH AFRICA, paediatric, Black (1998-2012)	*850*	*4.7*	-	-	*787*	*4.3*	-	-	*0*	*0.0*	-	-	*787*	*4.3*	-	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*245*	*13.2*	-	-	*233*	*12.6*	-	-	*0*	*0.0*	-	-	*233*	*12.6*	-	-
SOUTH AFRICA, paediatric, White (1998-2012)	*171*	*15.4*	-	-	*163*	*14.8*	-	-	*0*	*0.0*	-	-	*163*	*14.8*	-	-
TUNISIA, 2 registries (1993-2007)	274	14.5	84	12.1	248	13.1	76	10.9	25	1.3	8	1.1	273	14.5	84	12.1
UGANDA, Kyadondo (1996-2013)	*46*	*3.4*	*10*	*2.2*	*46*	*3.4*	*10*	*2.2*	*0*	*0.0*	*0*	*0.0*	*46*	*3.4*	*10*	*2.2*
ZIMBABWE, Harare, African (1995-2013)	*109*	*12.9*	*24*	*8.1*	*100*	*11.8*	*24*	*8.1*	*7*	*0.8*	*0*	*0.0*	*107*	*12.7*	*24*	*8.1*
AMERICA, LATIN AND THE CARIBBEAN																
ARGENTINA, paediatric (2000-2013)	3396	23.8	-	-	2869	20.2	-	-	315	2.2	-	-	3184	22.4	-	-
ARGENTINA, 6 registries (1991-2013)	520	24.0	110	14.8	459	21.3	95	12.8	24	1.1	4	0.5	483	22.4	99	13.3
BRAZIL, 5 registries (1995-2012)	451	24.8	126	17.2	387	21.3	118	16.1	63	3.5	7	1.0	450	24.7	125	17.0
CHILE, paediatric (2007-2011)	373	20.4	-	-	308	16.9	-	-	22	1.2	-	-	330	18.0	-	-
CHILE, 4 registries (1998-2012)	*105*	*24.3*	*22*	*12.9*	*86*	*20.0*	*18*	*10.6*	*7*	*1.6*	*0*	*0.0*	*93*	*21.6*	*18*	*10.6*
COLOMBIA, 4 registries (1992-2013)	434	25.2	103	16.6	355	20.7	80	12.9	39	2.2	2	0.3	394	22.9	82	13.3
COSTA RICA (1993-2012)	*430*	*18.4*	*93*	*11.7*	*418*	*17.9*	*87*	*10.9*	*12*	*0.5*	*6*	*0.8*	*430*	*18.4*	*93*	*11.7*
CUBA (2000-2012)	*565*	*21.1*	*114*	*11.0*	*548*	*20.5*	*112*	*10.8*	*11*	*0.4*	*1*	*0.1*	*559*	*20.9*	*113*	*10.9*
ECUADOR, 5 registries (1993-2013)	*385*	*17.9*	*93*	*12.6*	*370*	*17.3*	*87*	*11.8*	*14*	*0.6*	*3*	*0.4*	*384*	*17.9*	*90*	*12.2*
FRANCE, 3 registries (1990-2012)	*66*	*21.7*	*18*	*17.0*	*45*	*14.8*	*7*	*6.6*	*9*	*3.0*	*1*	*0.9*	*54*	*17.8*	*8*	*7.5*
HONDURAS, Francisco Morazán (2002-2012)	*80*	*15.3*	*19*	*12.7*	*63*	*12.1*	*15*	*10.1*	*7*	*1.3*	*1*	*0.7*	*70*	*13.4*	*16*	*10.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*61*	*10.5*	*19*	*9.4*	*57*	*9.9*	*18*	*8.9*	*3*	*0.5*	*1*	*0.5*	*60*	*10.3*	*19*	*9.4*
MEXICO, Mexico City, paediatric (1997-2013)	*221*	*18.9*	-	-	*189*	*16.1*	-	-	*17*	*1.5*	-	-	*206*	*17.6*	-	-
PERU, Lima (2010-2012)	*212*	*30.2*	*72*	*27.3*	*134*	*19.3*	*36*	*13.6*	*11*	*1.6*	*1*	*0.4*	*145*	*20.8*	*37*	*14.0*
PERU, Trujillo (1990-2002)	*39*	*16.2*	*12*	*13.7*	*39*	*16.2*	*12*	*13.7*	*0*	*0.0*	*0*	*0.0*	*39*	*16.2*	*12*	*13.7*
USA, Puerto Rico (1992-2012)	466	26.5	133	20.9	297	17.0	85	13.4	121	6.9	20	3.1	418	23.9	105	16.5
URUGUAY (1993-2012)	382	25.6	61	11.8	350	23.4	60	11.6	32	2.2	1	0.2	382	25.6	61	11.8
AMERICA, NORTH																
CANADA, 9 registries (1992-2013)	3688	32.5	1042	24.8	2689	23.9	664	15.8	632	5.5	133	3.2	3321	29.4	797	19.0
USA (2004-2012)	23902	44.2	8776	44.8	13304	25.1	3061	15.6	4990	9.2	1145	5.8	18294	34.3	4206	21.5
USA, API (2004-2012)	786	27.1	266	26.7	490	17.0	96	9.6	131	4.6	29	2.9	621	21.6	125	12.5
USA, Black (2004-2012)	3139	35.1	1152	35.1	1748	19.9	397	12.1	620	7.0	138	4.2	2368	26.9	535	16.3
USA, Hispanic White (2004-2012)	4012	36.8	1296	38.2	2288	21.2	419	12.4	726	6.7	112	3.3	3014	27.9	531	15.7
USA, Native American (2004-2012)	189	19.9	99	29.5	103	11.1	35	10.4	40	4.2	6	1.8	143	15.3	41	12.2
USA, White NH (2004-2012)	15047	49.6	5667	49.0	8319	28.1	2053	17.7	3303	10.8	828	7.2	11622	38.8	2881	24.9
USA, NPCR (2004-2012)	23078	44.6	8624	46.0	12714	25.1	2957	15.8	4756	9.1	1097	5.8	17470	34.2	4054	21.6
USA, SEER 18 (2004-2012)	5112	33.3	1156	20.8	3715	24.4	850	15.3	1397	9.0	306	5.5	5112	33.3	1156	20.8
USA, Hawaii, Hawaiian (2004-2012)	*21*	*28.3*	*5*	*20.9*	*14*	*19.1*	*4*	*16.7*	*7*	*9.2*	*1*	*4.2*	*21*	*28.3*	*5*	*20.9*
ASIA																
BAHRAIN (1998-2012)	*59*	*18.8*	*12*	*13.1*	*45*	*14.4*	*9*	*9.8*	*3*	*0.9*	*1*	*1.1*	*48*	*15.3*	*10*	*10.9*
CHINA, 6 registries (1990-2013)	1202	21.6	505	17.8	990	17.9	415	14.7	111	2.0	35	1.2	1101	19.9	450	15.9
CHINA, Hong Kong (1990-2013)	545	22.5	159	15.3	455	18.9	135	13.0	90	3.6	24	2.3	545	22.5	159	15.3
INDIA, 7 registries (1990-2013)	*2217*	*12.8*	*621*	*9.8*	*2214*	*12.8*	*620*	*9.8*	*3*	*0.0*	*1*	*0.0*	*2217*	*12.8*	*621*	*9.8*
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*45*	*12.0*	*40*	*23.7*	*45*	*12.0*	*40*	*23.7*	*0*	*0.0*	*0*	*0.0*	*45*	*12.0*	*40*	*23.7*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of pilocytic astrocytoma in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Pilocytic Astrocytoma is shown by behaviour in Table 10.3. Astrocytomas (IIIb)

Please consult registry-specific background information and quality indicators

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Table 10.4. Effect of pilocytic astrocytoma (M-9421) on CNS tumours incidence (III): numbers of cases and incidence rates per million by age and behaviour

	CNS tumours (III)				CNS tumours (III) excluding pilocytic astrocytoma				Pilocytic astrocytoma (M-9421)				CNS tumours (III) malignant and pilocytic astrocytoma (M-9421) any behaviour			
Behaviour	Any				Malignant				Any							
Age group (years)	0-14		15-19		0-14		15-19		0-14		15-19		0-14		15-19	
	N	ASR	N	Rate	N	ASR	N	Rate	N	ASR	N	Rate	N	ASR	N	Rate
ISRAEL (1990-2012)	1281	31.0	312	25.5	865	21.0	183	15.0	239	5.7	45	3.7	1104	26.8	228	18.7
ISRAEL, Jews (1990-2012)	991	33.0	227	24.5	677	22.6	134	14.5	186	6.1	34	3.7	863	28.7	168	18.1
ISRAEL, Non-Jews (1990-2012)	290	25.8	85	28.9	188	16.8	49	16.6	53	4.7	11	3.7	241	21.5	60	20.4
JAPAN, 8 registries (1990-2013)	1574	26.4	438	18.1	1130	19.1	235	9.7	104	1.7	19	0.8	1234	20.8	254	10.5
JORDAN, Jordanians (2000-2012)	*477*	*17.6*	*81*	*10.1*	*474*	*17.5*	*81*	*10.1*	*0*	*0.0*	*0*	*0.0*	*474*	*17.5*	*81*	*10.1*
REPUBLIC OF KOREA (1999-2012)	*2260*	*18.3*	*648*	*13.4*	*2249*	*18.2*	*648*	*13.4*	*11*	*0.1*	*0*	*0.0*	*2260*	*18.3*	*648*	*13.4*
KUWAIT (1994-2012)	133	11.0	52	16.0	104	8.6	35	10.8	19	1.6	12	3.7	123	10.1	47	14.5
KUWAIT, Kuwaitis (1994-2012)	87	12.2	35	18.6	64	9.0	26	13.8	17	2.4	8	4.3	81	11.4	34	18.1
KUWAIT, Non-Kuwaitis (1994-2012)	*46*	*9.2*	*17*	*12.5*	*40*	*8.0*	*9*	*6.6*	*2*	*0.4*	*4*	*2.9*	*42*	*8.4*	*13*	*9.5*
LEBANON (2008-2010)	*74*	*21.0*	*17*	*13.7*	*74*	*21.0*	*17*	*13.7*	*0*	*0.0*	*0*	*0.0*	*74*	*21.0*	*17*	*13.7*
PAKISTAN, Karachi (1995-2002)	*77*	*13.0*	*31*	*21.5*	*75*	*12.7*	*31*	*21.5*	*2*	*0.3*	*0*	*0.0*	*77*	*13.0*	*31*	*21.5*
PAKISTAN, Lahore (2008-2012)	172	9.0	69	12.8	126	6.7	43	8.0	20	1.0	8	1.5	146	7.7	51	9.5
PHILIPPINES, 2 registries (1993-2012)	*896*	*11.8*	*174*	*7.3*	*891*	*11.8*	*174*	*7.3*	*4*	*0.1*	*0*	*0.0*	*895*	*11.8*	*174*	*7.3*
QATAR (2002-2014)	*41*	*13.9*	*9*	*11.3*	*34*	*11.5*	*8*	*10.0*	*7*	*2.4*	*0*	*0.0*	*41*	*13.9*	*8*	*10.0*
SAUDI ARABIA, Riyadh (1994-2012)	*523*	*15.6*	*90*	*10.4*	*522*	*15.5*	*90*	*10.4*	*1*	*0.0*	*0*	*0.0*	*523*	*15.6*	*90*	*10.4*
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*430*	*15.5*	*70*	*9.4*	*430*	*15.5*	*70*	*9.4*	*0*	*0.0*	*0*	*0.0*	*430*	*15.5*	*70*	*9.4*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*93*	*16.2*	*20*	*16.4*	*92*	*16.1*	*20*	*16.4*	*1*	*0.2*	*0*	*0.0*	*93*	*16.2*	*20*	*16.4*
THAILAND, 6 registries (1993-2013)	606	15.3	148	9.2	570	14.4	143	8.9	31	0.8	3	0.2	601	15.2	146	9.0
TURKEY, paediatric (2009-2011)	753	13.7	-	-	583	10.6	-	-	107	1.9	-	-	690	12.5	-	-
TURKEY, 8 registries (1992-2012)	1168	29.7	461	32.3	801	20.8	238	16.7	166	4.1	32	2.2	967	24.9	270	18.9
VIET NAM, Ho Chi Minh City (1995-2013)	*288*	*11.9*	*77*	*6.8*	*268*	*11.0*	*73*	*6.5*	*8*	*0.3*	*0*	*0.0*	*276*	*11.4*	*73*	*6.5*
EUROPE																
AUSTRIA (1990-2012)	1079	35.8	277	24.9	804	26.8	201	18.0	167	5.6	31	2.8	971	32.4	232	20.8
BELARUS, paediatric (1990-2014)	1437	33.0	307	17.0	1021	23.7	244	13.5	238	5.4	21	1.2	1259	29.1	265	14.7
BELGIUM (2004-2013)	844	46.9	249	39.0	420	23.3	97	15.2	226	12.5	47	7.4	646	35.9	144	22.6
BULGARIA (1990-2013)	564	18.8	196	15.5	524	17.5	182	14.4	40	1.3	14	1.1	564	18.8	196	15.5
CROATIA (2001-2014)	415	45.5	158	44.3	291	32.7	83	23.3	48	5.3	11	3.1	339	38.0	94	26.4
CYPRUS, South-West (1998-2012)	*52*	*25.2*	*12*	*13.5*	*52*	*25.2*	*12*	*13.5*	*0*	*0.0*	*0*	*0.0*	*52*	*25.2*	*12*	*13.5*
CZECH REPUBLIC (1990-2012)	1323	34.0	351	21.1	984	25.4	272	16.3	232	6.0	52	3.1	1216	31.4	324	19.4
ESTONIA (1990-2012)	227	39.6	75	33.7	153	27.3	44	19.8	35	6.0	5	2.2	188	33.2	49	22.0
FRANCE, paediatric (2000-2012)	5426	37.4	-	-	3011	21.1	-	-	1205	8.3	-	-	4216	29.4	-	-
FRANCE, 13 registries (1993-2012)	1071	34.6	245	22.2	667	21.8	119	10.8	211	6.8	40	3.6	878	28.5	159	14.4
GERMANY, paediatric (1996-2012)	7199	36.1	-	-	4207	21.4	-	-	1776	8.8	-	-	5983	30.3	-	-
GERMANY, 6 Eastern states (2001-2007)	*295*	*22.5*	*111*	*14.7*	*295*	*22.5*	*111*	*14.7*	*0*	*0.0*	*0*	*0.0*	*295*	*22.5*	*111*	*14.7*
GERMANY, 5 Western registries (1994-2012)	1553	32.4	421	22.5	1101	23.1	267	14.3	278	5.7	58	3.1	1379	28.8	325	17.4
GREECE, paediatric, CNS tumours (2010-2014)	251	32.0	-	-	174	22.3	-	-	39	5.0	-	-	213	27.3	-	-
HUNGARY, paediatric (1991-2014)	1460	37.1	-	-	993	25.2	-	-	298	7.7	-	-	1291	32.9	-	-
ICELAND (1990-2014)	70	42.2	18	32.9	43	26.0	9	16.4	18	11.3	6	11.0	61	37.3	15	27.4
IRELAND (1994-2012)	643	39.0	232	39.1	405	24.8	129	21.7	158	9.5	40	6.7	563	34.3	169	28.5
ITALY, 2 paediatric registries (1998-2011)	409	49.2	100	34.7	195	23.7	55	19.1	108	13.0	14	4.9	303	36.7	69	24.0
ITALY, Piedmont, paediatric (1990-2011)	543	46.6	-	-	277	23.9	-	-	138	11.8	-	-	415	35.8	-	-
ITALY, 26 registries (1992-2013)	1554	38.3	488	32.4	1010	25.0	256	17.0	255	6.3	44	2.9	1265	31.3	300	19.9
LITHUANIA (2000-2012)	*151*	*22.1*	*68*	*21.4*	*138*	*20.3*	*66*	*20.8*	*8*	*1.0*	*1*	*0.3*	*146*	*21.4*	*67*	*21.1*
MALTA (1994-2013)	*45*	*31.4*	*8*	*14.2*	*34*	*23.5*	*5*	*8.9*	*8*	*6.0*	*2*	*3.6*	*42*	*29.5*	*7*	*12.5*
THE NETHERLANDS (1993-2013)	2063	34.0	618	30.5	1236	20.6	268	13.2	470	7.7	96	4.7	1706	28.3	364	18.0
NORWAY (1990-2013)	1016	48.6	358	51.0	505	24.4	141	20.1	185	8.8	50	7.1	690	33.2	191	27.2
POLAND (2001-2013)	1984	25.2	757	21.1	1831	23.3	703	19.6	153	2.0	54	1.5	1984	25.2	757	21.1
PORTUGAL (1991-2012)	978	37.0	257	25.1	654	24.8	148	14.4	209	7.9	55	5.4	863	32.7	203	19.8
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	270	31.5	-	-	170	20.5	-	-	54	6.2	-	-	224	26.7	-	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*294*	*26.7*	*58*	*11.4*	*285*	*26.0*	*58*	*11.4*	*6*	*0.5*	*0*	*0.0*	*291*	*26.5*	*58*	*11.4*
SLOVAKIA (1990-2009)	682	32.9	234	26.8	454	22.0	154	17.6	134	6.2	37	4.2	588	28.2	191	21.9
SLOVAKIA, paediatric (2000-2012)	363	31.7	-	-	236	20.8	-	-	91	7.7	-	-	327	28.5	-	-
SLOVENIA (1991-2012)	193	28.3	56	19.5	130	19.6	35	12.2	41	5.6	14	4.9	171	25.2	49	17.0
SPAIN, 2 paediatric registries (1991-2013)	1710	36.0	-	-	1177	24.9	-	-	253	5.3	-	-	1430	30.3	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of pilocytic astrocytoma in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Pilocytic Astrocytoma is shown by behaviour in Table 10.3. Astrocytomas (IIIb)

Please consult registry-specific background information and quality indicators

More datasets available online

Table 10.4. Effect of pilocytic astrocytoma (M-9421) on CNS tumours incidence (III): numbers of cases and incidence rates per million by age and behaviour

	CNS tumours (III)				CNS tumours (III) excluding pilocytic astrocytoma				Pilocytic astrocytoma (M-9421)				CNS tumours (III) malignant and pilocytic astrocytoma (M-9421) any behaviour			
Behaviour	Any				Malignant				Any							
Age group (years)	0-14		15-19		0-14		15-19		0-14		15-19		0-14		15-19	
	N	ASR	N	Rate	N	ASR	N	Rate	N	ASR	N	Rate	N	ASR	N	Rate
SPAIN, selected regions, paediatric (2000-2013)	1175	34.3	-	-	796	23.3	-	-	192	5.6	-	-	988	28.9	-	-
SPAIN, Valencia, paediatric (1991-2010)	535	40.4	-	-	381	29.2	-	-	61	4.6	-	-	442	33.8	-	-
SPAIN, 11 registries (1990-2013)	1061	33.9	371	28.3	745	24.2	227	17.3	175	5.5	50	3.8	920	29.7	277	21.1
SWEDEN (1990-2011)	1368	39.3	361	29.5	858	24.8	218	17.8	271	7.7	59	4.8	1129	32.5	277	22.7
SWITZERLAND, paediatric (1990-2013)	984	34.2	-	-	580	20.6	-	-	229	7.8	-	-	809	28.4	-	-
SWITZERLAND, 7 registries (1990-2013)	396	37.3	106	29.1	213	20.4	50	13.7	103	9.6	22	6.0	316	29.9	72	19.8
UKRAINE (2002-2012)	*1749*	*23.6*	*631*	*17.2*	*1749*	*23.6*	*631*	*17.2*	*0*	*0.0*	*0*	*0.0*	*1749*	*23.6*	*631*	*17.2*
UK (2000-2011)	3988	30.8	920	19.8	2717	21.1	621	13.3	1078	8.2	179	3.8	3795	29.3	800	17.2
UK, England and Wales, paediatric (1991-2010)	7049	36.3	-	-	4282	22.3	-	-	1371	7.0	-	-	5653	29.3	-	-
OCEANIA																
AUSTRALIA (1992-2014)	2171	25.3	510	17.1	1982	23.2	459	15.4	104	1.2	17	0.6	2086	24.4	476	15.9
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*45*	*18.9*	*7*	*11.0*	*38*	*16.0*	*6*	*9.4*	*3*	*1.2*	*0*	*0.0*	*41*	*17.2*	*6*	*9.4*
FRANCE, 2 registries (1990-2013)	*72*	*23.6*	*8*	*8.1*	*56*	*18.5*	*7*	*7.1*	*8*	*2.5*	*1*	*1.0*	*64*	*21.0*	*8*	*8.1*
NEW ZEALAND (1993-2012)	441	25.5	96	16.4	379	21.9	89	15.2	62	3.6	7	1.2	441	25.5	96	16.4
NEW ZEALAND, Maori (1993-2012)	*96*	*22.3*	*13*	*10.7*	*82*	*19.0*	*12*	*9.9*	*14*	*3.3*	*1*	*0.8*	*96*	*22.3*	*13*	*10.7*
NEW ZEALAND, Pacific peoples (1993-2012)	*49*	*32.0*	*9*	*20.3*	*44*	*28.7*	*9*	*20.3*	*5*	*3.3*	*0*	*0.0*	*49*	*32.0*	*9*	*20.3*
NEW ZEALAND, Other (1993-2012)	296	25.8	74	17.7	253	22.0	68	16.2	43	3.8	6	1.4	296	25.8	74	17.7
NEW ZEALAND, paediatric (2000-2012)	377	33.0	-	-	224	19.8	-	-	93	8.1	-	-	317	27.8	-	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*74*	*26.0*	-	-	*48*	*17.0*	-	-	*16*	*5.6*	-	-	*64*	*22.6*	-	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	303	35.3	-	-	176	20.7	-	-	77	8.9	-	-	253	29.6	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of pilocytic astrocytoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets
Pilocytic Astrocytoma is shown by behaviour in Table 10.3. Astrocytomas (IIIb)
Please consult registry-specific background information and quality indicators

More datasets available online

Table 10.5. Other gliomas (IIId): numbers of cases and incidence rates per million by age and behaviour

	Other gliomas (IIId)								Oligodendroglioma (IIId1)				Mixed and unspecified glioma (IIId2)							Uncertain origin (IIId3)			
Age group (years)	0-14				15-19				0-14		15-19		0-14		0-4	5-9	10-14	15-19		0-14		15-19	
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Any				Any							Any			
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	Rate	N	ASR	Rate	Rate	Rate	N	Rate	N	ASR	N	Rate
AFRICA																							
ALGERIA, 5 registries (1996-2014)	0	0.0	25	1.4	1	0.1	8	1.2	1	0.0	3	0.4	23	1.3	1.2	1.6	1.1	6	0.9	1	0.1	0	0.0
BOTSWANA (1999-2007)	*0*	*0.0*	*4*	*0.7*	*0*	*0.0*	*1*	*0.6*	*1*	*0.2*	*0*	*0.0*	*3*	*0.5*	*0.0*	*0.5*	*1.1*	*1*	*0.6*	*0*	*0.0*	*0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
EGYPT, Gharbiah (1999-2010)	0	0.0	22	1.4	0	0.0	2	0.4	2	0.1	1	0.2	19	1.2	0.8	2.0	0.9	1	0.2	1	0.1	0	0.0
FRANCE, Réunion (1990-2011)	0	0.0	20	4.5	0	0.0	4	2.8	6	1.2	2	1.4	14	3.2	3.4	4.1	2.0	2	1.4	0	0.0	0	0.0
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*10*	*0.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*10*	*0.9*	*0.7*	*0.6*	*1.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*3*	*0.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*0.9*	*0.0*	*1.0*	*2.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*2*	*0.8*	*0*	*0.0*	*1*	*0.4*	*1*	*0.1*	*0.0*	*0.4*	*0.0*	*1*	*0.4*	*1*	*0.1*	*0*	*0.0*
MAURITIUS (2001-2013)	*0*	*0.0*	*5*	*1.3*	*0*	*0.0*	*2*	*1.5*	*4*	*1.1*	*1*	*0.8*	*1*	*0.2*	*0.0*	*0.0*	*0.7*	*1*	*0.8*	*0*	*0.0*	*0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*0*	*0.0*	*12*	*1.4*	*0*	*0.0*	*3*	*0.9*	*1*	*0.1*	*1*	*0.3*	*11*	*1.2*	*1.3*	*1.4*	*1.0*	*2*	*0.6*	*0*	*0.0*	*0*	*0.0*
SOUTH AFRICA, paediatric (1998-2012)	0	0.0	260	1.2	-	-	-	-	9	0.0	-	-	249	1.2	1.1	1.7	0.6	-	-	2	0.0	-	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*5*	*1.3*	-	-	-	-	*0*	*0.0*	-	-	*5*	*1.3*	*0.8*	*2.3*	*0.7*	-	-	*0*	*0.0*	-	-
SOUTH AFRICA, paediatric, Black (1998-2012)	0	0.0	187	1.0	-	-	-	-	8	0.0	-	-	177	1.0	0.9	1.5	0.5	-	-	2	0.0	-	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	0	0.0	43	2.3	-	-	-	-	1	0.0	-	-	42	2.3	2.2	3.5	0.9	-	-	0	0.0	-	-
SOUTH AFRICA, paediatric, White (1998-2012)	0	0.0	25	2.3	-	-	-	-	0	0.0	-	-	25	2.3	3.7	1.5	1.1	-	-	0	0.0	-	-
TUNISIA, 2 registries (1993-2007)	0	0.0	21	1.1	0	0.0	14	2.0	5	0.3	12	1.7	16	0.8	0.3	1.6	0.6	1	0.1	0	0.0	1	0.1
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.2*	*0.0*	*0.5*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*0*	*0.0*	*7*	*0.8*	*0*	*0.0*	*2*	*0.7*	*2*	*0.2*	*0*	*0.0*	*5*	*0.6*	*0.8*	*0.0*	*0.8*	*2*	*0.7*	*0*	*0.0*	*0*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN																							
ARGENTINA, paediatric (2000-2013)	0	0.0	181	1.2	-	-	-	-	58	0.4	-	-	117	0.8	0.9	0.8	0.7	-	-	6	0.0	-	-
ARGENTINA, 6 registries (1991-2013)	0	0.0	37	1.6	0	0.0	10	1.3	11	0.4	6	0.8	23	1.1	1.0	1.5	0.7	4	0.5	3	0.1	0	0.0
BRAZIL, 5 registries (1995-2012)	0	0.0	42	2.2	0	0.0	17	2.3	2	0.1	7	1.0	40	2.2	1.7	3.0	1.8	10	1.4	0	0.0	0	0.0
CHILE, paediatric (2007-2011)	0	0.0	38	2.0	-	-	-	-	5	0.3	-	-	32	1.7	1.5	2.1	1.5	-	-	1	0.0	-	-
CHILE, 4 registries (1998-2012)	*0*	*0.0*	*7*	*1.5*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*5*	*1.0*	*0.7*	*0.7*	*1.8*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	0	0.0	38	2.2	0	0.0	9	1.5	11	0.6	3	0.5	27	1.6	1.8	2.1	0.8	5	0.8	0	0.0	1	0.2
COSTA RICA (1993-2012)	0	0.0	23	1.0	0	0.0	13	1.6	9	0.4	8	1.0	12	0.5	0.5	0.6	0.4	5	0.6	2	0.1	0	0.0
CUBA (2000-2012)	0	0.0	62	2.3	0	0.0	12	1.2	9	0.3	3	0.3	45	1.7	1.5	1.9	1.5	9	0.9	8	0.3	0	0.0
ECUADOR, 5 registries (1993-2013)	0	0.0	23	1.1	0	0.0	6	0.8	5	0.3	4	0.5	16	0.7	0.6	0.8	0.8	2	0.3	2	0.1	0	0.0
FRANCE, 3 registries (1990-2012)	*0*	*0.0*	*4*	*1.2*	*0*	*0.0*	*1*	*0.9*	*0*	*0.0*	*1*	*0.9*	*4*	*1.2*	*1.0*	*0.0*	*2.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*0*	*0.0*	*10*	*1.9*	*0*	*0.0*	*5*	*3.4*	*1*	*0.2*	*4*	*2.7*	*9*	*1.7*	*0.0*	*2.9*	*2.5*	*1*	*0.7*	*0*	*0.0*	*0*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	*0*	*0.0*	*15*	*2.6*	*0*	*0.0*	*1*	*0.5*	*3*	*0.5*	*1*	*0.5*	*12*	*2.0*	*1.6*	*3.1*	*1.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	*0*	*0.0*	*9*	*0.7*	-	-	-	-	*2*	*0.2*	-	-	*6*	*0.5*	*0.3*	*1.2*	*0.0*	-	-	*1*	*0.1*	-	-
PERU, Lima (2010-2012)	0	0.0	20	2.8	0	0.0	5	1.9	3	0.4	3	1.1	17	2.4	1.7	3.4	2.1	2	0.8	0	0.0	0	0.0
PERU, Trujillo (1990-2002)	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	*1*	*1.1*	*0*	*0.0*	*0*	*0.0*	*1*	*0.4*	*0.0*	*1.3*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*1.1*
USA, Puerto Rico (1992-2012)	0	0.0	24	1.2	0	0.0	8	1.3	7	0.3	4	0.6	15	0.8	0.4	1.5	0.6	4	0.6	2	0.1	0	0.0
URUGUAY (1993-2012)	0	0.0	76	5.0	0	0.0	17	3.3	11	0.7	7	1.3	64	4.2	4.7	4.4	3.5	10	1.9	1	0.1	0	0.0
AMERICA, NORTH																							
CANADA, 9 registries (1992-2013)	6	0.1	559	4.8	5	0.1	178	4.2	47	0.4	54	1.3	501	4.3	4.1	5.4	3.5	119	2.8	17	0.1	10	0.2
USA (2004-2012)	79	0.1	3041	5.6	21	0.1	798	4.1	265	0.5	229	1.2	2795	5.1	4.9	6.4	4.0	568	2.9	60	0.1	22	0.1
USA, API (2004-2012)	2	0.1	112	3.8	2	0.2	21	2.1	5	0.2	5	0.5	107	3.6	3.3	4.7	2.8	15	1.5	2	0.1	3	0.3
USA, Black (2004-2012)	10	0.1	452	5.0	2	0.1	96	2.9	40	0.4	29	0.9	410	4.6	3.9	6.6	3.2	68	2.1	12	0.1	1	0.0
USA, Hispanic White (2004-2012)	18	0.2	501	4.6	5	0.1	74	2.2	37	0.3	24	0.7	477	4.4	4.5	5.3	3.2	52	1.5	5	0.0	3	0.1
USA, Native American (2004-2012)	1	0.1	19	2.0	0	0.0	8	2.4	2	0.2	4	1.2	17	1.8	1.6	2.0	1.9	3	0.9	1	0.1	1	0.3
USA, White NH (2004-2012)	46	0.1	1867	6.1	12	0.1	578	5.0	169	0.5	162	1.4	1705	5.6	5.4	6.7	4.5	414	3.6	39	0.1	14	0.1
USA, NPCR (2004-2012)	79	0.1	2893	5.5	21	0.1	764	4.1	248	0.5	216	1.2	2666	5.1	4.9	6.4	4.0	548	2.9	58	0.1	21	0.1
USA, SEER 18 (2004-2012)	0	0.0	861	5.5	0	0.0	212	3.8	82	0.5	72	1.3	763	4.9	4.3	6.6	3.7	136	2.5	16	0.1	4	0.1
USA, Hawaii, Hawaiian (2004-2012)	*0*	*0.0*	*2*	*2.9*	*0*	*0.0*	*1*	*4.2*	*0*	*0.0*	*1*	*4.2*	*2*	*2.9*	*7.4*	*0.0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ASIA																							
BAHRAIN (1998-2012)	*0*	*0.0*	*9*	*2.9*	*0*	*0.0*	*2*	*2.2*	*0*	*0.0*	*1*	*1.1*	*9*	*2.9*	*2.8*	*3.8*	*2.0*	*1*	*1.1*	*0*	*0.0*	*0*	*0.0*
CHINA, 6 registries (1990-2013)	0	0.0	114	2.0	0	0.0	69	2.4	20	0.3	17	0.6	88	1.6	1.3	1.9	1.4	48	1.7	6	0.1	4	0.1
CHINA, Hong Kong (1990-2013)	0	0.0	63	2.6	0	0.0	24	2.3	13	0.5	10	1.0	49	2.0	2.0	2.6	1.3	14	1.3	1	0.1	0	0.0
INDIA, 7 registries (1990-2013)	0	0.0	448	2.5	0	0.0	133	2.1	46	0.2	32	0.5	398	2.3	1.7	3.1	2.1	98	1.5	4	0.0	3	0.0
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*0*	*0.0*	*3*	*0.9*	*0*	*0.0*	*2*	*1.2*	*0*	*0.0*	*2*	*1.2*	*3*	*0.9*	*0.0*	*2.8*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other glioma in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

More datasets available online

Table 10.5. Other gliomas (IIId): numbers of cases and incidence rates per million by age and behaviour

	Other gliomas (IIId)								Oligodendroglioma (IIId1)				Mixed and unspecified glioma (IIId2)							Uncertain origin (IIId3)			
Age group (years)	0-14				15-19				0-14		15-19		0-14		0-4	5-9	10-14	15-19		0-14		15-19	
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Any				Any							Any			
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	Rate	N	ASR	Rate	Rate	Rate	N	Rate	N	ASR	N	Rate
ISRAEL (1990-2012)	0	0.0	177	4.3	0	0.0	34	2.8	20	0.5	11	0.9	150	3.6	3.7	4.7	2.4	23	1.9	7	0.2	0	0.0
ISRAEL, Jews (1990-2012)	0	0.0	139	4.6	0	0.0	24	2.6	18	0.6	7	0.8	116	3.9	3.8	5.2	2.5	17	1.8	5	0.2	0	0.0
ISRAEL, Non-Jews (1990-2012)	0	0.0	38	3.4	0	0.0	10	3.4	2	0.2	4	1.4	34	3.0	3.4	3.4	2.1	6	2.0	2	0.2	0	0.0
JAPAN, 8 registries (1990-2013)	1	0.0	209	3.5	0	0.0	33	1.4	9	0.1	7	0.3	187	3.1	2.8	4.3	2.2	21	0.9	14	0.2	5	0.2
JORDAN, Jordanians (2000-2012)	0	0.0	58	2.1	0	0.0	9	1.1	5	0.2	3	0.4	51	1.9	1.6	2.8	1.1	6	0.8	2	0.1	0	0.0
REPUBLIC OF KOREA (1999-2012)	0	0.0	297	2.3	0	0.0	111	2.3	48	0.4	39	0.8	232	1.8	1.5	2.4	1.5	67	1.4	17	0.1	5	0.1
KUWAIT (1994-2012)	*0*	*0.0*	*6*	*0.5*	*0*	*0.0*	*1*	*0.3*	*2*	*0.2*	*1*	*0.3*	*3*	*0.2*	*0.2*	*0.5*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*5*	*0.7*	*0*	*0.0*	*1*	*0.5*	*2*	*0.3*	*1*	*0.5*	*2*	*0.3*	*0.4*	*0.4*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0.0*	*0.6*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
LEBANON (2008-2010)	*0*	*0.0*	*12*	*3.3*	*0*	*0.0*	*4*	*3.2*	*3*	*0.7*	*3*	*2.4*	*8*	*2.2*	*2.8*	*0.8*	*3.0*	*1*	*0.8*	*1*	*0.4*	*0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*0*	*0.0*	*10*	*1.7*	*0*	*0.0*	*5*	*3.5*	*0*	*0.0*	*1*	*0.7*	*10*	*1.7*	*1.0*	*2.0*	*2.3*	*4*	*2.8*	*0*	*0.0*	*0*	*0.0*
PAKISTAN, Lahore (2008-2012)	0	0.0	30	1.5	0	0.0	6	1.1	9	0.4	2	0.4	20	1.0	0.5	1.1	1.6	4	0.7	1	0.0	0	0.0
PHILIPPINES, 2 registries (1993-2012)	0	0.0	170	2.2	0	0.0	24	1.0	7	0.1	4	0.2	162	2.1	1.3	3.4	1.9	20	0.8	1	0.0	0	0.0
QATAR (2002-2014)	*0*	*0.0*	*4*	*1.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*4*	*1.3*	*0.9*	*2.0*	*1.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	0	0.0	79	2.3	0	0.0	12	1.4	8	0.2	5	0.6	68	2.0	1.3	2.8	2.0	7	0.8	3	0.1	0	0.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	0	0.0	61	2.2	0	0.0	7	0.9	6	0.2	2	0.3	53	1.9	1.3	2.9	1.5	5	0.7	2	0.1	0	0.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	0	0.0	18	3.2	0	0.0	5	4.1	2	0.4	3	2.5	15	2.6	1.4	2.6	4.3	2	1.6	1	0.2	0	0.0
THAILAND, 6 registries (1993-2013)	0	0.0	44	1.1	0	0.0	10	0.6	7	0.2	2	0.1	37	0.9	0.7	1.4	0.8	8	0.5	0	0.0	0	0.0
TURKEY, paediatric (2009-2011)	0	0.0	100	1.8	-	-	-	-	7	0.1	-	-	91	1.6	1.3	2.8	0.8	-	-	2	0.0	-	-
TURKEY, 8 registries (1992-2012)	1	0.0	180	4.6	0	0.0	53	3.7	31	0.8	12	0.8	145	3.7	3.9	4.6	2.6	40	2.8	5	0.1	1	0.1
VIET NAM, Ho Chi Minh City (1995-2013)	*0*	*0.0*	*3*	*0.1*	*0*	*0.0*	*2*	*0.2*	*1*	*0.0*	*2*	*0.2*	*2*	*0.1*	*0.1*	*0.1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
EUROPE																							
AUSTRIA (1990-2012)	0	0.0	106	3.4	0	0.0	35	3.1	13	0.4	11	1.0	85	2.8	2.6	3.8	2.0	23	2.1	8	0.3	1	0.1
BELARUS, paediatric (1990-2014)	0	0.0	112	2.4	0	0.0	24	1.3	46	1.0	13	0.7	64	1.3	0.7	1.3	2.1	11	0.6	2	0.1	0	0.0
BELGIUM (2004-2013)	1	0.0	95	5.1	1	0.2	15	2.4	23	1.3	9	1.4	67	3.6	2.8	4.7	3.6	4	0.6	6	0.3	3	0.5
BULGARIA (1990-2013)	0	0.0	26	0.8	0	0.0	10	0.8	15	0.5	7	0.6	10	0.3	0.2	0.5	0.3	2	0.2	1	0.0	1	0.1
CROATIA (2001-2014)	0	0.0	30	3.4	0	0.0	11	3.1	4	0.4	3	0.8	25	2.9	3.8	3.6	0.9	7	2.0	1	0.1	1	0.3
CYPRUS, South-West (1998-2012)	*0*	*0.0*	*10*	*4.6*	*0*	*0.0*	*2*	*2.3*	*1*	*0.4*	*0*	*0.0*	*9*	*4.2*	*3.0*	*8.3*	*1.2*	*2*	*2.3*	*0*	*0.0*	*0*	*0.0*
CZECH REPUBLIC (1990-2012)	0	0.0	43	1.0	0	0.0	28	1.7	26	0.6	13	0.8	14	0.4	0.5	0.2	0.3	11	0.7	3	0.1	4	0.2
ESTONIA (1990-2012)	*0*	*0.0*	*9*	*1.5*	*0*	*0.0*	*2*	*0.9*	*5*	*0.8*	*1*	*0.4*	*4*	*0.7*	*1.1*	*0.5*	*0.5*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*
FRANCE, paediatric (2000-2012)	16	0.1	747	5.1	-	-	-	-	191	1.3	-	-	543	3.7	3.5	4.6	3.0	-	-	29	0.2	-	-
FRANCE, 13 registries (1993-2012)	0	0.0	163	5.1	0	0.0	41	3.7	44	1.4	21	1.9	115	3.7	3.1	4.8	3.1	19	1.7	4	0.1	1	0.1
GERMANY, paediatric (1996-2012)	4	0.0	556	2.7	-	-	-	-	43	0.2	-	-	494	2.4	2.2	3.2	1.9	-	-	23	0.1	-	-
GERMANY, 6 Eastern states (2001-2007)	0	0.0	39	2.9	0	0.0	14	1.9	3	0.2	6	0.8	36	2.6	2.3	3.0	2.7	8	1.1	0	0.0	0	0.0
GERMANY, 5 Western registries (1994-2012)	0	0.0	170	3.5	1	0.1	31	1.7	12	0.2	8	0.4	154	3.2	3.2	4.0	2.2	21	1.1	4	0.1	3	0.2
GREECE, paediatric, CNS tumours (2010-2014)	1	0.1	24	2.9	-	-	-	-	4	0.4	-	-	20	2.5	1.5	4.8	1.1	-	-	1	0.1	-	-
HUNGARY, paediatric (1991-2014)	0	0.0	181	4.5	-	-	-	-	39	0.9	-	-	138	3.5	3.4	4.2	2.8	-	-	4	0.1	-	-
ICELAND (1990-2014)	*0*	*0.0*	*4*	*2.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*4*	*2.5*	*3.6*	*0.0*	*3.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
IRELAND (1994-2012)	0	0.0	66	3.8	0	0.0	22	3.7	18	1.0	10	1.7	46	2.7	1.8	3.3	3.2	11	1.9	2	0.1	1	0.2
ITALY, 2 paediatric registries (1998-2011)	0	0.0	21	2.5	0	0.0	11	3.8	2	0.2	7	2.4	17	2.0	1.8	2.9	1.4	4	1.4	2	0.2	0	0.0
ITALY, Piedmont, paediatric (1990-2011)	0	0.0	21	1.8	-	-	-	-	3	0.2	-	-	18	1.5	1.0	2.6	1.0	-	-	0	0.0	-	-
ITALY, 26 registries (1992-2013)	0	0.0	130	3.2	0	0.0	40	2.7	21	0.5	15	1.0	101	2.5	3.1	2.1	2.1	24	1.6	8	0.2	1	0.1
LITHUANIA (2000-2012)	*0*	*0.0*	*12*	*1.6*	*0*	*0.0*	*6*	*1.9*	*4*	*0.5*	*4*	*1.3*	*7*	*0.9*	*1.0*	*0.4*	*1.4*	*2*	*0.6*	*1*	*0.1*	*0*	*0.0*
MALTA (1994-2013)	*0*	*0.0*	*3*	*1.8*	*0*	*0.0*	*1*	*1.8*	*0*	*0.0*	*0*	*0.0*	*3*	*1.8*	*0.0*	*2.1*	*3.8*	*1*	*1.8*	*0*	*0.0*	*0*	*0.0*
THE NETHERLANDS (1993-2013)	0	0.0	205	3.3	0	0.0	40	2.0	42	0.7	12	0.6	157	2.5	2.1	3.5	2.0	27	1.3	6	0.1	1	0.0
NORWAY (1990-2013)	0	0.0	81	3.8	2	0.3	42	6.0	11	0.5	15	2.1	68	3.2	2.5	4.4	2.7	27	3.8	2	0.1	2	0.3
POLAND (2001-2013)	0	0.0	123	1.6	0	0.0	73	2.0	29	0.4	32	0.9	86	1.1	1.4	0.8	1.0	37	1.0	8	0.1	4	0.1
PORTUGAL (1991-2012)	0	0.0	112	4.2	0	0.0	40	3.9	36	1.3	25	2.4	73	2.8	2.6	4.2	1.3	15	1.5	3	0.1	0	0.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	0	0.0	21	2.3	-	-	-	-	1	0.1	-	-	20	2.2	0.7	3.8	2.3	-	-	0	0.0	-	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	0	0.0	37	3.4	0	0.0	7	1.4	15	1.3	5	1.0	22	2.1	2.9	2.0	1.0	2	0.4	0	0.0	0	0.0
SLOVAKIA (1990-2009)	0	0.0	50	2.3	0	0.0	25	2.9	26	1.1	18	2.1	22	1.1	1.4	1.1	0.6	7	0.8	2	0.1	0	0.0
SLOVAKIA, paediatric (2000-2012)	0	0.0	26	2.3	-	-	-	-	11	1.0	-	-	15	1.3	1.4	1.3	1.1	-	-	0	0.0	-	-
SLOVENIA (1991-2012)	0	0.0	13	1.7	0	0.0	9	3.1	7	0.9	5	1.7	5	0.7	0.5	0.9	0.8	4	1.4	1	0.1	0	0.0
SPAIN, 2 paediatric registries (1991-2013)	0	0.0	208	4.3	-	-	-	-	10	0.2	-	-	191	4.0	3.8	5.3	2.9	-	-	7	0.1	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other glioma in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

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Table 10.5. Other gliomas (IIId): numbers of cases and incidence rates per million by age and behaviour

	Other gliomas (IIId)								Oligodendroglioma (IIId1)				Mixed and unspecified glioma (IIId2)							Uncertain origin (IIId3)			
Age group (years)	0-14				15-19				0-14		15-19		0-14		0-4	5-9	10-14	15-19		0-14		15-19	
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Any				Any							Any			
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	Rate	N	ASR	Rate	Rate	Rate	N	Rate	N	ASR	N	Rate
SPAIN, selected regions, paediatric (2000-2013)	0	0.0	157	4.5	-	-	-	-	7	0.2	-	-	145	4.2	3.9	5.4	3.3	-	-	5	0.1	-	-
SPAIN, Valencia, paediatric (1991-2010)	0	0.0	51	3.9	-	-	-	-	3	0.2	-	-	46	3.5	3.6	5.0	1.8	-	-	2	0.1	-	-
SPAIN, 11 registries (1990-2013)	0	0.0	111	3.5	0	0.0	32	2.4	15	0.5	10	0.8	90	2.9	3.0	3.4	2.2	20	1.5	6	0.2	2	0.2
SWEDEN (1990-2011)	2	0.1	78	2.2	1	0.1	43	3.5	22	0.6	18	1.5	56	1.6	1.7	1.5	1.5	26	2.1	2	0.1	0	0.0
SWITZERLAND, paediatric (1990-2013)	0	0.0	105	3.6	-	-	-	-	12	0.4	-	-	91	3.2	2.9	4.9	1.7	-	-	2	0.1	-	-
SWITZERLAND, 7 registries (1990-2013)	0	0.0	24	2.3	0	0.0	6	1.6	2	0.2	2	0.5	20	1.9	1.7	3.1	0.8	4	1.1	2	0.2	0	0.0
UKRAINE (2002-2012)	0	0.0	94	1.2	0	0.0	43	1.2	23	0.3	22	0.6	67	0.9	0.6	1.2	0.9	20	0.5	4	0.1	1	0.0
UK (2000-2011)	1	0.0	501	3.8	1	0.0	132	2.8	47	0.3	48	1.0	432	3.3	3.1	4.0	2.8	82	1.8	23	0.2	3	0.1
UK, England and Wales, paediatric (1991-2010)	4	0.0	722	3.7	-	-	-	-	68	0.3	-	-	631	3.2	2.8	4.3	2.6	-	-	27	0.1	-	-
OCEANIA																							
AUSTRALIA (1992-2014)	0	0.0	335	3.8	0	0.0	87	2.9	50	0.5	30	1.0	282	3.2	3.5	3.6	2.5	55	1.8	3	0.0	2	0.1
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*0*	*0.0*	*7*	*2.9*	*0*	*0.0*	*3*	*4.7*	*1*	*0.4*	*3*	*4.7*	*6*	*2.5*	*1.2*	*3.7*	*2.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
FRANCE, 2 registries (1990-2013)	*0*	*0.0*	*7*	*2.4*	*0*	*0.0*	*2*	*2.0*	*1*	*0.3*	*1*	*1.0*	*6*	*2.1*	*3.0*	*1.9*	*1.0*	*1*	*1.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND (1993-2012)	0	0.0	59	3.4	0	0.0	15	2.6	10	0.6	3	0.5	49	2.8	2.7	2.7	2.9	12	2.1	0	0.0	0	0.0
NEW ZEALAND, Maori (1993-2012)	*0*	*0.0*	*6*	*1.4*	*0*	*0.0*	*1*	*0.8*	*1*	*0.2*	*0*	*0.0*	*5*	*1.2*	*1.3*	*0.7*	*1.5*	*1*	*0.8*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*7*	*4.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*7*	*4.5*	*3.6*	*5.8*	*4.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Other (1993-2012)	0	0.0	46	3.9	0	0.0	14	3.3	9	0.8	3	0.7	37	3.2	3.2	3.1	3.2	11	2.6	0	0.0	0	0.0
NEW ZEALAND, paediatric (2000-2012)	1	0.1	49	4.2	-	-	-	-	5	0.4	-	-	44	3.8	4.2	3.4	3.8	-	-	1	0.1	-	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*8*	*2.8*	-	-	-	-	*1*	*0.4*	-	-	*7*	*2.5*	*2.9*	*2.1*	*2.2*	-	-	*0*	*0.0*	-	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	1	0.1	41	4.7	-	-	-	-	4	0.4	-	-	37	4.3	4.6	3.8	4.3	-	-	1	0.1	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other glioma in a dataset

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Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

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Table 10.6.a. Other specified intracranial and intraspinal neoplasms (IIIe, IIIe1, IIIe2), part 1 of 2: numbers of cases and incidence rates per million by age and behaviour

	Other specified CNS neoplasms (IIIe)								Pituitary adenoma & carcinoma (IIIe1)								Craniopharyngioma (IIIe2)							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
AFRICA																								
ALGERIA, 5 registries (1996-2014)	*3*	*0.2*	*1*	*0.0*	*1*	*0.1*	*5*	*0.7*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
BOTSWANA (1999-2007)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
EGYPT, Gharbiah (1999-2010)	*6*	*0.4*	*8*	*0.6*	*4*	*0.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*
FRANCE, Réunion (1990-2011)	*0*	*0.0*	*2*	*0.5*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
LIBYA, Benghazi (2003-2008)	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MAURITIUS (2001-2013)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*1.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*8*	*0.8*	*3*	*0.3*	*3*	*0.9*	*2*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*6*	*0.6*	*0*	*0.0*	*2*	*0.6*	*0*	*0.0*
SOUTH AFRICA, paediatric (1998-2012)	12	0.1	68	0.3	-	-	-	-	1	0.0	0	0.0	-	-	-	-	1	0.0	0	0.0	-	-	-	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*1*	*0.2*	*4*	*0.9*	-	-	-	-	*1*	*0.2*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-
SOUTH AFRICA, paediatric, Black (1998-2012)	7	0.0	51	0.3	-	-	-	-	0	0.0	0	0.0	-	-	-	-	0	0.0	0	0.0	-	-	-	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*3*	*0.2*	*7*	*0.4*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-
SOUTH AFRICA, paediatric, White (1998-2012)	*1*	*0.1*	*6*	*0.5*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*1*	*0.1*	*0*	*0.0*	-	-	-	-
TUNISIA, 2 registries (1993-2007)	*1*	*0.0*	*5*	*0.3*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*2*	*0.2*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN																								
ARGENTINA, paediatric (2000-2013)	204	1.4	130	0.9	-	-	-	-	0	0.0	3	0.0	-	-	-	-	166	1.1	7	0.0	-	-	-	-
ARGENTINA, 6 registries (1991-2013)	25	1.1	10	0.4	6	0.8	5	0.7	0	0.0	0	0.0	0	0.0	0	0.0	22	1.0	0	0.0	4	0.5	1	0.1
BRAZIL, 5 registries (1995-2012)	*0*	*0.0*	*1*	*0.1*	*1*	*0.1*	*3*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*
CHILE, paediatric (2007-2011)	24	1.2	3	0.2	-	-	-	-	0	0.0	0	0.0	-	-	-	-	12	0.6	0	0.0	-	-	-	-
CHILE, 4 registries (1998-2012)	*7*	*1.4*	*1*	*0.3*	*1*	*0.6*	*1*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	12	0.6	10	0.5	9	1.5	5	0.8	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0
COSTA RICA (1993-2012)	*0*	*0.0*	*3*	*0.1*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CUBA (2000-2012)	*5*	*0.2*	*10*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*5*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ECUADOR, 5 registries (1993-2013)	*1*	*0.0*	*6*	*0.3*	*2*	*0.3*	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
FRANCE, 3 registries (1990-2012)	*5*	*1.5*	*4*	*1.1*	*7*	*6.6*	*1*	*0.9*	*0*	*0.0*	*0*	*0.0*	*2*	*1.9*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*2*	*0.4*	*5*	*1.0*	*3*	*2.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	*1*	*0.2*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	*12*	*1.0*	*5*	*0.5*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*5*	*0.4*	*0*	*0.0*	-	-	-	-
PERU, Lima (2010-2012)	37	5.0	3	0.4	23	8.7	4	1.5	18	2.4	0	0.0	14	5.3	0	0.0	9	1.2	0	0.0	5	1.9	0	0.0
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
USA, Puerto Rico (1992-2012)	26	1.4	9	0.5	21	3.3	4	0.6	3	0.1	0	0.0	6	0.9	0	0.0	15	0.8	2	0.1	8	1.3	1	0.2
URUGUAY (1993-2012)	*0*	*0.0*	*9*	*0.5*	*0*	*0.0*	*4*	*0.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
AMERICA, NORTH																								
CANADA, 9 registries (1992-2013)	234	1.9	50	0.4	195	4.6	16	0.4	24	0.2	1	0.0	59	1.4	2	0.0	89	0.7	1	0.0	40	1.0	1	0.0
USA (2004-2012)	3998	7.0	336	0.6	3867	19.7	112	0.6	864	1.4	2	0.0	2316	11.8	2	0.0	1089	1.9	3	0.0	267	1.4	0	0.0
USA, API (2004-2012)	114	3.8	7	0.3	119	11.9	1	0.1	30	0.9	0	0.0	71	7.1	0	0.0	41	1.4	0	0.0	6	0.6	0	0.0
USA, Black (2004-2012)	563	5.9	89	1.0	535	16.3	30	0.9	115	1.1	0	0.0	337	10.3	0	0.0	185	2.0	0	0.0	37	1.1	0	0.0
USA, Hispanic White (2004-2012)	690	6.1	55	0.5	651	19.2	16	0.5	200	1.7	0	0.0	454	13.4	0	0.0	215	1.9	1	0.0	56	1.7	0	0.0
USA, Native American (2004-2012)	39	3.8	3	0.3	50	14.9	2	0.6	8	0.7	0	0.0	33	9.8	0	0.0	14	1.4	0	0.0	4	1.2	0	0.0
USA, White NH (2004-2012)	2457	7.6	173	0.6	2337	20.2	61	0.5	474	1.4	2	0.0	1293	11.2	2	0.0	598	1.9	2	0.0	153	1.3	0	0.0
USA, NPCR (2004-2012)	3998	7.3	325	0.6	3867	20.6	110	0.6	864	1.5	2	0.0	2316	12.3	2	0.0	1089	2.0	3	0.0	267	1.4	0	0.0
USA, SEER 18 (2004-2012)	0	0.0	87	0.6	0	0.0	33	0.6	0	0.0	1	0.0	0	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0
USA, Hawaii, Hawaiian (2004-2012)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ASIA																								
BAHRAIN (1998-2012)	*5*	*1.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*4*	*1.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CHINA, 6 registries (1990-2013)	51	0.8	9	0.2	39	1.4	11	0.4	4	0.1	0	0.0	16	0.6	3	0.1	16	0.3	0	0.0	1	0.0	0	0.0
CHINA, Hong Kong (1990-2013)	*0*	*0.0*	*5*	*0.2*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
INDIA, 7 registries (1990-2013)	0	0.0	31	0.2	0	0.0	17	0.3	0	0.0	2	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*0*	*0.0*	*2*	*0.4*	*0*	*0.0*	*3*	*1.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.6*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other specified CNS tumours (IIIe) in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

More datasets available online

Table 10.6.a. Other specified intracranial and intraspinal neoplasms (IIIe, IIIe1, IIIe2), part 1 of 2: numbers of cases and incidence rates per million by age and behaviour

	Other specified CNS neoplasms (IIIe)								Pituitary adenoma & carcinoma (IIIe1)								Craniopharyngioma (IIIe2)							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
ISRAEL (1990-2012)	74	1.8	17	0.4	50	4.1	7	0.6	0	0.0	2	0.0	0	0.0	2	0.2	8	0.2	1	0.0	3	0.2	0	0.0
ISRAEL, Jews (1990-2012)	56	1.9	12	0.4	36	3.9	4	0.4	0	0.0	1	0.0	0	0.0	1	0.1	7	0.2	0	0.0	2	0.2	0	0.0
ISRAEL, Non-Jews (1990-2012)	18	1.6	5	0.5	14	4.8	3	1.0	0	0.0	1	0.1	0	0.0	1	0.3	1	0.1	1	0.1	1	0.3	0	0.0
JAPAN, 8 registries (1990-2013)	201	3.2	17	0.3	142	5.9	11	0.5	26	0.4	0	0.0	75	3.1	1	0.0	105	1.7	0	0.0	23	0.9	0	0.0
JORDAN, Jordanians (2000-2012)	*3*	*0.1*	*11*	*0.4*	*0*	*0.0*	*5*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
REPUBLIC OF KOREA (1999-2012)	0	0.0	45	0.4	0	0.0	14	0.3	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
KUWAIT (1994-2012)	*10*	*0.8*	*4*	*0.3*	*4*	*1.2*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*	*5*	*0.4*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*6*	*0.8*	*1*	*0.1*	*1*	*0.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*4*	*0.6*	*0*	*0.0*	*1*	*0.5*	*0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*4*	*0.8*	*3*	*0.6*	*3*	*2.2*	*0*	*0.0*	*2*	*0.4*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
LEBANON (2008-2010)	*0*	*0.0*	*3*	*0.8*	*0*	*0.0*	*1*	*0.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*3*	*2.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
PAKISTAN, Lahore (2008-2012)	19	1.0	0	0.0	11	2.0	1	0.2	0	0.0	0	0.0	2	0.4	0	0.0	14	0.7	0	0.0	5	0.9	0	0.0
PHILIPPINES, 2 registries (1993-2012)	*1*	*0.0*	*5*	*0.1*	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
QATAR (2002-2014)	*0*	*0.0*	*0*	*0.0*	*1*	*1.3*	*1*	*1.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	0	0.0	16	0.5	0	0.0	6	0.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*0*	*0.0*	*13*	*0.5*	*0*	*0.0*	*3*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*0*	*0.0*	*3*	*0.5*	*0*	*0.0*	*3*	*2.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
THAILAND, 6 registries (1993-2013)	4	0.1	13	0.3	2	0.1	6	0.4	0	0.0	1	0.0	0	0.0	0	0.0	4	0.1	0	0.0	2	0.1	0	0.0
TURKEY, paediatric (2009-2011)	39	0.7	11	0.2	-	-	-	-	3	0.1	0	0.0	-	-	-	-	16	0.3	0	0.0	-	-	-	-
TURKEY, 8 registries (1992-2012)	134	3.2	14	0.4	159	11.1	11	0.8	36	0.8	0	0.0	119	8.3	2	0.1	42	1.0	0	0.0	12	0.8	0	0.0
VIET NAM, Ho Chi Minh City (1995-2013)	12	0.5	3	0.1	4	0.4	4	0.4	0	0.0	0	0.0	0	0.0	2	0.2	10	0.4	0	0.0	3	0.3	0	0.0
EUROPE																								
AUSTRIA (1990-2012)	76	2.4	23	0.8	37	3.3	12	1.1	5	0.1	0	0.0	7	0.6	1	0.1	38	1.2	0	0.0	9	0.8	0	0.0
BELARUS, paediatric (1990-2014)	131	2.8	17	0.4	31	1.7	7	0.4	4	0.1	0	0.0	1	0.1	0	0.0	64	1.4	0	0.0	15	0.8	0	0.0
BELGIUM (2004-2013)	120	6.5	6	0.3	81	12.7	3	0.5	15	0.7	0	0.0	19	3.0	0	0.0	37	2.0	0	0.0	7	1.1	0	0.0
BULGARIA (1990-2013)	*0*	*0.0*	*13*	*0.4*	*0*	*0.0*	*3*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CROATIA (2001-2014)	24	2.4	10	1.2	14	3.9	5	1.4	0	0.0	0	0.0	0	0.0	0	0.0	4	0.4	0	0.0	0	0.0	0	0.0
CYPRUS, South-West (1998-2012)	*0*	*0.0*	*1*	*0.6*	*0*	*0.0*	*1*	*1.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CZECH REPUBLIC (1990-2012)	67	1.6	19	0.5	12	0.7	19	1.1	0	0.0	1	0.0	0	0.0	2	0.1	41	1.0	0	0.0	4	0.2	0	0.0
ESTONIA (1990-2012)	18	2.8	0	0.0	15	6.7	2	0.9	2	0.3	0	0.0	6	2.7	0	0.0	11	1.7	0	0.0	2	0.9	0	0.0
FRANCE, paediatric (2000-2012)	927	6.1	59	0.4	-	-	-	-	36	0.2	0	0.0	-	-	-	-	274	1.8	0	0.0	-	-	-	-
FRANCE, 13 registries (1993-2012)	139	4.3	5	0.2	69	6.2	2	0.2	0	0.0	0	0.0	2	0.2	0	0.0	30	1.0	0	0.0	5	0.5	0	0.0
GERMANY, paediatric (1996-2012)	905	4.3	64	0.3	-	-	-	-	65	0.3	0	0.0	-	-	-	-	328	1.5	0	0.0	-	-	-	-
GERMANY, 6 Eastern states (2001-2007)	*0*	*0.0*	*7*	*0.5*	*0*	*0.0*	*8*	*1.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
GERMANY, 5 Western registries (1994-2012)	116	2.3	18	0.4	79	4.2	8	0.4	4	0.1	0	0.0	15	0.8	0	0.0	41	0.8	0	0.0	15	0.8	0	0.0
GREECE, paediatric, CNS tumours (2010-2014)	28	3.5	3	0.4	-	-	-	-	0	0.0	0	0.0	-	-	-	-	10	1.3	0	0.0	-	-	-	-
HUNGARY, paediatric (1991-2014)	134	3.3	21	0.5	-	-	-	-	1	0.0	0	0.0	-	-	-	-	73	1.8	0	0.0	-	-	-	-
ICELAND (1990-2014)	*8*	*4.3*	*0*	*0.0*	*3*	*5.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*1.8*	*0*	*0.0*	*4*	*2.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
IRELAND (1994-2012)	63	3.6	8	0.5	47	7.9	4	0.7	5	0.3	0	0.0	23	3.9	0	0.0	35	2.0	0	0.0	9	1.5	0	0.0
ITALY, 2 paediatric registries (1998-2011)	79	9.3	6	0.7	29	10.1	1	0.3	7	0.7	0	0.0	11	3.8	0	0.0	19	2.2	0	0.0	2	0.7	0	0.0
ITALY, Piedmont, paediatric (1990-2011)	90	7.5	6	0.5	-	-	-	-	12	0.9	0	0.0	-	-	-	-	20	1.6	0	0.0	-	-	-	-
ITALY, 26 registries (1992-2013)	118	2.8	17	0.4	79	5.2	11	0.7	10	0.2	0	0.0	20	1.3	0	0.0	26	0.6	0	0.0	9	0.6	0	0.0
LITHUANIA (2000-2012)	*4*	*0.6*	*2*	*0.3*	*1*	*0.3*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MALTA (1994-2013)	*3*	*1.9*	*1*	*0.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
THE NETHERLANDS (1993-2013)	269	4.2	27	0.5	220	10.9	8	0.4	30	0.4	0	0.0	109	5.4	0	0.0	89	1.4	0	0.0	18	0.9	0	0.0
NORWAY (1990-2013)	117	5.3	9	0.4	69	9.8	3	0.4	4	0.2	0	0.0	14	2.0	0	0.0	34	1.6	1	0.1	11	1.6	1	0.1
POLAND (2001-2013)	0	0.0	47	0.6	0	0.0	38	1.1	0	0.0	7	0.1	0	0.0	11	0.3	0	0.0	0	0.0	0	0.0	0	0.0
PORTUGAL (1991-2012)	77	2.8	14	0.5	34	3.3	3	0.3	2	0.1	0	0.0	6	0.6	0	0.0	34	1.2	0	0.0	7	0.7	0	0.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	20	1.9	4	0.5	-	-	-	-	3	0.3	0	0.0	-	-	-	-	12	1.2	0	0.0	-	-	-	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*1*	*0.1*	*9*	*0.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SLOVAKIA (1990-2009)	60	2.9	7	0.3	34	3.9	3	0.3	1	0.0	0	0.0	5	0.6	0	0.0	35	1.7	0	0.0	10	1.1	0	0.0
SLOVAKIA, paediatric (2000-2012)	17	1.5	7	0.6	-	-	-	-	0	0.0	0	0.0	-	-	-	-	11	1.0	0	0.0	-	-	-	-
SLOVENIA (1991-2012)	*9*	*1.2*	*3*	*0.4*	*4*	*1.4*	*3*	*1.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SPAIN, 2 paediatric registries (1991-2013)	180	3.7	20	0.4	-	-	-	-	14	0.3	0	0.0	-	-	-	-	76	1.5	0	0.0	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other specified CNS tumours (IIIe) in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

Table 10.6.a. Other specified intracranial and intraspinal neoplasms (IIIe, IIIe1, IIIe2), part 1 of 2: numbers of cases and incidence rates per million by age and behaviour

	Other specified CNS neoplasms (IIIe)								Pituitary adenoma & carcinoma (IIIe1)								Craniopharyngioma (IIIe2)							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
SPAIN, selected regions, paediatric (2000-2013)	119	3.4	17	0.5	-	-	-	-	4	0.1	0	0.0	-	-	-	-	46	1.3	0	0.0	-	-	-	-
SPAIN, Valencia, paediatric (1991-2010)	61	4.3	3	0.2	-	-	-	-	10	0.6	0	0.0	-	-	-	-	30	2.1	0	0.0	-	-	-	-
SPAIN, 11 registries (1990-2013)	82	2.4	14	0.4	54	4.1	5	0.4	3	0.1	0	0.0	19	1.4	0	0.0	35	1.0	0	0.0	10	0.8	0	0.0
SWEDEN (1990-2011)	101	2.8	9	0.3	54	4.4	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	7	0.2	0	0.0	0	0.0	0	0.0
SWITZERLAND, paediatric (1990-2013)	131	4.3	22	0.7	-	-	-	-	6	0.2	0	0.0	-	-	-	-	44	1.4	0	0.0	-	-	-	-
SWITZERLAND, 7 registries (1990-2013)	48	4.3	11	1.0	21	5.8	0	0.0	1	0.1	0	0.0	5	1.4	0	0.0	10	0.9	0	0.0	1	0.3	0	0.0
UKRAINE (2002-2012)	0	0.0	27	0.3	0	0.0	34	0.9	0	0.0	1	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0
UK (2000-2011)	83	0.6	67	0.5	65	1.4	16	0.3	6	0.0	1	0.0	29	0.6	0	0.0	36	0.3	0	0.0	7	0.2	0	0.0
UK, England and Wales, paediatric (1991-2010)	877	4.3	85	0.4	-	-	-	-	79	0.4	2	0.0	-	-	-	-	353	1.7	0	0.0	-	-	-	-
OCEANIA																								
AUSTRALIA (1992-2014)	52	0.6	31	0.3	30	1.0	17	0.6	1	0.0	0	0.0	3	0.1	0	0.0	10	0.1	0	0.0	5	0.2	0	0.0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*4*	*1.6*	*0*	*0.0*	*1*	*1.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
FRANCE, 2 registries (1990-2013)	*4*	*1.3*	*4*	*1.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND (1993-2012)	*0*	*0.0*	*8*	*0.5*	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Maori (1993-2012)	*0*	*0.0*	*2*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Other (1993-2012)	*0*	*0.0*	*5*	*0.4*	*0*	*0.0*	*2*	*0.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, paediatric (2000-2012)	39	3.3	6	0.5	-	-	-	-	1	0.1	0	0.0	-	-	-	-	16	1.3	0	0.0	-	-	-	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*7*	*2.4*	*2*	*0.7*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*4*	*1.4*	*0*	*0.0*	-	-	-	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	32	3.6	4	0.5	-	-	-	-	1	0.1	0	0.0	-	-	-	-	12	1.2	0	0.0	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other specified CNS tumours (IIIe) in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

More datasets available online

Table 10.6.b. Other specified intracranial and intraspinal neoplasms (IIIe3, IIIe4, IIIe5), part 2 of 2: numbers of cases and incidence rates per million by age and behaviour

	Pineal parenchymal tumours (IIIe3)								Neuronal and mixed neuronal-glial tumours (IIIe4)								Meningioma (IIIe5)							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
AFRICA																								
ALGERIA, 5 registries (1996-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.1*	*4*	*0.6*
BOTSWANA (1999-2007)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
EGYPT, Gharbiah (1999-2010)	*0*	*0.0*	*6*	*0.4*	*0*	*0.0*	*0*	*0.0*	*2*	*0.1*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*2*	*0.1*	*1*	*0.1*	*2*	*0.4*	*0*	*0.0*
FRANCE, Réunion (1990-2011)	*0*	*0.0*	2	*0.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*
MAURITIUS (2001-2013)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.8*
MOROCCO, 2 registries (2005-2012)	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.3*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.2*	*1*	*0.3*	*1*	*0.3*
SOUTH AFRICA, paediatric (1998-2012)	1	0.0	57	0.3	-	-	-	-	8	0.0	0	0.0	-	-	-	-	1	0.0	11	0.0	-	-	-	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	*0.0*	*4*	*0.9*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-
SOUTH AFRICA, paediatric, Black (1998-2012)	1	0.0	42	0.2	-	-	-	-	5	0.0	0	0.0	-	-	-	-	1	0.0	9	0.0	-	-	-	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*0*	*0.0*	*6*	*0.3*	-	-	-	-	*3*	*0.2*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	*1*	*0.1*	-	-	-	-
SOUTH AFRICA, paediatric, White (1998-2012)	*0*	*0.0*	*5*	*0.4*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	*1*	*0.1*	-	-	-	-
TUNISIA, 2 registries (1993-2007)	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*0.2*	*0*	*0.0*	*1*	*0.1*
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN																								
ARGENTINA, paediatric (2000-2013)	1	0.0	48	0.3	-	-	-	-	36	0.2	34	0.2	-	-	-	-	1	0.0	38	0.2	-	-	-	-
ARGENTINA, 6 registries (1991-2013)	0	0.0	3	0.1	0	0.0	0	0.0	1	0.0	2	0.1	1	0.1	0	0.0	2	0.1	5	0.2	1	0.1	4	0.5
BRAZIL, 5 registries (1995-2012)	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*
CHILE, paediatric (2007-2011)	0	0.0	2	0.1	-	-	-	-	6	0.3	1	0.1	-	-	-	-	6	0.3	0	0.0	-	-	-	-
CHILE, 4 registries (1998-2012)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	*1*	*0.6*	*0*	*0.0*	*7*	*1.4*	*0*	*0.0*	*0*	*0.0*	*1*	*0.6*
COLOMBIA, 4 registries (1992-2013)	0	0.0	5	0.3	0	0.0	2	0.3	2	0.1	1	0.0	2	0.3	1	0.2	8	0.4	4	0.2	7	1.1	2	0.3
COSTA RICA (1993-2012)	*0*	*0.0*	*3*	*0.1*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CUBA (2000-2012)	*0*	*0.0*	*3*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*5*	*0.2*	*0*	*0.0*	*0*	*0.0*
ECUADOR, 5 registries (1993-2013)	*0*	*0.0*	*3*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*0.1*	*2*	*0.3*	*2*	*0.3*
FRANCE, 3 registries (1990-2012)	*0*	*0.0*	*3*	*0.8*	*0*	*0.0*	*0*	*0.0*	*5*	*1.5*	*1*	*0.3*	*3*	*2.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*1.9*	*1*	*0.9*
HONDURAS, Francisco Morazán (2002-2012)	*0*	*0.0*	*3*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*2*	*0.4*	*1*	*0.7*	*0*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	*0*	*0.0*	*4*	*0.4*	-	-	-	-	*5*	*0.5*	*0*	*0.0*	-	-	-	-	*2*	*0.2*	*1*	*0.1*	-	-	-	-
PERU, Lima (2010-2012)	1	0.2	1	0.2	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	9	1.3	1	0.1	4	1.5	4	1.5
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
USA, Puerto Rico (1992-2012)	2	0.1	4	0.2	0	0.0	1	0.2	4	0.2	0	0.0	4	0.6	0	0.0	2	0.1	3	0.2	3	0.5	2	0.3
URUGUAY (1993-2012)	*0*	*0.0*	*7*	*0.4*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.2*
AMERICA, NORTH																								
CANADA, 9 registries (1992-2013)	1	0.0	30	0.3	0	0.0	9	0.2	92	0.8	11	0.1	61	1.5	0	0.0	28	0.2	7	0.1	35	0.8	4	0.1
USA (2004-2012)	33	0.1	203	0.4	30	0.2	52	0.3	1590	2.8	95	0.2	794	4.1	37	0.2	422	0.7	33	0.1	460	2.3	21	0.1
USA, API (2004-2012)	0	0.0	3	0.1	0	0.0	1	0.1	29	1.0	2	0.1	24	2.4	0	0.0	14	0.5	2	0.1	18	1.8	0	0.0
USA, Black (2004-2012)	4	0.0	73	0.8	4	0.1	16	0.5	187	2.0	11	0.1	90	2.7	9	0.3	72	0.7	5	0.1	67	2.0	5	0.2
USA, Hispanic White (2004-2012)	5	0.0	41	0.4	4	0.1	5	0.1	216	1.9	9	0.1	86	2.5	8	0.2	54	0.5	4	0.0	51	1.5	3	0.1
USA, Native American (2004-2012)	1	0.1	1	0.1	0	0.0	1	0.3	13	1.3	1	0.1	6	1.8	1	0.3	3	0.3	1	0.1	7	2.1	0	0.0
USA, White NH (2004-2012)	20	0.1	80	0.3	20	0.2	29	0.3	1093	3.4	69	0.2	566	4.9	18	0.2	272	0.9	20	0.1	305	2.6	12	0.1
USA, NPCR (2004-2012)	33	0.1	196	0.4	30	0.2	51	0.3	1590	2.9	93	0.2	794	4.2	36	0.2	422	0.8	31	0.1	460	2.5	21	0.1
USA, SEER 18 (2004-2012)	0	0.0	54	0.4	0	0.0	18	0.3	0	0.0	21	0.1	0	0.0	9	0.2	0	0.0	10	0.1	0	0.0	5	0.1
USA, Hawaii, Hawaiian (2004-2012)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ASIA																								
BAHRAIN (1998-2012)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CHINA, 6 registries (1990-2013)	2	0.0	6	0.1	2	0.1	1	0.0	10	0.2	0	0.0	6	0.2	1	0.0	19	0.3	3	0.0	14	0.5	6	0.2
CHINA, Hong Kong (1990-2013)	*0*	*0.0*	*3*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*0*	*0.0*
INDIA, 7 registries (1990-2013)	0	0.0	23	0.1	0	0.0	13	0.2	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	6	0.0	0	0.0	2	0.0
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*2*	*1.2*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other specified CNS tumours (IIIe) in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

Table 10.6.b. Other specified intracranial and intraspinal neoplasms (IIIe3, IIIe4, IIIe5), part 2 of 2: numbers of cases and incidence rates per million by age and behaviour

	Pineal parenchymal tumours (IIIe3)								Neuronal and mixed neuronal-glial tumours (IIIe4)								Meningioma (IIIe5)							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
ISRAEL (1990-2012)	0	0.0	11	0.3	0	0.0	3	0.2	48	1.2	2	0.0	22	1.8	1	0.1	18	0.4	1	0.0	25	2.0	1	0.1
ISRAEL, Jews (1990-2012)	0	0.0	8	0.3	0	0.0	3	0.3	34	1.1	2	0.1	16	1.7	0	0.0	15	0.5	1	0.0	18	1.9	0	0.0
ISRAEL, Non-Jews (1990-2012)	0	0.0	3	0.3	0	0.0	0	0.0	14	1.3	0	0.0	6	2.0	1	0.3	3	0.3	0	0.0	7	2.4	1	0.3
JAPAN, 8 registries (1990-2013)	3	0.0	14	0.2	2	0.1	8	0.3	48	0.8	0	0.0	24	1.0	0	0.0	19	0.3	3	0.0	18	0.7	2	0.1
JORDAN, Jordanians (2000-2012)	*0*	*0.0*	*5*	*0.2*	*0*	*0.0*	*3*	*0.4*	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*4*	*0.2*	*0*	*0.0*	*1*	*0.1*
REPUBLIC OF KOREA (1999-2012)	0	0.0	26	0.2	0	0.0	5	0.1	0	0.0	4	0.0	0	0.0	3	0.1	0	0.0	15	0.1	0	0.0	5	0.1
KUWAIT (1994-2012)	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*	*3*	*0.3*	*0*	*0.0*	*2*	*0.6*	*0*	*0.0*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*2*	*0.4*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*2*	*1.5*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*
LEBANON (2008-2010)	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	*1*	*0.8*
PAKISTAN, Karachi (1995-2002)	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*1.4*
PAKISTAN, Lahore (2008-2012)	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	3	0.1	0	0.0	4	0.7	1	0.2
PHILIPPINES, 2 registries (1993-2012)	*0*	*0.0*	*3*	*0.0*	*0*	*0.0*	*2*	*0.1*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.0*	*0*	*0.0*	*0*	*0.0*
QATAR (2002-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*1.3*	*1*	*1.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	0	0.0	6	0.2	0	0.0	3	0.3	0	0.0	7	0.2	0	0.0	1	0.1	0	0.0	3	0.1	0	0.0	2	0.2
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*0*	*0.0*	*5*	*0.2*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*7*	*0.3*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*1*	*0.1*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*2*	*1.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*1*	*0.8*
THAILAND, 6 registries (1993-2013)	0	0.0	4	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	8	0.2	0	0.0	5	0.3
TURKEY, paediatric (2009-2011)	1	0.0	7	0.1	-	-	-	-	16	0.3	2	0.0	-	-	-	-	3	0.0	2	0.0	-	-	-	-
TURKEY, 8 registries (1992-2012)	1	0.0	6	0.2	1	0.1	2	0.1	32	0.8	3	0.1	11	0.8	2	0.1	23	0.5	5	0.1	16	1.1	5	0.3
VIET NAM, Ho Chi Minh City (1995-2013)	1	0.0	0	0.0	0	0.0	1	0.1	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1	1	0.1	1	0.1
EUROPE																								
AUSTRIA (1990-2012)	0	0.0	13	0.4	1	0.1	5	0.4	28	0.9	5	0.2	14	1.3	1	0.1	5	0.1	5	0.2	6	0.5	5	0.4
BELARUS, paediatric (1990-2014)	5	0.1	8	0.2	0	0.0	0	0.0	36	0.8	0	0.0	9	0.5	0	0.0	22	0.4	9	0.2	6	0.3	7	0.4
BELGIUM (2004-2013)	0	0.0	4	0.2	1	0.2	0	0.0	52	2.9	1	0.1	41	6.4	1	0.2	16	0.9	1	0.0	13	2.0	2	0.3
BULGARIA (1990-2013)	*0*	*0.0*	*7*	*0.2*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*6*	*0.2*	*0*	*0.0*	*1*	*0.1*
CROATIA (2001-2014)	0	0.0	2	0.2	0	0.0	1	0.3	9	0.9	3	0.3	7	2.0	3	0.8	11	1.1	5	0.6	7	2.0	1	0.3
CYPRUS, South-West (1998-2012)	*0*	*0.0*	*1*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*1.1*
CZECH REPUBLIC (1990-2012)	0	0.0	4	0.1	1	0.1	5	0.3	21	0.5	7	0.2	7	0.4	5	0.3	5	0.1	7	0.2	0	0.0	7	0.4
ESTONIA (1990-2012)	1	0.1	0	0.0	0	0.0	2	0.9	3	0.5	0	0.0	1	0.4	0	0.0	1	0.1	0	0.0	6	2.7	0	0.0
FRANCE, paediatric (2000-2012)	6	0.0	35	0.2	-	-	-	-	527	3.5	19	0.1	-	-	-	-	84	0.5	5	0.0	-	-	-	-
FRANCE, 13 registries (1993-2012)	2	0.1	3	0.1	0	0.0	1	0.1	94	2.9	2	0.1	42	3.8	1	0.1	13	0.4	0	0.0	20	1.8	0	0.0
GERMANY, paediatric (1996-2012)	18	0.1	42	0.2	-	-	-	-	418	2.0	12	0.1	-	-	-	-	76	0.3	10	0.0	-	-	-	-
GERMANY, 6 Eastern states (2001-2007)	*0*	*0.0*	*4*	*0.3*	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*5*	*0.7*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.1*
GERMANY, 5 Western registries (1994-2012)	2	0.0	8	0.2	3	0.2	3	0.2	52	1.0	5	0.1	38	2.0	5	0.3	17	0.4	5	0.1	8	0.4	0	0.0
GREECE, paediatric, CNS tumours (2010-2014)	1	0.1	2	0.3	-	-	-	-	15	1.8	1	0.1	-	-	-	-	2	0.3	0	0.0	-	-	-	-
HUNGARY, paediatric (1991-2014)	4	0.1	8	0.2	-	-	-	-	51	1.3	6	0.1	-	-	-	-	5	0.1	7	0.2	-	-	-	-
ICELAND (1990-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*1.6*	*0*	*0.0*	*1*	*1.8*	*0*	*0.0*	*1*	*0.5*	*0*	*0.0*	*1*	*1.8*	*0*	*0.0*
IRELAND (1994-2012)	0	0.0	6	0.4	0	0.0	3	0.5	14	0.8	1	0.1	12	2.0	0	0.0	9	0.6	1	0.1	3	0.5	1	0.2
ITALY, 2 paediatric registries (1998-2011)	0	0.0	3	0.4	2	0.7	0	0.0	47	5.7	2	0.2	10	3.5	1	0.3	6	0.7	1	0.1	4	1.4	0	0.0
ITALY, Piedmont, paediatric (1990-2011)	2	0.2	3	0.3	-	-	-	-	52	4.5	2	0.2	-	-	-	-	4	0.3	1	0.1	-	-	-	-
ITALY, 26 registries (1992-2013)	1	0.0	10	0.2	1	0.1	8	0.5	62	1.5	3	0.1	33	2.2	0	0.0	19	0.4	4	0.1	16	1.1	3	0.2
LITHUANIA (2000-2012)	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*3*	*0.5*	*0*	*0.0*	*1*	*0.3*	*1*	*0.3*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MALTA (1994-2013)	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*0*	*0.0*	*2*	*1.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
THE NETHERLANDS (1993-2013)	2	0.0	17	0.3	1	0.0	4	0.2	125	2.0	5	0.1	56	2.8	2	0.1	23	0.4	5	0.1	36	1.8	2	0.1
NORWAY (1990-2013)	3	0.1	6	0.3	2	0.3	1	0.1	59	2.6	2	0.1	27	3.8	1	0.1	17	0.7	0	0.0	15	2.1	0	0.0
POLAND (2001-2013)	0	0.0	24	0.3	0	0.0	12	0.3	0	0.0	10	0.1	0	0.0	4	0.1	0	0.0	6	0.1	0	0.0	11	0.3
PORTUGAL (1991-2012)	0	0.0	10	0.4	2	0.2	2	0.2	35	1.3	1	0.0	9	0.9	1	0.1	6	0.2	3	0.1	10	1.0	0	0.0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	1	0.1	4	0.5	-	-	-	-	1	0.1	0	0.0	-	-	-	-	3	0.2	0	0.0	-	-	-	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*7*	*0.6*	*0*	*0.0*	*0*	*0.0*
SLOVAKIA (1990-2009)	3	0.1	3	0.1	2	0.2	2	0.2	8	0.4	1	0.0	5	0.6	0	0.0	13	0.6	3	0.1	12	1.4	1	0.1
SLOVAKIA, paediatric (2000-2012)	0	0.0	4	0.3	-	-	-	-	2	0.2	1	0.1	-	-	-	-	4	0.3	2	0.2	-	-	-	-
SLOVENIA (1991-2012)	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*1*	*0.3*	*4*	*0.5*	*1*	*0.1*	*0*	*0.0*	*1*	*0.3*	*5*	*0.7*	*1*	*0.1*	*4*	*1.4*	*1*	*0.3*
SPAIN, 2 paediatric registries (1991-2013)	8	0.2	14	0.3	-	-	-	-	66	1.4	2	0.0	-	-	-	-	16	0.3	4	0.1	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other specified CNS tumours (IIIe) in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

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Table 10.6.b. Other specified intracranial and intraspinal neoplasms (IIIe3, IIIe4, IIIe5), part 2 of 2: numbers of cases and incidence rates per million by age and behaviour

	Pineal parenchymal tumours (IIIe3)								Neuronal and mixed neuronal-glial tumours (IIIe4)								Meningioma (IIIe5)							
Age group (years)	0-14				15-19				0-14				15-19				0-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate
SPAIN, selected regions, paediatric (2000-2013)	4	0.1	14	0.4	-	-	-	-	53	1.5	2	0.1	-	-	-	-	12	0.3	1	0.0	-	-	-	-
SPAIN, Valencia, paediatric (1991-2010)	4	0.3	0	0.0	-	-	-	-	13	1.0	0	0.0	-	-	-	-	4	0.3	3	0.2	-	-	-	-
SPAIN, 11 registries (1990-2013)	3	0.1	8	0.3	1	0.1	0	0.0	23	0.8	1	0.0	14	1.1	1	0.1	18	0.5	5	0.1	10	0.8	4	0.3
SWEDEN (1990-2011)	0	0.0	9	0.3	0	0.0	1	0.1	68	1.9	0	0.0	30	2.5	0	0.0	26	0.7	0	0.0	24	2.0	1	0.1
SWITZERLAND, paediatric (1990-2013)	1	0.0	13	0.4	-	-	-	-	56	1.9	4	0.1	-	-	-	-	24	0.8	5	0.2	-	-	-	-
SWITZERLAND, 7 registries (1990-2013)	0	0.0	3	0.3	0	0.0	0	0.0	22	2.0	4	0.4	13	3.6	0	0.0	15	1.3	4	0.3	2	0.5	0	0.0
UKRAINE (2002-2012)	0	0.0	5	0.1	0	0.0	2	0.1	0	0.0	2	0.0	0	0.0	4	0.1	0	0.0	19	0.2	0	0.0	26	0.7
UK (2000-2011)	0	0.0	56	0.4	1	0.0	9	0.2	34	0.3	8	0.1	11	0.2	4	0.1	7	0.0	2	0.0	17	0.4	3	0.1
UK, England and Wales, paediatric (1991-2010)	17	0.1	67	0.4	-	-	-	-	340	1.7	6	0.0	-	-	-	-	88	0.4	10	0.0	-	-	-	-
OCEANIA																								
AUSTRALIA (1992-2014)	1	0.0	18	0.2	0	0.0	7	0.2	31	0.4	5	0.0	17	0.6	4	0.1	9	0.1	8	0.1	5	0.2	6	0.2
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	*1*	*1.6*	*0*	*0.0*
FRANCE, 2 registries (1990-2013)	*0*	*0.0*	*2*	*0.6*	*0*	*0.0*	*0*	*0.0*	*3*	*1.0*	*2*	*0.6*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND (1993-2012)	*0*	*0.0*	*8*	*0.5*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Maori (1993-2012)	*0*	*0.0*	*2*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, Other (1993-2012)	*0*	*0.0*	*5*	*0.4*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
NEW ZEALAND, paediatric (2000-2012)	0	0.0	6	0.5	-	-	-	-	17	1.6	0	0.0	-	-	-	-	5	0.4	0	0.0	-	-	-	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*2*	*0.7*	-	-	-	-	*2*	*0.7*	*0*	*0.0*	-	-	-	-	*1*	*0.3*	*0*	*0.0*	-	-	-	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	0	0.0	4	0.5	-	-	-	-	15	1.9	0	0.0	-	-	-	-	4	0.4	0	0.0	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other specified CNS tumours (IIIe) in a dataset
Dataset presented only if eligible (see Chapter 5)
Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets
Please consult registry-specific background information and quality indicators

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Table 10.7. Unspecified intracranial and intraspinal neoplasms (IIIf): numbers of cases and incidence rates per million by age and behaviour

Age group (years)	0-14				0-19				0-4				5-9				10-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	ASR	N	ASR	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
AFRICA																								
ALGERIA, 5 registries (1996-2014)	5	0.3	73	4.2	8	0.3	109	4.5	2	0.3	24	4.2	1	0.2	27	4.9	2	0.3	22	3.6	3	0.4	36	5.3
BOTSWANA (1999-2007)	*0*	*0.0*	*7*	*1.2*	*0*	*0.0*	*7*	*0.9*	*0*	*0.0*	*1*	*0.5*	*0*	*0.0*	*3*	*1.6*	*0*	*0.0*	*3*	*1.6*	*0*	*0.0*	*0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
EGYPT, Gharbiah (1999-2010)	2	0.1	70	4.8	2	0.1	85	4.3	0	0.0	29	6.1	0	0.0	20	4.0	2	0.4	21	3.9	0	0.0	15	2.7
FRANCE, Réunion (1990-2011)	*0*	*0.0*	*9*	*2.1*	*0*	*0.0*	*10*	*1.8*	*0*	*0.0*	*4*	*2.7*	*0*	*0.0*	*3*	*2.0*	*0*	*0.0*	*2*	*1.3*	*0*	*0.0*	*1*	*0.7*
KENYA, 2 registries (2000-2012)	1	0.1	24	2.2	1	0.1	30	2.2	0	0.0	8	1.9	0	0.0	6	1.7	1	0.3	10	3.4	0	0.0	6	2.0
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*13*	*4.4*	*0*	*0.0*	*17*	*4.3*	*0*	*0.0*	*5*	*4.9*	*0*	*0.0*	*4*	*4.2*	*0*	*0.0*	*4*	*4.1*	*0*	*0.0*	*4*	*4.0*
MALI, Bamako (2005-2014)	*1*	*0.1*	*14*	*1.9*	*1*	*0.1*	*15*	*1.6*	*0*	*0.0*	*6*	*2.1*	*0*	*0.0*	*4*	*1.7*	*1*	*0.5*	*4*	*1.9*	*0*	*0.0*	*1*	*0.4*
MAURITIUS (2001-2013)	0	0.0	13	3.4	0	0.0	20	3.8	0	0.0	3	2.6	0	0.0	7	5.5	0	0.0	3	2.2	0	0.0	7	5.3
MOROCCO, 2 registries (2005-2012)	0	0.0	19	2.2	0	0.0	20	1.8	0	0.0	8	2.7	0	0.0	7	2.4	0	0.0	4	1.3	0	0.0	1	0.3
SOUTH AFRICA, paediatric (1998-2012)	70	0.3	125	0.6	-	-	-	-	17	0.2	56	0.7	34	0.5	45	0.6	19	0.3	24	0.3	-	-	-	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*2*	*0.5*	*1*	*0.3*	-	-	-	-	*1*	*0.8*	*1*	*0.8*	*0*	*0.0*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	-	-	-	-
SOUTH AFRICA, paediatric, Black (1998-2012)	54	0.3	96	0.5	-	-	-	-	14	0.2	41	0.6	25	0.4	34	0.6	15	0.2	21	0.3	-	-	-	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	8	0.4	21	1.2	-	-	-	-	1	0.2	11	1.7	6	1.0	8	1.3	1	0.2	2	0.3	-	-	-	-
SOUTH AFRICA, paediatric, White (1998-2012)	*6*	*0.5*	*7*	*0.6*	-	-	-	-	*1*	*0.3*	*3*	*0.8*	*3*	*0.8*	*3*	*0.8*	*2*	*0.5*	*1*	*0.2*	-	-	-	-
TUNISIA, 2 registries (1993-2007)	0	0.0	35	1.9	0	0.0	39	1.6	0	0.0	10	1.7	0	0.0	19	3.0	0	0.0	6	0.9	0	0.0	4	0.6
UGANDA, Kyadondo (1996-2013)	0	0.0	32	2.4	0	0.0	40	2.2	0	0.0	11	2.2	0	0.0	10	2.3	0	0.0	11	2.6	0	0.0	8	1.8
ZIMBABWE, Harare, African (1995-2013)	0	0.0	56	6.6	0	0.0	71	6.3	0	0.0	14	3.9	0	0.0	23	8.6	0	0.0	19	8.0	0	0.0	15	5.1
AMERICA, LATIN AND THE CARIBBEAN																								
ARGENTINA, paediatric (2000-2013)	0	0.0	742	5.2	-	-	-	-	0	0.0	281	5.8	0	0.0	264	5.5	0	0.0	197	4.1	-	-	-	-
ARGENTINA, 6 registries (1991-2013)	8	0.4	79	3.6	12	0.4	104	3.6	3	0.4	28	3.9	0	0.0	29	4.0	5	0.7	22	2.9	4	0.5	25	3.4
BRAZIL, 5 registries (1995-2012)	0	0.0	76	4.3	0	0.0	99	4.0	0	0.0	33	5.6	0	0.0	25	4.1	0	0.0	18	2.8	0	0.0	23	3.1
CHILE, paediatric (2007-2011)	14	0.8	45	2.5	-	-	-	-	6	1.0	21	3.5	7	1.1	12	2.0	1	0.1	12	1.8	-	-	-	-
CHILE, 4 registries (1998-2012)	1	0.2	16	3.8	2	0.3	23	3.9	0	0.0	9	6.4	1	0.7	3	2.0	0	0.0	4	2.4	1	0.6	7	4.1
COLOMBIA, 4 registries (1992-2013)	24	1.5	40	2.3	35	1.5	54	2.3	11	2.0	14	2.5	9	1.5	12	2.1	4	0.7	14	2.3	11	1.8	14	2.3
COSTA RICA (1993-2012)	0	0.0	92	4.0	0	0.0	110	3.6	0	0.0	33	4.3	0	0.0	45	5.6	0	0.0	14	1.7	0	0.0	18	2.3
CUBA (2000-2012)	1	0.0	139	5.2	2	0.0	177	4.9	0	0.0	44	5.2	0	0.0	59	6.6	1	0.1	36	3.6	1	0.1	38	3.7
ECUADOR, 5 registries (1993-2013)	0	0.0	61	2.8	1	0.0	73	2.6	0	0.0	22	3.1	0	0.0	27	3.7	0	0.0	12	1.6	1	0.1	12	1.6
FRANCE, 3 registries (1990-2012)	*6*	*2.1*	*5*	*1.6*	*8*	*2.0*	*5*	*1.2*	*4*	*3.9*	*2*	*2.0*	*0*	*0.0*	*1*	*1.0*	*2*	*1.8*	*2*	*1.8*	*2*	*1.9*	*0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*8*	*1.6*	*4*	*0.7*	*8*	*1.2*	*5*	*0.7*	*3*	*1.7*	*0*	*0.0*	*2*	*1.2*	*3*	*1.7*	*3*	*1.9*	*1*	*0.6*	*0*	*0.0*	*1*	*0.7*
JAMAICA, Kingston and St Andrew (1982-2012)	*0*	*0.0*	*3*	*0.5*	*0*	*0.0*	*7*	*0.8*	*0*	*0.0*	*1*	*0.5*	*0*	*0.0*	*1*	*0.5*	*0*	*0.0*	*1*	*0.5*	*0*	*0.0*	*4*	*2.0*
MEXICO, Mexico City, paediatric (1997-2013)	*1*	*0.1*	*2*	*0.2*	-	-	-	-	*0*	*0.0*	*2*	*0.5*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	-	-	-	-
PERU, Lima (2010-2012)	27	4.0	19	2.7	39	4.1	25	2.6	12	5.1	6	2.5	10	4.3	6	2.6	5	2.1	7	3.0	12	4.5	6	2.3
PERU, Trujillo (1990-2002)	0	0.0	15	6.4	0	0.0	21	6.5	0	0.0	4	5.0	0	0.0	8	10.4	0	0.0	3	3.7	0	0.0	6	6.9
USA, Puerto Rico (1992-2012)	7	0.4	28	1.6	10	0.4	45	1.8	3	0.5	9	1.6	1	0.2	9	1.5	3	0.5	10	1.6	3	0.5	17	2.7
URUGUAY (1993-2012)	0	0.0	50	3.5	0	0.0	62	3.2	0	0.0	28	5.7	0	0.0	15	2.9	0	0.0	7	1.3	0	0.0	12	2.3
AMERICA, NORTH																								
CANADA, 9 registries (1992-2013)	70	0.6	154	1.4	105	0.7	202	1.3	26	0.7	65	1.8	21	0.5	37	1.0	23	0.6	52	1.3	35	0.8	48	1.1
USA (2004-2012)	590	1.1	291	0.5	956	1.2	363	0.5	183	1.0	122	0.7	156	0.9	85	0.5	251	1.3	84	0.4	366	1.9	72	0.4
USA, API (2004-2012)	12	0.4	9	0.3	19	0.5	10	0.3	8	0.8	6	0.6	1	0.1	0	0.0	3	0.3	3	0.3	7	0.7	1	0.1
USA, Black (2004-2012)	75	0.8	55	0.6	120	0.9	62	0.5	19	0.6	16	0.5	21	0.7	19	0.7	35	1.1	20	0.6	45	1.4	7	0.2
USA, Hispanic White (2004-2012)	121	1.1	47	0.4	186	1.3	65	0.5	42	1.1	20	0.5	36	1.0	15	0.4	43	1.2	12	0.3	65	1.9	18	0.5
USA, Native American (2004-2012)	*2*	*0.2*	*4*	*0.4*	*5*	*0.4*	*7*	*0.5*	*1*	*0.3*	*1*	*0.3*	*0*	*0.0*	*2*	*0.7*	*1*	*0.3*	*1*	*0.3*	*3*	*0.9*	*3*	*0.9*
USA, White NH (2004-2012)	339	1.1	160	0.5	569	1.3	201	0.5	96	1.0	73	0.7	89	0.9	47	0.5	154	1.4	40	0.4	230	2.0	41	0.4
USA, NPCR (2004-2012)	590	1.1	281	0.5	956	1.3	351	0.5	183	1.1	115	0.7	156	0.9	84	0.5	251	1.4	82	0.5	366	2.0	70	0.4
USA, SEER 18 (2004-2012)	0	0.0	55	0.4	0	0.0	67	0.3	0	0.0	26	0.5	0	0.0	13	0.3	0	0.0	16	0.3	0	0.0	12	0.2
USA, Hawaii, Hawaiian (2004-2012)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ASIA																								
BAHRAIN (1998-2012)	*6*	*1.8*	*4*	*1.3*	*8*	*1.9*	*5*	*1.3*	*1*	*0.9*	*2*	*1.8*	*2*	*1.9*	*0*	*0.0*	*3*	*3.0*	*2*	*2.0*	*2*	*2.2*	*1*	*1.1*
CHINA, 6 registries (1990-2013)	39	0.7	245	4.5	53	0.6	355	4.3	11	0.7	89	5.4	14	0.8	70	3.9	14	0.6	86	4.0	14	0.5	110	3.9
CHINA, Hong Kong (1990-2013)	0	0.0	59	2.4	0	0.0	73	2.2	0	0.0	17	2.4	0	0.0	24	2.9	0	0.0	18	1.9	0	0.0	14	1.3
INDIA, 7 registries (1990-2013)	0	0.0	216	1.3	0	0.0	295	1.3	0	0.0	62	1.2	0	0.0	88	1.5	0	0.0	66	1.1	0	0.0	79	1.2
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	0	0.0	11	3.0	0	0.0	29	4.7	0	0.0	2	1.8	0	0.0	4	3.7	0	0.0	5	3.7	0	0.0	18	10.6

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of unspecified CNS tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

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Table 10.7. Unspecified intracranial and intraspinal neoplasms (IIIf): numbers of cases and incidence rates per million by age and behaviour

Age group (years)	0-14				0-19				0-4				5-9				10-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	ASR	N	ASR	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
ISRAEL (1990-2012)	69	1.7	55	1.4	95	1.8	74	1.4	26	1.8	29	2.0	21	1.5	14	1.0	22	1.7	12	0.9	26	2.1	19	1.6
ISRAEL, Jews (1990-2012)	44	1.5	46	1.6	62	1.6	58	1.5	16	1.5	25	2.4	12	1.2	10	1.0	16	1.7	11	1.2	18	1.9	12	1.3
ISRAEL, Non-Jews (1990-2012)	25	2.2	9	0.8	33	2.3	16	1.2	10	2.4	4	1.0	9	2.4	4	1.1	6	1.8	1	0.3	8	2.7	7	2.4
JAPAN, 8 registries (1990-2013)	99	1.7	201	3.4	134	1.6	246	3.0	34	1.8	76	4.0	34	1.7	62	3.1	31	1.4	63	2.9	35	1.4	45	1.9
JORDAN, Jordanians (2000-2012)	0	0.0	18	0.7	0	0.0	22	0.6	0	0.0	8	0.9	0	0.0	9	1.0	0	0.0	1	0.1	0	0.0	4	0.5
REPUBLIC OF KOREA (1999-2012)	0	0.0	424	3.4	0	0.0	574	3.3	0	0.0	132	3.6	0	0.0	150	3.5	0	0.0	142	3.0	0	0.0	150	3.1
KUWAIT (1994-2012)	*0*	*0.0*	*2*	*0.2*	*1*	*0.1*	*3*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.5*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	*1*	*0.3*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.5*
KUWAIT, Non-Kuwaitis (1994-2012)	*0*	*0.0*	*1*	*0.2*	*1*	*0.2*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.6*	*0*	*0.0*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*
LEBANON (2008-2010)	*0*	*0.0*	*2*	*0.4*	*0*	*0.0*	*3*	*0.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*1.5*	*0*	*0.0*	*1*	*0.8*
PAKISTAN, Karachi (1995-2002)	*0*	*0.0*	*5*	*0.9*	*0*	*0.0*	*6*	*0.8*	*0*	*0.0*	*2*	*1.0*	*0*	*0.0*	*2*	*1.0*	*0*	*0.0*	*1*	*0.6*	*0*	*0.0*	*1*	*0.7*
PAKISTAN, Lahore (2008-2012)	*2*	*0.1*	*10*	*0.5*	*4*	*0.2*	*15*	*0.6*	*0*	*0.0*	*2*	*0.3*	*1*	*0.2*	*3*	*0.5*	*1*	*0.2*	*5*	*0.8*	*2*	*0.4*	*5*	*0.9*
PHILIPPINES, 2 registries (1993-2012)	0	0.0	166	2.2	0	0.0	209	2.1	0	0.0	52	1.9	0	0.0	69	2.8	0	0.0	45	2.0	0	0.0	43	1.8
QATAR (2002-2014)	*0*	*0.0*	*4*	*1.3*	*0*	*0.0*	*5*	*1.3*	*0*	*0.0*	*1*	*0.9*	*0*	*0.0*	*2*	*2.0*	*0*	*0.0*	*1*	*1.2*	*0*	*0.0*	*1*	*1.3*
SAUDI ARABIA, Riyadh (1994-2012)	0	0.0	17	0.5	0	0.0	23	0.5	0	0.0	6	0.5	0	0.0	7	0.6	0	0.0	4	0.4	0	0.0	6	0.7
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	0	0.0	17	0.6	0	0.0	22	0.6	0	0.0	6	0.6	0	0.0	7	0.7	0	0.0	4	0.5	0	0.0	5	0.7
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.8*
THAILAND, 6 registries (1993-2013)	1	0.0	157	3.9	1	0.0	196	3.6	0	0.0	41	3.3	0	0.0	64	4.8	1	0.1	52	3.7	0	0.0	39	2.4
TURKEY, paediatric (2009-2011)	*9*	*0.2*	*9*	*0.2*	-	-	-	-	*4*	*0.2*	*5*	*0.3*	*2*	*0.1*	*2*	*0.1*	*3*	*0.2*	*2*	*0.1*	-	-	-	-
TURKEY, 8 registries (1992-2012)	44	1.1	38	1.0	67	1.2	57	1.1	9	0.7	15	1.2	17	1.3	13	1.0	18	1.3	10	0.7	23	1.6	19	1.3
VIET NAM, Ho Chi Minh City (1995-2013)	0	0.0	114	4.7	0	0.0	144	4.2	0	0.0	36	4.4	0	0.0	47	5.8	0	0.0	31	3.9	0	0.0	30	2.7
EUROPE																								
AUSTRIA (1990-2012)	16	0.5	79	2.8	22	0.5	104	2.7	4	0.4	42	4.3	4	0.4	25	2.4	8	0.7	12	1.1	6	0.5	25	2.2
BELARUS, paediatric (1990-2014)	24	0.6	200	4.9	30	0.5	246	4.4	10	0.7	96	7.1	5	0.3	65	4.5	9	0.5	39	2.4	6	0.3	46	2.6
BELGIUM (2004-2013)	20	1.1	9	0.5	31	1.2	13	0.5	8	1.3	2	0.3	4	0.7	5	0.8	8	1.3	2	0.3	11	1.7	4	0.6
BULGARIA (1990-2013)	0	0.0	163	5.7	0	0.0	199	5.0	0	0.0	70	7.6	0	0.0	49	4.9	0	0.0	44	3.9	0	0.0	36	2.8
CROATIA (2001-2014)	50	5.0	71	8.1	97	6.8	102	8.2	8	2.7	34	11.6	16	5.2	19	6.1	26	7.9	18	5.4	47	13.2	31	8.7
CYPRUS, South-West (1998-2012)	*0*	*0.0*	*7*	*3.2*	*0*	*0.0*	*9*	*3.0*	*0*	*0.0*	*2*	*3.0*	*0*	*0.0*	*3*	*4.1*	*0*	*0.0*	*2*	*2.5*	*0*	*0.0*	*2*	*2.3*
CZECH REPUBLIC (1990-2012)	22	0.6	205	5.4	32	0.6	260	4.9	6	0.5	88	7.1	9	0.7	63	4.9	7	0.5	54	3.7	10	0.6	55	3.3
ESTONIA (1990-2012)	15	2.5	10	1.6	25	2.9	17	2.0	3	1.7	2	1.1	6	3.1	3	1.6	6	2.9	5	2.4	10	4.5	7	3.1
FRANCE, paediatric (2000-2012)	55	0.4	24	0.2	-	-	-	-	20	0.4	12	0.2	9	0.2	7	0.1	26	0.5	5	0.1	-	-	-	-
FRANCE, 13 registries (1993-2012)	23	0.7	26	0.8	26	0.6	30	0.7	3	0.3	8	0.8	8	0.8	10	1.0	12	1.1	8	0.8	3	0.3	4	0.4
GERMANY, paediatric (1996-2012)	103	0.5	13	0.1	-	-	-	-	37	0.6	7	0.1	31	0.5	4	0.1	35	0.5	2	0.0	-	-	-	-
GERMANY, 6 Eastern states (2001-2007)	0	0.0	36	2.7	0	0.0	43	2.3	0	0.0	15	3.4	0	0.0	7	1.7	0	0.0	14	2.7	0	0.0	7	0.9
GERMANY, 5 Western registries (1994-2012)	30	0.6	61	1.3	39	0.6	74	1.1	14	0.9	23	1.5	8	0.5	17	1.0	8	0.4	21	1.2	9	0.5	13	0.7
GREECE, paediatric, CNS tumours (2010-2014)	*3*	*0.3*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	*2*	*0.7*	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	-	-	-	-
HUNGARY, paediatric (1991-2014)	*0*	*0.0*	*2*	*0.0*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*1*	*0.1*	-	-	-	-
ICELAND (1990-2014)	*0*	*0.0*	*12*	*7.1*	*0*	*0.0*	*14*	*6.3*	*0*	*0.0*	*3*	*5.4*	*0*	*0.0*	*3*	*5.5*	*0*	*0.0*	*6*	*11.1*	*0*	*0.0*	*2*	*3.7*
IRELAND (1994-2012)	4	0.3	23	1.4	8	0.4	37	1.6	3	0.5	9	1.6	0	0.0	6	1.1	1	0.2	8	1.4	4	0.7	14	2.4
ITALY, 2 paediatric registries (1998-2011)	14	1.6	7	0.8	15	1.3	7	0.6	1	0.4	3	1.1	8	2.9	1	0.4	5	1.8	3	1.1	1	0.3	0	0.0
ITALY, Piedmont, paediatric (1990-2011)	21	1.7	19	1.7	-	-	-	-	4	1.0	8	2.1	10	2.6	6	1.6	7	1.7	5	1.2	-	-	-	-
ITALY, 26 registries (1992-2013)	132	3.1	206	5.1	234	4.0	251	4.6	34	2.5	77	5.6	42	3.1	77	5.7	56	4.0	52	3.7	102	6.8	45	3.0
LITHUANIA (2000-2012)	0	0.0	35	5.4	0	0.0	52	5.4	0	0.0	17	8.4	0	0.0	7	3.1	0	0.0	11	3.9	0	0.0	17	5.4
MALTA (1994-2013)	*0*	*0.0*	*2*	*1.6*	*0*	*0.0*	*2*	*1.2*	*0*	*0.0*	*1*	*2.3*	*0*	*0.0*	*1*	*2.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
THE NETHERLANDS (1993-2013)	19	0.3	94	1.5	31	0.4	111	1.4	6	0.3	33	1.6	6	0.3	33	1.6	7	0.3	28	1.4	12	0.6	17	0.8
NORWAY (1990-2013)	163	7.9	29	1.4	241	8.6	39	1.4	74	10.3	13	1.8	42	5.9	11	1.6	47	6.7	5	0.7	78	11.1	10	1.4
POLAND (2001-2013)	0	0.0	438	5.6	0	0.0	630	5.5	0	0.0	152	6.1	0	0.0	154	6.0	0	0.0	132	4.4	0	0.0	192	5.4
PORTUGAL (1991-2012)	19	0.7	29	1.1	35	0.9	33	0.9	8	0.9	12	1.4	4	0.4	9	1.0	7	0.7	8	0.9	16	1.6	4	0.4
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	20	2.2	5	0.7	-	-	-	-	4	1.5	3	1.1	8	3.1	2	0.8	8	2.3	0	0.0	-	-	-	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	1	0.1	27	2.3	1	0.1	33	2.1	0	0.0	7	1.9	0	0.0	9	2.5	1	0.2	11	2.7	0	0.0	6	1.2
SLOVAKIA (1990-2009)	18	0.9	71	3.4	23	0.8	95	3.3	7	1.1	22	3.5	6	0.8	29	4.1	5	0.6	20	2.5	5	0.6	24	2.8
SLOVAKIA, paediatric (2000-2012)	16	1.4	17	1.5	-	-	-	-	3	0.8	6	1.7	11	2.9	8	2.1	2	0.5	3	0.7	-	-	-	-
SLOVENIA (1991-2012)	*6*	*1.0*	*8*	*1.1*	*9*	*1.0*	*10*	*1.0*	*3*	*1.4*	*2*	*0.9*	*3*	*1.3*	*3*	*1.3*	*0*	*0.0*	*3*	*1.2*	*3*	*1.0*	*2*	*0.7*
SPAIN, 2 paediatric registries (1991-2013)	57	1.2	18	0.4	-	-	-	-	15	0.9	3	0.2	22	1.4	9	0.6	20	1.3	6	0.4	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of unspecified CNS tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

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Table 10.7. Unspecified intracranial and intraspinal neoplasms (IIIf): numbers of cases and incidence rates per million by age and behaviour

Age group (years)	0-14				0-19				0-4				5-9				10-14				15-19			
Behaviour	Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant		Non-malignant		Malignant	
	N	ASR	N	ASR	N	ASR	N	ASR	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
SPAIN, selected regions, paediatric (2000-2013)	41	1.2	6	0.2	-	-	-	-	11	0.9	1	0.1	17	1.5	1	0.1	13	1.2	4	0.4	-	-	-	-
SPAIN, Valencia, paediatric (1991-2010)	16	1.1	12	0.9	-	-	-	-	4	1.0	2	0.5	5	1.1	8	1.8	7	1.4	2	0.4	-	-	-	-
SPAIN, 11 registries (1990-2013)	36	1.1	71	2.3	60	1.2	100	2.3	6	0.6	29	2.9	13	1.2	21	2.0	17	1.5	21	1.8	24	1.8	29	2.2
SWEDEN (1990-2011)	99	2.9	97	2.8	120	2.6	114	2.5	40	3.4	43	3.7	30	2.6	27	2.3	29	2.4	27	2.3	21	1.7	17	1.4
SWITZERLAND, paediatric (1990-2013)	*15*	*0.5*	*4*	*0.2*	-	-	-	-	*3*	*0.3*	*4*	*0.4*	*3*	*0.3*	*0*	*0.0*	*9*	*0.9*	*0*	*0.0*	-	-	-	-
SWITZERLAND, 7 registries (1990-2013)	10	0.9	12	1.1	14	1.0	14	1.0	4	1.1	2	0.6	2	0.6	8	2.3	4	1.1	2	0.6	4	1.1	2	0.5
UKRAINE (2002-2012)	0	0.0	478	6.6	0	0.0	651	6.1	0	0.0	182	7.7	0	0.0	156	6.7	0	0.0	140	4.9	0	0.0	173	4.7
UK (2000-2011)	83	0.6	74	0.6	129	0.7	123	0.7	34	0.8	31	0.7	24	0.6	21	0.5	25	0.5	22	0.5	46	1.0	49	1.1
UK, England and Wales, paediatric (1991-2010)	279	1.4	60	0.3	-	-	-	-	100	1.5	26	0.4	81	1.2	15	0.2	98	1.5	19	0.3	-	-	-	-
OCEANIA																								
AUSTRALIA (1992-2014)	10	0.1	132	1.5	11	0.1	149	1.3	6	0.2	51	1.7	2	0.1	52	1.8	2	0.1	29	1.0	1	0.0	17	0.6
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
FRANCE, 2 registries (1990-2013)	*2*	*0.6*	*5*	*1.7*	*2*	*0.5*	*6*	*1.6*	*0*	*0.0*	*2*	*2.0*	*1*	*1.0*	*3*	*2.9*	*1*	*1.0*	*0*	*0.0*	*0*	*0.0*	*1*	*1.0*
NEW ZEALAND (1993-2012)	0	0.0	38	2.2	0	0.0	49	2.1	0	0.0	13	2.2	0	0.0	17	2.9	0	0.0	8	1.4	0	0.0	11	1.9
NEW ZEALAND, Maori (1993-2012)	*0*	*0.0*	*8*	*1.8*	*0*	*0.0*	*9*	*1.6*	*0*	*0.0*	*2*	*1.3*	*0*	*0.0*	*5*	*3.5*	*0*	*0.0*	*1*	*0.7*	*0*	*0.0*	*1*	*0.8*
NEW ZEALAND, Pacific peoples (1993-2012)	*0*	*0.0*	*6*	*3.9*	*0*	*0.0*	*8*	*4.0*	*0*	*0.0*	*2*	*3.6*	*0*	*0.0*	*3*	*5.8*	*0*	*0.0*	*1*	*2.1*	*0*	*0.0*	*2*	*4.5*
NEW ZEALAND, Other (1993-2012)	0	0.0	24	2.1	0	0.0	32	2.1	0	0.0	9	2.4	0	0.0	9	2.3	0	0.0	6	1.5	0	0.0	8	1.9
NEW ZEALAND, paediatric (2000-2012)	*1*	*0.1*	*2*	*0.2*	-	-	-	-	*1*	*0.3*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	-	-	-	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	-	-	-	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*1*	*0.1*	*2*	*0.2*	-	-	-	-	*1*	*0.4*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	-	-	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of unspecified CNS tumour in a dataset

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Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

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Table 10.8. Intracranial and intraspinal germ cell tumours (Xa): numbers of cases and incidence rates per million by age and behaviour

	CNS germinoma (Xa1)				CNS teratoma (Xa2)								Other (Xa3, Xa4, Xa5)				Mixed tumours (Xa6)			
Age group (years)	0-14		15-19		0-14				15-19				0-14		15-19		0-14		15-19	
Behaviour	Any				Non-malignant		Malignant		Non-malignant		Malignant		Any				Any			
	N	ASR	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	Rate	N	ASR	N	Rate
AFRICA																				
ALGERIA, 5 registries (1996-2014)	*2*	*0.1*	*0*	*0.0*	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
BOTSWANA (1999-2007)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CAMEROON, Yaoundé (2004-2006)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
EGYPT, Gharbiah (1999-2010)	*2*	*0.1*	*2*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
FRANCE, Réunion (1990-2011)	*2*	*0.4*	*1*	*0.7*	*0*	*0.0*	*2*	*0.4*	*0*	*0.0*	*0*	*0.0*	*2*	*0.4*	*1*	*0.7*	*0*	*0.0*	*0*	*0.0*
KENYA, 2 registries (2000-2012)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
LIBYA, Benghazi (2003-2008)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MALI, Bamako (2005-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MAURITIUS (2001-2013)	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MOROCCO, 2 registries (2005-2012)	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*2*	*0.2*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SOUTH AFRICA, paediatric (1998-2012)	*13*	*0.1*	-	-	*0*	*0.0*	*2*	*0.0*	-	-	-	-	*0*	*0.0*	-	-	*1*	*0.0*	-	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*1*	*0.2*	-	-	*0*	*0.0*	*1*	*0.3*	-	-	-	-	*0*	*0.0*	-	-	*0*	*0.0*	-	-
SOUTH AFRICA, paediatric, Black (1998-2012)	*4*	*0.0*	-	-	*0*	*0.0*	*1*	*0.0*	-	-	-	-	*0*	*0.0*	-	-	*1*	*0.0*	-	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*1*	*0.0*	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	-	-	*0*	*0.0*	-	-
SOUTH AFRICA, paediatric, White (1998-2012)	7	*0.5*	-	-	*0*	*0.0*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	-	-	*0*	*0.0*	-	-
TUNISIA, 2 registries (1993-2007)	*1*	*0.1*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
UGANDA, Kyadondo (1996-2013)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ZIMBABWE, Harare, African (1995-2013)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
AMERICA, LATIN AND THE CARIBBEAN																				
ARGENTINA, paediatric (2000-2013)	85	0.5	-	-	0	0.0	3	0.0	-	-	-	-	3	0.0	-	-	17	0.1	-	-
ARGENTINA, 6 registries (1991-2013)	18	0.7	1	0.1	1	0.0	1	0.0	0	0.0	0	0.0	3	0.2	0	0.0	2	0.1	0	0.0
BRAZIL, 5 registries (1995-2012)	10	0.5	7	1.0	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	3	0.2	0	0.0
CHILE, paediatric (2007-2011)	18	0.9	-	-	0	0.0	4	0.2	-	-	-	-	2	0.1	-	-	0	0.0	-	-
CHILE, 4 registries (1998-2012)	*1*	*0.2*	*2*	*1.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
COLOMBIA, 4 registries (1992-2013)	*3*	*0.1*	*4*	*0.6*	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*1*	*0.2*	*1*	*0.0*	*0*	*0.0*	*3*	*0.2*	*0*	*0.0*
COSTA RICA (1993-2012)	*10*	*0.4*	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CUBA (2000-2012)	*4*	*0.1*	*2*	*0.2*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ECUADOR, 5 registries (1993-2013)	*6*	*0.3*	*1*	*0.1*	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
FRANCE, 3 registries (1990-2012)	*2*	*0.6*	*0*	*0.0*	*0*	*0.0*	*2*	*0.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
HONDURAS, Francisco Morazán (2002-2012)	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
JAMAICA, Kingston and St Andrew (1982-2012)	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MEXICO, Mexico City, paediatric (1997-2013)	16	1.2	-	-	0	0.0	3	0.3	-	-	-	-	2	0.1	-	-	3	0.2	-	-
PERU, Lima (2010-2012)	*1*	*0.1*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
PERU, Trujillo (1990-2002)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
USA, Puerto Rico (1992-2012)	*9*	*0.5*	*3*	*0.5*	*1*	*0.1*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*2*	*0.1*	*1*	*0.2*	*1*	*0.0*	*1*	*0.2*
URUGUAY (1993-2012)	*6*	*0.4*	*3*	*0.6*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
AMERICA, NORTH																				
CANADA, 9 registries (1992-2013)	121	0.9	77	1.8	8	0.1	18	0.2	4	0.1	5	0.1	11	0.1	6	0.1	23	0.2	12	0.3
USA (2004-2012)	553	0.9	390	2.0	231	0.4	96	0.2	64	0.3	9	0.0	45	0.1	14	0.1	89	0.2	34	0.2
USA, API (2004-2012)	58	1.8	36	3.6	9	0.3	6	0.2	2	0.2	0	0.0	7	0.2	3	0.3	8	0.3	2	0.2
USA, Black (2004-2012)	51	0.5	40	1.2	32	0.4	7	0.1	6	0.2	1	0.0	5	0.1	6	0.2	1	0.0	6	0.2
USA, Hispanic White (2004-2012)	120	1.0	70	2.1	37	0.3	16	0.2	14	0.4	2	0.1	12	0.1	2	0.1	18	0.2	5	0.1
USA, Native American (2004-2012)	*4*	*0.4*	*0*	*0.0*	*0*	*0.0*	*2*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*
USA, White NH (2004-2012)	309	0.9	240	2.1	136	0.5	61	0.2	41	0.4	6	0.1	19	0.1	3	0.0	61	0.2	20	0.2
USA, NPCR (2004-2012)	529	0.9	371	2.0	231	0.5	89	0.2	64	0.3	9	0.0	45	0.1	13	0.1	84	0.1	32	0.2
USA, SEER 18 (2004-2012)	171	1.0	133	2.4	0	0.0	29	0.2	0	0.0	1	0.0	11	0.1	7	0.1	29	0.2	15	0.3
USA, Hawaii, Hawaiian (2004-2012)	*0*	*0.0*	*2*	*8.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
ASIA																				
BAHRAIN (1998-2012)	*4*	*1.2*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.3*	*0*	*0.0*
CHINA, 6 registries (1990-2013)	96	1.4	54	1.9	11	0.2	15	0.3	5	0.2	7	0.2	6	0.1	3	0.1	12	0.2	4	0.1
CHINA, Hong Kong (1990-2013)	71	2.3	44	4.2	0	0.0	9	0.4	0	0.0	3	0.3	3	0.1	0	0.0	8	0.3	4	0.4
INDIA, 7 registries (1990-2013)	*3*	*0.0*	*3*	*0.0*	*0*	*0.0*	*3*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.0*	*1*	*0.0*	*3*	*0.0*	*0*	*0.0*
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of intracranial or intraspinal germ cell tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

Table 10.8. Intracranial and intraspinal germ cell tumours (Xa): numbers of cases and incidence rates per million by age and behaviour

	CNS germinoma (Xa1)				CNS teratoma (Xa2)								Other (Xa3, Xa4, Xa5)				Mixed tumours (Xa6)			
Age group (years)	0-14		15-19		0-14				15-19				0-14		15-19		0-14		15-19	
Behaviour	Any				Non-malignant		Malignant		Non-malignant		Malignant		Any				Any			
	N	ASR	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	Rate	N	ASR	N	Rate
ISRAEL (1990-2012)	15	0.3	10	0.8	2	0.0	2	0.0	0	0.0	0	0.0	2	0.0	1	0.1	1	0.0	2	0.2
ISRAEL, Jews (1990-2012)	12	0.4	9	1.0	2	0.1	2	0.1	0	0.0	0	0.0	1	0.0	0	0.0	1	0.0	2	0.2
ISRAEL, Non-Jews (1990-2012)	*3*	*0.3*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*
JAPAN, 8 registries (1990-2013)	156	2.2	91	3.8	24	0.4	30	0.5	4	0.2	4	0.2	11	0.2	6	0.2	14	0.2	13	0.5
JORDAN, Jordanians (2000-2012)	*8*	*0.3*	*4*	*0.5*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.1*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*
REPUBLIC OF KOREA (1999-2012)	288	1.9	226	4.7	0	0.0	45	0.3	0	0.0	3	0.1	30	0.2	6	0.1	90	0.6	37	0.8
KUWAIT (1994-2012)	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*3*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
KUWAIT, Kuwaitis (1994-2012)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
KUWAIT, Non-Kuwaitis (1994-2012)	*1*	*0.2*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
LEBANON (2008-2010)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
PAKISTAN, Karachi (1995-2002)	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
PAKISTAN, Lahore (2008-2012)	*2*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
PHILIPPINES, 2 registries (1993-2012)	27	0.3	14	0.6	0	0.0	4	0.1	0	0.0	1	0.0	2	0.0	0	0.0	1	0.0	1	0.0
QATAR (2002-2014)	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SAUDI ARABIA, Riyadh (1994-2012)	15	0.4	6	0.7	0	0.0	3	0.1	0	0.0	0	0.0	1	0.0	0	0.0	3	0.1	0	0.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	13	0.4	6	0.8	0	0.0	3	0.1	0	0.0	0	0.0	1	0.0	0	0.0	3	0.1	0	0.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
THAILAND, 6 registries (1993-2013)	40	0.9	25	1.5	0	0.0	5	0.1	0	0.0	0	0.0	3	0.1	2	0.1	9	0.2	3	0.2
TURKEY, paediatric (2009-2011)	18	0.3	-	-	0	0.0	2	0.0	-	-	-	-	5	0.1	-	-	3	0.0	-	-
TURKEY, 8 registries (1992-2012)	20	0.4	3	0.2	5	0.1	1	0.0	2	0.1	0	0.0	1	0.0	0	0.0	4	0.1	1	0.1
VIET NAM, Ho Chi Minh City (1995-2013)	*5*	*0.2*	*6*	*0.5*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
EUROPE																				
AUSTRIA (1990-2012)	23	0.7	10	0.9	0	0.0	1	0.0	0	0.0	3	0.3	0	0.0	1	0.1	1	0.0	0	0.0
BELARUS, paediatric (1990-2014)	16	0.3	7	0.4	0	0.0	7	0.2	0	0.0	0	0.0	2	0.1	0	0.0	6	0.1	2	0.1
BELGIUM (2004-2013)	15	0.7	15	2.4	9	0.5	1	0.1	0	0.0	0	0.0	1	0.0	0	0.0	2	0.1	2	0.3
BULGARIA (1990-2013)	*3*	*0.1*	*9*	*0.7*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.0*	*0*	*0.0*
CROATIA (2001-2014)	*4*	*0.4*	*1*	*0.3*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CYPRUS, South-West (1998-2012)	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*1.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
CZECH REPUBLIC (1990-2012)	27	0.6	14	0.8	3	0.1	7	0.2	0	0.0	2	0.1	4	0.1	0	0.0	0	0.0	0	0.0
ESTONIA (1990-2012)	*2*	*0.3*	*1*	*0.4*	*0*	*0.0*	*2*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.9*	*0*	*0.0*	*0*	*0.0*
FRANCE, paediatric (2000-2012)	118	0.7	-	-	119	0.9	8	0.1	-	-	-	-	50	0.3	-	-	21	0.1	-	-
FRANCE, 13 registries (1993-2012)	22	0.6	16	1.4	11	0.4	5	0.2	1	0.1	1	0.1	2	0.1	3	0.3	1	0.0	4	0.4
GERMANY, paediatric (1996-2012)	130	0.5	-	-	28	0.1	12	0.1	-	-	-	-	71	0.3	-	-	26	0.1	-	-
GERMANY, 6 Eastern states (2001-2007)	7	0.4	9	1.2	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	3	0.2	2	0.3
GERMANY, 5 Western registries (1994-2012)	37	0.6	34	1.8	1	0.0	0	0.0	0	0.0	1	0.1	4	0.1	0	0.0	8	0.2	0	0.0
GREECE, paediatric, CNS tumours (2010-2014)	*9*	*1.0*	-	-	*1*	*0.1*	*2*	*0.3*	-	-	-	-	*0*	*0.0*	-	-	*1*	*0.1*	-	-
HUNGARY, paediatric (1991-2014)	17	0.4	-	-	5	0.1	7	0.2	-	-	-	-	1	0.0	-	-	0	0.0	-	-
ICELAND (1990-2014)	*0*	*0.0*	*1*	*1.8*	*1*	*0.6*	*1*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
IRELAND (1994-2012)	12	0.6	5	0.8	3	0.2	4	0.2	2	0.3	2	0.3	0	0.0	0	0.0	1	0.1	0	0.0
ITALY, 2 paediatric registries (1998-2011)	12	1.3	2	0.7	2	0.3	6	0.8	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
ITALY, Piedmont, paediatric (1990-2011)	*12*	*0.9*	-	-	*0*	*0.0*	*5*	*0.5*	-	-	-	-	*0*	*0.0*	-	-	*1*	*0.1*	-	-
ITALY, 26 registries (1992-2013)	33	0.7	20	1.3	6	0.2	9	0.2	0	0.0	0	0.0	6	0.2	2	0.1	2	0.0	0	0.0
LITHUANIA (2000-2012)	*5*	*0.6*	*2*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
MALTA (1994-2013)	*0*	*0.0*	*1*	*1.8*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
THE NETHERLANDS (1993-2013)	44	0.6	36	1.8	17	0.3	12	0.2	2	0.1	5	0.2	8	0.1	1	0.0	8	0.1	3	0.1
NORWAY (1990-2013)	17	0.7	13	1.9	1	0.1	2	0.1	1	0.1	1	0.1	1	0.1	2	0.3	7	0.3	0	0.0
POLAND (2001-2013)	55	0.6	41	1.1	0	0.0	11	0.2	0	0.0	3	0.1	1	0.0	0	0.0	0	0.0	0	0.0
PORTUGAL (1991-2012)	31	1.0	18	1.8	0	0.0	8	0.3	1	0.1	1	0.1	1	0.0	0	0.0	2	0.1	1	0.1
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*5*	*0.5*	-	-	*1*	*0.1*	*5*	*0.5*	-	-	-	-	*1*	*0.1*	-	-	*0*	*0.0*	-	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*3*	*0.2*	*3*	*0.6*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
SLOVAKIA (1990-2009)	4	0.2	7	0.8	3	0.2	8	0.4	0	0.0	2	0.2	1	0.0	1	0.1	2	0.1	0	0.0
SLOVAKIA, paediatric (2000-2012)	*10*	*0.7*	-	-	*6*	*0.6*	*0*	*0.0*	-	-	-	-	*1*	*0.1*	-	-	*0*	*0.0*	-	-
SLOVENIA (1991-2012)	*5*	*0.6*	*2*	*0.7*	*1*	*0.2*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*
SPAIN, 2 paediatric registries (1991-2013)	41	0.8	-	-	9	0.2	10	0.2	-	-	-	-	5	0.1	-	-	3	0.1	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of intracranial or intraspinal germ cell tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

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Table 10.8. Intracranial and intraspinal germ cell tumours (Xa): numbers of cases and incidence rates per million by age and behaviour

	CNS germinoma (Xa1)				CNS teratoma (Xa2)								Other (Xa3, Xa4, Xa5)				Mixed tumours (Xa6)			
Age group (years)	0-14		15-19		0-14				15-19				0-14		15-19		0-14		15-19	
Behaviour	Any				Non-malignant		Malignant		Non-malignant		Malignant		Any				Any			
	N	ASR	N	Rate	N	ASR	N	ASR	N	Rate	N	Rate	N	ASR	N	Rate	N	ASR	N	Rate
SPAIN, selected regions, paediatric (2000-2013)	36	1.0	-	-	7	0.2	9	0.3	-	-	-	-	3	0.1	-	-	3	0.1	-	-
SPAIN, Valencia, paediatric (1991-2010)	*5*	*0.3*	-	-	*2*	*0.2*	*1*	*0.1*	-	-	-	-	*2*	*0.2*	-	-	*0*	*0.0*	-	-
SPAIN, 11 registries (1990-2013)	18	0.5	14	1.1	7	0.2	9	0.3	1	0.1	2	0.2	3	0.1	2	0.2	1	0.0	0	0.0
SWEDEN (1990-2011)	14	0.4	21	1.7	21	0.7	8	0.2	3	0.2	0	0.0	2	0.1	1	0.1	0	0.0	1	0.1
SWITZERLAND, paediatric (1990-2013)	20	0.6	-	-	6	0.2	1	0.0	-	-	-	-	4	0.1	-	-	2	0.1	-	-
SWITZERLAND, 7 registries (1990-2013)	*7*	*0.6*	*5*	*1.4*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*1*	*0.1*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
UKRAINE (2002-2012)	21	0.2	14	0.4	0	0.0	10	0.1	0	0.0	2	0.1	3	0.0	1	0.0	5	0.1	1	0.0
UK (2000-2011)	137	0.9	78	1.7	3	0.0	13	0.1	4	0.1	3	0.1	1	0.0	5	0.1	8	0.1	8	0.2
UK, England and Wales, paediatric (1991-2010)	191	0.9	-	-	62	0.3	33	0.2	-	-	-	-	11	0.1	-	-	12	0.1	-	-
OCEANIA																				
AUSTRALIA (1992-2014)	94	1.0	56	1.9	7	0.1	22	0.3	0	0.0	2	0.1	7	0.1	2	0.1	5	0.1	8	0.3
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*1*	*0.4*	*0*	*0.0*
FRANCE, 2 registries (1990-2013)	*0*	*0.0*	*1*	*1.0*	*1*	*0.4*	*1*	*0.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*2*	*0.6*	*0*	*0.0*
NEW ZEALAND (1993-2012)	25	1.3	11	1.9	0	0.0	3	0.2	0	0.0	3	0.5	2	0.1	0	0.0	7	0.4	2	0.3
NEW ZEALAND, Maori (1993-2012)	*6*	*1.3*	*4*	*3.3*	*0*	*0.0*	*1*	*0.2*	*0*	*0.0*	*2*	*1.7*	*1*	*0.2*	*0*	*0.0*	*1*	*0.2*	*1*	*0.8*
NEW ZEALAND, Pacific peoples (1993-2012)	*7*	*4.3*	*1*	*2.3*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*	*3*	*1.8*	*0*	*0.0*
NEW ZEALAND, Other (1993-2012)	12	0.9	6	1.4	0	0.0	2	0.2	0	0.0	1	0.2	1	0.1	0	0.0	3	0.2	1	0.2
NEW ZEALAND, paediatric (2000-2012)	17	1.3	-	-	2	0.2	0	0.0	-	-	-	-	0	0.0	-	-	5	0.4	-	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*6*	*2.0*	-	-	*1*	*0.3*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	-	-	*1*	*0.3*	-	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*11*	*1.1*	-	-	*1*	*0.1*	*0*	*0.0*	-	-	-	-	*0*	*0.0*	-	-	*4*	*0.4*	-	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; Rate, age-specific rate; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of intracranial or intraspinal germ cell tumour in a dataset

Dataset presented only if eligible (see Chapter 5)

Non-malignant other than pilocytic astrocytoma collected for only part of the study period in the US datasets

Please consult registry-specific background information and quality indicators

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Chapter 11. Primary site of selected diagnostic categories

Table 11.1. CNS tumours (III, Xa): numbers of cases by primary site

	CNS tumours (III, Xa)		Meninges		Cerebrum		Ventricle		Cerebellum		Brain stem		Spinal cord		Optic nerve		Cranial nerve		Intracranial endocrine		Other and unspecified	
ICD-O-3 code			C70.0-C70.9		C71.0-C71.4		C71.5		C71.6		C71.7		C72.0-C72.1		C72.3		C72.5		C75.1-C75.3			
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
AFRICA																						
ALGERIA, 5 registries (1996-2014)	228	89	2	3	24	15	3	4	37	5	7	3	3	0	0	0	0	0	3	0	149	59
BOTSWANA (1999-2007)	32	6	0	0	3	1	0	0	8	0	3	1	0	0	1	0	0	0	0	0	17	4
EGYPT, Gharbiah (1999-2010)	278	78	4	1	28	9	7	4	83	16	38	5	6	3	2	0	0	0	13	4	97	36
FRANCE, Réunion (1990-2011)	71	17	1	0	17	7	3	0	17	3	6	2	3	0	3	0	0	0	7	3	14	2
KENYA, 2 registries (2000-2012)	71	19	0	0	2	1	0	0	16	6	2	0	0	1	0	0	0	0	2	1	49	10
LIBYA, Benghazi (2003-2008)	47	9	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	43	9
MALI, Bamako (2005-2014)	22	5	4	3	3	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	11	1
MAURITIUS (2001-2013)	44	19	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	1	41	18
MOROCCO, 2 registries (2005-2012)	176	35	4	1	26	10	5	0	55	8	16	0	4	3	0	0	0	0	4	0	62	13
SOUTH AFRICA, paediatric (1998-2012)	1316	-	7	-	117	-	33	-	141	-	218	-	16	-	14	-	0	-	147	-	623	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	36	-	0	-	2	-	0	-	5	-	5	-	0	-	0	-	0	-	7	-	17	-
SOUTH AFRICA, paediatric, Black (1998-2012)	856	-	5	-	76	-	22	-	84	-	155	-	9	-	9	-	0	-	108	-	388	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	246	-	1	-	28	-	9	-	26	-	41	-	5	-	2	-	0	-	17	-	117	-
SOUTH AFRICA, paediatric, White (1998-2012)	178	-	1	-	11	-	2	-	26	-	17	-	2	-	3	-	0	-	15	-	101	-
TUNISIA, 2 registries (1993-2007)	276	85	1	1	78	32	10	2	68	12	29	4	2	2	0	0	3	1	5	2	80	29
UGANDA, Kyadondo (1996-2013)	46	10	2	0	1	0	1	0	2	1	1	0	0	1	1	0	0	0	0	0	38	8
ZIMBABWE, Harare, African (1995-2013)	109	24	2	0	2	0	1	0	15	0	7	1	0	0	0	0	0	0	5	0	77	23
AMERICA, LATIN AND THE CARIBBEAN																						
ARGENTINA, paediatric (2000-2013)	3504	-	38	-	712	-	120	-	1219	-	494	-	66	-	105	-	1	-	269	-	480	-
ARGENTINA, 6 registries (1991-2013)	545	111	5	4	179	57	20	0	116	9	46	3	8	3	11	0	0	0	35	5	125	30
BRAZIL, 5 registries (1995-2012)	466	133	3	0	153	62	24	5	122	18	43	8	1	3	5	0	0	0	9	8	106	29
CHILE, paediatric (2007-2011)	397	-	6	-	96	-	12	-	62	-	61	-	10	-	10	-	0	-	26	-	114	-
CHILE, 4 registries (1998-2012)	106	24	7	1	23	12	10	1	22	2	10	0	0	2	2	0	0	0	1	2	31	4
COLOMBIA, 4 registries (1992-2013)	443	108	10	10	145	45	11	2	91	12	48	5	3	4	3	0	1	0	11	6	120	24
COSTA RICA (1993-2012)	441	95	1	0	74	33	17	1	111	13	38	3	2	5	13	2	5	0	13	3	167	35
CUBA (2000-2012)	570	117	4	0	178	58	32	5	148	22	76	8	6	0	1	0	4	0	15	4	106	20
ECUADOR, 5 registries (1993-2013)	393	96	2	4	180	52	3	1	115	14	11	3	3	4	0	0	0	0	8	2	71	16
FRANCE, 3 registries (1990-2012)	70	18	0	4	9	5	8	1	23	2	5	0	0	0	0	0	0	0	5	2	20	4
HONDURAS, Francisco Morazán (2002-2012)	82	19	2	1	30	8	2	1	10	0	8	1	1	0	0	0	0	0	6	2	23	6
JAMAICA, Kingston and St Andrew (1982-2012)	63	19	0	0	12	7	2	0	20	7	10	0	2	0	1	0	0	0	2	0	14	5
MEXICO, Mexico City, paediatric (1997-2013)	245	-	3	-	26	-	10	-	50	-	35	-	6	-	7	-	0	-	22	-	86	-
PERU, Lima (2010-2012)	213	73	9	7	70	24	7	0	32	5	17	0	1	1	1	0	0	0	31	23	45	13
PERU, Trujillo (1990-2002)	39	12	0	0	21	10	0	0	13	1	2	0	2	0	0	0	0	0	0	1	1	0
USA, Puerto Rico (1992-2012)	480	138	5	5	97	42	28	8	138	21	28	2	15	7	9	1	1	0	37	23	122	29
URUGUAY (1993-2012)	389	64	1	0	75	16	6	0	53	11	43	3	13	1	7	1	2	0	13	4	176	28
AMERICA, NORTH																						
CANADA, 9 registries (1992-2013)	3869	1146	37	40	797	406	237	53	869	119	643	87	123	45	121	9	88	7	246	188	708	192
USA (1998-2012)	36896	12071	523	503	8062	3437	2215	591	7297	1264	5922	827	1227	500	2266	139	22	6	2958	3241	6404	1563
USA, API (1998-2012)	1229	398	18	17	256	98	79	22	259	36	209	27	36	18	51	7	0	0	122	122	199	51
USA, Black (1998-2012)	4639	1512	88	72	1011	390	277	88	823	145	838	104	164	50	176	20	2	0	455	464	805	179
USA, Hispanic White (1998-2012)	5981	1741	71	59	1201	399	413	63	1157	171	1041	113	163	68	269	9	3	1	617	620	1046	238
USA, Native American (1998-2012)	278	121	4	7	58	24	13	5	53	10	44	7	6	4	20	0	0	1	27	41	53	22
USA, White NH (1998-2012)	23729	7951	332	335	5319	2449	1383	401	4832	880	3664	559	808	342	1664	98	14	4	1639	1842	4074	1041
USA, NPCR (1998-2012)	35484	11770	521	502	7747	3331	2123	574	6981	1209	5634	793	1192	494	2165	137	22	6	2909	3210	6190	1514
USA, SEER 18 (1993-2012)	9696	2220	19	13	2039	789	559	117	2333	358	1836	229	314	102	629	32	2	1	373	212	1592	367
USA, Hawaii, Hawaiian (1993-2012)	51	14	0	0	11	4	4	1	17	1	9	0	1	2	2	0	0	0	1	5	6	1
ASIA																						
BAHRAIN (1998-2012)	65	12	0	0	9	2	3	0	12	1	2	0	0	1	1	0	0	0	6	2	32	6
CHINA, 6 registries (1990-2013)	1342	578	51	35	116	75	41	22	162	53	78	24	23	12	6	1	4	0	66	63	795	293
CHINA, Hong Kong (1990-2013)	636	210	26	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	18	584	180
INDIA, 7 registries (1990-2013)	2227	625	5	3	386	136	62	11	656	89	181	23	8	5	5	0	3	1	35	18	886	339
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	47	40	1	2	4	5	0	1	8	0	4	1	5	1	0	0	0	0	2	1	23	29
ISRAEL (1990-2012)	1303	325	24	28	228	81	73	27	266	30	79	11	39	15	14	3	0	0	26	11	554	119
ISRAEL, Jews (1990-2012)	1009	238	21	20	175	64	58	20	204	20	55	9	36	9	12	3	0	0	18	8	430	85

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of CNS tumours
Please consult registry-specific background information and quality indicators

Table 11.1. CNS tumours (III, Xa): numbers of cases by primary site

	CNS tumours (III, Xa)		Meninges		Cerebrum		Ventricle		Cerebellum		Brain stem		Spinal cord		Optic nerve		Cranial nerve		Intracranial endocrine		Other and unspecified	
ICD-O-3 code			C70.0-C70.9		C71.0-C71.4		C71.5		C71.6		C71.7		C72.0-C72.1		C72.3		C72.5		C75.1-C75.3			
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
ISRAEL, Non-Jews (1990-2012)	294	87	3	8	53	17	15	7	62	10	24	2	3	6	2	0	0	0	8	3	124	34
JAPAN, 8 registries (1990-2013)	1809	556	26	18	336	125	99	28	367	45	257	22	34	5	41	0	6	2	310	184	333	127
JORDAN, Jordanians (2000-2012)	488	85	1	0	55	14	12	1	143	13	47	1	6	2	14	0	0	0	12	6	198	48
REPUBLIC OF KOREA (1999-2012)	2713	920	15	8	440	226	112	35	639	76	435	66	58	43	64	7	4	1	270	168	676	290
KUWAIT (1994-2012)	138	52	0	0	4	2	0	0	6	0	3	0	1	0	1	0	0	0	0	0	123	50
KUWAIT, Kuwaitis (1994-2012)	89	35	0	0	1	2	0	0	4	0	3	0	0	0	1	0	0	0	0	0	80	33
KUWAIT, Non-Kuwaitis (1994-2012)	49	17	0	0	3	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	43	17
LEBANON (2008-2010)	74	17	1	0	2	0	4	0	15	7	2	0	3	0	0	0	1	0	1	0	45	10
PAKISTAN, Karachi (1995-2002)	79	31	0	2	10	6	0	0	20	4	6	0	0	2	0	0	0	0	5	1	38	16
PAKISTAN, Lahore (2008-2012)	174	69	2	4	33	17	1	1	30	7	8	1	4	13	2	0	0	0	15	7	79	19
PHILIPPINES, 2 registries (1993-2012)	930	190	3	1	67	29	6	1	300	32	60	2	2	2	3	0	0	0	26	12	463	111
QATAR (2002-2014)	41	9	0	0	7	2	0	0	6	1	3	0	0	0	0	0	0	0	0	0	25	6
SAUDI ARABIA, Riyadh (1994-2012)	545	96	3	1	77	18	18	4	159	16	47	4	7	3	13	2	1	0	17	8	203	40
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	450	76	2	0	64	14	13	2	130	13	31	2	5	3	12	2	1	0	15	6	177	34
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	95	20	1	1	13	4	5	2	29	3	16	2	2	0	1	0	0	0	2	2	26	6
THAILAND, 6 registries (1993-2013)	663	178	3	1	76	44	14	4	152	17	60	4	4	2	3	0	0	0	43	14	308	92
TURKEY, paediatric (2009-2011)	781	-	4	-	143	-	53	-	217	-	98	-	17	-	54	-	0	-	33	-	162	-
TURKEY, 8 registries (1992-2012)	1199	467	30	21	238	94	60	20	249	49	147	25	26	15	46	6	0	1	96	140	307	96
VIET NAM, Ho Chi Minh City (1995-2013)	294	83	5	2	42	31	22	1	50	2	26	4	3	3	0	0	0	0	26	11	120	29
EUROPE																						
AUSTRIA (1990-2012)	1104	291	5	8	155	63	54	3	173	23	111	13	27	8	32	1	6	1	81	35	460	136
BELARUS, paediatric (1990-2014)	1468	316	32	13	278	64	125	30	436	55	127	23	35	5	61	1	0	0	90	20	284	105
BELGIUM (2004-2013)	872	266	18	15	185	79	58	8	183	21	80	14	26	12	73	2	0	0	74	37	175	78
BULGARIA (1990-2013)	569	205	8	1	89	63	20	8	123	28	44	10	12	8	3	0	5	0	12	7	253	80
CROATIA (2001-2014)	420	159	18	9	76	51	7	2	90	12	29	14	5	2	4	2	0	0	9	3	182	64
CYPRUS, South-West (1998-2012)	55	12	0	1	4	2	1	0	6	0	9	2	4	0	3	2	0	0	1	0	27	5
CZECH REPUBLIC (1990-2012)	1364	367	4	8	287	122	81	22	340	58	181	31	39	19	45	6	5	0	43	16	339	85
ESTONIA (1990-2012)	231	78	1	6	30	18	22	1	79	12	12	7	3	1	1	0	0	0	21	17	62	16
FRANCE, paediatric (2000-2012)	5742	-	97	-	1153	-	410	-	1498	-	920	-	209	-	483	-	17	-	527	-	428	-
FRANCE, 13 registries (1993-2012)	1112	270	13	20	240	94	93	17	300	45	153	16	35	11	76	6	2	1	60	27	140	33
GERMANY, paediatric (1996-2012)	7466	-	43	-	1699	-	317	-	1709	-	1851	-	209	-	561	-	1	-	295	-	781	-
GERMANY, 6 Eastern states (2001-2007)	306	122	1	2	44	38	8	6	72	21	72	8	5	5	7	1	1	0	11	10	85	31
GERMANY, 5 Western registries (1994-2012)	1603	456	20	11	300	133	84	17	372	54	295	42	31	12	79	6	13	2	69	55	340	124
GREECE, paediatric, CNS tumours (2010-2014)	264	-	2	-	28	-	17	-	77	-	36	-	7	-	12	-	0	-	16	-	69	-
HUNGARY, paediatric (1991-2014)	1490	-	9	-	293	-	67	-	539	-	192	-	57	-	49	-	0	-	103	-	181	-
ICELAND (1990-2014)	72	19	1	1	13	6	2	0	22	4	7	1	4	2	1	0	0	0	10	2	12	3
IRELAND (1994-2012)	663	241	10	5	148	79	23	11	109	29	86	14	21	12	33	4	1	0	61	51	171	36
ITALY, 2 paediatric registries (1998-2011)	430	102	5	4	117	36	23	4	114	21	71	9	20	7	15	0	0	0	42	16	23	5
ITALY, Piedmont, paediatric (1990-2011)	561	-	5	-	163	-	25	-	153	-	103	-	25	-	21	-	0	-	50	-	16	-
ITALY, 26 registries (1992-2013)	1610	510	31	20	297	127	95	22	385	75	180	30	32	16	18	0	27	3	105	102	440	115
LITHUANIA (2000-2012)	157	70	2	1	32	25	5	3	39	9	29	6	5	4	3	1	0	0	3	1	39	20
MALTA (1994-2013)	45	9	1	0	12	2	0	0	14	4	4	1	1	0	1	0	0	0	1	0	11	2
THE NETHERLANDS (1993-2013)	2152	665	27	40	431	180	188	39	523	75	324	33	78	47	128	12	4	0	182	167	267	72
NORWAY (1990-2013)	1044	375	18	17	241	121	87	22	192	41	151	26	62	15	53	3	3	1	78	60	159	69
POLAND (2001-2013)	2051	801	5	9	241	149	131	38	591	111	217	36	50	37	16	2	0	3	46	38	754	378
PORTUGAL (1991-2012)	1020	278	7	10	222	82	56	17	285	51	87	9	38	10	36	1	15	1	72	42	202	55
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	282	-	1	-	28	-	26	-	91	-	31	-	13	-	13	-	0	-	28	-	51	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	298	61	8	0	62	19	27	5	127	16	20	3	6	2	2	0	1	0	5	0	40	16
SLOVAKIA (1990-2009)	700	244	16	13	135	74	57	15	223	48	85	9	22	7	11	2	3	0	49	27	99	49
SLOVAKIA, paediatric (2000-2012)	380	-	1	-	134	-	20	-	93	-	46	-	7	-	14	-	0	-	24	-	41	-
SLOVENIA (1991-2012)	201	58	7	6	34	16	9	2	38	4	37	7	4	2	4	0	0	0	4	1	64	20
SPAIN, 2 paediatric registries (1991-2013)	1778	-	21	-	412	-	94	-	528	-	266	-	74	-	113	-	9	-	161	-	100	-
SPAIN, selected regions, paediatric (2000-2013)	1233	-	14	-	270	-	53	-	375	-	210	-	61	-	78	-	1	-	114	-	57	-
SPAIN, Valencia, paediatric (1991-2010)	545	-	7	-	142	-	41	-	153	-	56	-	13	-	35	-	8	-	47	-	43	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of CNS tumours
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Table 11.1. CNS tumours (III, Xa): numbers of cases by primary site

	CNS tumours (III, Xa)		Meninges		Cerebrum		Ventricle		Cerebellum		Brain stem		Spinal cord		Optic nerve		Cranial nerve		Intracranial endocrine		Other and unspecified	
ICD-O-3 code			C70.0-C70.9		C71.0-C71.4		C71.5		C71.6		C71.7		C72.0-C72.1		C72.3		C72.5		C75.1-C75.3			
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
SPAIN, 11 registries (1990-2013)	1099	390	25	13	250	127	56	33	289	56	145	25	27	13	43	2	12	2	85	59	167	60
SWEDEN (1990-2011)	1413	387	22	27	234	104	68	16	300	53	166	22	73	17	67	4	2	0	19	17	462	127
SWITZERLAND, paediatric (1990-2013)	1017	-	17	-	182	-	49	-	294	-	188	-	23	-	44	-	0	-	84	-	136	-
SWITZERLAND, 7 registries (1990-2013)	405	111	17	2	67	32	27	4	116	17	43	4	9	10	12	0	2	1	18	11	94	30
UKRAINE (2002-2012)	1788	649	3	4	298	180	171	62	430	95	182	33	68	27	23	4	0	0	14	19	599	225
UNITED KINGDOM (2000-2011)	4150	1018	21	29	892	303	145	22	1393	130	539	76	116	36	346	14	8	6	220	142	470	260
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	7358	-	83	-	1668	-	406	-	2321	-	815	-	262	-	495	-	17	-	703	-	588	-
OCEANIA																						
AUSTRALIA (1992-2014)	2306	578	16	11	521	236	116	27	473	61	352	34	72	30	137	6	35	0	101	61	483	112
AUSTRALIA, 3 registries, Indigenous (1992-2014)	48	7	1	0	10	4	0	0	11	1	7	0	0	0	2	0	0	0	2	0	15	2
FRANCE, 2 registries (1990-2013)	76	9	0	0	14	5	5	2	23	1	8	0	5	1	2	0	1	0	4	0	14	0
NEW ZEALAND (1993-2012)	478	112	2	0	93	35	26	4	132	10	69	12	11	5	20	2	9	3	30	19	86	22
NEW ZEALAND, Maori (1993-2012)	105	20	0	0	16	2	4	2	34	1	15	1	4	1	4	0	2	0	10	7	16	6
NEW ZEALAND, Pacific peoples (1993-2012)	59	10	0	0	12	5	1	1	18	1	5	1	1	0	1	0	0	0	5	1	16	1
NEW ZEALAND, Other (1993-2012)	314	82	2	0	65	28	21	1	80	8	49	10	6	4	15	2	7	3	15	11	54	15
NEW ZEALAND, paediatric (2000-2012)	401	-	0	-	75	-	31	-	110	-	47	-	15	-	19	-	0	-	35	-	69	-
NEW ZEALAND, paediatric, Maori (2000-2012)	82	-	0	-	10	-	6	-	24	-	10	-	3	-	3	-	0	-	12	-	14	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	319	-	0	-	65	-	25	-	86	-	37	-	12	-	16	-	0	-	23	-	55	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Table 11.2. Malignant melanomas (XId): numbers of cases by primary site

ICD-O-3 code	Melanoma (XId)		Skin, head and neck C44.0-C44.4		Skin, trunk C44.5		Skin, upper limb C44.6		Skin, lower limb C44.7		Skin, other C44.8-C48.9		Eye C69		Other specified		Ill defined and unspecified C76, C80	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
AFRICA																		
SOUTH AFRICA, paediatric (1998-2012)	34	-	7	-	1	-	3	-	5	-	11	-	2	-	0	-	5	-
AMERICA, LATIN AND THE CARIBBEAN																		
ARGENTINA, paediatric (2000-2013)	62	-	10	-	7	-	5	-	15	-	23	-	1	-	1	-	0	-
ARGENTINA, 6 registries (1991-2013)	17	13	4	3	1	2	1	1	4	3	6	3	0	1	0	0	1	0
BRAZIL, 5 registries (1995-2012)	15	18	4	3	4	3	0	0	3	3	1	7	2	2	1	0	0	0
COLOMBIA, 4 registries (1992-2013)	22	9	2	2	3	1	4	1	7	3	3	1	3	1	0	0	0	0
COSTA RICA (1993-2012)	13	19	3	5	4	6	0	5	4	3	2	0	0	0	0	0	0	0
CUBA (2000-2012)	15	13	2	3	3	2	0	1	4	1	4	4	2	1	0	0	0	1
ECUADOR, 5 registries (1993-2013)	17	6	7	2	1	1	4	0	3	1	1	1	1	1	0	0	0	0
USA, Puerto Rico (1992-2012)	9	11	1	1	3	4	1	0	2	3	1	1	1	0	0	2	0	0
AMERICA, NORTH																		
CANADA, 9 registries (1992-2013)	157	405	22	70	38	127	27	72	41	113	13	7	9	11	7	5	0	0
USA (1998-2012)	1843	4480	488	837	451	1726	361	765	393	922	64	107	55	88	30	32	1	3
USA, API (1998-2012)	30	23	6	3	4	2	5	5	9	7	2	4	1	2	3	0	0	0
USA, Black (1998-2012)	54	45	12	11	13	11	9	5	14	9	2	6	1	1	3	2	0	0
USA, Hispanic White (1998-2012)	153	144	24	19	26	33	23	27	57	47	9	4	9	9	5	5	0	0
USA, White NH (1998-2012)	1475	3962	414	744	375	1558	295	686	290	784	42	88	40	75	18	24	1	3
USA, NPCR (1998-2012)	1740	4249	467	787	424	1644	338	730	367	870	61	104	52	80	30	31	1	3
USA, SEER 18 (1993-2012)	537	1363	138	255	118	538	113	213	125	285	16	27	17	35	10	10	0	0
ASIA																		
CHINA, 6 registries (1990-2013)	7	17	1	1	0	3	0	0	0	2	4	10	1	1	1	0	0	0
INDIA, 7 registries (1990-2013)	17	13	4	2	0	2	1	1	5	4	6	4	1	0	0	0	0	0
ISRAEL (1990-2012)	53	118	11	8	11	33	3	15	14	32	9	23	2	2	3	1	0	4
ISRAEL, Jews (1990-2012)	48	113	10	7	9	32	3	15	13	30	8	23	2	1	3	1	0	4
JAPAN, 8 registries (1990-2013)	17	17	2	0	4	2	0	1	11	12	0	0	0	0	0	2	0	0
REPUBLIC OF KOREA (1999-2012)	47	30	10	4	6	6	7	1	9	10	7	2	3	5	4	1	1	1
THAILAND, 6 registries (1993-2013)	15	6	4	0	1	1	3	0	2	2	5	2	0	1	0	0	0	0
TURKEY, 8 registries (1992-2012)	23	27	6	7	2	5	5	2	7	5	1	4	2	4	0	0	0	0
EUROPE																		
AUSTRIA (1990-2012)	64	200	13	15	14	89	10	28	17	39	8	28	2	1	0	0	0	0
BELARUS, paediatric (1990-2014)	39	73	11	8	10	24	6	9	10	26	1	2	1	0	0	1	0	3
BELGIUM (2004-2013)	46	112	4	16	9	24	7	28	15	27	8	14	1	3	2	0	0	0
BULGARIA (1990-2013)	21	36	2	4	7	12	2	4	6	13	0	1	4	2	0	0	0	0
CROATIA (2001-2014)	14	30	3	3	6	11	1	2	1	4	3	10	0	0	0	0	0	0
CZECH REPUBLIC (1990-2012)	82	182	13	19	21	65	16	32	16	51	13	9	1	5	2	1	0	0
ESTONIA (1990-2012)	6	17	0	4	2	6	1	2	2	4	1	1	0	0	0	0	0	0
FRANCE, paediatric (2000-2012)	139	-	40	-	20	-	18	-	33	-	0	-	11	-	12	-	5	-
FRANCE, 13 registries (1993-2012)	60	179	16	18	10	56	8	40	19	52	3	8	1	2	2	2	1	1
GERMANY, paediatric (1996-2012)	71	-	19	-	8	-	10	-	21	-	3	-	5	-	3	-	2	-
GERMANY, 6 Eastern states (2001-2007)	10	71	3	4	3	27	3	11	1	27	0	2	0	0	0	0	0	0
GERMANY, 5 Western registries (1994-2012)	113	340	17	29	37	107	23	71	30	111	2	12	3	6	1	2	0	2
HUNGARY, paediatric (1991-2014)	28	-	7	-	9	-	0	-	4	-	3	-	5	-	0	-	0	-
ICELAND (1990-2014)	5	20	2	2	0	3	1	2	2	9	0	3	0	1	0	0	0	0
IRELAND (1994-2012)	15	99	2	27	2	11	3	18	5	39	0	2	2	1	0	0	1	1
ITALY, 2 paediatric registries (1998-2011)	13	43	1	2	5	20	1	6	5	12	0	2	0	1	0	0	1	0
ITALY, 26 registries (1992-2013)	75	220	10	21	26	82	5	27	20	61	11	25	2	3	1	1	0	0
THE NETHERLANDS (1993-2013)	155	407	32	62	37	156	23	58	48	114	1	2	8	6	3	1	3	8
NORWAY (1990-2013)	22	125	3	11	8	39	5	23	5	42	0	3	1	6	0	0	0	1
POLAND (2001-2013)	38	154	5	15	3	46	3	12	12	49	6	19	8	13	0	0	1	0
PORTUGAL (1991-2012)	50	70	8	4	7	20	7	6	20	26	4	12	3	2	0	0	1	0
RUSSIAN FEDERATION, 2 registries (1998-2015)	11	28	3	7	2	11	1	1	1	4	1	4	3	1	0	0	0	0
SLOVAKIA (1990-2009)	20	53	3	6	5	22	5	7	4	10	1	1	2	7	0	0	0	0
SLOVENIA (1991-2012)	15	29	6	1	1	9	4	5	4	12	0	1	0	1	0	0	0	0
SPAIN, 2 paediatric registries (1991-2013)	38	-	3	-	8	-	3	-	14	-	5	-	2	-	3	-	0	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Table 11.2. Malignant melanomas (XId): numbers of cases by primary site

ICD-O-3 code	Melanoma (XId)		Skin, head and neck C44.0-C44.4		Skin, trunk C44.5		Skin, upper limb C44.6		Skin, lower limb C44.7		Skin, other C44.8-C48.9		Eye C69		Other specified		Ill defined and unspecified C76, C80	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
SPAIN, selected regions, paediatric (2000-2013)	25	-	3	-	4	-	1	-	10	-	4	-	1	-	2	-	0	-
SPAIN, 11 registries (1990-2013)	55	115	6	4	19	42	3	18	14	34	10	14	2	2	1	0	0	1
SWEDEN (1990-2011)	27	178	4	17	7	82	3	25	9	46	1	1	2	4	1	2	0	1
SWITZERLAND, paediatric (1990-2013)	48	-	6	-	15	-	9	-	13	-	1	-	2	-	2	-	0	-
SWITZERLAND, 7 registries (1990-2013)	35	98	5	12	13	47	4	12	12	25	0	1	1	1	0	0	0	0
UKRAINE (2002-2012)	71	202	12	23	25	97	8	21	15	41	1	1	9	9	0	6	1	4
UNITED KINGDOM (2000-2011)	133	665	32	103	21	184	23	127	33	195	6	32	9	16	7	6	2	2
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	233	-	44	-	39	-	46	-	62	-	13	-	13	-	16	-	0	-
OCEANIA																		
AUSTRALIA (1992-2014)	312	1449	74	231	99	557	63	285	59	320	5	32	12	17	0	5	0	2
NEW ZEALAND (1993-2012)	38	199	9	40	9	70	7	29	10	53	1	4	2	1	0	2	0	0
NEW ZEALAND, Other (1993-2012)	37	189	9	40	9	66	7	28	9	48	1	4	2	1	0	2	0	0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Table 11.3. Skin carcinomas (XIe): numbers of cases by primary site

ICD-O-3 code	Skin carcinoma (XIe)		Head and neck C44.0-C44.4		Trunk C44.5		Upper limb C44.6		Lower limb C44.7		Other Skin C44.8-C44.9		Skin of genitals C51.9, C60.9, C63.2	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
AFRICA														
ALGERIA, 5 registries (1996-2014)	14	13	5	7	0	0	0	0	1	0	8	6	0	0
KENYA, 2 registries (2000-2012)	12	9	6	6	1	0	0	1	1	1	3	1	1	0
MOROCCO, 2 registries (2005-2012)	38	19	4	3	0	0	0	0	0	0	34	16	0	0
SOUTH AFRICA, paediatric (1998-2012)	30	-	15	-	2	-	0	-	2	-	11	-	0	-
SOUTH AFRICA, paediatric, Black (1998-2012)	20	-	13	-	2	-	0	-	2	-	3	-	0	-
TUNISIA, 2 registries (1993-2007)	33	23	20	13	0	0	1	0	0	2	12	8	0	0
AMERICA, LATIN AND THE CARIBBEAN														
ARGENTINA, paediatric (2000-2013)	27	-	13	-	0	-	4	-	3	-	7	-	0	-
ARGENTINA, 6 registries (1991-2013)	11	18	2	8	0	3	2	1	0	1	7	5	0	0
BRAZIL, 5 registries (1995-2012)	33	50	22	35	3	6	4	4	2	0	2	5	0	0
COSTA RICA (1993-2012)	29	39	16	30	3	3	4	2	2	1	3	3	1	0
CUBA (2000-2012)	40	87	22	52	5	3	0	6	0	5	13	21	0	0
ECUADOR, 5 registries (1993-2013)	19	27	13	17	1	3	2	1	0	1	2	4	1	1
URUGUAY (1993-2012)	11	20	3	8	2	3	3	0	0	0	3	9	0	0
AMERICA, NORTH														
CANADA, 9 registries (1992-2013)	68	106	53	74	5	19	1	9	2	2	7	2	0	0
USA (1998-2012)	53	62	26	15	9	6	7	8	8	17	1	2	2	14
USA, White NH (1998-2012)	32	41	18	13	4	4	3	4	4	13	1	2	2	5
USA, NPCR (1998-2012)	52	59	25	15	9	6	7	8	8	15	1	2	2	13
USA, SEER 18 (1993-2012)	15	23	10	6	1	3	0	2	3	6	0	0	1	6
ASIA														
CHINA, 6 registries (1990-2013)	14	13	4	5	1	0	2	0	0	0	7	8	0	0
INDIA, 7 registries (1990-2013)	50	25	24	5	7	5	2	3	4	6	9	5	4	1
JORDAN, Jordanians (2000-2012)	15	10	6	5	0	1	0	2	1	1	8	1	0	0
REPUBLIC OF KOREA (1999-2012)	36	23	25	16	1	3	4	2	2	1	4	0	0	1
PHILIPPINES, 2 registries (1993-2012)	16	18	10	11	0	1	1	2	0	3	4	1	1	0
SAUDI ARABIA, Riyadh (1994-2012)	17	10	11	4	1	2	1	0	1	0	3	4	0	0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	13	7	9	2	1	1	1	0	1	0	1	4	0	0
THAILAND, 6 registries (1993-2013)	13	19	6	12	0	3	1	0	1	3	5	1	0	0
TURKEY, 8 registries (1992-2012)	36	58	25	45	1	5	4	0	2	1	4	7	0	0
EUROPE														
BELARUS, paediatric (1990-2014)	19	42	12	18	2	14	3	4	2	5	0	0	0	1
BELGIUM (2004-2013)	45	62	12	27	3	5	4	2	2	1	24	27	0	0
BULGARIA (1990-2013)	14	33	2	20	8	8	3	0	1	3	0	2	0	0
CZECH REPUBLIC (1990-2012)	52	79	28	49	13	25	4	2	3	2	4	1	0	0
FRANCE, paediatric (2000-2012)	34	-	21	-	8	-	1	-	0	-	4	-	0	-
FRANCE, 13 registries (1993-2012)	7	13	6	9	1	1	0	1	0	1	0	1	0	0
GERMANY, 6 Eastern states (2001-2007)	3	25	1	12	1	6	0	2	0	3	1	2	0	0
GERMANY, 5 Western registries (1994-2012)	34	90	18	53	6	20	6	5	2	3	2	9	0	0
IRELAND (1994-2012)	7	55	6	39	1	11	0	1	0	3	0	1	0	0
ITALY, 26 registries (1992-2013)	53	114	23	44	12	38	4	11	3	2	10	19	1	0
THE NETHERLANDS (1993-2013)	18	17	13	14	3	0	0	0	2	3	0	0	0	0
POLAND (2001-2013)	25	68	13	40	3	15	3	5	4	1	2	6	0	1
PORTUGAL (1991-2012)	15	23	6	11	3	4	0	1	0	0	6	7	0	0
RUSSIAN FEDERATION, 2 registries (1998-2015)	4	28	2	4	1	15	0	6	1	3	0	0	0	0
SLOVAKIA (1990-2009)	7	38	6	21	0	10	1	4	0	2	0	1	0	0
SLOVENIA (1991-2012)	8	12	5	9	3	3	0	0	0	0	0	0	0	0
SPAIN, 11 registries (1990-2013)	21	49	12	25	3	12	1	0	0	2	5	10	0	0
SWITZERLAND, 7 registries (1990-2013)	10	16	5	14	3	1	0	1	2	0	0	0	0	0
UKRAINE (2002-2012)	22	129	12	67	5	39	2	12	1	8	2	2	0	1
UNITED KINGDOM (2000-2011)	17	55	10	30	1	11	1	1	1	1	4	10	0	2
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	202	-	127	-	31	-	9	-	8	-	27	-	0	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of skin carcinoma
Please consult registry-specific background information and quality indicators

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Table 11.4. Other and unspecified carcinomas (XIf): numbers of cases by primary site

	Total (XIf)		Salivary glands (XIf1)		Colorectal (XIf2)		Appendix (XIf3)		Lung (XIf4)		Thymus (XIf5)		Breast (XIf6)		Cervix uteri (XIf7)		Bladder (XIf8)		Eye (XIf9)		Other specified (XIf10)		Ill-defined and unknown (XIf11)	
ICD-O-3 code			C07-C08		C18-C21 except C18.1		C18.1		C34		C37		C50		C53		C67		C69				C76, C80	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
AFRICA																								
ALGERIA, 5 registries (1996-2014)	46	94	2	1	3	29	4	8	0	5	1	3	4	12	0	1	3	3	2	0	22	28	5	4
BOTSWANA (1999-2007)	17	11	0	0	0	0	0	0	0	1	0	0	2	2	0	0	0	0	4	4	10	2	1	2
CAMEROON, Yaoundé (2004-2006)	*4*	*7*	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*3*	*3*	*1*	*1*
EGYPT, Gharbiah (1999-2010)	13	49	7	4	3	29	0	0	0	1	0	0	0	3	0	0	0	1	0	2	2	8	1	1
FRANCE, Réunion (1990-2011)	*6*	*11*	*1*	*4*	*0*	*1*	*0*	*1*	*3*	*0*	*1*	*1*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*2*	*0*	*1*
KENYA, 2 registries (2000-2012)	38	55	0	3	5	5	0	0	0	0	0	0	2	8	1	3	1	0	5	4	17	22	7	10
LIBYA, Benghazi (2003-2008)	13	11	0	0	0	4	0	0	0	0	1	0	1	0	0	0	0	1	1	0	8	4	2	2
MALI, Bamako (2005-2014)	31	46	0	3	2	10	0	0	2	0	0	0	1	2	1	6	3	4	2	1	13	17	7	3
MAURITIUS (2001-2013)	11	14	3	3	3	0	0	1	1	1	0	0	0	1	0	0	1	0	1	0	1	4	1	4
MOROCCO, 2 registries (2005-2012)	21	28	0	0	0	8	0	1	0	0	0	1	4	6	0	1	0	1	3	0	12	8	2	2
SOUTH AFRICA, paediatric (1998-2012)	82	-	19	-	3	-	2	-	7	-	1	-	0	-	0	-	1	-	4	-	24	-	21	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	66	-	16	-	3	-	1	-	6	-	1	-	0	-	0	-	0	-	3	-	17	-	19	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*12*	-	*2*	-	*0*	-	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*1*	-	*7*	-	*1*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*4*	-	*1*	-	*0*	-	*0*	-	*1*	-	*0*	-	*0*	-	*0*	-	*1*	-	*0*	-	*0*	-	*1*	-
TUNISIA, 2 registries (1993-2007)	15	48	2	4	3	17	1	0	0	6	0	2	1	4	0	1	0	0	2	2	5	10	1	2
UGANDA, Kyadondo (1996-2013)	24	40	3	1	1	6	0	0	0	1	0	0	0	3	0	0	0	0	5	12	8	12	7	5
ZIMBABWE, Harare, African (1995-2013)	27	15	7	2	1	1	0	0	0	1	0	1	1	1	0	1	0	1	9	3	5	2	4	2
AMERICA, LATIN AND THE CARIBBEAN																								
ARGENTINA, paediatric (2000-2013)	76	-	13	-	20	-	1	-	8	-	1	-	1	-	2	-	1	-	1	-	22	-	6	-
ARGENTINA, 6 registries (1991-2013)	30	90	4	4	2	15	3	9	3	4	0	2	2	7	0	5	2	6	0	1	9	21	5	16
BRAZIL, 5 registries (1995-2012)	40	76	4	8	5	16	0	3	2	4	0	0	1	6	1	6	0	4	1	2	16	18	10	9
CHILE, paediatric (2007-2011)	*14*	-	*3*	-	*3*	-	*0*	-	*0*	-	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*5*	-	*2*	-
CHILE, 4 registries (1998-2012)	5	16	1	1	0	3	0	2	0	2	0	0	0	0	0	2	0	0	0	0	4	2	0	4
COLOMBIA, 4 registries (1992-2013)	32	65	7	2	4	20	0	2	1	2	0	1	2	6	0	1	1	1	1	1	11	21	5	8
COSTA RICA (1993-2012)	19	88	5	12	0	20	0	0	0	1	1	0	0	6	0	6	0	0	2	0	6	33	5	10
CUBA (2000-2012)	58	116	5	4	2	18	2	7	2	4	3	2	2	4	1	23	4	11	1	1	25	38	11	4
ECUADOR, 5 registries (1993-2013)	15	66	1	0	2	21	0	3	0	4	1	1	0	6	0	6	1	0	1	0	6	21	3	4
FRANCE, 3 registries (1990-2012)	*7*	*8*	*0*	*2*	*0*	*0*	*2*	*2*	*1*	*0*	*0*	*0*	*1*	*0*	*1*	*1*	*0*	*0*	*0*	*0*	*1*	*1*	*1*	*2*
HONDURAS, Francisco Morazán (2002-2012)	*6*	*10*	*3*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*2*	*0*	*1*	*1*	*0*	*0*	*3*	*2*	*1*
JAMAICA, Kingston and St Andrew (1982-2012)	*6*	*10*	*2*	*2*	*1*	*1*	*0*	*0*	*0*	*1*	*0*	*2*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*1*	*2*	*2*	*0*
MEXICO, Mexico City, paediatric (1997-2013)	*1*	-	*0*	-	*0*	-	*0*	-	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
PERU, Lima (2010-2012)	4	27	0	2	0	6	0	0	0	0	0	0	0	3	0	0	0	1	1	0	1	10	2	5
PERU, Trujillo (1990-2002)	*3*	*5*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*1*	*4*	*1*	*0*
USA, Puerto Rico (1992-2012)	25	55	9	3	1	7	0	5	2	1	1	1	1	5	0	8	1	4	0	0	8	18	2	3
URUGUAY (1993-2012)	38	57	4	2	4	11	20	16	0	2	1	2	0	3	1	4	0	5	0	0	5	11	3	1
AMERICA, NORTH																								
CANADA, 9 registries (1992-2013)	207	448	60	76	20	52	15	62	27	49	5	8	5	36	0	22	5	25	4	1	56	101	10	16
USA (1998-2012)	1498	3364	463	592	104	583	136	318	160	381	30	58	54	195	16	213	31	96	27	13	402	771	75	144
USA, API (1998-2012)	56	128	20	27	6	35	0	8	8	4	3	1	3	8	0	3	0	2	1	2	12	34	3	4
USA, Black (1998-2012)	265	537	86	87	19	96	8	26	21	61	12	24	18	53	4	42	5	3	8	3	67	116	17	26
USA, Hispanic White (1998-2012)	222	484	70	71	19	87	21	34	14	52	6	9	5	32	4	41	2	13	3	1	65	120	13	24
USA, Native American (1998-2012)	10	50	4	5	0	5	1	5	1	4	0	2	0	4	0	5	0	1	0	0	3	14	1	5
USA, White NH (1998-2012)	899	2058	271	380	58	349	103	230	114	245	9	20	27	93	8	114	24	74	13	7	237	466	35	80
USA, NPCR (1998-2012)	1437	3188	443	560	102	556	130	302	158	366	30	56	51	187	14	203	30	82	25	13	385	726	69	137
USA, SEER 18 (1993-2012)	436	1075	138	179	29	201	32	71	44	90	7	15	13	62	6	63	23	86	6	3	112	264	26	41
USA, Hawaii, Hawaiian (1993-2012)	*2*	*5*	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*4*	*0*	*0*
ASIA																								
BAHRAIN (1998-2012)	*2*	*3*	*0*	*1*	*0*	*0*	*1*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*
CHINA, 6 registries (1990-2013)	76	269	28	59	9	52	0	2	3	19	2	13	0	13	0	4	2	9	2	0	19	82	11	16
CHINA, Hong Kong (1990-2013)	38	109	14	25	3	24	0	0	2	5	1	6	0	6	0	1	4	4	0	0	7	30	7	8

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other or unspecified carcinoma in a dataset

Dataset presented only if eligible (see Chapter 5)

Please consult registry-specific background information and quality indicators

Table 11.4. Other and unspecified carcinomas (XIf): numbers of cases by primary site

	Total (XIf)		Salivary glands (XIf1)		Colorectal (XIf2)		Appendix (XIf3)		Lung (XIf4)		Thymus (XIf5)		Breast (XIf6)		Cervix uteri (XIf7)		Bladder (XIf8)		Eye (XIf9)		Other specified (XIf10)		Ill-defined and unknown (XIf11)	
ICD-O-3 code			C07-C08		C18-C21 except C18.1		C18.1		C34		C37		C50		C53		C67		C69				C76, C80	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
INDIA, 7 registries (1990-2013)	394	503	50	52	37	84	2	5	24	23	3	11	20	48	8	10	13	11	9	2	177	218	51	39
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	*3*	*9*	*0*	*1*	*0*	*0*	*0*	*1*	*1*	*1*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*3*	*0*	*0*	*2*	*0*	*0*	*2*
ISRAEL (1990-2012)	79	160	13	24	10	19	1	6	4	13	1	7	2	10	1	5	8	21	2	0	24	40	13	15
ISRAEL, Jews (1990-2012)	63	136	12	22	7	14	0	6	3	13	1	5	1	9	1	5	7	21	1	0	20	31	10	10
ISRAEL, Non-Jews (1990-2012)	16	24	1	2	3	5	1	0	1	0	0	2	1	1	0	0	1	0	1	0	4	9	3	5
JAPAN, 8 registries (1990-2013)	62	189	15	12	6	44	2	3	5	28	1	3	1	11	0	4	3	13	0	0	26	68	3	3
JORDAN, Jordanians (2000-2012)	34	38	6	2	2	7	2	8	0	2	1	4	0	0	0	0	3	1	0	1	10	8	10	5
REPUBLIC OF KOREA (1999-2012)	222	522	61	68	36	127	8	10	19	51	6	17	6	36	2	7	7	16	1	3	70	173	6	14
KUWAIT (1994-2012)	17	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	3	0	12	3	0	0
KUWAIT, Kuwaitis (1994-2012)	*11*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*3*	*0*	*7*	*0*	*0*	*0*
KUWAIT, Non-Kuwaitis (1994-2012)	*6*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*5*	*3*	*0*	*0*
LEBANON (2008-2010)	11	14	3	0	1	3	0	3	1	0	0	1	0	1	0	0	0	0	0	0	2	4	4	2
PAKISTAN, Karachi (1995-2002)	20	43	2	5	1	15	0	0	0	0	0	0	0	5	0	0	0	0	1	1	11	13	5	4
PAKISTAN, Lahore (2008-2012)	27	63	3	0	5	26	1	1	2	3	0	0	3	5	0	0	1	1	1	0	3	18	8	9
PHILIPPINES, 2 registries (1993-2012)	189	255	33	30	19	63	1	0	3	15	1	2	4	26	0	8	4	0	0	2	52	66	72	43
QATAR (2002-2014)	7	*9*	*2*	*0*	*0*	*1*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*4*	*2*	*2*
SAUDI ARABIA, Riyadh (1994-2012)	43	61	3	9	6	13	2	1	5	3	2	2	3	4	0	0	3	4	2	2	10	14	7	9
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	34	50	3	7	6	9	2	1	3	2	1	2	2	3	0	0	2	4	2	2	8	12	5	8
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	9	11	0	2	0	4	0	0	2	1	1	0	1	1	0	0	1	0	0	0	2	2	2	1
THAILAND, 6 registries (1993-2013)	110	157	6	15	13	39	2	5	7	14	3	3	7	12	10	10	9	3	0	2	38	39	15	15
TURKEY, paediatric (2009-2011)	*15*	-	*3*	-	*6*	-	*0*	-	*1*	-	*2*	-	*0*	-	*0*	-	*0*	-	*0*	-	*3*	-	*0*	-
TURKEY, 8 registries (1992-2012)	78	131	9	8	9	23	12	12	7	12	4	2	1	11	0	0	6	16	2	4	24	35	4	8
VIET NAM, Ho Chi Minh City (1995-2013)	33	55	4	12	5	8	0	0	0	4	1	3	0	0	0	0	2	0	2	0	9	18	10	10
EUROPE																								
AUSTRIA (1990-2012)	37	125	4	8	4	13	6	17	5	18	2	3	0	11	0	11	0	14	0	1	15	25	1	4
BELARUS, paediatric (1990-2014)	48	130	7	16	10	14	0	6	5	12	2	6	0	3	0	7	0	11	2	0	21	53	1	2
BELGIUM (2004-2013)	102	183	11	11	4	12	75	118	5	16	1	0	0	3	0	2	0	0	0	0	5	19	1	2
BULGARIA (1990-2013)	32	126	3	11	3	19	3	11	0	7	1	5	2	8	0	8	4	12	1	1	10	38	5	6
CROATIA (2001-2014)	2	31	1	6	0	3	0	1	0	2	0	1	0	0	0	1	0	7	0	1	1	8	0	1
CYPRUS, South-West (1998-2012)	*1*	*14*	*0*	*2*	*1*	*3*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*3*	*0*	*0*	*0*	*2*	*0*	*1*
CZECH REPUBLIC (1990-2012)	76	182	8	18	5	23	29	57	5	19	1	5	0	5	0	7	6	14	3	1	18	29	1	4
ESTONIA (1990-2012)	*3*	*15*	*1*	*1*	*0*	*2*	*0*	*0*	*1*	*3*	*0*	*1*	*0*	*0*	*0*	*1*	*0*	*3*	*0*	*0*	*1*	*4*	*0*	*0*
FRANCE, paediatric (2000-2012)	134	-	49	-	7	-	12	-	24	-	2	-	1	-	2	-	3	-	0	-	32	-	2	-
FRANCE, 13 registries (1993-2012)	57	112	14	16	5	13	13	28	10	14	2	4	0	4	0	3	0	3	1	0	10	26	2	1
GERMANY, paediatric (1996-2012)	115	-	25	-	20	-	7	-	12	-	4	-	0	-	1	-	0	-	3	-	35	-	8	-
GERMANY, 6 Eastern states (2001-2007)	20	83	3	8	3	12	6	22	1	8	1	0	0	3	0	6	2	6	0	1	3	13	1	4
GERMANY, 5 Western registries (1994-2012)	88	226	11	24	10	28	36	80	3	21	0	4	0	9	0	4	0	5	3	1	20	39	5	11
HUNGARY, paediatric (1991-2014)	32	-	3	-	2	-	6	-	3	-	1	-	3	-	0	-	0	-	0	-	11	-	3	-
ICELAND (1990-2014)	*3*	*6*	*1*	*0*	*1*	*2*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*1*	*0*	*0*	*0*	*1*	*0*	*0*
IRELAND (1994-2012)	23	62	7	5	0	4	4	13	4	11	0	0	0	5	1	0	0	1	0	0	5	18	2	5
ITALY, 2 paediatric registries (1998-2011)	15	29	6	4	0	2	4	1	0	3	0	0	0	0	0	2	0	10	0	0	5	6	0	1
ITALY, Piedmont, paediatric (1990-2011)	*14*	-	*5*	-	*0*	-	*3*	-	*0*	-	*0*	-	*0*	-	*0*	-	*2*	-	*0*	-	*4*	-	*0*	-
ITALY, 26 registries (1992-2013)	64	163	15	29	6	12	13	21	2	24	1	2	1	9	0	2	3	20	0	1	20	35	3	8
LITHUANIA (2000-2012)	4	16	0	1	0	6	0	0	1	2	0	0	0	1	0	0	0	0	0	0	3	4	0	2
MALTA (1994-2013)	*2*	*2*	*1*	*1*	*0*	*0*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
THE NETHERLANDS (1993-2013)	200	381	22	34	8	24	138	216	12	26	2	2	0	11	0	5	0	2	3	0	15	50	0	11
NORWAY (1990-2013)	43	95	12	12	1	11	9	25	4	12	1	0	2	2	0	2	1	8	1	0	9	22	3	1
POLAND (2001-2013)	79	221	17	31	3	25	7	25	3	12	4	6	1	9	1	8	6	17	0	0	23	61	14	27
PORTUGAL (1991-2012)	51	130	12	6	4	18	12	23	5	12	0	1	0	11	0	1	3	12	0	0	13	43	2	3
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*8*	-	*2*	-	*4*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*2*	-	*0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	25	54	2	0	3	7	5	6	4	4	1	0	1	2	0	3	2	3	0	0	7	20	0	9
SLOVAKIA (1990-2009)	26	74	5	8	1	12	4	9	2	8	1	2	0	2	0	3	4	5	2	0	4	22	3	3

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results

Italic when fewer than 20 cases of other or unspecified carcinoma in a dataset

Dataset presented only if eligible (see Chapter 5)

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Table 11.4. Other and unspecified carcinomas (XIf): numbers of cases by primary site

	Total		Salivary glands		Colorectal		Appendix		Lung		Thymus		Breast		Cervix uteri		Bladder		Eye		Other specified		Ill-defined and unknown	
	(XIf)		(XIf1)		(XIf2)		(XIf3)		(XIf4)		(XIf5)		(XIf6)		(XIf7)		(XIf8)		(XIf9)		(XIf10)		(XIf11)	
ICD-O-3 code			C07-C08		C18-C21 except C18.1		C18.1		C34		C37		C50		C53		C67		C69				C76, C80	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
SLOVAKIA, paediatric (2000-2012)	*16*	-	*1*	-	*0*	-	*9*	-	*2*	-	*0*	-	*0*	-	*0*	-	*1*	-	*0*	-	*3*	-	*0*	-
SLOVENIA (1991-2012)	11	23	2	4	1	4	1	3	3	1	0	2	0	0	0	1	0	0	0	0	3	8	1	0
SPAIN, 2 paediatric registries (1991-2013)	41	-	7	-	3	-	0	-	7	-	1	-	0	-	0	-	5	-	2	-	16	-	0	-
SPAIN, selected regions, paediatric (2000-2013)	26	-	6	-	3	-	0	-	4	-	1	-	0	-	0	-	5	-	2	-	5	-	0	-
SPAIN, Valencia, paediatric (1991-2010)	*15*	-	*1*	-	*0*	-	*0*	-	*3*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*11*	-	*0*	-
SPAIN, 11 registries (1990-2013)	42	99	13	14	1	9	2	9	4	9	1	3	1	7	0	0	5	13	0	0	13	29	2	6
SWEDEN (1990-2011)	52	100	18	21	5	16	5	14	4	12	0	1	0	2	0	2	2	3	0	0	16	25	2	4
SWITZERLAND, paediatric (1990-2013)	30	-	8	-	3	-	6	-	5	-	1	-	0	-	0	-	0	-	0	-	6	-	1	-
SWITZERLAND, 7 registries (1990-2013)	23	46	3	7	2	7	12	10	2	6	0	1	0	1	0	0	0	0	0	0	4	13	0	1
UKRAINE (2002-2012)	145	424	6	18	6	46	4	15	14	43	4	25	0	14	1	32	4	27	1	2	69	168	36	34
UNITED KINGDOM (2000-2011)	217	509	60	80	9	67	73	113	13	58	1	6	2	21	1	21	3	5	1	2	39	116	15	20
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	238	-	74	-	16	-	41	-	17	-	4	-	1	-	2	-	10	-	0	-	53	-	20	-
OCEANIA																								
AUSTRALIA (1992-2014)	275	597	37	53	15	74	150	239	13	41	1	4	3	16	1	15	1	15	4	5	44	117	6	18
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*5*	*13*	*2*	*0*	*1*	*4*	*1*	*5*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*4*	*0*	*0*
FRANCE, 2 registries (1990-2013)	*2*	*11*	*0*	*3*	*0*	*3*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*2*	*0*	*0*
NEW ZEALAND (1993-2012)	30	62	6	9	3	11	0	1	4	6	1	0	0	0	0	5	2	3	1	0	13	27	0	0
NEW ZEALAND, Maori (1993-2012)	7	17	0	3	1	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0	4	12	0	0
NEW ZEALAND, Pacific peoples (1993-2012)	*4*	*8*	*1*	*1*	*0*	*2*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*3*	*3*	*0*	*0*
NEW ZEALAND, Other (1993-2012)	19	37	5	5	2	8	0	1	4	5	1	0	0	0	0	4	1	2	0	0	6	12	0	0
NEW ZEALAND, paediatric (2000-2012)	22	-	4	-	0	-	2	-	3	-	1	-	0	-	0	-	1	-	1	-	10	-	0	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*5*	-	*0*	-	*0*	-	*2*	-	*0*	-	*0*	-	*0*	-	*0*	-	*1*	-	*0*	-	*2*	-	*0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*17*	-	*4*	-	*0*	-	*0*	-	*3*	-	*1*	-	*0*	-	*0*	-	*0*	-	*1*	-	*8*	-	*0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other or unspecified carcinoma in a dataset
Dataset presented only if eligible (see Chapter 5)
Please consult registry-specific background information and quality indicators

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Table 11.5.a. Other unspecified malignant tumours (XIIb, C00-C48), part 1 of 2: numbers of cases by primary site

ICD-O-3 code	Total (XIIb)		Oral cavity, pharynx C00-C14		Lung C34		Mediastinum C38		Bone marrow C42		Skin C44		(Retro-)peritoneum C48	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
AFRICA														
ALGERIA, 5 registries (1996-2014)	94	63	6	23	1	3	6	2	25	10	2	1	1	0
BOTSWANA (1999-2007)	*3*	*2*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
CAMEROON, Yaoundé (2004-2006)	*2*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
EGYPT, Gharbiah (1999-2010)	29	15	1	1	1	0	4	0	0	0	0	0	3	0
FRANCE, Réunion (1990-2011)	*4*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
KENYA, 2 registries (2000-2012)	70	44	10	20	1	0	0	0	4	2	2	0	0	1
LIBYA, Benghazi (2003-2008)	*7*	*3*	*0*	*1*	*0*	*0*	*0*	*0*	*1*	*1*	*0*	*0*	*0*	*0*
MALI, Bamako (2005-2014)	205	66	4	5	0	0	2	0	15	1	4	1	6	0
MAURITIUS (2001-2013)	30	26	3	4	1	1	0	1	1	0	1	1	2	1
MOROCCO, 2 registries (2005-2012)	48	17	3	3	1	1	1	0	6	5	5	0	1	0
SOUTH AFRICA, paediatric (1998-2012)	32	-	0	-	0	-	2	-	0	-	0	-	0	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	29	-	0	-	0	-	2	-	0	-	0	-	0	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*3*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
TUNISIA, 2 registries (1993-2007)	35	9	0	1	0	0	1	0	1	0	0	0	1	0
UGANDA, Kyadondo (1996-2013)	120	66	8	19	3	3	1	0	2	1	10	5	0	1
ZIMBABWE, Harare, African (1995-2013)	38	37	9	13	1	3	3	4	0	0	2	0	0	1
AMERICA, LATIN AND THE CARIBBEAN														
ARGENTINA, paediatric (2000-2013)	120	-	4	-	4	-	6	-	0	-	2	-	12	-
ARGENTINA, 6 registries (1991-2013)	25	40	1	5	0	0	3	2	3	1	1	1	0	0
BRAZIL, 5 registries (1995-2012)	52	18	2	2	1	1	2	4	0	0	1	1	0	0
CHILE, paediatric (2007-2011)	*14*	-	*1*	-	*1*	-	*2*	-	*1*	-	*0*	-	*0*	-
CHILE, 4 registries (1998-2012)	*9*	*7*	*1*	*2*	*1*	*0*	*1*	*0*	*1*	*1*	*0*	*0*	*0*	*0*
COLOMBIA, 4 registries (1992-2013)	29	31	2	4	1	0	2	2	3	1	0	0	0	1
COSTA RICA (1993-2012)	131	104	6	12	0	0	0	2	51	51	5	1	4	0
CUBA (2000-2012)	107	54	1	2	0	2	7	4	32	22	5	1	4	0
ECUADOR, 5 registries (1993-2013)	59	27	1	1	0	0	2	1	17	9	4	0	2	0
FRANCE, 3 registries (1990-2012)	*2*	*3*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*1*	*0*	*0*	*0*	*0*
HONDURAS, Francisco Morazán (2002-2012)	*4*	*2*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*1*	*0*
JAMAICA, Kingston and St Andrew (1982-2012)	*6*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
MEXICO, Mexico City, paediatric (1997-2013)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
PERU, Lima (2010-2012)	20	20	0	0	0	0	0	0	0	1	1	1	1	0
PERU, Trujillo (1990-2002)	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
USA, Puerto Rico (1992-2012)	50	14	8	8	1	0	3	0	0	0	0	0	0	0
URUGUAY (1993-2012)	28	40	1	3	2	3	1	1	0	0	3	2	1	2
AMERICA, NORTH														
CANADA, 9 registries (1992-2013)	154	128	5	9	8	3	6	1	3	0	0	1	4	1
USA (1998-2012)	313	241	15	24	11	9	11	0	5	6	0	0	5	4
USA, API (1998-2012)	*7*	*5*	*2*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
USA, Black (1998-2012)	55	48	2	6	3	4	2	0	0	0	0	0	1	1
USA, Hispanic White (1998-2012)	57	43	4	8	3	0	1	0	0	1	0	0	1	1
USA, Native American (1998-2012)	*4*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*
USA, White NH (1998-2012)	167	128	5	6	5	4	6	0	2	5	0	0	3	1
USA, NPCR (1998-2012)	300	240	15	24	11	9	11	0	4	6	0	0	4	4
USA, SEER 18 (1993-2012)	61	46	3	5	1	3	1	0	1	1	0	0	1	0
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
ASIA														
BAHRAIN (1998-2012)	*2*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
CHINA, 6 registries (1990-2013)	147	194	11	33	5	12	5	9	16	6	0	0	16	7
CHINA, Hong Kong (1990-2013)	57	75	1	18	1	5	0	0	15	2	0	1	1	1
INDIA, 7 registries (1990-2013)	543	356	64	120	10	9	10	7	8	8	7	8	10	4
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	16	23	2	5	1	1	1	0	0	0	2	1	0	0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Table 11.5.a. Other unspecified malignant tumours (XIIb, C00-C48), part 1 of 2: numbers of cases by primary site

	Total (XIIb)		Oral cavity, pharynx C00-C14		Lung C34		Mediastinum C38		Bone marrow C42		Skin C44		(Retro-)peritoneum C48	
ICD-O-3 code / Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
ISRAEL (1990-2012)	116	59	14	26	4	2	1	0	0	0	22	17	0	0
ISRAEL, Jews (1990-2012)	87	47	10	19	2	1	1	0	0	0	20	15	0	0
ISRAEL, Non-Jews (1990-2012)	29	12	4	7	2	1	0	0	0	0	2	2	0	0
JAPAN, 8 registries (1990-2013)	71	44	0	4	0	2	4	3	31	0	2	0	4	2
JORDAN, Jordanians (2000-2012)	*5*	*4*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*
REPUBLIC OF KOREA (1999-2012)	288	146	9	14	7	13	17	8	1	1	9	7	11	2
KUWAIT (1994-2012)	39	10	1	2	0	0	0	0	22	4	1	0	1	0
KUWAIT, Kuwaitis (1994-2012)	19	6	0	1	0	0	0	0	11	2	1	0	1	0
KUWAIT, Non-Kuwaitis (1994-2012)	20	4	1	1	0	0	0	0	11	2	0	0	0	0
LEBANON (2008-2010)	*6*	*3*	*1*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
PAKISTAN, Karachi (1995-2002)	22	10	1	2	1	1	0	0	0	0	0	0	0	0
PAKISTAN, Lahore (2008-2012)	20	11	2	2	0	0	1	0	0	0	0	0	0	2
PHILIPPINES, 2 registries (1993-2012)	205	160	15	30	1	13	0	3	2	2	4	2	2	0
QATAR (2002-2014)	*2*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
SAUDI ARABIA, Riyadh (1994-2012)	*13*	*6*	*0*	*1*	*0*	*0*	*0*	*0*	*3*	*1*	*0*	*0*	*0*	*0*
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*8*	*4*	*0*	*1*	*0*	*0*	*0*	*0*	*3*	*1*	*0*	*0*	*0*	*0*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*5*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
THAILAND, 6 registries (1993-2013)	186	135	10	24	16	9	8	9	6	4	3	4	2	1
TURKEY, paediatric (2009-2011)	*2*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
TURKEY, 8 registries (1992-2012)	43	45	9	16	2	2	0	1	0	0	1	1	0	0
VIET NAM, Ho Chi Minh City (1995-2013)	121	38	6	8	1	0	18	8	1	0	12	3	48	2
EUROPE														
AUSTRIA (1990-2012)	33	25	1	1	3	4	0	1	0	0	0	0	2	1
BELARUS, paediatric (1990-2014)	9	40	0	2	0	2	1	4	0	0	0	2	2	4
BELGIUM (2004-2013)	*6*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
BULGARIA (1990-2013)	79	45	3	11	3	2	7	3	0	0	0	0	12	4
CROATIA (2001-2014)	11	11	1	1	0	0	0	0	0	0	0	0	0	0
CYPRUS, South-West (1998-2012)	*3*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
CZECH REPUBLIC (1990-2012)	91	39	4	4	0	1	5	5	6	0	2	0	11	2
ESTONIA (1990-2012)	*3*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
FRANCE, paediatric (2000-2012)	*3*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
FRANCE, 13 registries (1993-2012)	*1*	*7*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*3*	*0*	*0*
GERMANY, paediatric (1996-2012)	*5*	-	*1*	-	*0*	-	*0*	-	*0*	-	*1*	-	*0*	-
GERMANY, 6 Eastern states (2001-2007)	26	9	3	3	3	1	0	0	0	0	0	0	0	1
GERMANY, 5 Western registries (1994-2012)	33	13	1	1	2	1	0	0	1	0	1	0	0	1
HUNGARY, paediatric (1991-2014)	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
ICELAND (1990-2014)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
IRELAND (1994-2012)	*12*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
ITALY, 2 paediatric registries (1998-2011)	*0*	*1*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
ITALY, Piedmont, paediatric (1990-2011)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
ITALY, 26 registries (1992-2013)	120	74	3	7	1	2	3	1	6	5	2	7	7	0
LITHUANIA (2000-2012)	*10*	*7*	*0*	*1*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*2*	*1*	*0*
MALTA (1994-2013)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
THE NETHERLANDS (1993-2013)	*8*	*7*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*1*
NORWAY (1990-2013)	13	8	1	2	0	0	0	0	0	0	1	0	0	2
POLAND (2001-2013)	219	164	12	33	0	0	21	7	0	0	0	2	7	6
PORTUGAL (1991-2012)	17	15	1	2	2	0	1	0	0	3	2	0	2	2
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*9*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
SLOVAKIA (1990-2009)	20	4	1	1	0	2	4	0	0	0	0	0	3	1
SLOVAKIA, paediatric (2000-2012)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
SLOVENIA (1991-2012)	*3*	*1*	*1*	*1*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
SPAIN, 2 paediatric registries (1991-2013)	*5*	-	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*1*	-
SPAIN, selected regions, paediatric (2000-2013)	*2*	-	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*1*	-
SPAIN, Valencia, paediatric (1991-2010)	*3*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Table 11.5.a. Other unspecified malignant tumours (XIIb, C00-C48), part 1 of 2: numbers of cases by primary site

ICD-O-3 code	Total (XIIb)		Oral cavity, pharynx C00-C14		Lung C34		Mediastinum C38		Bone marrow C42		Skin C44		(Retro-)peritoneum C48	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
SPAIN, 11 registries (1990-2013)	*6*	*7*	*0*	*0*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*1*	*0*
SWEDEN (1990-2011)	34	20	2	2	0	0	1	0	4	1	0	2	2	0
SWITZERLAND, paediatric (1990-2013)	*7*	-	*0*	-	*0*	-	*1*	-	*0*	-	*0*	-	*0*	-
SWITZERLAND, 7 registries (1990-2013)	*3*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*1*	*0*	*0*	*0*
UKRAINE (2002-2012)	135	130	4	9	5	15	19	13	4	2	1	5	26	6
UNITED KINGDOM (2000-2011)	87	105	7	15	0	3	2	0	1	0	1	19	5	3
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	88	-	5	-	0	-	1	-	0	-	0	-	0	-
OCEANIA														
AUSTRALIA (1992-2014)	35	20	1	2	1	0	1	1	1	0	0	1	0	0
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*2*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
FRANCE, 2 registries (1990-2013)	*6*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
NEW ZEALAND (1993-2012)	*8*	*7*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
NEW ZEALAND, Maori (1993-2012)	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
NEW ZEALAND, Pacific peoples (1993-2012)	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
NEW ZEALAND, Other (1993-2012)	*6*	*5*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
NEW ZEALAND, paediatric (2000-2012)	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Table 11.5.b. Other unspecified malignant tumours (XIIb, C49-C80), part 2 of 2: numbers of cases by primary site

ICD-O-3 code	Total (XIIb)		Connective tissue C49		Eye C69		Thyroid gland C73		Adrenal gland C74		Lymph node C77		Ill-defined and unknown C76, C80	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
AFRICA														
ALGERIA, 5 registries (1996-2014)	94	63	4	1	5	0	1	1	1	0	7	1	30	15
BOTSWANA (1999-2007)	*3*	*2*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*
CAMEROON, Yaoundé (2004-2006)	*2*	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*1*
EGYPT, Gharbiah (1999-2010)	29	15	5	1	0	0	0	0	1	0	0	0	9	8
FRANCE, Réunion (1990-2011)	*4*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*4*	*1*
KENYA, 2 registries (2000-2012)	70	44	2	1	3	0	1	0	0	0	2	0	41	22
LIBYA, Benghazi (2003-2008)	*7*	*3*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*4*	*0*
MALI, Bamako (2005-2014)	205	66	1	5	72	3	0	0	3	0	23	10	59	21
MAURITIUS (2001-2013)	30	26	5	3	0	0	1	2	0	0	1	0	14	14
MOROCCO, 2 registries (2005-2012)	48	17	1	2	3	0	0	0	5	0	0	0	16	6
SOUTH AFRICA, paediatric (1998-2012)	32	-	6	-	1	-	0	-	0	-	2	-	14	-
SOUTH AFRICA, paediatric, Asian (1998-2012)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
SOUTH AFRICA, paediatric, Black (1998-2012)	29	-	5	-	1	-	0	-	0	-	2	-	13	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	*3*	-	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*1*	-
SOUTH AFRICA, paediatric, White (1998-2012)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
TUNISIA, 2 registries (1993-2007)	35	9	8	4	2	0	0	0	4	0	0	0	16	4
UGANDA, Kyadondo (1996-2013)	120	66	2	5	33	3	3	0	0	0	7	3	31	16
ZIMBABWE, Harare, African (1995-2013)	38	37	1	1	4	0	0	0	0	0	0	0	13	11
AMERICA, LATIN AND THE CARIBBEAN														
ARGENTINA, paediatric (2000-2013)	120	-	0	-	0	-	0	-	0	-	0	-	71	-
ARGENTINA, 6 registries (1991-2013)	25	40	2	4	1	0	0	0	0	0	0	0	11	22
BRAZIL, 5 registries (1995-2012)	52	18	3	0	1	0	0	0	12	0	0	0	24	4
CHILE, paediatric (2007-2011)	*14*	-	*2*	-	*0*	-	*1*	-	*1*	-	*0*	-	*3*	-
CHILE, 4 registries (1998-2012)	*9*	*7*	*1*	*2*	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*1*	*3*	*1*
COLOMBIA, 4 registries (1992-2013)	29	31	1	3	1	1	0	1	0	0	2	3	14	6
COSTA RICA (1993-2012)	131	104	4	3	23	1	4	4	7	0	7	5	19	13
CUBA (2000-2012)	107	54	10	7	4	1	0	0	10	0	1	1	26	5
ECUADOR, 5 registries (1993-2013)	59	27	4	1	4	0	2	1	3	0	6	4	8	6
FRANCE, 3 registries (1990-2012)	*2*	*3*	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*0*	*0*	*0*	*1*	*0*
HONDURAS, Francisco Morazán (2002-2012)	*4*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*1*
JAMAICA, Kingston and St Andrew (1982-2012)	*6*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*6*	*2*
MEXICO, Mexico City, paediatric (1997-2013)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
PERU, Lima (2010-2012)	20	20	1	0	1	0	0	0	0	0	0	0	16	12
PERU, Trujillo (1990-2002)	*1*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
USA, Puerto Rico (1992-2012)	50	14	6	2	6	0	0	0	3	1	1	0	15	4
URUGUAY (1993-2012)	28	40	0	0	3	0	1	0	0	3	1	0	10	9
AMERICA, NORTH														
CANADA, 9 registries (1992-2013)	154	128	29	29	11	1	6	7	24	2	0	0	31	45
USA (1998-2012)	313	241	50	32	22	2	1	15	33	4	5	5	90	54
USA, API (1998-2012)	*7*	*5*	*0*	*1*	*1*	*0*	*0*	*2*	*2*	*0*	*0*	*1*	*1*	*0*
USA, Black (1998-2012)	55	48	11	5	2	1	0	4	7	1	1	0	13	10
USA, Hispanic White (1998-2012)	57	43	6	4	4	0	1	2	5	0	2	0	19	7
USA, Native American (1998-2012)	*4*	*3*	*3*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
USA, White NH (1998-2012)	167	128	29	21	15	1	0	6	18	3	1	3	49	33
USA, NPCR (1998-2012)	300	240	47	32	20	2	1	15	31	4	5	5	87	53
USA, SEER 18 (1993-2012)	61	46	14	9	5	0	0	4	5	0	1	1	22	12
USA, Hawaii, Hawaiian (1993-2012)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
ASIA														
BAHRAIN (1998-2012)	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*
CHINA, 6 registries (1990-2013)	147	194	15	15	11	0	8	38	9	2	1	1	27	26
CHINA, Hong Kong (1990-2013)	57	75	8	7	5	0	1	11	7	2	10	4	5	11
INDIA, 7 registries (1990-2013)	543	356	22	10	34	2	10	25	12	1	7	3	261	139
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	16	23	3	1	1	3	0	0	0	1	1	0	4	6

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Table 11.5.b. Other unspecified malignant tumours (XIIb, C49-C80), part 2 of 2: numbers of cases by primary site

ICD-O-3 code	Total (XIIb)		Connective tissue C49		Eye C69		Thyroid gland C73		Adrenal gland C74		Lymph node C77		Ill-defined and unknown C76, C80	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
ISRAEL (1990-2012)	116	59	9	1	19	1	0	1	7	1	0	0	31	11
ISRAEL, Jews (1990-2012)	87	47	7	0	14	1	0	1	6	1	0	0	19	9
ISRAEL, Non-Jews (1990-2012)	29	12	2	1	5	0	0	0	1	0	0	0	12	2
JAPAN, 8 registries (1990-2013)	71	44	1	3	5	0	3	2	0	0	0	1	6	7
JORDAN, Jordanians (2000-2012)	*5*	*4*	*0*	*1*	*1*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*2*	*3*
REPUBLIC OF KOREA (1999-2012)	288	146	37	22	63	1	2	8	47	8	0	0	28	13
KUWAIT (1994-2012)	39	10	0	3	0	0	1	0	4	0	7	2	1	0
KUWAIT, Kuwaitis (1994-2012)	19	6	0	2	0	0	0	0	2	0	3	1	0	0
KUWAIT, Non-Kuwaitis (1994-2012)	20	4	0	1	0	0	1	0	2	0	4	1	1	0
LEBANON (2008-2010)	*6*	*3*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*1*
PAKISTAN, Karachi (1995-2002)	22	10	0	0	0	0	0	0	0	0	0	0	20	8
PAKISTAN, Lahore (2008-2012)	20	11	0	0	1	0	0	0	1	0	2	0	12	8
PHILIPPINES, 2 registries (1993-2012)	205	160	16	9	21	1	3	2	1	0	10	7	108	61
QATAR (2002-2014)	*2*	*2*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*0*	*1*	*0*
SAUDI ARABIA, Riyadh (1994-2012)	*13*	*6*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*6*	*4*
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	*8*	*4*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*3*	*2*
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	*5*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*3*	*2*
THAILAND, 6 registries (1993-2013)	186	135	5	4	18	1	5	10	9	0	1	2	70	46
TURKEY, paediatric (2009-2011)	*2*	-	*2*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
TURKEY, 8 registries (1992-2012)	43	45	2	1	2	0	0	1	0	1	3	0	16	17
VIET NAM, Ho Chi Minh City (1995-2013)	121	38	0	1	3	1	7	4	0	0	0	0	18	5
EUROPE														
AUSTRIA (1990-2012)	33	25	8	3	0	0	0	0	7	0	0	0	8	3
BELARUS, paediatric (1990-2014)	9	40	2	6	0	0	1	1	1	1	0	1	1	3
BELGIUM (2004-2013)	*6*	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*3*	*1*
BULGARIA (1990-2013)	79	45	5	2	1	2	1	0	0	1	0	0	30	21
CROATIA (2001-2014)	11	11	0	1	0	0	0	2	4	1	0	0	3	4
CYPRUS, South-West (1998-2012)	*3*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*1*
CZECH REPUBLIC (1990-2012)	91	39	21	6	8	1	0	4	10	1	2	0	9	10
ESTONIA (1990-2012)	*3*	*2*	*0*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*1*
FRANCE, paediatric (2000-2012)	*3*	-	*2*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
FRANCE, 13 registries (1993-2012)	*1*	*7*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*
GERMANY, paediatric (1996-2012)	*5*	-	*0*	-	*2*	-	*0*	-	*0*	-	*0*	-	*1*	-
GERMANY, 6 Eastern states (2001-2007)	26	9	3	0	1	0	0	2	4	0	0	0	4	1
GERMANY, 5 Western registries (1994-2012)	33	13	2	0	11	4	0	0	0	0	0	0	7	5
HUNGARY, paediatric (1991-2014)	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*1*	-
ICELAND (1990-2014)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
IRELAND (1994-2012)	*12*	*2*	*1*	*0*	*1*	*0*	*1*	*1*	*0*	*0*	*0*	*0*	*4*	*0*
ITALY, 2 paediatric registries (1998-2011)	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
ITALY, Piedmont, paediatric (1990-2011)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
ITALY, 26 registries (1992-2013)	120	74	19	5	23	3	8	23	20	2	7	8	10	7
LITHUANIA (2000-2012)	*10*	*7*	*2*	*0*	*0*	*0*	*0*	*0*	*2*	*1*	*0*	*0*	*2*	*1*
MALTA (1994-2013)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
THE NETHERLANDS (1993-2013)	*8*	*7*	*4*	*0*	*0*	*1*	*0*	*0*	*3*	*0*	*0*	*0*	*0*	*3*
NORWAY (1990-2013)	13	8	0	0	1	1	1	0	1	1	0	0	5	2
POLAND (2001-2013)	219	164	34	29	37	3	0	1	2	1	0	0	74	43
PORTUGAL (1991-2012)	17	15	2	1	0	1	0	0	0	0	0	1	1	2
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	*9*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*
SLOVAKIA (1990-2009)	20	4	1	0	2	0	0	0	0	0	0	0	8	1
SLOVAKIA, paediatric (2000-2012)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
SLOVENIA (1991-2012)	*3*	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*
SPAIN, 2 paediatric registries (1991-2013)	*5*	-	*0*	-	*0*	-	*1*	-	*0*	-	*0*	-	*2*	-
SPAIN, selected regions, paediatric (2000-2013)	*2*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
SPAIN, Valencia, paediatric (1991-2010)	*3*	-	*0*	-	*0*	-	*1*	-	*0*	-	*0*	-	*2*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other unspecified malignant tumour in a dataset
Dataset presented only if eligible (see Chapter 5)
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Table 11.5.b. Other unspecified malignant tumours (XIIb, C49-C80), part 2 of 2: numbers of cases by primary site

ICD-O-3 code	Total (XIIb)		Connective tissue C49		Eye C69		Thyroid gland C73		Adrenal gland C74		Lymph node C77		Ill-defined and unknown C76, C80	
Age group (years)	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19	0-14	15-19
SPAIN, 11 registries (1990-2013)	*6*	*7*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*4*	*3*
SWEDEN (1990-2011)	34	20	8	1	9	4	0	0	0	0	1	0	3	7
SWITZERLAND, paediatric (1990-2013)	*7*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*5*	-
SWITZERLAND, 7 registries (1990-2013)	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*
UKRAINE (2002-2012)	135	130	15	9	18	1	2	5	7	2	1	0	6	16
UNITED KINGDOM (2000-2011)	87	105	15	17	14	3	4	10	7	2	2	2	14	12
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	88	-	9	-	25	-	4	-	6	-	2	-	17	-
OCEANIA														
AUSTRALIA (1992-2014)	35	20	7	2	11	0	0	1	1	0	0	1	7	4
AUSTRALIA, 3 registries, Indigenous (1992-2014)	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*
FRANCE, 2 registries (1990-2013)	*6*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*0*
NEW ZEALAND (1993-2012)	*8*	*7*	*2*	*2*	*3*	*1*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
NEW ZEALAND, Maori (1993-2012)	*1*	*1*	*0*	*0*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
NEW ZEALAND, Pacific peoples (1993-2012)	*1*	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
NEW ZEALAND, Other (1993-2012)	*6*	*5*	2	2	*1*	*0*	*1*	*1*	*0*	*0*	*0*	*0*	*0*	*0*
NEW ZEALAND, paediatric (2000-2012)	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
NEW ZEALAND, paediatric, Maori (2000-2012)	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	*1*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Italic when fewer than 20 cases of other unspecified malignant tumour in a dataset
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Chapter 12. Morphology of selected diagnostic categories

Table 12.1. Hodgkin lymphomas (IIa): numbers of cases by morphology and age

	Hodgkin lymphoma (IIa)				Lymphocyte rich				Mixed cellularity				Lymphocyte depleted				Nodular sclerosis				Nodular lymphocyte predominant				Other and unspecified			
ICD-O-3 code					9651				9652				9653-9655				9663-9665, 9667				9659				9650, 9661, 9662			
Age group (years)	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19
AFRICA																												
ALGERIA, 5 registries (1996-2014)	16	42	65	174	0	0	1	2	2	2	1	8	0	1	1	0	1	0	6	26	0	0	0	0	13	39	56	138
BOTSWANA (1999-2007)	3	4	8	9	0	0	0	0	0	1	1	0	0	0	0	0	0	0	3	3	0	0	0	0	3	3	4	6
EGYPT, Gharbiah (1999-2010)	38	73	62	116	2	12	8	23	28	45	32	32	1	0	1	1	5	7	15	41	0	4	0	2	2	5	6	17
FRANCE, Réunion (1990-2011)	2	6	19	27	0	1	0	1	0	0	6	3	0	0	0	2	1	2	10	17	0	2	3	0	1	1	0	4
KENYA, 2 registries (2000-2012)	6	32	29	27	0	1	0	0	0	8	2	3	0	0	3	0	0	4	3	2	0	1	0	0	6	18	21	22
LIBYA, Benghazi (2003-2008)	1	9	11	20	0	0	0	0	0	1	3	4	0	0	0	1	0	1	4	4	0	2	1	0	1	5	3	11
MALI, Bamako (2005-2014)	3	17	28	18	0	0	0	0	0	3	1	1	0	0	0	0	1	0	1	1	0	0	0	0	2	14	26	16
MAURITIUS (2001-2013)	1	7	8	19	0	0	0	0	0	1	0	3	0	0	0	0	0	0	2	1	0	0	0	0	1	6	6	15
MOROCCO, 2 registries (2005-2012)	10	31	38	86	0	0	0	3	1	4	5	12	0	0	0	0	4	15	18	43	1	2	1	5	4	10	14	23
SOUTH AFRICA, paediatric (1998-2012)	59	209	202	-	0	1	3	-	8	21	13	-	1	1	1	-	12	28	26	-	0	1	0	-	38	157	159	-
SOUTH AFRICA, paediatric, Black (1998-2012)	50	159	147	-	0	1	2	-	6	13	8	-	0	1	1	-	11	20	16	-	0	0	0	0	33	124	120	-
SOUTH AFRICA, paediatric, Coloured (1998-2012)	6	26	23	-	0	0	1	-	1	3	2	-	1	0	0	-	1	4	4	-	0	1	0	-	3	18	16	-
SOUTH AFRICA, paediatric, White (1998-2012)	2	19	23	-	0	0	0	0	1	5	2	-	0	0	0	0	0	3	6	-	0	0	0	0	1	11	15	-
TUNISIA, 2 registries (1993-2007)	7	66	80	140	0	2	0	1	1	22	21	19	0	0	0	3	5	31	39	82	0	0	0	0	1	11	20	35
UGANDA, Kyadondo (1996-2013)	16	25	27	23	0	1	0	0	0	1	5	1	0	1	3	4	2	7	5	3	2	1	0	1	12	14	14	14
ZIMBABWE, Harare, African (1995-2013)	4	17	13	15	0	0	0	0	2	9	3	4	0	0	0	1	1	4	3	7	0	1	0	0	1	3	7	3
AMERICA, LATIN AND THE CARIBBEAN																												
ARGENTINA, paediatric (2000-2013)	137	339	429	-	0	0	0	0	29	65	47	-	0	2	4	-	23	68	125	-	8	10	15	-	77	194	238	-
ARGENTINA, 6 registries (1991-2013)	17	56	77	127	0	1	1	1	4	11	9	12	0	0	1	0	1	8	22	39	1	1	1	6	11	35	43	69
BRAZIL, 5 registries (1995-2012)	9	51	90	177	0	1	2	3	4	17	19	18	0	0	1	6	0	14	30	72	0	1	3	1	5	18	35	77
CHILE, paediatric (2007-2011)	14	43	56	-	0	2	3	-	5	14	13	-	0	1	0	-	6	12	24	-	0	0	0	0	3	14	16	-
CHILE, 4 registries (1998-2012)	4	12	15	26	1	1	0	1	1	5	6	5	0	1	0	1	1	3	6	9	0	0	0	0	1	2	3	10
COLOMBIA, 4 registries (1992-2013)	11	40	53	84	1	3	6	10	3	14	13	16	0	0	2	3	7	13	25	26	0	1	2	7	0	9	5	22
COSTA RICA (1993-2012)	19	80	86	168	3	5	7	4	4	8	8	13	0	0	0	0	10	48	60	131	0	12	6	2	2	7	5	18
CUBA (2000-2012)	25	58	96	158	3	3	2	2	4	12	5	12	0	0	0	1	0	6	13	21	0	0	1	1	18	37	75	121
ECUADOR, 5 registries (1993-2013)	26	53	50	66	2	6	4	3	7	10	12	9	2	1	3	0	3	12	11	26	1	1	1	2	11	23	19	26
FRANCE, 3 registries (1990-2012)	1	3	10	18	0	0	0	0	0	0	2	1	0	1	0	1	1	1	3	11	0	0	2	0	0	1	3	5
HONDURAS, Francisco Morazán (2002-2012)	3	9	26	9	0	1	4	0	3	3	9	2	0	0	0	0	0	0	5	1	0	0	1	0	0	5	7	6
JAMAICA, Kingston and St Andrew (1982-2012)	1	5	7	13	0	0	0	0	0	1	2	3	0	0	0	1	1	3	3	8	0	0	1	0	0	1	1	1
MEXICO, Mexico City, paediatric (1997-2013)	5	14	25	-	0	1	1	-	3	4	7	-	0	0	1	-	2	9	15	-	0	0	1	-	0	0	0	0
PERU, Lima (2010-2012)	7	12	10	12	0	2	0	0	3	4	4	4	0	0	0	0	1	1	2	4	2	2	1	0	1	3	3	4
USA, Puerto Rico (1992-2012)	13	38	78	166	1	4	4	1	1	8	15	18	0	1	2	2	5	9	35	109	3	4	10	4	3	12	12	32
URUGUAY (1993-2012)	8	38	64	104	0	2	2	0	1	13	12	5	0	0	0	1	2	8	23	51	0	2	1	1	5	13	26	46
AMERICA, NORTH																												
CANADA, 9 registries (1992-2013)	27	141	596	1676	1	7	25	28	5	26	47	127	0	2	1	9	11	68	445	1293	5	20	40	67	5	18	38	152
USA (1998-2012)	243	1131	3704	9986	5	54	125	195	63	221	289	597	0	3	17	40	105	539	2569	7525	22	142	257	364	48	172	447	1265
USA, API (1998-2012)	18	42	99	235	0	1	2	3	6	8	10	11	0	0	1	1	3	19	67	180	3	9	6	4	6	5	13	36
USA, Black (1998-2012)	34	189	548	1150	1	7	21	39	8	34	53	92	0	0	2	6	15	107	339	796	5	14	46	80	5	27	87	137
USA, Hispanic White (1998-2012)	92	329	575	1164	1	14	19	18	23	98	68	101	0	0	6	9	45	143	371	813	4	24	26	37	19	50	85	186
USA, Native American (1998-2012)	3	4	15	49	0	0	2	1	0	0	1	7	0	0	0	0	2	3	10	29	0	0	0	2	1	1	2	10
USA, White NH (1998-2012)	90	540	2388	7139	2	31	80	125	26	75	151	367	0	3	6	23	36	255	1732	5533	10	90	174	231	16	86	245	860
USA, NPCR (1998-2012)	235	1079	3549	9568	5	53	119	189	62	213	280	572	0	3	17	39	101	518	2459	7217	22	130	247	342	45	162	427	1209
USA, SEER 18 (1993-2012)	84	412	1134	2951	1	19	37	51	17	87	99	190	0	1	4	15	40	210	816	2254	10	47	66	111	16	48	112	330
ASIA																												
BAHRAIN (1998-2012)	2	13	11	23	0	0	0	0	1	1	4	1	0	0	0	0	0	2	3	11	0	0	0	0	1	10	4	11
CHINA, 6 registries (1990-2013)	7	25	50	164	0	0	0	6	2	4	6	8	0	0	0	0	0	2	9	25	0	1	1	1	5	18	34	124
CHINA, Hong Kong (1990-2013)	5	11	27	90	1	0	1	1	1	3	2	8	0	0	0	0	0	1	10	57	0	1	3	6	3	6	11	18
INDIA, 7 registries (1990-2013)	109	508	435	432	1	17	14	12	14	88	64	55	6	5	8	4	8	30	23	35	0	1	1	2	80	367	325	324
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	0	1	17	24	0	0	1	1	0	1	0	5	0	0	0	0	0	0	2	6	0	0	0	1	0	0	14	11
ISRAEL (1990-2012)	36	128	220	577	1	4	10	12	15	32	21	55	0	2	2	6	11	45	120	361	0	1	5	4	9	44	62	139
ISRAEL, Jews (1990-2012)	22	78	171	464	1	4	8	8	7	22	19	49	0	1	0	5	9	29	92	281	0	1	4	3	5	21	48	118
ISRAEL, Non-Jews (1990-2012)	14	50	49	113	0	0	2	4	8	10	2	6	0	1	2	1	2	16	28	80	0	0	1	1	4	23	14	21
JAPAN, 8 registries (1990-2013)	4	23	28	123	1	1	5	9	2	10	3	23	0	1	0	1	0	2	9	60	0	4	2	2	1	5	9	28
JORDAN, Jordanians (2000-2012)	31	81	102	226	1	2	6	3	12	28	16	31	0	2	2	3	4	26	48	111	0	1	2	8	14	22	28	70
REPUBLIC OF KOREA (1999-2012)	13	41	113	232	1	1	4	7	5	16	26	30	0	2	1	2	5	10	44	110	0	1	0	6	2	11	38	77
KUWAIT (1994-2012)	86	47	36	49	5	1	3	1	18	11	11	11	1	1	1	0	52	26	20	24	3	3	0	3	7	5	1	10

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Table 12.1. Hodgkin lymphomas (IIa): numbers of cases by morphology and age

	Hodgkin lymphoma (IIa)				Lymphocyte rich				Mixed cellularity				Lymphocyte depleted				Nodular sclerosis				Nodular lymphocyte predominant				Other and unspecified			
ICD-O-3 code					9651				9652				9653-9655				9663-9665, 9667				9659				9650, 9661, 9662			
Age group (years)	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19
KUWAIT, Kuwaitis (1994-2012)	49	24	19	28	3	1	1	0	13	5	6	6	1	0	0	0	28	14	12	13	2	3	0	2	2	1	0	7
KUWAIT, Non-Kuwaitis (1994-2012)	37	23	17	21	2	0	2	1	5	6	5	5	0	1	1	0	24	12	8	11	1	0	0	1	5	4	1	3
LEBANON (2008-2010)	0	15	26	63	0	0	0	2	0	1	1	3	0	0	0	0	0	6	9	23	0	0	4	1	0	8	12	34
PAKISTAN, Karachi (1995-2002)	5	34	29	11	0	1	2	0	0	5	7	4	0	0	0	0	1	5	5	1	0	0	0	0	4	23	15	6
PAKISTAN, Lahore (2008-2012)	22	72	38	43	0	1	1	2	11	31	13	8	0	0	0	0	2	9	8	15	0	1	0	1	9	30	16	17
PHILIPPINES, 2 registries (1993-2012)	6	29	49	124	0	0	2	2	1	2	6	13	0	1	2	2	1	9	7	36	1	0	1	2	3	17	31	69
QATAR (2002-2014)	7	8	18	32	0	1	0	0	3	1	1	1	0	0	0	2	1	2	7	11	0	0	0	0	3	4	10	18
SAUDI ARABIA, Riyadh (1994-2012)	39	107	185	270	1	10	12	13	13	26	26	22	1	4	2	5	17	54	106	184	0	2	10	11	7	11	29	35
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	34	92	154	238	1	9	12	12	13	21	19	18	1	3	2	5	13	47	88	163	0	2	9	11	6	10	24	29
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	5	15	31	32	0	1	0	1	0	5	7	4	0	1	0	0	4	7	18	21	0	0	1	0	1	1	5	6
THAILAND, 6 registries (1993-2013)	12	30	42	59	0	3	2	2	5	9	7	6	0	2	3	1	1	5	7	19	0	0	0	4	6	11	23	27
TURKEY, paediatric (2009-2011)	52	139	166	-	4	11	11	-	26	69	53	-	2	1	1	-	10	29	76	-	0	4	6	-	10	25	19	-
TURKEY, 8 registries (1992-2012)	49	109	163	238	4	3	9	5	20	46	41	51	1	4	3	4	7	33	78	119	0	3	2	2	17	20	30	57
VIET NAM, Ho Chi Minh City (1995-2013)	3	14	17	17	1	0	3	4	1	4	3	5	0	2	2	2	0	2	4	5	0	0	0	0	1	6	5	1
EUROPE																												
AUSTRIA (1990-2012)	12	45	149	346	1	2	7	9	2	7	6	27	0	2	1	1	5	10	67	189	0	0	2	3	4	24	66	117
BELARUS, paediatric (1990-2014)	60	106	276	723	14	15	12	39	30	52	61	124	0	2	3	20	15	32	188	470	1	0	6	8	0	5	6	62
BELGIUM (2004-2013)	5	33	95	282	0	0	2	8	5	10	15	28	0	0	0	0	0	19	62	214	0	2	12	15	0	2	4	17
BULGARIA (1990-2013)	43	98	123	255	4	9	11	15	18	33	29	57	0	1	1	5	3	17	44	98	1	0	1	0	17	38	37	80
CROATIA (2001-2014)	6	16	54	119	0	2	4	11	1	2	7	5	0	0	0	0	1	1	11	32	0	0	0	0	4	11	32	71
CYPRUS, South-West (1998-2012)	2	5	24	58	0	0	1	0	0	3	2	6	0	0	0	0	0	0	13	47	0	0	2	1	2	2	6	4
CZECH REPUBLIC (1990-2012)	37	88	219	647	4	4	11	42	16	32	37	122	1	2	6	17	5	13	93	310	3	14	31	46	8	23	41	110
ESTONIA (1990-2012)	3	10	24	90	0	0	2	3	2	3	2	17	0	0	0	1	0	6	16	59	0	0	1	2	1	1	3	8
FRANCE, paediatric (2000-2012)	32	217	843	-	1	3	8	-	5	39	67	-	0	1	2	-	15	105	618	-	9	45	87	-	2	24	61	-
FRANCE, paediatric, haematological malignancies (1990-1999)	46	168	428	-	3	6	4	-	12	40	63	-	0	1	3	-	18	75	283	-	1	20	26	-	12	26	49	-
FRANCE, 13 registries (1993-2012)	9	44	197	434	0	2	4	11	2	7	22	32	0	1	1	3	4	22	139	329	1	6	14	14	2	6	17	45
GERMANY, paediatric (1996-2012)	66	332	1075	-	0	8	20	-	11	29	50	-	0	0	2	-	7	36	164	-	3	20	45	-	45	239	794	-
GERMANY, 6 Eastern states (2001-2007)	4	15	81	258	0	0	2	8	1	4	11	32	0	0	0	1	0	6	50	154	0	1	3	8	3	4	15	55
GERMANY, 5 Western registries (1994-2012)	14	82	270	645	0	5	10	21	3	24	39	102	0	0	3	2	2	22	107	352	3	10	23	27	6	21	88	141
GREECE, paediatric, haematological neoplasms (1996-2014)	14	57	147	-	0	3	2	-	6	18	40	-	0	0	0	0	8	30	98	-	0	6	4	-	0	0	3	-
HUNGARY, paediatric (1991-2014)	23	85	183	-	4	25	22	-	13	30	54	-	1	2	5	-	3	19	86	-	1	4	6	-	1	5	10	-
ICELAND (1990-2014)	0	5	3	28	0	0	0	0	0	2	0	5	0	0	0	0	0	2	2	21	0	0	0	1	0	1	1	1
IRELAND (1994-2012)	3	25	82	220	0	2	7	5	1	8	7	27	0	0	0	0	1	10	59	152	1	2	3	4	0	3	6	32
ITALY, 2 paediatric registries (1998-2011)	5	21	67	202	1	2	2	4	3	7	12	18	0	0	1	3	0	8	45	154	1	2	3	12	0	2	4	11
ITALY, Piedmont, paediatric (1990-2011)	6	27	78	-	1	3	3	-	2	12	15	-	0	0	1	-	1	10	53	-	1	1	3	-	1	1	3	-
ITALY, 26 registries (1992-2013)	20	84	371	888	3	4	19	24	5	14	33	80	0	3	3	10	6	37	240	609	0	3	17	34	6	23	59	131
LITHUANIA (2000-2012)	8	10	28	99	2	1	0	3	3	1	2	6	0	0	0	0	1	5	24	81	0	0	0	0	2	3	2	9
MALTA (1994-2013)	2	0	9	19	0	0	2	1	0	0	1	4	0	0	0	0	2	0	6	12	0	0	0	2	0	0	0	0
THE NETHERLANDS (1993-2013)	16	77	268	761	1	2	6	12	3	14	16	37	0	0	0	5	8	36	188	582	3	17	29	37	1	8	29	88
NORWAY (1990-2013)	7	28	83	226	0	0	3	6	3	10	7	19	0	0	1	0	3	13	49	156	1	5	13	20	0	0	10	25
POLAND (2001-2013)	45	120	386	1042	0	5	17	39	11	29	45	92	0	3	3	5	12	33	195	558	1	2	5	8	21	48	121	340
PORTUGAL (1991-2012)	12	68	184	445	1	3	3	9	2	5	6	13	0	1	0	4	6	38	108	284	1	7	5	12	2	14	62	123
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	5	9	64	-	1	0	2	-	3	7	18	-	1	0	2	-	0	0	26	-	0	0	0	0	0	2	16	-
RUSSIAN FEDERATION, 2 registries (1998-2015)	11	14	54	185	3	4	7	23	4	5	16	39	0	0	2	15	1	4	22	88	0	0	0	0	3	1	7	20
SLOVAKIA (1990-2009)	17	51	114	263	1	3	6	8	5	23	21	39	1	0	3	3	6	21	69	189	2	1	2	3	2	3	13	21
SLOVAKIA, paediatric (2000-2012)	9	17	68	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-	0	0	0	0	9	17	67	-
SLOVENIA (1991-2012)	5	13	40	104	0	0	0	0	1	8	12	20	0	0	0	0	1	1	2	22	73	0	1	3	1	3	2	3	9
SPAIN, 2 paediatric registries (1991-2013)	19	84	222	-	0	6	21	-	4	11	15	-	0	0	0	0	7	30	96	-	1	4	9	-	7	33	81	-
SPAIN, selected regions, paediatric (2000-2013)	14	69	166	-	0	5	19	-	2	8	7	-	0	0	0	0	5	23	72	-	1	4	5	-	6	29	63	-
SPAIN, Valencia, paediatric (1991-2010)	5	15	56	-	0	1	2	-	2	3	8	-	0	0	0	0	2	7	24	-	0	0	4	-	1	4	18	-
SPAIN, 11 registries (1990-2013)	9	54	181	531	1	4	21	21	3	17	14	67	0	2	3	9	3	17	116	360	1	3	9	20	1	11	18	54
SWEDEN (1990-2011)	7	36	127	363	0	3	9	10	3	6	9	23	0	0	1	0	1	18	72	236	0	2	7	6	3	7	29	88
SWITZERLAND, paediatric (1990-2013)	11	37	157	-	0	3	8	-	6	11	18	-	0	0	1	-	4	16	105	-	1	5	12	-	0	2	13	-
SWITZERLAND, 7 registries (1990-2013)	7	14	58	162	0	1	3	5	3	2	7	10	0	0	1	2	3	8	36	134	0	1	7	3	1	2	4	8
UKRAINE (2002-2012)	96	125	350	1269	6	1	13	82	34	37	74	247	4	5	5	48	15	33	91	412	0	0	1	2	37	49	166	478
UNITED KINGDOM (2000-2011)	52	203	618	1479	1	6	32	43	11	37	49	120	0	1	2	6	26	103	409	1016	7	32	68	60	7	24	58	234
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	79	286	827	-	2	9	49	-	17	59	66	-	0	3	2	-	39	152	537	-	12	38	89	-	9	25	84	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
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Table 12.1. Hodgkin lymphomas (IIa): numbers of cases by morphology and age

	Hodgkin lymphoma (IIa)				Lymphocyte rich				Mixed cellularity				Lymphocyte depleted				Nodular sclerosis				Nodular lymphocyte predominant				Other and unspecified			
ICD-O-3 code					9651				9652				9653-9655				9663-9665, 9667				9659				9650, 9661, 9662			
Age group (years)	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19
OCEANIA																												
AUSTRALIA (1992-2014)	18	125	390	1015	3	21	35	38	5	28	34	80	0	1	2	5	4	39	251	729	4	22	39	39	2	14	29	124
FRANCE, 2 registries (1990-2013)	2	8	7	5	0	1	0	0	0	1	0	0	1	0	0	0	0	2	1	3	0	1	2	0	1	3	4	2
NEW ZEALAND (1993-2012)	6	25	51	148	1	4	3	7	1	2	7	13	0	0	2	1	2	8	33	100	1	7	2	13	1	4	4	14
NEW ZEALAND, Maori (1993-2012)	1	8	5	18	0	0	0	0	0	2	1	2	0	0	0	0	1	1	3	13	0	4	0	1	0	1	1	2
NEW ZEALAND, Other (1993-2012)	3	14	45	123	1	3	3	5	0	0	6	11	0	0	2	1	0	7	29	84	1	2	2	12	1	2	3	10
NEW ZEALAND, paediatric (2000-2012)	2	15	35	-	1	3	5	-	0	1	2	-	0	0	0	0	1	5	25	-	0	3	1	-	0	3	2	-
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	1	10	29	-	1	2	4	-	0	0	1	-	0	0	0	0	0	5	22	-	0	2	1	-	0	1	1	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5)
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Table 12.2. Thyroid carcinoma (XIb): numbers of cases by morphology and age

ICD-O-3 code	Thyroid carcinoma (XIb)				Papillary carcinoma 8050, 8260, 8340-8344, 8350				Follicular carcinoma 8290, 8330-8333, 8335				Medullary carcinoma 8345-8347, 8510				Anaplastic carcinoma 8020-8021				Other and unspecified			
Age group (years)	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19
AFRICA																								
ALGERIA, 5 registries (1996-2014)	1	4	13	33	1	4	9	30	0	0	1	0	0	0	0	1	0	0	1	0	0	0	2	2
EGYPT, Gharbiah (1999-2010)	0	2	5	32	0	2	4	29	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0
MOROCCO, 2 registries (2005-2012)	1	3	4	23	0	3	4	23	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
TUNISIA, 2 registries (1993-2007)	1	3	15	47	0	2	15	39	0	1	0	5	0	0	0	2	0	0	0	0	1	0	0	1
AMERICA, LATIN AND THE CARIBBEAN																								
ARGENTINA, paediatric (2000-2013)	2	14	17	-	2	13	15	-	0	0	0	-	0	0	0	-	0	0	0	-	0	1	2	-
ARGENTINA, 6 registries (1991-2013)	1	3	9	52	1	3	8	45	0	0	1	1	0	0	0	3	0	0	0	0	0	0	0	3
BRAZIL, 5 registries (1995-2012)	0	4	26	98	0	2	19	85	0	1	1	8	0	1	4	1	0	0	0	0	0	0	2	4
CHILE, paediatric (2007-2011)	3	5	21	-	1	5	17	-	0	0	2	-	2	0	1	-	0	0	0	-	0	0	1	-
CHILE, 4 registries (1998-2012)	1	2	6	23	1	2	3	20	0	0	2	2	0	0	1	0	0	0	0	0	0	0	0	1
COLOMBIA, 4 registries (1992-2013)	1	3	27	60	1	3	25	57	0	0	0	1	0	0	2	1	0	0	0	0	0	0	0	1
COSTA RICA (1993-2012)	2	15	30	91	2	11	23	80	0	4	3	7	0	0	3	3	0	0	0	0	0	0	1	1
CUBA (2000-2012)	0	4	45	99	0	4	36	90	0	0	6	8	0	0	1	1	0	0	0	0	0	0	2	0
ECUADOR, 5 registries (1993-2013)	0	7	22	64	0	7	20	63	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0
HONDURAS, Francisco Morazán (2002-2012)	0	4	2	20	0	3	2	20	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
PERU, Lima (2010-2012)	0	4	8	39	0	4	8	37	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
USA, Puerto Rico (1992-2012)	1	4	41	112	0	2	34	104	0	0	3	8	1	2	4	0	0	0	0	0	0	0	0	0
URUGUAY (1993-2012)	0	4	28	57	0	2	23	43	0	2	2	10	0	0	3	2	0	0	0	0	0	0	0	2
AMERICA, NORTH																								
CANADA, 9 registries (1992-2013)	10	58	207	873	2	41	176	797	1	3	16	43	6	14	12	25	0	0	0	1	1	0	3	7
USA (1998-2012)	72	356	1735	6396	34	256	1424	5617	3	26	185	580	32	69	111	140	0	0	1	1	3	5	14	58
USA, API (1998-2012)	2	10	83	294	2	9	72	264	0	1	7	24	0	0	4	6	0	0	0	0	0	0	0	0
USA, Black (1998-2012)	4	27	120	348	1	14	79	265	0	6	30	63	2	6	8	12	0	0	0	0	1	1	3	8
USA, Hispanic White (1998-2012)	10	72	295	941	5	56	242	849	0	3	30	67	5	12	22	19	0	0	0	0	0	1	1	6
USA, Native American (1998-2012)	1	2	13	47	0	1	10	41	0	0	1	4	1	1	2	2	0	0	0	0	0	0	0	0
USA, White NH (1998-2012)	51	233	1181	4549	23	172	986	4003	3	15	111	410	23	43	74	93	0	0	1	1	2	3	9	42
USA, NPCR (1998-2012)	69	344	1657	6056	32	245	1359	5310	3	26	178	556	31	68	106	134	0	0	1	1	3	5	13	55
USA, SEER 18 (1993-2012)	17	115	524	1957	8	87	437	1721	0	7	52	183	9	21	34	40	0	0	0	0	0	0	1	13
ASIA																								
CHINA, 6 registries (1990-2013)	3	26	117	409	3	25	97	347	0	0	11	44	0	1	7	7	0	0	0	0	0	0	2	11
CHINA, Hong Kong (1990-2013)	3	12	57	173	3	11	40	130	0	0	12	39	0	1	5	3	0	0	0	0	0	0	0	1
INDIA, 7 registries (1990-2013)	13	23	65	268	10	16	52	206	2	2	6	25	1	1	3	19	0	0	0	0	0	4	4	18
ISRAEL (1990-2012)	1	10	69	243	1	6	59	218	0	0	5	16	0	4	3	9	0	0	0	0	0	0	2	0
ISRAEL, Jews (1990-2012)	0	10	56	200	0	6	48	181	0	0	4	10	0	4	3	9	0	0	0	0	0	0	1	0
ISRAEL, Non-Jews (1990-2012)	1	0	13	43	1	0	11	37	0	0	1	6	0	0	0	0	0	0	0	0	0	0	1	0
JAPAN, 8 registries (1990-2013)	1	11	53	181	0	9	32	152	1	0	8	16	0	0	7	3	0	0	0	0	0	2	6	10
JORDAN, Jordanians (2000-2012)	3	2	23	59	3	2	19	55	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2
REPUBLIC OF KOREA (1999-2012)	1	53	283	1382	1	39	223	1196	0	10	47	141	0	4	10	33	0	0	1	2	0	0	2	10
LEBANON (2008-2010)	0	1	5	16	0	1	1	16	0	0	2	0	0	0	1	0	0	0	0	0	0	0	1	0
PHILIPPINES, 2 registries (1993-2012)	2	10	53	216	1	7	44	179	0	3	6	31	0	0	0	0	0	0	0	0	1	0	3	6
SAUDI ARABIA, Riyadh (1994-2012)	0	8	29	134	0	7	27	120	0	1	2	11	0	0	0	3	0	0	0	0	0	0	0	0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	0	7	24	118	0	6	22	105	0	1	2	10	0	0	0	3	0	0	0	0	0	0	0	0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	0	1	5	16	0	1	5	15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
THAILAND, 6 registries (1993-2013)	6	12	56	144	4	12	44	127	1	0	12	17	0	0	0	0	1	0	0	0	0	0	0	0
TURKEY, paediatric (2009-2011)	0	3	27	-	0	3	21	-	0	0	0	-	0	0	2	-	0	0	0	-	0	0	4	-
TURKEY, 8 registries (1992-2012)	1	11	71	239	1	11	62	195	0	0	4	28	0	0	5	11	0	0	0	1	0	0	0	4
VIET NAM, Ho Chi Minh City (1995-2013)	2	5	26	104	2	5	24	100	0	0	0	1	0	0	1	2	0	0	1	0	0	0	0	1
EUROPE																								
AUSTRIA (1990-2012)	1	9	41	136	1	3	27	103	0	0	8	24	0	2	1	5	0	0	0	0	0	4	5	4
BELARUS, paediatric (1990-2014)	7	181	647	821	7	173	604	777	0	1	5	15	0	0	7	8	0	0	0	0	0	7	31	21
BELGIUM (2004-2013)	0	7	30	84	0	4	15	69	0	0	10	13	0	3	5	1	0	0	0	0	0	0	0	1
BULGARIA (1990-2013)	0	5	20	63	0	3	16	56	0	1	2	6	0	1	1	1	0	0	0	0	0	0	1	0
CROATIA (2001-2014)	1	3	28	88	1	3	25	79	0	0	3	4	0	0	0	4	0	0	0	0	0	0	0	1
CYPRUS, South-West (1998-2012)	0	1	12	40	0	1	8	39	0	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0
CZECH REPUBLIC (1990-2012)	2	20	101	244	1	14	77	198	0	2	17	31	1	3	6	9	0	0	0	0	0	1	1	6
ESTONIA (1990-2012)	0	1	6	15	0	0	4	10	0	0	1	4	0	1	1	1	0	0	0	0	0	0	0	0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of thyroid carcinoma
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Table 12.2. Thyroid carcinoma (XIb): numbers of cases by morphology and age

ICD-O-3 code	Thyroid carcinoma (XIb)				Papillary carcinoma 8050, 8260, 8340-8344, 8350				Follicular carcinoma 8290, 8330-8333, 8335				Medullary carcinoma 8345-8347, 8510				Anaplastic carcinoma 8020-8021				Other and unspecified			
Age group (years)	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19	0-4	5-9	10-14	15-19
FRANCE, paediatric (2000-2012)	28	68	235	-	4	39	180	-	0	3	23	-	24	26	26	-	0	0	0	-	0	0	6	-
FRANCE, 13 registries (1993-2012)	7	17	62	198	1	12	43	159	0	0	4	27	6	5	15	10	0	0	0	0	0	0	0	2
GERMANY, paediatric (1996-2012)	11	54	172	-	1	34	126	-	1	6	11	-	7	9	16	-	0	0	0	-	2	5	19	-
GERMANY, 6 Eastern states (2001-2007)	2	4	25	85	0	2	20	70	0	0	2	7	2	2	2	7	0	0	0	0	0	0	1	1
GERMANY, 5 Western registries (1994-2012)	1	19	84	263	0	8	63	216	0	1	9	26	0	9	11	14	0	0	0	0	1	1	1	7
HUNGARY, paediatric (1991-2014)	1	10	37	-	1	6	26	-	0	1	3	-	0	3	4	-	0	0	0	-	0	0	4	-
IRELAND (1994-2012)	0	1	9	52	0	0	7	41	0	0	0	7	0	1	2	1	0	0	0	0	0	0	0	3
ITALY, 2 paediatric registries (1998-2011)	1	4	19	69	0	1	15	57	0	1	2	8	1	2	2	4	0	0	0	0	0	0	0	0
ITALY, Piedmont, paediatric (1990-2011)	1	5	22	-	0	1	20	-	0	1	2	-	1	3	0	-	0	0	0	-	0	0	0	-
ITALY, 26 registries (1992-2013)	3	22	92	420	1	13	70	374	0	0	9	26	2	9	10	16	0	0	0	0	0	0	3	4
LITHUANIA (2000-2012)	0	1	9	44	0	1	7	35	0	0	2	6	0	0	0	1	0	0	0	1	0	0	0	1
THE NETHERLANDS (1993-2013)	15	32	58	182	1	6	30	129	0	2	5	30	14	22	22	21	0	0	0	0	0	2	1	2
NORWAY (1990-2013)	0	4	17	69	0	1	12	50	0	0	1	11	0	3	3	7	0	0	0	0	0	0	1	1
POLAND (2001-2013)	10	23	134	452	3	12	99	372	0	1	11	33	2	9	19	38	0	1	0	1	5	0	5	8
PORTUGAL (1991-2012)	3	13	59	188	0	10	49	164	0	0	2	15	3	2	6	9	0	0	0	0	0	1	2	0
RUSSIAN FEDERATION, 2 registries (1998-2015)	1	2	16	47	0	2	14	45	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	1
SLOVAKIA (1990-2009)	1	7	23	91	0	6	16	81	1	0	3	4	0	1	4	6	0	0	0	0	0	0	0	0
SLOVENIA (1991-2012)	1	1	27	43	1	0	22	34	0	0	3	4	0	0	1	4	0	0	0	0	0	1	1	1
SPAIN, 2 paediatric registries (1991-2013)	7	12	48	-	0	3	33	-	1	3	8	-	6	5	5	-	0	0	0	-	0	1	2	-
SPAIN, selected regions, paediatric (2000-2013)	4	10	22	-	0	3	12	-	1	2	6	-	3	4	2	-	0	0	0	-	0	1	2	-
SPAIN, Valencia, paediatric (1991-2010)	3	2	26	-	0	0	21	-	0	1	2	-	3	1	3	-	0	0	0	-	0	0	0	-
SPAIN, 11 registries (1990-2013)	4	20	65	183	1	6	38	138	0	1	7	23	3	13	20	19	0	0	0	0	0	0	0	3
SWEDEN (1990-2011)	1	19	45	138	0	6	26	89	0	0	4	14	0	13	10	13	0	0	0	1	1	0	5	21
SWITZERLAND, paediatric (1990-2013)	0	4	25	-	0	2	18	-	0	0	3	-	0	2	4	-	0	0	0	-	0	0	0	-
SWITZERLAND, 7 registries (1990-2013)	0	2	10	41	0	1	6	31	0	0	2	8	0	1	1	2	0	0	0	0	0	0	1	0
UKRAINE (2002-2012)	0	16	146	491	0	14	114	410	0	1	21	48	0	0	5	11	0	0	0	1	0	1	6	21
UNITED KINGDOM (2000-2011)	14	28	106	381	2	18	73	272	0	3	24	83	12	7	9	11	0	0	0	0	0	0	0	15
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	16	39	128	-	4	25	80	-	0	4	24	-	12	10	24	-	0	0	0	-	0	0	0	-
OCEANIA																								
AUSTRALIA (1992-2014)	6	26	97	422	1	13	64	340	0	4	28	57	5	9	4	18	0	0	0	0	0	0	1	7
FRANCE, 2 registries (1990-2013)	0	2	6	14	0	2	5	11	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1
NEW ZEALAND (1993-2012)	2	4	8	50	1	3	5	35	0	1	2	10	1	0	1	4	0	0	0	0	0	0	0	1
NEW ZEALAND, Other (1993-2012)	1	4	5	35	1	3	4	28	0	1	0	4	0	0	1	3	0	0	0	0	0	0	0	0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of thyroid carcinoma
Please consult registry-specific background information and quality indicators

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Table 12.3. Skin carcinomas (XIe): sex ratio and numbers of cases by morphology and age

ICD-O-3 code	Skin carcinoma (XIe)						Squamous cell 8050-8053, 8060, 8070-8075, 8078, 8560					Basal cell 8090-8098, 8100-8103, 8110					Other specified					Unspecified 8010-8015, 8020-8022, 8030-8035, 8040, 8041				
Total (N), sex ratio (M/F) and age group (years)	N	M/F	0-4	5-9	10-14	15-19	M/F	0-4	5-9	10-14	15-19	M/F	0-4	5-9	10-14	15-19	M/F	0-4	5-9	10-14	15-19	M/F	0-4	5-9	10-14	15-19
AFRICA																										
ALGERIA, 5 registries (1996-2014)	27	1.5	3	5	6	13	1.3	0	2	2	5	2.3	1	2	4	6	.	0	0	0	0	0.7	2	1	0	2
KENYA, 2 registries (2000-2012)	21	0.9	3	6	3	9	1.4	1	4	1	6	.	0	0	0	0	0.0	1	1	0	0	0.8	1	1	2	3
MOROCCO, 2 registries (2005-2012)	57	1.1	5	10	23	19	3.7	2	5	5	2	0.7	3	5	16	16	.	0	0	1	0	1.0	0	0	1	1
SOUTH AFRICA, paediatric (1998-2012)	30	2.0	10	8	12	-	1.9	8	6	6	-	2.5	0	2	5	-	0.0	0	0	1	-	.	2	0	0	-
SOUTH AFRICA, paediatric, Black (1998-2012)	20	1.9	10	4	6	-	1.8	8	4	5	-	.	0	0	0	-	0.0	0	0	1	-	.	2	0	0	-
TUNISIA, 2 registries (1993-2007)	56	1.1	4	13	16	23	1.6	4	9	6	17	0.6	0	4	10	5	0.0	0	0	0	1	.	0	0	0	0
AMERICA, LATIN AND THE CARIBBEAN																										
ARGENTINA, paediatric (2000-2013)	27	1.7	2	12	13	-	.	0	1	1	-	1.7	0	8	8	-	.	0	1	1	-	0.8	2	2	3	-
ARGENTINA, 6 registries (1991-2013)	29	1.6	0	3	8	18	0.3	0	0	0	5	2.5	0	3	7	11	.	0	0	0	0	2.0	0	0	1	2
BRAZIL, 5 registries (1995-2012)	83	0.7	2	10	21	50	0.6	2	4	6	14	0.8	0	5	14	35	1.0	0	1	0	1	0.0	0	0	1	0
COSTA RICA (1993-2012)	68	1.3	0	8	21	39	0.6	0	3	4	4	1.4	0	5	17	34	.	0	0	0	0	.	0	0	0	1
CUBA (2000-2012)	127	0.8	14	5	21	87	1.1	6	0	4	23	0.6	6	3	14	59	3.0	2	0	0	2	1.0	0	2	3	3
ECUADOR, 5 registries (1993-2013)	46	2.1	2	5	12	27	1.7	0	1	2	5	2.4	2	4	8	20	.	0	0	0	0	1.0	0	0	2	2
URUGUAY (1993-2012)	31	1.2	1	3	7	20	5.0	0	0	2	4	0.7	1	3	4	14	.	0	0	1	1	.	0	0	0	1
AMERICA, NORTH																										
CANADA, 9 registries (1992-2013)	174	0.9	4	20	44	106	1.6	0	1	5	17	0.8	3	17	35	86	0.3	0	1	4	3	1.0	1	1	0	0
USA (1998-2012)	115	0.8	5	8	40	62	0.4	2	0	0	11	.	0	0	0	0	0.8	3	8	40	50	0.0	0	0	0	1
USA, White NH (1998-2012)	73	0.8	4	3	25	41	0.5	2	0	0	4	.	0	0	0	0	0.9	2	3	25	36	0.0	0	0	0	1
USA, NPCR (1998-2012)	111	0.8	5	8	39	59	0.5	2	0	0	10	.	0	0	0	0	0.8	3	8	39	48	0.0	0	0	0	1
USA, SEER 18 (1993-2012)	38	0.9	1	2	12	23	1.0	0	0	1	5	.	0	0	0	0	0.9	1	2	11	18	.	0	0	0	0
ASIA																										
CHINA, 6 registries (1990-2013)	27	1.1	0	4	10	13	4.0	0	0	1	4	0.6	0	3	3	5	0.8	0	0	5	2	3.0	0	1	1	2
INDIA, 7 registries (1990-2013)	75	1.5	12	8	30	25	2.0	5	4	14	13	1.3	4	4	7	6	1.0	1	0	2	3	1.0	2	0	7	3
JORDAN, Jordanians (2000-2012)	25	1.8	3	5	7	10	1.4	2	4	5	6	4.0	1	1	2	1	.	0	0	0	0	2.0	0	0	0	3
REPUBLIC OF KOREA (1999-2012)	59	0.9	5	13	18	23	1.3	4	1	5	6	0.7	1	9	10	15	5.0	0	2	2	2	0.0	0	1	1	0
PHILIPPINES, 2 registries (1993-2012)	34	1.0	5	1	10	18	1.6	0	0	2	11	0.3	2	1	4	3	2.0	0	0	3	3	1.5	3	0	1	1
SAUDI ARABIA, Riyadh (1994-2012)	27	0.6	2	7	8	10	1.3	2	1	0	6	0.3	0	5	7	3	.	0	0	0	1	1.0	0	1	1	0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	20	0.5	2	4	7	7	0.8	2	1	0	4	0.2	0	3	6	2	.	0	0	0	1	.	0	0	1	0
THAILAND, 6 registries (1993-2013)	32	0.8	2	4	7	19	0.7	1	3	5	13	1.0	1	1	2	6	.	0	0	0	0	.	0	0	0	0
TURKEY, 8 registries (1992-2012)	94	1.0	3	7	26	58	1.3	1	1	13	13	0.9	2	6	13	45	.	0	0	0	0	.	0	0	0	0
EUROPE																										
BELARUS, paediatric (1990-2014)	61	1.2	1	1	17	42	0.8	1	0	2	6	1.3	0	0	15	35	1.0	0	1	0	1	.	0	0	0	0
BELGIUM (2004-2013)	107	0.6	1	11	33	62	0.5	1	0	4	10	0.7	0	10	28	51	0.5	0	1	1	1	.	0	0	0	0
BULGARIA (1990-2013)	47	1.0	0	3	11	33	1.3	0	1	1	7	0.8	0	2	9	25	.	0	0	1	0	.	0	0	0	1
CZECH REPUBLIC (1990-2012)	131	0.6	2	16	34	79	1.2	0	2	4	5	0.6	2	13	27	72	2.0	0	0	1	2	0.5	0	1	2	0
FRANCE, paediatric (2000-2012)	34	0.8	2	16	16	-	0.5	1	1	1	-	0.8	1	15	13	-	1.0	0	0	2	-	.	0	0	0	-
FRANCE, 13 registries (1993-2012)	20	1.0	2	2	3	13	0.7	2	2	2	9	.	0	0	0	0	4.0	0	0	1	4	.	0	0	0	0
GERMANY, 6 Eastern states (2001-2007)	28	1.3	0	2	1	25	1.0	0	0	0	4	1.1	0	2	1	18	.	0	0	0	3	.	0	0	0	0
GERMANY, 5 Western registries (1994-2012)	124	0.8	5	5	24	90	0.6	1	1	1	13	0.8	4	4	23	74	1.0	0	0	0	2	.	0	0	0	1
IRELAND (1994-2012)	62	0.6	0	1	6	55	1.7	0	0	1	7	0.5	0	0	5	46	.	0	1	0	2	.	0	0	0	0
ITALY, 26 registries (1992-2013)	167	0.6	5	16	32	114	1.1	2	3	5	7	0.5	3	12	23	103	2.0	0	1	3	2	2.0	0	0	1	2
THE NETHERLANDS (1993-2013)	35	0.8	2	5	11	17	0.9	2	4	10	15	.	0	0	0	0	0.3	0	1	1	2	.	0	0	0	0
POLAND (2001-2013)	93	0.7	3	3	19	68	0.6	0	0	4	7	0.5	2	1	6	34	1.0	0	0	0	2	0.9	1	2	9	25
PORTUGAL (1991-2012)	38	0.8	4	4	7	23	0.8	2	0	3	6	1.0	1	2	2	13	1.0	0	0	0	2	0.4	1	2	2	2
RUSSIAN FEDERATION, 2 registries (1998-2015)	32	4.3	0	2	2	28	.	0	0	0	21	0.8	0	1	1	7	.	0	0	1	0	0.0	0	1	0	0
SLOVAKIA (1990-2009)	45	1.1	1	1	5	38	.	0	0	0	2	1.0	1	1	5	35	.	0	0	0	1	.	0	0	0	0
SLOVENIA (1991-2012)	20	0.8	0	1	7	12	2.0	0	0	0	3	0.8	0	1	6	9	0.0	0	0	1	0	.	0	0	0	0
SPAIN, 11 registries (1990-2013)	70	0.5	1	2	18	49	0.8	0	1	2	4	0.5	1	1	16	44	0.0	0	0	0	1	.	0	0	0	0
SWITZERLAND, 7 registries (1990-2013)	26	0.7	0	2	8	16	0.3	0	0	1	3	0.8	0	2	7	12	.	0	0	0	1	.	0	0	0	0
UKRAINE (2002-2012)	151	1.5	1	3	18	129	1.3	1	0	1	25	1.5	0	3	16	98	1.0	0	0	0	2	1.5	0	0	1	4
UNITED KINGDOM (2000-2011)	72	1.0	1	4	12	55	1.8	0	1	2	8	1.0	1	2	10	44	0.0	0	0	0	1	0.0	0	1	0	2
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	202	1.0	11	54	137	-	0.8	2	7	12	-	1.0	8	40	117	-	1.3	0	3	6	-	0.4	1	4	2	-

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results
Dataset presented only if eligible (see Chapter 5) and contains 20 or more cases of skin carcinoma
Please consult registry-specific background information and quality indicators

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Chapter 13. Laterality of selected tumours occurring in paired organs

Table 13.1. Retinoblastoma (V, age 0-14 years): numbers of cases by age and laterality

Age in years	0			1			2			3-4			5-14			0-14		
Laterality	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown
AFRICA																		
EGYPT, Gharbiah (1999 - 2010)	4	3	0	1	3	1	1	8	0	1	4	0	0	1	0	7	19	1
SOUTH AFRICA, paediatric (1998 - 2012)	35	72	3	50	87	9	45	139	5	27	96	10	10	51	4	167	445	31
SOUTH AFRICA, paediatric, Black (1998 - 2012)	24	53	1	40	74	8	41	122	3	23	87	10	10	49	4	138	385	26
AMERICA, LATIN AND THE CARIBBEAN																		
COSTA RICA (1993 - 2012)	7	19	0	6	16	0	2	17	0	1	12	0	0	7	0	16	71	0
HONDURAS, Francisco Morazán (2002 - 2012)	0	6	0	0	4	0	0	3	0	0	4	0	1	3	0	1	20	0
JAMAICA, Kingston and St Andrew (1982 - 2012)	0	6	0	2	9	0	0	6	0	0	5	0	0	3	0	2	29	0
MEXICO, Mexico City, paediatric (1997 - 2013)	1	5	0	8	11	0	1	12	0	1	6	0	0	1	0	11	35	0
PERU, Lima (2010 - 2012)	2	4	1	0	8	0	0	14	0	0	4	0	0	4	0	2	34	1
AMERICA, NORTH																		
* USA (1998-2002, 2008-2012)	626	605	13	208	512	5	54	462	1	24	306	3	4	114	1	916	1999	23
* USA, API (1998-2002, 2008-2012)	21	34	2	10	29	0	2	33	0	2	13	0	0	6	0	35	115	2
* USA, Black (1998-2002, 2008-2012)	100	89	3	31	82	1	16	90	0	2	47	1	0	17	1	149	325	6
* USA, Hispanic White (1998-2002, 2008-2012)	138	140	3	64	134	3	11	115	1	5	80	0	1	30	0	219	499	7
* USA, Native American (1998-2002, 2008-2012)	4	8	0	1	4	0	0	3	0	0	1	0	0	2	0	5	18	0
* USA, White NH (1998-2002, 2008-2012)	345	308	5	95	243	1	25	209	0	15	152	1	3	56	0	483	968	7
* USA, NPCR (1998-2002, 2008-2012)	514	484	9	173	406	3	46	372	1	18	255	3	4	91	1	755	1608	17
* USA, NPCR, API (1998-2002, 2008-2012)	14	20	0	10	21	0	2	20	0	0	12	0	0	4	0	26	77	0
* USA, NPCR, Black (1998-2002, 2008-2012)	81	73	2	28	69	1	15	83	0	2	38	1	0	14	1	126	277	5
* USA, NPCR, Hispanic White (1998-2002, 2008-2012)	113	107	3	51	100	1	8	85	1	3	65	0	1	24	0	176	381	5
* USA, NPCR, White NH (1998-2002, 2008-2012)	289	257	4	77	193	1	21	172	0	13	129	1	3	45	0	403	796	6
USA, SEER 18 (1993 - 2012)	251	265	3	86	233	4	24	222	1	9	123	1	0	48	0	370	891	9
USA, SEER 18, API (1993 - 2012)	13	22	2	9	32	0	0	23	0	2	7	0	0	5	0	24	89	2
USA, SEER 18, Black (1993 - 2012)	42	34	0	9	41	0	4	41	0	0	15	0	0	3	0	55	134	0
USA, SEER 18, Hispanic White (1993 - 2012)	78	69	0	35	61	3	10	62	0	3	36	1	0	17	0	126	245	4
USA, SEER 18, Native American (1993 - 2012)	3	6	0	1	3	0	0	3	0	0	3	0	0	2	0	4	17	0
USA, SEER 18, White NH (1993 - 2012)	110	129	1	29	93	1	10	89	1	4	57	0	0	21	0	153	389	3
USA, SEER 9, Black (1993 - 2012)	19	12	0	3	23	0	2	17	0	0	6	0	0	1	0	24	59	0
USA, SEER 9, White (1993 - 2012)	72	80	0	16	53	2	10	47	1	3	34	1	0	16	0	101	230	4
ASIA																		
TURKEY, paediatric (2009 - 2011)	36	31	0	9	33	0	13	22	0	5	11	0	1	10	0	64	107	0
TURKEY, 8 registries (1992 - 2012)	24	34	3	9	19	2	9	15	0	0	10	0	3	8	1	45	86	6
EUROPE																		
BELARUS, paediatric (1990 - 2014)	22	28	0	8	30	1	6	28	2	1	17	0	0	7	0	37	110	3
CZECH REPUBLIC (1990 - 2012)	22	24	2	8	28	0	4	26	0	0	19	1	1	4	0	35	101	3
FRANCE, paediatric (2000 - 2012)	138	143	0	46	131	0	11	82	0	4	65	0	2	22	0	201	443	0
FRANCE, 13 registries (1993 - 2012)	21	29	3	5	36	2	1	10	0	0	16	1	0	2	0	27	93	6
GERMANY, paediatric (1996 - 2012)	180	128	1	38	118	1	16	91	2	7	58	0	2	29	0	243	424	4
HUNGARY, paediatric (1991 - 2014)	27	26	0	12	19	0	2	17	1	0	18	0	0	7	0	41	87	1
IRELAND (1994 - 2012)	6	8	1	5	18	0	1	16	0	1	7	0	0	1	0	13	50	1
ITALY, Piedmont, paediatric (1990 - 2011)	17	8	0	3	13	0	1	7	0	1	3	0	0	1	0	22	32	0
THE NETHERLANDS (1993 - 2013)	67	42	0	17	38	0	9	39	0	2	26	2	0	19	0	95	164	2
RUSSIAN FEDERATION, Moscow region, paediatric (2000 - 2009)	4	2	0	4	4	0	0	8	1	0	3	0	0	3	0	8	20	1
SLOVAKIA (1990 - 2009)	15	7	0	3	14	0	1	7	0	0	7	0	0	4	0	19	39	0
SLOVENIA (1991 - 2012)	1	2	0	1	5	0	1	4	0	0	8	0	0	0	0	3	19	0
SPAIN, 2 paediatric registries (1991 - 2013)	38	40	0	22	33	0	4	33	1	5	24	2	0	13	0	69	143	3
SPAIN, selected regions, paediatric (2000 - 2013)	32	35	0	18	23	0	3	24	1	1	16	1	0	7	0	54	105	2
SPAIN, Valencia, paediatric (1991 - 2010)	6	5	0	4	10	0	1	9	0	4	8	1	0	6	0	15	38	1
SWITZERLAND, paediatric (1990 - 2013)	33	26	0	3	22	1	2	17	2	1	9	0	0	8	0	39	82	3
UNITED KINGDOM, England and Wales, paediatric (1991 - 2010)	191	139	3	53	123	4	18	106	4	6	107	1	1	36	1	269	511	13
OCEANIA																		
NEW ZEALAND, paediatric, Non-Maori (2000 - 2012)	7	5	0	4	7	0	0	10	1	0	5	1	0	4	0	11	31	2

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); Bi., bilateral; N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results; Uni., unilateral
*Laterality provided only for the specified calendar period
Dataset presented only if eligible (see Chapter 5) and contains 20 or more retinoblastoma cases, of which 5% or fewer with unknown laterality
Please consult the registry-specific background information and quality indicators

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Table 13.2. Nephroblastoma (VIa1, age 0-14 years): numbers of cases by age and laterality

Age in years	0			1			2			3-4			5-14			0-14		
Laterality	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown
AFRICA																		
SOUTH AFRICA, paediatric (1998 - 2012)	20	90	7	43	143	4	43	157	5	79	288	15	61	213	23	246	891	54
SOUTH AFRICA, paediatric, Black (1998 - 2012)	15	67	4	25	124	3	34	139	2	54	241	12	55	179	19	183	750	40
AMERICA, LATIN AND THE CARIBBEAN																		
COSTA RICA (1993 - 2012)	0	13	0	0	19	0	0	16	0	2	21	0	0	34	0	2	103	0
HONDURAS, Francisco Morazán (2002 - 2012)	0	3	0	0	2	0	0	5	0	0	9	0	0	1	0	0	20	0
MEXICO, Mexico City, paediatric (1997 - 2013)	1	2	0	0	3	0	1	8	0	1	14	0	0	16	1	3	43	1
AMERICA, NORTH																		
* USA (1998-2002, 2008-2012)	90	529	9	95	767	6	69	790	8	123	1521	16	48	1269	23	425	4876	62
* USA, API (1998-2002, 2008-2012)	4	17	0	1	23	0	0	27	0	3	35	0	0	19	2	8	121	2
* USA, Black (1998-2002, 2008-2012)	15	74	1	14	130	0	12	127	1	18	309	2	6	262	4	65	902	8
* USA, Hispanic White (1998-2002, 2008-2012)	22	87	3	18	138	1	7	130	4	18	232	0	5	175	4	70	762	12
* USA, Native American (1998-2002, 2008-2012)	0	7	0	0	5	0	0	5	0	3	12	0	0	5	0	3	34	0
* USA, White NH (1998-2002, 2008-2012)	47	320	5	58	442	5	50	486	3	81	887	14	37	776	13	273	2911	40
* USA, NPCR (1998-2002, 2008-2012)	79	444	8	77	636	6	56	651	5	104	1280	12	43	1053	19	359	4064	50
* USA, NPCR, API (1998-2002, 2008-2012)	1	14	0	0	15	0	0	22	0	3	26	0	0	14	1	4	91	1
* USA, NPCR, Black (1998-2002, 2008-2012)	14	69	1	13	114	0	11	112	1	17	259	2	4	224	3	59	778	7
* USA, NPCR, Hispanic White (1998-2002, 2008-2012)	17	68	3	11	113	1	3	96	3	13	191	0	5	137	3	49	605	10
* USA, NPCR, Native American (1998-2002, 2008-2012)	0	6	0	0	5	0	0	4	0	2	11	0	0	2	0	2	28	0
* USA, NPCR, White NH (1998-2002, 2008-2012)	45	267	4	49	367	5	42	406	1	69	751	10	34	646	12	239	2437	32
USA, SEER 18 (1993 - 2012)	41	218	4	37	305	1	23	336	3	44	589	7	9	504	5	154	1952	20
USA, SEER 18, API (1993 - 2012)	3	12	0	1	16	0	0	17	0	0	24	0	0	14	1	4	83	1
USA, SEER 18, Black (1993 - 2012)	9	22	0	3	41	0	3	50	0	4	115	1	2	110	1	21	338	2
USA, SEER 18, Hispanic White (1993 - 2012)	13	55	1	10	79	0	4	75	0	15	138	3	1	103	1	43	450	5
USA, SEER 18, Native American (1993 - 2012)	1	4	0	0	3	0	0	7	0	1	6	0	0	5	0	2	25	0
USA, SEER 18, White NH (1993 - 2012)	14	123	3	23	160	1	16	183	3	24	300	3	6	269	2	83	1035	12
USA, SEER 9, Black (1993 - 2012)	7	16	0	2	19	0	1	23	0	1	39	1	1	57	1	12	154	2
USA, SEER 9, White (1993 - 2012)	10	66	1	11	94	0	7	99	1	15	179	1	4	150	1	47	588	4
ASIA																		
BAHRAIN (1998 - 2012)	0	2	0	0	6	0	0	7	0	0	4	0	1	2	0	1	21	0
TURKEY, paediatric (2009 - 2011)	6	29	0	6	32	0	1	37	0	6	79	0	4	56	1	23	233	1
TURKEY, 8 registries (1992 - 2012)	13	29	0	9	21	1	7	31	1	20	56	2	10	43	4	59	180	8
EUROPE																		
BELARUS, paediatric (1990 - 2014)	4	41	0	2	39	0	3	63	0	6	71	1	4	81	0	19	295	1
BELGIUM (2004 - 2013)	2	20	1	2	20	0	0	30	0	2	33	0	2	27	0	8	130	1
ESTONIA (1990 - 2012)	1	8	0	0	8	0	0	4	0	2	11	0	1	14	2	4	45	2
FRANCE, paediatric (2000 - 2012)	30	138	1	24	174	0	7	185	0	18	321	0	5	251	0	84	1069	1
FRANCE, 13 registries (1993 - 2012)	6	42	2	1	39	0	3	33	0	1	74	1	1	60	0	12	248	3
GERMANY, paediatric (1996 - 2012)	25	218	2	29	249	0	14	234	0	28	422	1	11	396	1	107	1519	4
GERMANY, 6 Eastern states (2001 - 2007)	1	14	1	1	19	0	0	15	0	2	24	2	0	34	2	4	106	5
HUNGARY, paediatric (1991 - 2014)	9	36	0	5	41	0	2	42	0	4	78	0	2	62	0	22	259	0
IRELAND (1994 - 2012)	1	13	0	2	14	1	2	19	2	0	34	0	0	25	1	5	105	4
ITALY, Piedmont, paediatric (1990 - 2011)	0	13	0	2	12	0	2	13	0	6	20	1	0	21	0	10	79	1
THE NETHERLANDS (1993 - 2013)	8	47	3	12	77	0	6	85	1	6	143	2	3	114	2	35	466	8
RUSSIAN FEDERATION, Moscow region, paediatric (2000 - 2009)	2	9	0	1	9	0	3	6	0	0	14	0	2	14	0	8	52	0
RUSSIAN FEDERATION, 2 registries (1998 - 2015)	1	24	1	0	16	0	0	17	0	0	17	0	0	28	3	1	102	4
SLOVAKIA (1990 - 2009)	2	24	0	4	24	0	1	20	0	1	33	0	2	46	0	10	147	0
SLOVAKIA, paediatric (2000 - 2012)	3	15	2	2	10	1	1	10	0	1	24	1	1	27	0	8	86	4
SLOVENIA (1991 - 2012)	0	6	0	1	16	0	2	10	0	0	15	0	0	10	0	3	57	0
SPAIN, 2 paediatric registries (1991 - 2013)	6	55	1	11	51	1	2	52	1	10	79	3	2	61	3	31	298	9
SPAIN, selected regions, paediatric (2000 - 2013)	5	38	1	9	39	1	1	38	1	10	57	2	1	42	2	26	214	7
SPAIN, Valencia, paediatric (1991 - 2010)	1	17	0	2	12	0	1	14	0	0	22	1	1	19	1	5	84	2

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); Bi., bilateral; N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results; Uni., unilateral

*Laterality provided only for the specified calendar period

Dataset presented only if eligible (see Chapter 5) and contains 20 or more nephroblastoma cases, of which 5% or fewer with unknown laterality

Please consult the registry-specific background information and quality indicators

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Table 13.2. Nephroblastoma (Vla1, age 0-14 years): numbers of cases by age and laterality

Age in years	0			1			2			3-4			5-14			0-14		
Laterality	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown
SWITZERLAND, paediatric (1990 - 2013)	3	25	0	1	37	0	4	27	0	6	56	0	1	62	1	15	207	1
SWITZERLAND, 7 registries (1990 - 2013)	0	11	0	0	10	0	1	9	0	0	19	0	2	25	0	3	74	0
UNITED KINGDOM, England and Wales, paediatric (1991 - 2010)	28	126	1	33	200	6	19	211	1	21	406	5	5	303	4	106	1246	17
* UNITED KINGDOM, Scotland (2008-2013)	0	2	0	0	5	0	0	2	0	4	9	0	0	3	0	4	21	0
OCEANIA																		
NEW ZEALAND, paediatric (2000 - 2012)	1	12	0	0	16	0	1	13	1	2	17	0	2	11	1	6	69	2
NEW ZEALAND, paediatric, Non-Maori (2000 - 2012)	1	10	0	0	14	0	1	12	0	2	14	0	2	11	1	6	61	1

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); Bi., bilateral; N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results; Uni., unilateral
*Laterality provided only for the specified calendar period
Dataset presented only if eligible (see Chapter 5) and contains 20 or more nephroblastoma cases, of which 5% or fewer with unknown laterality
Please consult the registry-specific background information and quality indicators

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Table 13.3. Ovarian tumours (female - Xc, Xd, Xe): numbers of cases by age and laterality

Age in years	0-4			5-9			10-14			15-19			Total		
Laterality	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown
AMERICA, LATIN AND THE CARIBBEAN															
COSTA RICA (1993 - 2012)	0	3	0	0	8	0	0	44	0	2	61	0	2	116	0
AMERICA, NORTH															
* USA (1998-2002, 2008-2012)	4	62	5	9	249	5	29	743	14	132	1318	45	174	2372	69
* USA, API (1998-2002, 2008-2012)	0	1	0	0	18	0	1	48	0	4	81	6	5	148	6
* USA, Black (1998-2002, 2008-2012)	1	16	1	2	50	2	4	130	2	19	209	7	26	405	12
* USA, Hispanic White (1998-2002, 2008-2012)	1	14	0	3	58	1	5	203	3	21	311	8	30	586	12
* USA, White NH (1998-2002, 2008-2012)	2	28	3	3	117	2	18	340	9	82	675	23	105	1160	37
* USA, NPCR (1998-2002, 2008-2012)	4	51	5	7	207	3	26	579	12	105	1061	40	142	1898	60
* USA, NPCR, API (1998-2002, 2008-2012)	0	0	0	0	14	0	1	37	0	2	54	5	3	105	5
* USA, NPCR, Black (1998-2002, 2008-2012)	1	14	1	2	46	1	3	111	1	15	168	5	21	339	8
* USA, NPCR, Hispanic White (1998-2002, 2008-2012)	1	10	0	2	45	0	4	148	3	15	245	8	22	448	11
* USA, NPCR, White NH (1998-2002, 2008-2012)	2	24	3	2	97	2	17	265	8	68	562	21	89	948	34
USA, SEER 18 (1993 - 2012)	0	23	0	3	104	2	8	339	5	51	583	14	62	1049	21
USA, SEER 18, API (1993 - 2012)	0	1	0	0	12	0	0	34	0	2	67	2	2	114	2
USA, SEER 18, Black (1993 - 2012)	0	4	0	1	16	0	1	40	2	6	75	2	8	135	4
USA, SEER 18, Hispanic White (1993 - 2012)	0	7	0	1	31	1	3	117	1	13	182	2	17	337	4
USA, SEER 18, White NH (1993 - 2012)	0	10	0	1	42	1	4	139	2	27	245	8	32	436	11
USA, SEER 9, Black (1993 - 2012)	0	1	0	0	2	0	0	16	0	1	28	1	1	47	1
USA, SEER 9, White (1993 - 2012)	0	6	0	1	21	0	0	86	1	17	164	5	18	277	6
ASIA															
TURKEY, 8 registries (1992 - 2012)	0	7	1	4	10	1	12	34	0	22	49	4	38	100	6
EUROPE															
ESTONIA (1990 - 2012)	0	1	0	0	1	0	2	7	0	7	5	0	9	14	0
FRANCE, paediatric (2000 - 2012)	0	12	0	3	44	2	8	131	1	-	-	-	11	187	3
FRANCE, 13 registries (1993 - 2012)	0	0	0	0	10	0	1	26	2	4	54	2	5	90	4
GERMANY, paediatric (1996 - 2012)	4	12	0	5	68	1	11	173	7	-	-	-	20	253	8
HUNGARY, paediatric (1991 - 2014)	0	1	0	0	10	0	1	29	0	-	-	-	1	40	0
THE NETHERLANDS (1993 - 2013)	0	4	0	1	18	0	3	64	0	5	74	1	9	160	1
SLOVAKIA (1990 - 2009)	1	4	0	0	5	0	0	15	0	10	43	0	11	67	0
SLOVENIA (1991 - 2012)	0	0	0	0	2	0	2	12	0	3	18	1	5	32	1
SWITZERLAND, paediatric (1990 - 2013)	0	2	0	1	5	0	2	22	1	-	-	-	3	29	1

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); Bi., bilateral; N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results; Uni., unilateral
*Laterality provided only for the specified calendar period
Dataset presented only if eligible (see Chapter 5) and contains 20 or more ovarian tumour cases, of which 5% or fewer with unknown laterality
Please consult the registry-specific background information and quality indicators

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Table 13.4. Testicular tumours (male - Xc, Xd, Xe): numbers of cases by age and laterality

Age in years	0-4			5-9			10-14			15-19			Total		
Laterality	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown	Bi.	Uni.	Unknown
AMERICA, LATIN AND THE CARIBBEAN															
COSTA RICA (1993 - 2012)	0	16	0	0	1	0	0	11	0	2	131	0	2	159	0
MEXICO, Mexico City, paediatric (1997 - 2013)	0	24	1	0	0	0	1	10	0	-	-	-	1	34	1
AMERICA, NORTH															
* USA (1998-2002, 2008-2012)	0	452	6	0	18	2	2	170	6	28	4096	69	30	4736	83
* USA, API (1998-2002, 2008-2012)	0	47	0	0	2	0	0	5	0	1	88	1	1	142	1
* USA, Black (1998-2002, 2008-2012)	0	15	1	0	2	0	0	4	1	0	97	3	0	118	5
* USA, Hispanic White (1998-2002, 2008-2012)	0	139	1	0	6	2	0	47	1	3	976	19	3	1168	23
* USA, Native American (1998-2002, 2008-2012)	0	3	0	0	0	0	0	4	0	0	38	1	0	45	1
* USA, White NH (1998-2002, 2008-2012)	0	222	3	0	8	0	2	105	4	23	2764	42	25	3099	49
* USA, NPCR (1998-2002, 2008-2012)	0	371	6	0	14	1	0	128	5	23	3245	60	23	3758	72
* USA, NPCR, API (1998-2002, 2008-2012)	0	34	0	0	2	0	0	5	0	1	51	1	1	92	1
* USA, NPCR, Black (1998-2002, 2008-2012)	0	11	1	0	2	0	0	3	1	0	79	3	0	95	5
* USA, NPCR, Hispanic White (1998-2002, 2008-2012)	0	110	1	0	4	1	0	32	1	3	779	17	3	925	20
* USA, NPCR, Native American (1998-2002, 2008-2012)	0	2	0	0	0	0	0	3	0	0	28	1	0	33	1
* USA, NPCR, White NH (1998-2002, 2008-2012)	0	190	3	0	6	0	0	82	3	19	2203	35	19	2481	41
USA, SEER 18 (1993 - 2012)	0	206	1	0	9	1	2	69	1	10	1678	22	12	1962	25
USA, SEER 18, API (1993 - 2012)	0	32	0	0	1	0	0	3	0	0	64	0	0	100	0
USA, SEER 18, Black (1993 - 2012)	0	11	0	0	1	0	0	2	0	0	39	2	0	53	2
USA, SEER 18, Hispanic White (1993 - 2012)	0	81	0	0	3	1	0	28	0	3	551	7	3	663	8
USA, SEER 18, Native American (1993 - 2012)	0	2	0	0	0	0	0	1	0	0	17	1	0	20	1
USA, SEER 18, White NH (1993 - 2012)	0	77	1	0	3	0	2	34	1	7	991	11	9	1105	13
USA, SEER 9, Black (1993 - 2012)	0	8	0	0	1	0	0	2	0	0	19	1	0	30	1
USA, SEER 9, White (1993 - 2012)	0	51	0	0	3	0	0	22	0	2	573	9	2	649	9
ASIA															
TURKEY, paediatric (2009 - 2011)	0	38	0	0	2	0	0	5	0	-	-	-	0	45	0
EUROPE															
CZECH REPUBLIC (1990 - 2012)	0	16	2	0	3	1	1	16	1	0	344	8	1	379	12
ESTONIA (1990 - 2012)	0	2	0	0	0	0	0	1	0	0	21	0	0	24	0
FRANCE, paediatric (2000 - 2012)	0	71	1	0	1	0	0	25	0	-	-	-	0	97	1
FRANCE, 13 registries (1993 - 2012)	0	20	1	0	0	0	0	8	0	0	164	7	0	192	8
GERMANY, paediatric (1996 - 2012)	0	111	0	0	2	0	0	35	0	-	-	-	0	148	0
IRELAND (1994 - 2012)	0	11	0	0	0	0	0	7	0	1	95	4	1	113	4
ITALY, 2 paediatric registries (1998 - 2011)	0	6	1	0	0	0	1	2	0	5	51	2	6	59	3
ITALY, Piedmont, paediatric (2000 - 2011)	0	6	0	0	0	0	0	1	0	0	45	0	0	52	0
THE NETHERLANDS (1993 - 2013)	0	29	0	0	1	0	0	16	0	15	467	0	15	513	0
SLOVAKIA (1990 - 2009)	0	23	2	0	1	0	0	17	1	7	217	3	7	258	6
SLOVENIA (1991 - 2012)	0	4	0	0	1	0	0	2	0	0	66	0	0	73	0
SWITZERLAND, paediatric (1990 - 2013)	0	20	0	0	1	0	1	11	0	-	-	-	1	32	0
SWITZERLAND, 7 registries (1990 - 2013)	0	10	0	0	0	0	0	5	0	0	73	1	0	88	1
UNITED KINGDOM, England and Wales, paediatric (1991 - 2010)	0	107	3	1	3	0	1	32	4	-	-	-	2	142	7
* UNITED KINGDOM, Scotland (2008-2013)	0	0	0	0	0	0	0	0	0	0	25	0	0	25	0

API, Asian Pacific Islander; ASR, age-standardized incidence rates (World standard); Bi., bilateral; N, number of cases; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results; Uni., unilateral
*Laterality provided only for the specified calendar period
Dataset presented only if eligible (see Chapter 5) and contains 20 or more testicular tumour cases, of which 5% or fewer with unknown laterality
Please consult the registry-specific background information and quality indicators

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Annex tables

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

[1] Parkin et al, 1988; [2] Parkin et al, 1998; [3] current publication; published in Scientific Publications series of the International Agency for Research on Cancer.

Note on contribution: Frequency — data not population-based, presented without incidence rates; Pool — data not tabulated separately, but included in a pool; Period — years included in or excluded from a table; # Washington State, Seattle since 1974; Georgia, Atlanta since 1975; ¤ includes separate tables for the former FRG and GDR.

API, Asian Pacific Islander; CNS, central nervous system; DCLSG, Dutch Childhood Leukaemia Study Group; FRG, Federal Republic of Germany; GDR, German Democratic Republic; HM, haematological malignancies; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; PACA, Provence, Alpes et Côte d'Azur; SEER, Surveillance, Epidemiology and End Results.

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
AFRICA						
ALGERIA, 5 registries					1996-2014	
ALGERIA, Algiers					2008-2012	
ALGERIA, Annaba					2000-2010	
ALGERIA, Batna					2008-2012	
ALGERIA, Sétif			1986-1995		1996-2014	
ALGERIA, Tlemcen					2006-2014	
BOTSWANA					1999-2007	
CAMEROON, Yaoundé					2004-2006	
EGYPT, Alexandria			1980-1989			
EGYPT, Gharbiah					1999-2010	
FRANCE, Réunion					1990-2011	
KENYA, 2 registries					2000-2012	
KENYA, Eldoret					2000-2011	
KENYA, Nairobi					2006-2012	
LIBYA, Benghazi					2003-2008	
MADAGASCAR, Institut Pasteur	1959-1983	*Frequency*				
MALAWI, Histopathology registry	1976-1980	*Frequency*	1991-1995	*Frequency*		
MALAWI, Blantyre			1991-1995			
MALI, Bamako			1987-1995		2005-2014	
MAURITIUS					2001-2013	
MOROCCO, Rabat, Children's hospital	1983-1985	*Frequency*				
MOROCCO, 2 registries					2005-2012	
MOROCCO, Casablanca					2005-2012	
MOROCCO, Rabat					2005-2012	
NAMIBIA, paediatric			1983-1992			
NIGERIA, University College Hospital	1960-1984	*Frequency*				
NIGERIA, Ibadan	1960-1969		1985-1992			
SOUTH AFRICA, Black			1988-1991	*Frequency*		

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
SOUTH AFRICA, White			1988-1991	*Frequency*		
SOUTH AFRICA, paediatric					1998-2012	
SOUTH AFRICA, paediatric, Asian					1998-2012	
SOUTH AFRICA, paediatric, Black					1998-2012	
SOUTH AFRICA, paediatric, Coloured					1998-2012	
SOUTH AFRICA, paediatric, White					1998-2012	
SUDAN, Radiation and Isotope Centre, Arab	1967-1984	*Frequency*				
SUDAN, Radiation and Isotope Centre, Sudanic	1967-1984	*Frequency*				
TANZANIA, Histopathology registry	1980-1981	*Frequency*				
TUNISIA, Institut Salah-Azaiz	1969-1982	*Frequency*				
TUNISIA, 2 registries					1993-2007	
TUNISIA, North					1994-2006	
TUNISIA, Sousse					1993-2007	
UGANDA, Kyadondo, Kampala Cancer Registry	1968-1982		1992-1995		1996-2013	
UGANDA, West Nile, Kuluva Hospital	1961-1978	*Frequency*				
ZIMBABWE, Bulawayo	1963-1977	*Frequency*				
ZIMBABWE, Bulawayo	1963-1977					
ZIMBABWE, Harare, African			1990-1994		1995-2013	
AMERICA, LATIN AND THE CARIBBEAN						
ARGENTINA, paediatric					2000-2013	
ARGENTINA, 6 registries					1991-2013	
ARGENTINA, Bahía Blanca					1991-2007	
ARGENTINA, Chaco					2002-2012	
ARGENTINA, Córdoba					2004-2012	
ARGENTINA, Entre Ríos					2001-2011	
ARGENTINA, Mendoza					2003-2012	
ARGENTINA, Neuquén					2003-2013	
BRAZIL, 5 registries					1995-2012	
BRAZIL, Aracaju					1996-2012	
BRAZIL, Belém			1987-1991			
BRAZIL, Belo Horizonte					2000-2006	
BRAZIL, Curitiba					1998-2010	
BRAZIL, Fortaleza	1978-1980					
BRAZIL, Goiânia			1989-1994		1995-2011	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
BRAZIL, João Pessoa					1999-2010	
BRAZIL, Recife	1967-1979					
BRAZIL, São Paulo	1969-1978					
CHILE, paediatric					2007-2011	
CHILE, 4 registries					1998-2012	
CHILE, Antofagasta					2003-2010	
CHILE, Bío Bío					2003-2012	
CHILE, Concepción					2006-2010	
CHILE, Valdivia					1998-2012	
COLOMBIA, 4 registries					1992-2013	
COLOMBIA, Bucaramanga					2000-2012	
COLOMBIA, Cali	1977-1981		1982-1991		1992-2013	
COLOMBIA, Manizales					2003-2012	*Pool: Colombia*
COLOMBIA, Pasto					1998-2012	
COSTA RICA	1980-1983		1984-1992		1993-2012	
CUBA	1970-1981		1986-1990		2000-2012	
ECUADOR, 5 registries					1993-2013	
ECUADOR, Cuenca					1996-2013	
ECUADOR, Guayaquil					2008-2012	
ECUADOR, Loja					1997-2013	
ECUADOR, Manabí					1995-2011	
ECUADOR, Quito			1985-1992		1993-2012	
FRANCE, 3 registries					1990-2012	
FRANCE, French Guiana					2003-2012	
FRANCE, Guadeloupe					2008-2012	*Pool: France, Latin America and the Caribbean*
FRANCE, Martinique					1990-2012	
HONDURAS, Francisco Morazán					2002-2012	
JAMAICA, Kingston and St Andrew	1968-1981				1982-2012	
MEXICO, Mexico City, paediatric					1997-2013	
PERU, Lima			1990-1991		2010-2012	
PERU, Trujillo					1990-2002	
USA, Puerto Rico	1973-1982		1983-1991		1992-2012	
URUGUAY			1988-1992		1993-2012	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
AMERICA, NORTH						
CANADA			1982-1991			
CANADA, Atlantic Provinces	1970-1979		1982-1991			
CANADA, Western Provinces	1970-1979					
CANADA, 9 registries					1992-2013	
CANADA, Alberta	1970-1979	*Pool: Western provinces*	1982-1991		1992-2013	
CANADA, British Columbia	1970-1979	*Pool: Western provinces*	1982-1991		1992-2013	
CANADA, Manitoba	1970-1979	*Pool: Western provinces*	1982-1991		1992-2013	
CANADA, New Brunswick	1970-1979	*Pool: Atlantic provinces*	1982-1991	*Pool: Atlantic provinces*		
CANADA, Newfoundland	1970-1979	*Pool: Atlantic provinces*	1982-1991	*Pool: Atlantic provinces*		
CANADA, Northwest Territories			1982-1991	*Pool: Canada*	1992-2012	*Pool: Canada*
CANADA, Nova Scotia	1970-1979	*Pool: Atlantic provinces*	1982-1991	*Pool: Atlantic provinces*	1992-2013	
CANADA, Ontario			1985-1991		1992-2012	
CANADA, Prince Edward Island	1970-1979	*Pool: Atlantic provinces*	1982-1991	*Pool: Atlantic provinces*		
CANADA, Quebec			1982-1991		1992-2010	
CANADA, Saskatchewan	1970-1979	*Pool: Western provinces*	1982-1991		1992-2013	
CANADA, Yukon			1982-1991	*Pool: Canada*	1992-2013	*Pool: Canada*
USA					1998-2012	
USA, API					1998-2012	
USA, Black					1998-2012	
USA, Hispanic White					1998-2012	
USA, Native American					1998-2012	
USA, White NH					1998-2012	
USA, NPCR					1998-2012	
USA, NPCR, API					1998-2012	
USA, NPCR, Black					1998-2012	
USA, NPCR, Hispanic White					1998-2012	
USA, NPCR, Native American					1998-2012	
USA, NPCR, White NH					1998-2012	
USA, SEER 18					1993-2012	
USA, SEER 18, API					1993-2012	
USA, SEER 18, Black					1993-2012	
USA, SEER 18, Hispanic White					1993-2012	
USA, SEER 18, Native American					1993-2012	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, SEER 18, White NH					1993-2012	
USA, SEER 9, Black	1973-1982	#	1983-1992		1993-2012	
USA, SEER 9, White	1973-1982	#	1983-1992		1993-2012	
USA, Greater Delaware Valley, paediatric, Black	1970-1979	*Non-White*	1980-1989			
USA, Greater Delaware Valley, paediatric, White	1970-1979		1980-1989	*Non-Black*		
USA, Alabama					1998-2012	
USA, Alabama, API					1998-2012	*Pool: USA, NPCR, API*
USA, Alabama, Black					1998-2012	
USA, Alabama, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Alabama, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Alabama, White NH					1998-2012	
USA, Alaska					1998-2012	
USA, Alaska, API					1998-2012	*Pool: USA, NPCR, API*
USA, Alaska, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Alaska, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Alaska, Native American					1998-2012	
USA, Alaska, White NH					1998-2012	
USA, Alaska Natives					1993-2012	
USA, Arizona					1998-2012	
USA, Arizona, API					1998-2012	*Pool: USA, NPCR, API*
USA, Arizona, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Arizona, Hispanic White					1998-2012	
USA, Arizona, Native American					1998-2012	
USA, Arizona, White NH					1998-2012	
USA, Arkansas					1998-2012	
USA, Arkansas, API					1998-2012	*Pool: USA, NPCR, API*
USA, Arkansas, Black					1998-2012	
USA, Arkansas, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Arkansas, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Arkansas, White NH					1998-2012	
USA, California					1998-2012	
USA, California, API					1998-2012	
USA, California, Black					1998-2012	
USA, California, Hispanic White					1998-2012	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, California, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, California, White NH					1998-2012	
USA, California, Greater California					2000-2012	
USA, California, Greater California, API					2000-2012	
USA, California, Greater California, Black					2000-2012	
USA, California, Greater California, Hispanic White					2000-2012	
USA, California, Greater California, Native American					2000-2012	*Pool: USA, SEER 18, Native American*
USA, California, Greater California, White NH					2000-2012	
USA, California, Los Angeles					1993-2012	
USA, California, Los Angeles, API					1993-2012	
USA, California, Los Angeles, Black	1972-1983		1984-1992		1993-2012	
USA, California, Los Angeles, Hispanic	1972-1983		1984-1992			
USA, California, Los Angeles, Hispanic White					1993-2012	
USA, California, Los Angeles, Native American					1993-2012	*Pool: USA, SEER 18, Native American*
USA, California, Los Angeles, White NH	1972-1983		1984-1992		1993-2012	
USA, California, San Francisco					1993-2012	
USA, California, San Francisco, API					1993-2012	
USA, California, San Francisco, Black	1973-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, California, San Francisco, Hispanic White					1993-2012	
USA, California, San Francisco, Native American					1993-2012	*Pool: USA, SEER 18, Native American*
USA, California, San Francisco, White NH					1993-2012	
USA, California, San Francisco, White	1973-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, California, San José-Monterey					1993-2012	
USA, California, San José-Monterey, API					1993-2012	
USA, California, San José-Monterey, Black					1993-2012	*Pool: USA, SEER 18, Black*
USA, California, San José-Monterey, Hispanic White					1993-2012	
USA, California, San José-Monterey, Native American					1993-2012	*Pool: USA, SEER 18, Native American*
USA, California, San José-Monterey, White NH					1993-2012	
USA, Colorado					1998-2012	
USA, Colorado, API					1998-2012	*Pool: USA, NPCR, API*
USA, Colorado, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Colorado, Hispanic White					1998-2012	
USA, Colorado, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Colorado, White NH					1998-2012	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, Connecticut					1993-2012	
USA, Connecticut, API					1993-2012	*Pools: USA, NPCR, SEER 18, API*
USA, Connecticut, Black	1973-1982	*Pool: SEER 9*	1983-1989		1993-2012	
USA, Connecticut, Hispanic White					1993-2012	
USA, Connecticut, Native American					1993-2012	*Pools: USA, NPCR, SEER 18, Native American*
USA, Connecticut, White NH					1993-2012	
USA, Connecticut, White	1973-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, Delaware					1998-2012	
USA, Delaware, API					1998-2012	*Pool: USA, NPCR, API*
USA, Delaware, Black					1998-2012	
USA, Delaware, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Delaware, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Delaware, White NH					1998-2012	
USA, District of Columbia					1998-2012	
USA, District of Columbia, API					1998-2012	*Pool: USA, NPCR, API*
USA, District of Columbia, Black					1998-2012	
USA, District of Columbia, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, District of Columbia, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, District of Columbia, White NH					1998-2012	*Pool: USA, NPCR, White NH*
USA, Florida					1998-2012	
USA, Florida, API					1998-2012	
USA, Florida, Black					1998-2012	
USA, Florida, Hispanic White					1998-2012	
USA, Florida, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Florida, White NH					1998-2012	
USA, Georgia					1998-2012	
USA, Georgia, API					1998-2012	
USA, Georgia, Black					1998-2012	
USA, Georgia, Hispanic White					1998-2012	
USA, Georgia, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Georgia, White NH					1998-2012	
USA, Georgia, Atlanta					1993-2012	
USA, Georgia, Atlanta, API					1993-2012	*Pool: USA, SEER 18, API*
USA, Georgia, Atlanta, Black	1975-1982	*Pool: SEER 9*	1983-1992		1993-2012	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, Georgia, Atlanta, Hispanic White					1993-2012	
USA, Georgia, Atlanta, Native American					1993-2012	*Pool: USA, SEER 18, Native American*
USA, Georgia, Atlanta, White NH					1993-2012	
USA, Georgia, Atlanta, White	1975-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, Georgia, Greater Georgia					2000-2012	*Pool: USA, SEER 18,*
USA, Georgia, Greater Georgia, API					2000-2012	*Pool: USA, SEER 18, API*
USA, Georgia, Greater Georgia, Black					2000-2012	*Pool: USA, SEER 18, Black*
USA, Georgia, Greater Georgia, Hispanic White					2000-2012	*Pool: USA, SEER 18, Hispanic White*
USA, Georgia, Greater Georgia, Native American					2000-2012	*Pool: USA, SEER 18, Native American*
USA, Georgia, Greater Georgia, White NH					2000-2012	*Pool: USA, SEER 18, White NH*
USA, Georgia, Rural					1993-2012	*Pool: USA, SEER 18,*
USA, Georgia, Rural, API					1993-2012	*Pool: USA, SEER 18, API*
USA, Georgia, Rural, Black					1993-2012	*Pool: USA, SEER 18, Black*
USA, Georgia, Rural, Hispanic White					1993-2012	*Pool: USA, SEER 18, Hispanic White*
USA, Georgia, Rural, Native American					1993-2012	*Pool: USA, SEER 18, Native American*
USA, Georgia, Rural, White NH					1993-2012	*Pool: USA, SEER 18, White NH*
USA, Hawaii					1993-2012	
USA, Hawaii, API					1993-2012	
USA, Hawaii, Black	1973-1982	*Pool: SEER 9*	1983-1992	*Pool: SEER 9*	1993-2012	*Pools: USA, NPCR, SEER 18, SEER 9, Black*
USA, Hawaii, Hawaiian			1973-1992		1993-2012	
USA, Hawaii, Hispanic White					1993-2012	*Pools: USA, NPCR, SEER 18, Hispanic White*
USA, Hawaii, Native American					1993-2012	*Pools: USA, NPCR, SEER 18, Native American*
USA, Hawaii, White NH					1993-2012	
USA, Hawaii, White	1973-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, Idaho					1998-2012	
USA, Idaho, API					1998-2012	*Pool: USA, NPCR, API*
USA, Idaho, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Idaho, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Idaho, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Idaho, White NH					1998-2012	
USA, Illinois					1998-2012	
USA, Illinois, API					1998-2012	
USA, Illinois, Black					1998-2012	
USA, Illinois, Hispanic White					1998-2012	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, Illinois, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Illinois, White NH					1998-2012	
USA, Indiana					1998-2012	
USA, Indiana, API					1998-2012	*Pool: USA, NPCR, API*
USA, Indiana, Black					1998-2012	
USA, Indiana, Hispanic White					1998-2012	
USA, Indiana, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Indiana, White NH					1998-2012	
USA, Iowa					1993-2012	
USA, Iowa, API					1993-2012	*Pools: USA, NPCR, SEER 18, API*
USA, Iowa, Black	1973-1982	*Pool: SEER 9*	1983-1992	*Pool: SEER 9*	1993-2012	*Pools: USA, NPCR, SEER 18, SEER 9, Black*
USA, Iowa, Hispanic White					1993-2012	
USA, Iowa, Native American					1993-2012	*Pools: USA, NPCR, SEER 18, Native American*
USA, Iowa, White NH					1993-2012	
USA, Iowa, White	1973-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, Kansas					1998-2012	*Pool: USA, NPCR*
USA, Kansas, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Kansas, API					1998-2012	*Pool: USA, NPCR, API*
USA, Kansas, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Kansas, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Kansas, White NH					1998-2012	*Pool: USA, NPCR, White NH*
USA, Kentucky					1998-2012	
USA, Kentucky, API					1998-2012	*Pools: USA, NPCR, SEER 18, API*
USA, Kentucky, Black					1998-2012	
USA, Kentucky, Hispanic White					1998-2012	*Pools: USA, NPCR, SEER 18, Hispanic White*
USA, Kentucky, Native American					1998-2012	*Pools: USA, NPCR, SEER 18, Native American*
USA, Kentucky, White NH					1998-2012	
USA, Louisiana					1998-2012	
USA, Louisiana, API					1998-2012	*Pools: USA, NPCR, SEER 18, API*
USA, Louisiana, Black					1998-2012	
USA, Louisiana, Hispanic White					1998-2012	*Pools: USA, NPCR, SEER 18, Hispanic White*
USA, Louisiana, Native American					1998-2012	*Pools: USA, NPCR, SEER 18, Native American*
USA, Louisiana, White NH					1998-2012	
USA, Maine					1998-2012	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, Maine, API					1998-2012	*Pool: USA, NPCR, API*
USA, Maine, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Maine, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Maine, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Maine, White NH					1998-2012	
USA, Maryland					1998-2012	*Pool: USA, NPCR*
USA, Maryland, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Maryland, API					1998-2012	*Pool: USA, NPCR, API*
USA, Maryland, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Maryland, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Maryland, White NH					1998-2012	*Pool: USA, NPCR, White NH*
USA, Massachusetts					1998-2012	
USA, Massachusetts, API					1998-2012	
USA, Massachusetts, Black					1998-2012	
USA, Massachusetts, Hispanic White					1998-2012	
USA, Massachusetts, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Massachusetts, White NH					1998-2012	
USA, Michigan					1998-2012	
USA, Michigan, API					1998-2012	*Pool: USA, NPCR, API*
USA, Michigan, Black					1998-2012	
USA, Michigan, Hispanic White					1998-2012	
USA, Michigan, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Michigan, White NH					1998-2012	
USA, Michigan, Detroit					1993-2012	
USA, Michigan, Detroit, API					1993-2012	*Pool: USA, SEER 18, API*
USA, Michigan, Detroit, Black	1973-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, Michigan, Detroit, Hispanic White					1993-2012	
USA, Michigan, Detroit, Native American					1993-2012	*Pool: USA, SEER 18, Native American*
USA, Michigan, Detroit, White NH					1993-2012	
USA, Michigan, Detroit, White	1973-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, Minnesota					1998-2012	
USA, Minnesota, API					1998-2012	
USA, Minnesota, Black					1998-2012	
USA, Minnesota, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, Minnesota, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Minnesota, White NH					1998-2012	
USA, Mississippi					2002-2012	
USA, Mississippi, API					2002-2012	*Pool: USA, NPCR, API*
USA, Mississippi, Black					2002-2012	
USA, Mississippi, Hispanic White					2002-2012	*Pool: USA, NPCR, Hispanic White*
USA, Mississippi, Native American					2002-2012	*Pool: USA, NPCR, Native American*
USA, Mississippi, White NH					2002-2012	
USA, Missouri					1998-2012	
USA, Missouri, API					1998-2012	*Pool: USA, NPCR, API*
USA, Missouri, Black					1998-2012	
USA, Missouri, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Missouri, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Missouri, White NH					1998-2012	
USA, Montana					1998-2012	
USA, Montana, API					1998-2012	*Pool: USA, NPCR, API*
USA, Montana, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Montana, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Montana, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Montana, White NH					1998-2012	
USA, Nebraska					1998-2012	
USA, Nebraska, API					1998-2012	*Pool: USA, NPCR, API*
USA, Nebraska, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Nebraska, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Nebraska, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Nebraska, White NH					1998-2012	
USA, Nevada					1998-2012	
USA, Nevada, API					1998-2012	*Pool: USA, NPCR, API*
USA, Nevada, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Nevada, Hispanic White					1998-2012	
USA, Nevada, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Nevada, White NH					1998-2012	
USA, New Hampshire					1998-2012	
USA, New Hampshire, API					1998-2012	*Pool: USA, NPCR, API*

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, New Hampshire, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, New Hampshire, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, New Hampshire, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, New Hampshire, White NH					1998-2012	
USA, New Jersey					1998-2012	
USA, New Jersey, API					1998-2012	
USA, New Jersey, Black					1998-2012	
USA, New Jersey, Hispanic White					1998-2012	
USA, New Jersey, Native American					1998-2012	*Pools: USA, NPCR, SEER 18, Native American*
USA, New Jersey, White NH					1998-2012	
USA, New Mexico					1993-2012	
USA, New Mexico, API					1993-2012	*Pools: USA, NPCR, SEER 18, API*
USA, New Mexico, Black	1973-1982	*Pool: SEER 9*	1983-1992	*Pool: SEER 9*	1993-2012	*Pools: USA, NPCR, SEER 18, SEER 9, Black*
USA, New Mexico, Hispanic White					1993-2012	
USA, New Mexico, Native American					1993-2012	
USA, New Mexico, White NH					1993-2012	
USA, New Mexico, White	1973-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, New York State					1998-2012	
USA, New York State, API					1998-2012	
USA, New York State, Black	1976-1982		1983-1991		1998-2012	
USA, New York State, Hispanic White					1998-2012	
USA, New York State, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, New York State, White NH					1998-2012	
USA, New York State, White	1976-1982		1983-1991		1998-2012	
USA, North Carolina					1998-2012	
USA, North Carolina, API					1998-2012	*Pool: USA, NPCR, API*
USA, North Carolina, Black					1998-2012	
USA, North Carolina, Hispanic White					1998-2012	
USA, North Carolina, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, North Carolina, White NH					1998-2012	
USA, North Dakota					1998-2012	
USA, North Dakota, API					1998-2012	*Pool: USA, NPCR, API*
USA, North Dakota, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, North Dakota, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, North Dakota, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, North Dakota, White NH					1998-2012	
USA, Ohio					1998-2012	
USA, Ohio, API					1998-2012	*Pool: USA, NPCR, API*
USA, Ohio, Black					1998-2012	
USA, Ohio, Hispanic White					1998-2012	
USA, Ohio, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Ohio, White NH					1998-2012	
USA, Oklahoma					1998-2012	
USA, Oklahoma, API					1998-2012	*Pool: USA, NPCR, API*
USA, Oklahoma, Black					1998-2012	
USA, Oklahoma, Hispanic White					1998-2012	
USA, Oklahoma, Native American					1998-2012	
USA, Oklahoma, White NH					1998-2012	
USA, Oregon					1998-2012	
USA, Oregon, API					1998-2012	*Pool: USA, NPCR, API*
USA, Oregon, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Oregon, Hispanic White					1998-2012	
USA, Oregon, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Oregon, White NH					1998-2012	
USA, Pennsylvania					1998-2012	
USA, Pennsylvania, API					1998-2012	
USA, Pennsylvania, Black					1998-2012	
USA, Pennsylvania, Hispanic White					1998-2012	
USA, Pennsylvania, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Pennsylvania, White NH					1998-2012	
USA, Rhode Island					1998-2012	
USA, Rhode Island, API					1998-2012	*Pool: USA, NPCR, API*
USA, Rhode Island, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Rhode Island, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Rhode Island, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Rhode Island, White NH					1998-2012	
USA, South Carolina					1998-2012	
USA, South Carolina, API					1998-2012	*Pool: USA, NPCR, API*

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, South Carolina, Black					1998-2012	
USA, South Carolina, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, South Carolina, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, South Carolina, White NH					1998-2012	
USA, South Dakota					2001-2012	
USA, South Dakota, API					2001-2012	*Pool: USA, NPCR, API*
USA, South Dakota, Black					2001-2012	*Pool: USA, NPCR, Black*
USA, South Dakota, Hispanic White					2001-2012	*Pool: USA, NPCR, Hispanic White*
USA, South Dakota, Native American					2001-2012	*Pool: USA, NPCR, Native American*
USA, South Dakota, White NH					2001-2012	
USA, Tennessee					1999-2012	
USA, Tennessee, API					1999-2012	*Pool: USA, NPCR, API*
USA, Tennessee, Black					1999-2012	
USA, Tennessee, Hispanic White					1999-2012	
USA, Tennessee, Native American					1999-2012	*Pool: USA, NPCR, Native American*
USA, Tennessee, White NH					1999-2012	
USA, Texas					1998-2012	
USA, Texas, API					1998-2012	
USA, Texas, Black					1998-2012	
USA, Texas, Hispanic White					1998-2012	
USA, Texas, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Texas, White NH					1998-2012	
USA, Utah					1993-2012	
USA, Utah, API					1993-2012	*Pools: USA, NPCR, SEER 18, API*
USA, Utah, Black	1973-1982	*Pool: SEER 9*	1983-1992	*Pool: SEER 9*	1993-2012	*Pools: USA, NPCR, SEER 18, SEER 9, Black*
USA, Utah, Hispanic White					1993-2012	
USA, Utah, Native American					1993-2012	*Pools: USA, NPCR, SEER 18, Native American*
USA, Utah, White NH					1993-2012	
USA, Utah, White	1973-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, Vermont					1998-2012	
USA, Vermont, API					1998-2012	*Pool: USA, NPCR, API*
USA, Vermont, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Vermont, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Vermont, Native American					1998-2012	*Pool: USA, NPCR, Native American*

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, Vermont, White NH					1998-2012	
USA, Virginia					1998-2012	
USA, Virginia, API					1998-2012	
USA, Virginia, Black					1998-2012	
USA, Virginia, Hispanic White					1998-2012	
USA, Virginia, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Virginia, White NH					1998-2012	
USA, Washington State					1998-2012	
USA, Washington State, API					1998-2012	
USA, Washington State, Black					1998-2012	
USA, Washington State, Hispanic White					1998-2012	
USA, Washington State, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Washington State, White NH					1998-2012	
USA, Washington, Seattle					1993-2012	
USA, Washington, Seattle, API					1993-2012	
USA, Washington, Seattle, Black	1974-1982	*Pool: SEER 9*	1983-1992	*Pool: SEER 9*	1993-2012	
USA, Washington, Seattle, Hispanic White					1993-2012	
USA, Washington, Seattle, Native American					1993-2012	*Pool: USA, SEER 18, Native American*
USA, Washington, Seattle, White NH					1993-2012	
USA, Washington, Seattle, White	1974-1982	*Pool: SEER 9*	1983-1992		1993-2012	
USA, West Virginia					1998-2012	
USA, West Virginia, API					1998-2012	*Pool: USA, NPCR, API*
USA, West Virginia, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, West Virginia, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, West Virginia, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, West Virginia, White NH					1998-2012	
USA, Wisconsin					1998-2012	
USA, Wisconsin, API					1998-2012	*Pool: USA, NPCR, API*
USA, Wisconsin, Black					1998-2012	
USA, Wisconsin, Hispanic White					1998-2012	
USA, Wisconsin, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Wisconsin, White NH					1998-2012	
USA, Wyoming					1998-2012	
USA, Wyoming, API					1998-2012	*Pool: USA, NPCR, API*

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
USA, Wyoming, Black					1998-2012	*Pool: USA, NPCR, Black*
USA, Wyoming, Hispanic White					1998-2012	*Pool: USA, NPCR, Hispanic White*
USA, Wyoming, Native American					1998-2012	*Pool: USA, NPCR, Native American*
USA, Wyoming, White NH					1998-2012	
ASIA						
BAHRAIN					1998-2012	
BANGLADESH, Cancer Epidemiology Research Program	1970-1981	*Frequency*	1982-1992	*Frequency*		
CHINA, 6 registries					1990-2013	
CHINA, Beijing					2000-2013	
CHINA, Dalian					2003-2012	
CHINA, Guangzhou					2010-2012	
CHINA, Hong Kong	1974-1979		1980-1989		1990-2013	
CHINA, Shanghai	1972-1979				2002-2012	
CHINA, Taipei	1983-1984					
CHINA, Tianjin			1981-1992			
CHINA, Zhongshan					2003-2012	
INDIA, Mumbai, Tata Memorial Hospital	1970-1979	*(Bombay), Frequency*				
INDIA, 7 registries					1990-2013	
INDIA, Bangalore	1982-1984		1982-1992		1993-2011	
INDIA, Chennai			1982-1992	*(Madras)*	1993-2013	
INDIA, Kollam					2006-2012	
INDIA, Mumbai	1970-1979	*(Bombay)*	1980-1992	*(Bombay)*	1993-2012	
INDIA, Nagpur					1990-2012	
INDIA, New Delhi			1988-1992		2003-2010	
INDIA, Poona			1980-1992			
INDIA, Trivandrum					2005-2012	
INDONESIA, Yogyakarta, Pathology Registry	1973-1983					
ISLAMIC REPUBLIC OF IRAN, Golestan					2004-2011	
IRAQ, Baghdad	1976-1984	*Frequency*				
ISRAEL	1970-1979				1990-2012	
ISRAEL, Jews	1970-1979		1980-1989		1990-2012	
ISRAEL, Non-Jews	1970-1979		1980-1989		1990-2012	
JAPAN, 8 registries					1990-2013	
JAPAN, 5 registries			1980-1992			

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
JAPAN, Aichi					2008-2012	
JAPAN, Hiroshima			1980-1989		1990-2012	
JAPAN, Kanagawa	1975-1979		1980-1989			
JAPAN, Miyagi	1971-1979		1980-1989		1990-2010	
JAPAN, Nagasaki			1985-1992		1993-2012	
JAPAN, Niigata					2003-2012	
JAPAN, Osaka	1971-1980		1981-1989		1990-2012	
JAPAN, Tochigi					2005-2012	
JAPAN, Yamagata					1990-2013	
JORDAN, Jordanians					2000-2012	
REPUBLIC OF KOREA					1999-2012	
REPUBLIC OF KOREA, Busan					1999-2012	
REPUBLIC OF KOREA, Daegu					1999-2012	
REPUBLIC OF KOREA, Daejeon					1999-2012	
REPUBLIC OF KOREA, Gwangju					1997-2012	
REPUBLIC OF KOREA, Incheon					1998-2012	
REPUBLIC OF KOREA, Jejudo					2000-2012	
REPUBLIC OF KOREA, Seoul			1992-1994		1995-2012	
REPUBLIC OF KOREA, Ulsan					2001-2012	
KUWAIT	1974-1982				1994-2012	
KUWAIT, Kuwaitis	1974-1982		1983-1993	*Not 1990-91*	1994-2012	
KUWAIT, Non-Kuwaitis	1974-1982		1983-1993	*Not 1990-91*	1994-2012	
LEBANON					2008-2010	
PAKISTAN, Islamabad, paediatric			1987-1994	*Frequency*		
PAKISTAN, Karachi, Jinnah Post-Graduate Medical Centre	1979-1983	*Frequency*	1984-1993	*Frequency*		
PAKISTAN, Karachi					1995-2002	
PAKISTAN, Lahore					2008-2012	
PHILIPPINES, 2 registries	1980-1982		1983-1992		1993-2012	
PHILIPPINES, Manila	1980-1982	*Pool: Philippines*	1983-1992		1993-2012	
PHILIPPINES, Rizal	1980-1982	*Pool: Philippines*	1983-1992		1993-2012	
QATAR					2002-2014	
SAUDI ARABIA, Riyadh					1994-2012	
SAUDI ARABIA, Riyadh, Non-Saudis					1994-2012	
SAUDI ARABIA, Riyadh, Saudis					1994-2012	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
SINGAPORE, Singapore, Chinese	1968-1982		1983-1992			
SINGAPORE, Singapore, Malay	1968-1982		1968-1992			
THAILAND	1971-1980	*Frequency*				
THAILAND, 6 registries					1993-2013	
THAILAND, 4 registries			1983-1993			
THAILAND, Bangkok			1988-1992		2001-2012	
THAILAND, Chiang Mai			1983-1992		1993-2012	
THAILAND, Chonburi					1998-2012	
THAILAND, Khon Kaen			1985-1992		1993-2012	
THAILAND, Lampang					1993-2013	
THAILAND, Songkhla			1990-1993		1994-2013	
TURKEY, paediatric					2009-2011	
TURKEY, 8 registries					1992-2012	
TURKEY, Ankara					2008-2012	
TURKEY, Antalya					1998-2012	
TURKEY, Bursa					2004-2012	
TURKEY, Edirne					2004-2012	*Pool: Turkey*
TURKEY, Erzurum					2006-2012	
TURKEY, İzmir					1992-2012	
TURKEY, Samsun					2003-2012	
TURKEY, Trabzon					2003-2012	
UNITED ARAB EMIRATES, Al Ain, Tawam Hospital, paediatric			1984-1993	*Frequency*		
VIET NAM, Ho Chi Minh City, Cancer Institute	1976-1980	*Frequency*				
VIET NAM, Hanoi			1991-1994			
VIET NAM, Ho Chi Minh City					1995-2013	
EUROPE						
AUSTRIA					1990-2012	
BELARUS, paediatric					1990-2014	
BELGIUM					2004-2013	
BULGARIA			1980-1989		1990-2013	
CROATIA			1987-1990		2001-2014	
CYPRUS, South-West					1998-2012	
CZECH REPUBLIC			1980-1989		1990-2012	
DENMARK	1978-1982		1983-1991			

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
ESTONIA			1980-1989		1990-2012	
FINLAND	1970-1979		1980-1989			
FRANCE, paediatric					2000-2012	
FRANCE, paediatric, haematological malignancies					1990-1999	
FRANCE, Lorraine, PACA and Corsica, paediatric	1983-1985					
FRANCE, 13 registries					1993-2012	
FRANCE, 8 registries			1983-1992			
FRANCE, Lorraine, paediatric	1983-1985		1983-1992			
FRANCE, PACA and Corsica, paediatric	1984-1985		1984-1992			
FRANCE, Bas-Rhin	1975-1984		1985-1992		1993-2011	
FRANCE, Calvados					1990-2012	
FRANCE, Doubs			1983-1992		1993-2012	
FRANCE, Gironde					2008-2012	
FRANCE, Haut-Rhin			1983-1992		1993-2012	
FRANCE, Haute-Vienne					2009-2011	*Pool: France, Europe*
FRANCE, Hérault			1988-1992		1993-2012	
FRANCE, Isère			1986-1992		1993-2012	
FRANCE, Lille					2008-2012	
FRANCE, Loire-Atlantique and Vendée					1998-2012	
FRANCE, Manche					1994-2012	
FRANCE, Somme					1993-2012	
FRANCE, Tarn			1983-1992		1993-2012	
GERMANY, paediatric			1991-1995 ¤		1996-2012	
GERMANY, Former FRG, paediatric	1982-1984		1985-1990			
GERMANY, 6 Eastern states	1976-1980	*(Former GDR)*	1981-1989	*(Former GDR)*	2001-2007	
GERMANY, 5 Western registries					1994-2012	
GERMANY, Bavaria					2002-2012	
GERMANY, Lower Saxony					2003-2012	
GERMANY, Rhineland-Palatinate					1998-2012	
GERMANY, Saarland	1967-1982				1994-2012	
GERMANY, Schleswig-Holstein					2000-2012	
GREECE, paediatric specialized					1996-2014	(HM) and 2010-2014 (CNS tumours)
HUNGARY, paediatric	1975-1984		1985-1990		1991-2014	
ICELAND			1960-1989		1990-2014	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
IRELAND					1994-2012	
ITALY, 2 paediatric registries					1998-2011	
ITALY, Marche, paediatric					1998-2007	
ITALY, Piedmont, paediatric	1967-1981		1982-1989		1990-2011	
ITALY, Piedmont, paediatric					2000-2011	
ITALY, 26 registries					1992-2013	
ITALY, 8 registries			1980-1991			
ITALY, Biella					1995-2010	*Pool: Italy*
ITALY, Brescia					1999-2012	
ITALY, Catania, Messina and Enna					2003-2013	
ITALY, Catanzaro					2003-2009	*Pool: Italy*
ITALY, Como					2003-2011	
ITALY, Ferrara					1991-2011	
ITALY, Friuli Venezia Giulia					1995-2010	
ITALY, Genova			1983-1991	*(Liguria)*		
ITALY, Latina			1983-1991			
ITALY, Lecco					2003-2010	*Pool: Italy*
ITALY, Lodi and Pavia					2003-2009	
ITALY, Milan					1999-2007	
ITALY, Modena					1990-2012	
ITALY, Naples South					1996-2012	
ITALY, Nuoro					2003-2012	*Pool: Italy*
ITALY, Parma			1980-1991		1992-2013	
ITALY, Ragusa and Caltanissetta			1981-1991	*(Ragusa)*	1992-2012	
ITALY, Reggio Emilia					1996-2012	
ITALY, Romagna					1990-2012	
ITALY, Salerno					1997-2009	
ITALY, Sassari					1992-2011	
ITALY, Syracuse					1999-2012	
ITALY, Trapani					2002-2009	*Pool: Italy*
ITALY, Trento					2001-2010	
ITALY, Turin					1992-2012	
ITALY, Tuscany			1985-1991			
ITALY, Umbria					1994-2011	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
ITALY, Varese			1980-1991	*(Lombardy)*	1992-2012	
ITALY, Veneto			1988-1991		1992-2009	
LITHUANIA					2000-2012	
MALTA					1994-2013	
THE NETHERLANDS			1989-1992		1993-2013	
THE NETHERLANDS, DCLSG	1973-1982		1983-1992			
THE NETHERLANDS, Eindhoven	1973-1983		1984-1992			
NORWAY	1970-1979		1980-1989		1990-2013	
POLAND					2001-2013	
POLAND, 2 registries			1980-1989			
POLAND, Cracow and Nowy Sacz			1980-1989	*Pool: Poland*		
POLAND, Greater Poland					1999-2013	
POLAND, Kielce					1990-2013	
POLAND, Lower Silesia					2000-2013	
POLAND, Lublin					1999-2013	
POLAND, Warsaw City	1970-1979		1980-1989	*Pool: Poland*		
PORTUGAL					1991-2012	
PORTUGAL, 3 registries			1989-1992			
PORTUGAL, Azores					1997-2011	
PORTUGAL, Centre			1989-1992	*Pool: Portugal*	2000-2010	
PORTUGAL, North					1991-2010	
PORTUGAL, South			1989-1992	*Pool: Portugal*	1998-2012	
PORTUGAL, Vila Nova de Gaia			1989-1992	*Pool: Portugal*		
RUSSIAN FEDERATION, Moscow region, paediatric					2000-2009	
RUSSIAN FEDERATION, 2 registries					1998-2015	
RUSSIAN FEDERATION, Chelyabinsk					2008-2012	
RUSSIAN FEDERATION, Samara					1998-2015	
SLOVAKIA	1970-1979		1980-1989		1990-2009	
SLOVAKIA, paediatric					2000-2012	
SLOVENIA	1971-1980		1981-1990		1991-2012	
SPAIN, 2 paediatric registries					1991-2013	
SPAIN, selected regions, paediatric					2000-2013	
SPAIN, Valencia, paediatric			1983-1990		1991-2010	
SPAIN, Valencia, paediatric	1980-1984	*Frequency*				

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
SPAIN, 11 registries					1990-2013	
SPAIN, 8 registries			1980-1991			
SPAIN, Albacete					1991-2010	
SPAIN, Asturias			1982-1991		1992-2010	
SPAIN, Basque Country			1986-1989		1990-2012	
SPAIN, Canary Islands					1993-2011	
SPAIN, Cuenca					1993-2012	
SPAIN, Girona					1990-2013	
SPAIN, Granada			1985-1991		1992-2013	
SPAIN, Mallorca					1990-2012	
SPAIN, Murcia			1983-1990		1991-2009	
SPAIN, Navarra			1980-1989		1990-2010	
SPAIN, Tarragona			1980-1989		1990-2011	
SPAIN, Zaragoza	1973-1982		1983-1989			
SWEDEN	1970-1982		1983-1989		1990-2011	
SWITZERLAND, paediatric					1990-2013	
SWITZERLAND, 7 registries					1990-2013	
SWITZERLAND, 6 registries			1980-1992			
SWITZERLAND, 3 registries	1974-1983					
SWITZERLAND, Basel			1980-1992			
SWITZERLAND, Fribourg					2006-2013	*Pool: Switzerland*
SWITZERLAND, Geneva	1974-1983	*Pool: Switzerland*	1980-1992		1993-2013	
SWITZERLAND, Neuchâtel	1974-1983	*Pool: Switzerland*	1980-1992	*Pool: Switzerland*	1993-2013	
SWITZERLAND, St Gallen-Appenzell			1980-1992			
SWITZERLAND, Ticino					1996-2012	
SWITZERLAND, Valais					1990-2012	
SWITZERLAND, Vaud	1974-1983	*Pool: Switzerland*	1980-1992		1993-2012	
SWITZERLAND, Zurich			1980-1992		1993-2013	
UKRAINE					2002-2012	
UNITED KINGDOM					2000-2011	
UNITED KINGDOM, England and Wales, paediatric	1971-1980		1981-1990		1991-2010	
UNITED KINGDOM, England					1990-2013	
UNITED KINGDOM, Manchester, paediatric	1954-1983	*1954-1970, 1971-1983*				
UNITED KINGDOM, Northern Ireland					1993-2013	

Table A.1. Registries and datasets included in the three volumes of International Incidence of Childhood Cancer (IICC)

Dataset	IICC-1[1]		IICC-2[2]		IICC-3[3]	
	Period	*Note on contribution*	Period	*Note on contribution*	Period	*Note on contribution*
UNITED KINGDOM, Scotland	1971-1980		1981-1990		1991-2013	
UNITED KINGDOM, Wales					2000-2011	
OCEANIA						
AUSTRALIA			1982-1991		1992-2014	
AUSTRALIA, 3 registries, Indigenous					1992-2014	
AUSTRALIA, Australian Capital Territory			1982-1991	*Included in New South Wales*	1992-2012	
AUSTRALIA, New South Wales	1972-1982		1982-1991	*Including ACT*	1992-2012	
AUSTRALIA, Northern Territory			1982-1991	*Pool: Australia*	1992-2012	
AUSTRALIA, Northern Territory, Indigenous					1992-2012	*Pool: AUSTRALIA, 3 registries, Indigenous*
AUSTRALIA, Queensland, paediatric	1973-1981					
AUSTRALIA, Queensland			1982-1991		1992-2013	
AUSTRALIA, Queensland, Indigenous					1992-2013	
AUSTRALIA, South Australia			1982-1991		1992-2012	
AUSTRALIA, Tasmania			1982-1991		1992-2013	
AUSTRALIA, Victoria			1982-1991		1992-2014	
AUSTRALIA, Western Australia			1982-1991		1992-2014	
AUSTRALIA, Western Australia, Indigenous					1992-2014	*Pool: AUSTRALIA, 3 registries, Indigenous*
FIJI, Fiji, Fijian	1969-1985					
FIJI, Fiji, Indian	1969-1985					
FRANCE, 2 registries					1990-2013	
FRANCE, French Polynesia					1990-2011	
FRANCE, New Caledonia					1990-2013	
NEW ZEALAND	1970-1979				1993-2012	
NEW ZEALAND, Maori	1970-1979		1970-1992		1993-2012	
NEW ZEALAND, Non-Maori	1970-1979		1980-1992			
NEW ZEALAND, Pacific peoples					1993-2012	
NEW ZEALAND, Other					1993-2012	
NEW ZEALAND, paediatric					2000-2012	
NEW ZEALAND, paediatric, Maori					2000-2012	
NEW ZEALAND, paediatric, Non-Maori					2000-2012	
PAPUA NEW GUINEA, Histopathology Registry	1979-1983	*Frequency*	1979-1988	*Frequency*		

Table A.2. International Classification of Childhood Cancer, 3rd edition, update 2017 (ICCC-3-2017): main groups and subgroups

The morphology and topography codes are defined in the ICD-O-3, in the ICD-O-3.1 or in Table A.4; please see Chapter 3.

	Main diagnostic group or subgroup	Morphology		Topography
I	**LEUKAEMIAS, MYELOPROLIFERATIVE AND MYELODYSPLASTIC DISEASES**			
a	Lymphoid leukaemias	9591		C42.0, C42.1, C42.3, C42.4
		9811-9818, 9823, 9827, 9837		C42.0, C42.1, C42.3, C42.4, C80.9
		9820, 9826, 9831-9836, 9940, 9948		
b	Acute myeloid leukaemias	9840, 9861, 9865-9867, 9869-9874, 9891, 9895-9897, 9898, 9910, 9911, 9920, 9930, 9931		
c	Chronic myeloproliferative diseases	9863, 9875, 9876, 9950, 9960-9964		
d	Myelodysplastic syndrome and other myeloproliferative diseases	9945, 9946, 9975, 9980, 9982-9987, 9989, 9991, 9992		
e	Unspecified and other specified leukaemias	9800, 9801, 9805-9809, 9860, 9965-9967		
II	**LYMPHOMAS AND RETICULOENDOTHELIAL NEOPLASMS**			
a	Hodgkin lymphomas	9650-9655, 9659, 9661-9665, 9667		
b	Non-Hodgkin lymphomas (except Burkitt lymphoma)	9591		C00.0-C41.9, C42.2, C44.0-C77.9, C80.9
		9811-9818, 9823, 9827, 9837		C00.0-C41.9, C42.2, C44.0-C77.9
		9597, 9670, 9671, 9673, 9675, 9678-9680, 9684, 9688-9691, 9695, 9698-9702, 9705, 9708, 9709, 9712, 9714, 9716-9719, 9724-9729, 9731-9735, 9737, 9738, 9760-9762, 9764-9769, 9970, 9971		
c	Burkitt lymphoma	9687		
d	Miscellaneous lymphoreticular neoplasms	9740-9742, 9750, 9751, 9754-9759		
e	Unspecified lymphomas	9590, 9596		
III	**CNS AND MISCELLANEOUS INTRACRANIAL AND INTRASPINAL NEOPLASMS**			
a	Ependymomas and choroid plexus tumour	9383, 9390-9394, 9396	*	
b	Astrocytomas	9380	*	C72.3
		9384, 9400-9411, 9420-9424, 9425, 9440-9442	*	
c	Intracranial and intraspinal embryonal tumours	9470-9478, 9480, 9508	*	
		9501-9504	*	C70.0-C72.9
d	Other gliomas	9380	*	C70.0-C72.2, C72.4-C72.9, C75.1, C75.3
		9381, 9382, 9385, 9430, 9431, 9444, 9445, 9450, 9451, 9460	*	
e	Other specified intracranial and intraspinal neoplasms	8158, 8290	*	C75.1
		8270-8281, 8300, 9350-9352, 9360-9362, 9395, 9412, 9413, 9432, 9492, 9493, 9505-9507, 9509, 9530-9539, 9582	*	
f	Unspecified intracranial and intraspinal neoplasms	8000-8005	*	C70.0-C72.9, C75.1-C75.3
IV	**NEUROBLASTOMA AND OTHER PERIPHERAL NERVOUS CELL TUMOURS**			
a	Neuroblastoma and ganglioneuroblastoma	9490, 9500		
b	Other peripheral nervous cell tumours	8680-8683, 8690-8693, 8700, 9520-9523		
		9501-9504		C00.0-C69.9, C73.9-C76.8, C80.9
V	**RETINOBLASTOMA**			
		9510-9514		
VI	**RENAL TUMOURS**			
a	Nephroblastoma and other non-epithelial renal tumours	8959, 8960, 8964-8967		
		8963		C64.9
b	Renal carcinomas	8010-8041, 8050-8075, 8082, 8120-8122, 8130-8141, 8143, 8155, 8190-8201, 8210, 8211, 8221-8231, 8240, 8241, 8244-8246, 8260-8263, 8290, 8310, 8320, 8323, 8325, 8401, 8430, 8440, 8480-8490, 8504, 8510, 8550, 8560-8562, 8570-8573, 9013		C64.9
		8311, 8312, 8316-8319, 8361		
c	Unspecified malignant renal tumours	8000-8005		C64.9

continued

* *Tumours with non-malignant behaviour are included*

Table A.2. International Classification of Childhood Cancer, 3rd edition, update 2017 (ICCC-3-2017): main groups and subgroups

	Main diagnostic group or subgroup	Morphology	Topography
VII	**HEPATIC TUMOURS**		
a	Hepatoblastoma and mesenchymal tumours of liver	8970, 8975	
		8963, 8991	C22.0, C22.1
b	Hepatic carcinomas	8010-8041, 8050-8075, 8082, 8120-8122, 8140, 8141, 8143, 8148, 8155, 8158, 8190-8201, 8202, 8210, 8211, 8230, 8231, 8240, 8241, 8244-8246, 8260-8264, 8310, 8320, 8323, 8401, 8430, 8440, 8470, 8480-8490, 8503, 8504, 8510, 8550, 8560-8562, 8570-8573, 9013	C22.0, C22.1
		8160-8162, 8170-8180	
c	Unspecified malignant hepatic tumours	8000-8005	C22.0, C22.1
VIII	**MALIGNANT BONE TUMOURS**		
a	Osteosarcomas	9180-9187, 9191-9195, 9200	C40.0-C41.9, C76.0-C76.8, C80.9
b	Chondrosarcomas	9210, 9220, 9240,	C40.0-C41.9, C76.0-C76.8, C80.9
		9211-9213, 9221, 9222, 9230, 9241-9243	
		9231	C40.0-C41.9
c	Ewing tumour and related sarcomas of bone	9260	C40.0-C41.9, C76.0-C76.8, C80.9
		9364, 9365	C40.0-C41.9
d	Other specified malignant bone tumours	8810, 8811, 8818, 8823, 8830	C40.0-C41.9
		8812, 9250, 9261, 9262, 9270-9275, 9280-9282, 9290, 9300-9302, 9310-9312, 9320-9322, 9330, 9340-9342, 9370-9372	
e	Unspecified malignant bone tumours	8000-8005, 8800, 8801, 8803-8805	C40.0-C41.9
IX	**SOFT TISSUE AND OTHER EXTRAOSSEOUS SARCOMAS**		
a	Rhabdomyosarcomas	8900-8905, 8910, 8912, 8920	
		8991	C00.0-C21.8, C23.9-80.9
b	Fibrosarcomas, peripheral nerve sheath tumours and other fibrous neoplasms	8810, 8811, 8813-8817, 8821, 8823, 8834-8835	C00.0-C39.9, C44.0-C76.8, C80.9
		8820, 8822, 8824-8828, 9150, 9160, 9491, 9540-9571, 9580	
c	Kaposi sarcoma	9140	
d	Other specified soft tissue sarcomas	8587, 8710-8714, 8806, 8831-8833, 8836, 8840-8842, 8850-8858, 8860-8862, 8870, 8880, 8881, 8890-8898, 8921, 8990, 8992, 9040-9045, 9120-9125, 9130-9133, 9135-9138, 9141, 9142, 9161, 9170-9175, 9251, 9252, 9373, 9581	
		8830, 9231	C00.0-C39.9, C44.0-C76.8, C80.9
		8963	C00.0-C21.8, C23.9-C63.9, C65.9-C69.9, C73.9-C76.8, C80.9
		9180-9187, 9191-9195, 9200, 9210, 9220, 9240	C22.0, C30.0-C38.8, C47.0-C50.9, C60.0-C61.9, C64.9, C67.0-C67.9, C69.6, C70.0-C72.9
		9260	C00.0-C39.9, C44.0-C44.9, C47.0-C75.9
		9364	C00.0-C39.9, C44.0-C44.9, C47.0-C69.9, C73.9-C76.8, C80.9
		9365	C00.0-C39.9, C47.0-C63.9, C65.9-C76.8, C80.9
e	Unspecified soft tissue sarcomas	8800-8805	C00.0-C39.9, C44.0-C76.8, C80.9

continued

Table A.2. International Classification of Childhood Cancer, 3rd edition, update 2017 (ICCC-3-2017): main groups and subgroups

	Main diagnostic group or subgroup	Morphology	Topography
X	**GERM CELL TUMOURS, TROPHOBLASTIC TUMOURS AND NEOPLASMS OF GONADS**		
a	Intracranial and intraspinal germ cell tumours	9060-9065, 9070-9072, 9080-9085, 9100, 9101 *	C70.0-C72.9, C75.1-C75.3
b	Malignant extracranial and extragonadal germ cell tumours	9060-9065, 9070-9072, 9080-9086, 9100, 9101, 9103-9105	C00.0-C55.9, C57.0-C61.9, C63.0-C69.9, C73.9-C75.0, C75.4-C76.8, C80.9
c	Malignant gonadal germ cell tumours	9060-9065, 9070-9073, 9080-9085, 9090, 9091, 9100-9105	C56.9, C62.0-C62.9
d	Gonadal carcinomas	8010-8041, 8044, 8050-8075, 8082, 8120-8123, 8130-8141, 8143, 8153, 8190-8201, 8210, 8211, 8213, 8221-8241, 8244-8246, 8260-8263, 8290, 8310, 8320, 8323, 8380-8384, 8430, 8440-8442, 8450, 8470, 8480-8490, 8504, 8510, 8550, 8560-8562, 8570-8573, 9000, 9014	C56.9, C62.0-C62.9
		8313, 8443, 8444, 8451, 8474, 9015	
		8158, 8243, 8410, 8452, 8460-8463, 8471-8473, 8576	C56.9
e	Other and unspecified malignant gonadal tumours	8590-8671	
		8000-8005	C56.9, C62.0-C62.9
XI	**OTHER MALIGNANT EPITHELIAL NEOPLASMS AND MALIGNANT MELANOMAS**		
a	Adrenocortical carcinomas	8158	C74.0
		8370-8375	
b	Thyroid carcinomas	8010-8041, 8050-8075, 8082, 8120-8122, 8130-8141, 8158, 8190, 8200, 8201, 8211, 8230, 8231, 8244-8246, 8260-8263, 8290, 8310, 8320, 8323, 8324, 8333, 8430, 8440, 8480, 8481, 8510, 8560-8562, 8570-8573, 8589	C73.9
		8330-8332, 8334-8337, 8340-8347, 8350, 8588	
c	Nasopharyngeal carcinomas	8010-8041, 8050-8075, 8082, 8083, 8120-8122, 8130-8141, 8190, 8200, 8201, 8211, 8230, 8231, 8244-8246, 8260-8263, 8290, 8310, 8320, 8323, 8430, 8440, 8480, 8481, 8500-8551, 8560-8562, 8570-8576	C11.0-C11.9
d	Malignant melanomas	8720-8780, 8790	
e	Skin carcinomas	8010-8041, 8050-8075, 8078, 8081, 8082, 8090-8098, 8100-8110, 8140, 8143, 8147, 8190, 8200, 8211, 8240, 8246, 8247, 8260, 8263, 8310, 8320, 8323, 8390-8420, 8430, 8480, 8540, 8542, 8560, 8570-8573	C44.0-C44.9, C51.9, C60.9, C63.2
f	Other and unspecified carcinomas	8010-8077, 8080-8086, 8098, 8120-8157, 8163, 8190-8265, 8310, 8314-8315, 8320-8324, 8333, 8360, 8380-8384, 8401, 8402, 8405, 8406, 8410, 8430-8442, 8450, 8452-8454, 8460, 8461, 8470, 8480-8586, 8589, 8941, 8983, 9000, 9010-9014, 9016, 9020, 9030	C00.0-C10.9, C12.9-C21.8, C23.9-C39.9, C48.0-C48.8, C50.0-C51.8, C52.9-C55.9, C57.0-C60.8, C61.9, C63.0-C63.1, C63.7-C63.9, C65.9-C72.9, C75.0-C76.8, C80.9
		8158, 8290	C00.0-C10.9, C12.9-C21.8, C23.9-C39.9, C48.0-C48.8, C50.0-C55.9, C57.0-C61.9, C63.0-C63.9, C65.9-C69.9, C75.0, C75.2-C76.8, C80.9
XII	**OTHER AND UNSPECIFIED MALIGNANT NEOPLASMS**		
a	Other specified malignant tumours	8930-8936, 8940, 8950, 8951, 8971-8974, 8980-8982, 9050-9055, 9110, 9363	
b	Other unspecified malignant tumours	8000-8005	C00.0-C21.8, C23.9-C39.9, C42.0-C55.9, C57.0-C61.9, C63.0-C63.9, C65.9-C69.9, C73.9-C75.0, C75.4-C80.9

* *Tumours with non-malignant behaviour are included*

Table A.3. International Classification of Childhood Cancer, 3rd edition, update 2017 (ICCC-3-2017): divisions of selected subgroups

The morphology and topography codes are defined in the ICD-O-3, in the ICD-O-3.1 or in Table A.4; please see Chapter 3. NOS, unspecified.

	Diagnostic subgroup or division	Morphology	Topography
Ia	**Lymphoid leukaemias**		
1	Precursor cell leukaemias	9811-9818, 9837	C42.0, C42.1, C42.3, C42.4, C80.9
		9835, 9836	
2	Mature B-cell leukaemias	9823	C42.0, C42.1, C42.3, C42.4, C80.9
		9826, 9832, 9833, 9940	
3	Mature T-cell and NK cell leukaemias	9827	C42.0, C42.1, C42.3, C42.4, C80.9
		9831, 9834, 9948	
4	Lymphoid leukaemia, NOS	9591	C42.0, C42.1, C42.3, C42.4
		9820	
IIb	**Non-Hodgkin lymphomas (except Burkitt lymphoma)**		
1	Precursor cell lymphomas	9727-9729	
		9811-9818, 9837	C00.0-C41.9, C42.2, C44.0-C77.9
2	Mature B-cell lymphomas (except Burkitt lymphoma) †	9597, 9670, 9671, 9673, 9675, 9678-9680, 9684, 9688-9691, 9695, 9698, 9699, 9712, 9731-9735, 9737, 9738, 9761, 9762, 9764-9766, 9769, 9970, 9971	
		9823	C00.0-C41.9, C42.2, C44.0-C77.9
3	Mature T-cell and NK-cell lymphomas	9700-9702‡, 9705, 9708, 9709, 9714, 9716-9719, 9724-9726, 9767, 9768	
		9827	C00.0-C41.9, C42.2, C44.0-C77.9
4	Non-Hodgkin lymphomas, NOS	9591	C00.0-C41.9, C42.2, C44.0-C77.9, C80.9
		9760	
IIIa	**Ependymomas and choroid plexus tumour**		
1	Ependymomas	9383, 9391-9394, 9396 *	
2	Choroid plexus tumour	9390 *	
IIIc	**Intracranial and intraspinal embryonal tumours**		
1	Medulloblastomas	9470-9472, 9474-9478, 9480 *	
2	Primitive neuroectodermal tumour (PNET)	9473 *	
3	Medulloepithelioma	9501-9504 *	C70.0-C72.9
4	Atypical teratoid/rhabdoid tumour	9508 *	
IIId	**Other gliomas**		
1	Oligodendrogliomas	9450, 9451, 9460 *	
2	Mixed and unspecified gliomas	9380 *	C70.0-C72.2, C72.4-C72.9, C75.1, C75.3
		9382, 9385 *	
3	Neuroepithelial glial tumours of uncertain origin	9381, 9430, 9431, 9444, 9445 *	
IIIe	**Other specified intracranial and intraspinal neoplasms**		
1	Pituitary adenomas and carcinomas	8158, 8290 *	C75.1
		8270-8281, 8300	
2	Tumours of the sellar region (craniopharyngiomas)	9350-9352, 9432, 9582 *	
3	Pineal parenchymal tumours	9360-9362, 9395 *	
4	Neuronal and mixed neuronal-glial tumours	9412, 9413, 9492, 9493, 9505-9507, 9509 *	
5	Meningiomas	9530-9539 *	
VIa	**Nephroblastoma and other non-epithelial renal tumours**		
1	Nephroblastoma	8959, 8960	
2	Rhabdoid renal tumour	8963	C64.9
3	Kidney sarcomas	8964-8967	
VIIa	**Hepatoblastoma and mesenchymal tumours of liver**		
1	Hepatoblastoma	8970, 8975	
2	Rhabdoid hepatic tumour	8963	C22.0, C22.1
3	Embryonal sarcoma of liver	8991	C22.0, C22.1

continued

† *Burkitt lymphoma (IIc), as a mature B-cell non-Hodgkin lymphoma, may be pooled with IIb2 for overall presentation of B-cell lymphomas.*
‡ *"T-cell lymphoma, NOS" in a child almost always corresponds to code M-9729.*
* *Tumours with non-malignant behaviour are included.*

Table A.3. International Classification of Childhood Cancer, 3rd edition, update 2017 (ICCC-3-2017): divisions of selected subgroups

	Diagnostic subgroup or division	Morphology	Topography
VIIIc	**Ewing tumour and related sarcomas of bone**		
1	Ewing tumour and Askin tumour of bone	9260	C40.0-C41.9, C76.0-C76.8, C80.9
		9365	C40.0-C41.9
2	Peripheral neuroectodermal tumour (pPNET) of bone	9364	C40.0-C41.9
VIIId	**Other specified malignant bone tumours**		
1	Malignant fibrous neoplasms of bone	8810, 8811, 8818, 8823, 8830	C40.0-C41.9
		8812, 9262	
2	Malignant chordomas	9370-9372	
3	Odontogenic malignant tumours	9270-9275, 9280-9282, 9290, 9300-9302, 9310-9312, 9320-9322, 9330, 9340-9342	
4	Miscellaneous malignant bone tumours	9250, 9261	
IXb	**Fibrosarcomas, peripheral nerve sheath tumours and other fibrous neoplasms**		
1	Fibroblastic and myofibroblastic tumours	8810, 8811, 8813-8817, 8821, 8823, 8834-8835	C00.0-C39.9, C44.0-C76.8, C80.9
		8820, 8822, 8824-8828, 9150, 9160	
2	Nerve sheath tumours	9540-9571	
3	Other fibromatous neoplasms	9491, 9580	
IXd	**Other specified soft tissue sarcomas**		
1	Ewing tumour and Askin tumour of soft tissue	9260	C00.0-C39.9, C44.0-C44.9 C47.0-C75.9
		9365	C00.0-C39.9, C47.0-C63.9, C65.9-C76.8, C80.9
2	Peripheral neuroectodermal tumour (pPNET) of soft tissue	9364	C00.0-C39.9, C44.0-C44.9, C47.0- C69.9, C73.9-C76.8, C80.9
3	Extrarenal extrahepatic rhabdoid tumour	8963	C00.0-C21.8, C23.9-C63.9, C65.9-C69.9, C73.9-C76.8, C80.9
4	Liposarcomas	8850-8858, 8860-8862, 8870, 8880, 8881	
5	Fibrohistiocytic tumours	8830	C00.0-C39.9, C44.0-C76.8, C80.9
		8831-8833, 8836, 9251, 9252	
6	Leiomyosarcomas	8890-8898	
7	Synovial sarcomas	9040-9044	
8	Blood vessel tumours	9120-9125, 9130-9133, 9135-9138, 9141, 9142, 9161, 9170-9175	
9	Osseous and chondromatous neoplasms of soft tissue	9180-9187, 9191-9195, 9200, 9210, 9220, 9240	C22.0, C30.0-C38.8, C47.0-C50.9, C60.0-C61.9, C64.9, C67.0-C67.9, C69.6, C70.0-C72.9
		9231	C00.0-C39.9, C44.0-C76.8, C80.9
10	Alveolar soft parts sarcoma	9581	
11	Miscellaneous soft tissue sarcomas	8587, 8710-8714, 8806, 8840-8842, 8921, 8990, 8992, 9045, 9373	
Xa	**Intracranial and intraspinal germ cell tumours**		
1	Intracranial and intraspinal germinomas	9060-9065 *	C70.0-C72.9, C75.1-C75.3
2	Intracranial and intraspinal teratomas	9080-9084 *	
3	Intracranial and intraspinal embryonal carcinomas	9070, 9072 *	
4	Intracranial and intraspinal yolk sac tumour	9071 *	
5	Intracranial and intraspinal choriocarcinoma	9100, 9101 *	
6	Intracranial and intraspinal tumours of mixed forms	9085 *	
Xb	**Malignant extracranial and extragonadal germ cell tumours**		
1	Malignant germinomas of extracranial and extragonadal sites	9060-9065	C00.0-C55.9, C57.0-C61.9, C63.0-C69.9, C73.9-C75.0, C75.4-C76.8, C80.9
2	Malignant teratomas of extracranial and extragonadal sites	9080-9084	
3	Embryonal carcinomas of extracranial and extragonadal sites	9070, 9072	
4	Yolk sac tumour of extracranial and extragonadal sites	9071	
5	Choriocarcinomas of extracranial and extragonadal sites	9100, 9101, 9103-9105	
6	Other and unspecified malignant mixed germ cell tumours of extracranial and extragonadal sites	9085, 9086	
Xc	**Malignant gonadal germ cell tumours**		
1	Malignant gonadal germinomas	9060-9065	C56.9, C62.0-C62.9
2	Malignant gonadal teratomas	9080-9084, 9090, 9091	
3	Gonadal embryonal carcinomas	9070, 9072	
4	Gonadal yolk sac tumour	9071	
5	Gonadal choriocarcinoma	9100-9105	
6	Malignant gonadal tumours of mixed forms	9085	
7	Malignant gonadal gonadoblastoma	9073	

continued

* *Tumours with non-malignant behaviour are included.*

Table A.3. International Classification of Childhood Cancer, 3rd edition, update 2017 (ICCC-3-2017): divisions of selected subgroups

	Diagnostic subgroup or division	Morphology	Topography
XIf	**Other and unspecified carcinomas**		
1	Carcinomas of salivary glands	8010-8077, 8080-8086, 8098, 8120-8158, 8163, 8190-8265, 8290, 8310, 8314-8315, 8320-8324, 8333, 8360, 8380-8384, 8401, 8402, 8405, 8406, 8410, 8430-8442, 8450, 8452-8454, 8460, 8461, 8470, 8480-8586, 8589, 8941, 8983, 9000, 9010-9014, 9016, 9020, 9030	C07.9-C08.9
2	Carcinomas of colon and rectum		C18.0, C18.2-C18.9, C19.9, C20.9, C21.0-C21.8
3	Carcinomas of appendix		C18.1
4	Carcinomas of lung		C34.0-C34.9
5	Carcinomas of thymus		C37.9
6	Carcinomas of breast		C50.0-C50.9
7	Carcinomas of cervix uteri		C53.0-C53.9
8	Carcinomas of bladder		C67.0-C67.9
9	Carcinomas of eye		C69.0-C69.9
10	Carcinomas of other specified sites	8010-8077, 8080-8086, 8098, 8120-8157, 8163, 8190-8265, 8310, 8314-8315, 8320-8324, 8333, 8360, 8380-8384, 8401, 8402, 8405, 8406, 8410, 8430-8442, 8450, 8452-8454, 8460, 8461, 8470, 8480-8586, 8589, 8941, 8983, 9000, 9010-9014, 9016, 9020, 9030	C00.0-C06.9, C09.0-C10.9, C12.9-C17.9, C23.9-C33.9, C38.0-C39.9, C48.0-C48.8, C51.0-C51.8, C52.9, C54.0-C55.9, C57.0-C60.8, C61.9, C63.0-C63.1, C63.7-C63.9, C65.9-C66.9, C68.0-C68.9, C70.0-C72.9, C75.0-C75.9
		8158, 8290	C00.0-C06.9, C09.0-C10.9, C12.9-C17.9, C23.9-C33.9, C38.0-C39.9, C48.0-C48.8, C51.0-C52.9, C54.0-C55.9, C57.0-C61.9, C63.0-C63.9, C65.9-C66.9, C68.0-C68.9, C75.0, C75.2-C75.9
11	Carcinomas of unspecified site	8010-8077, 8080-8086, 8098, 8120-8158, 8163, 8190-8265, 8290, 8310, 8314-8315, 8320-8324, 8333, 8360, 8380-8384, 8401, 8402, 8405, 8406, 8410, 8430-8442, 8450, 8452-8454, 8460, 8461, 8470, 8480-8586, 8589, 8941, 8983, 9000, 9010-9014, 9016, 9020, 9030	C76.0-C76.8, C80.9
XIIa	**Other specified malignant tumours**		
1	Malignant gastrointestinal stromal tumour	8936	
2	Pancreatoblastoma	8971	
3	Pulmonary blastoma and pleuropulmonary blastoma	8972, 8973	
4	Other complex mixed and stromal neoplasms	8930-8935, 8940, 8950, 8951, 8974, 8980-8982	
5	Mesothelioma	9050-9055	
6	Other specified malignant tumours	9110, 9363	

Table A.4. Allocation of new morphology codes into the ICCC-3-2017 categories and morphological families

ICCC-3-2017, International Classification of Childhood Cancer, 3rd edition, update 2017.

The morphology codes included are those classified by ICCC-3-2017 if their numerical value was not included in ICCC-3[1]. Only the highest described behaviour code (up to /3) for each morphology is shown. The morphology codes listed with non-malignant behaviour (/0, /1 or /2) are only classified by ICCC-3-2017 if they were diagnosed with malignant behaviour or if they occured in CNS, as specified in Tables A.2 and A.3.

Source: ICD-O-3.1, International Classification of Diseases for Oncology, Third Edition, First Revision; WHO CoT, World Health Organization, Classification of Tumours series.

Reference (full citations in Chapter 3): 3—ICD-O-3.2 (Fritz et al., 2013); 4—Breast (Lakhani et al., 2012); 5—Soft tissue and bone (Fletcher et al., 2013); 6—Female reproductive organs (Kurman et al., 2014); 7—Lung and related (Travis et al., 2015); 8—Urinary and male reproductive organs (Moch et al., 2016); 9—CNS tumours (Louis et al., 2016); 10—Head and neck tumours (El-Naggar et al., 2017).

[1] Steliarova-Foucher et al, Cancer 2005, 103: 1457-67; [2] Ferlay et al, IARC Technical Report, 2005.

Source	Reference	ICD-O code	Term	ICCC-3-2017 category	Morphological family[2]
		Morphology/behaviour			
WHO CoT	7, 10	8023/3	NUT carcinoma	VIb, VIIb, Xd, XIb, XIc, XIe, XIf	Not site-specific carcinomas
WHO CoT	8	8054/3	Warty carcinoma	VIb, VIIb, Xd, XIb, XIc, XIe, XIf	Not site-specific carcinomas
WHO CoT	10	8085/3	Squamous cell carcinomas, HPV-positive	XIf	Not site-specific carcinomas
WHO CoT	10	8086/3	Squamous cell carcinomas, HPV-negative	XIf	Not site-specific carcinomas
ICD-O-3.1	3	8158/1	Endocrine tumor	IIIe, VIIb, Xd, XIa, XIb, XIf	Not site-specific carcinomas
ICD-O-3.1	3	8163/3	Pancreatobiliary-type carcinoma	XIf	Not site-specific carcinomas
WHO CoT	7	8256/3	Minimally invasive adenocarcinoma, non-mucinous	XIf	Lung tumours
WHO CoT	7	8257/3	Minimally invasive adenocarcinoma, mucinous	XIf	Lung tumours
ICD-O-3.1	3	8265/3	Micropapillary adenocarcinoma	XIf	Not site-specific carcinomas
WHO CoT	6	8474/3	Seromucinous carcinoma	Xd	Ovarian tumours
WHO CoT	4	8509/3	Solid papillary carcinoma, invasive	XIc, XIf	Breast tumours
WHO CoT	4	8519/2	Pleomorphic lobular carcinoma in situ	XIc, XIf	Breast tumours
ICD-O-3.1	3	8552/3	Mixed acinar-ductal carcinoma	XIf	Not site-specific carcinomas
WHO CoT	10	8563/0	Lymphadenoma	XIf	Salivary gland tumours
WHO CoT	6	8594/1	Mixed germ cell-sex cord-stromal tumour, unclassified	Xe	Ovarian tumours
WHO CoT	8	8643/1	Intratubular large cell hyalinizing Sertoli cell neoplasia	Xe	Testicular tumours
WHO CoT	5, 6, 7, 8	8714/3	Neoplasm with perivascular epithelioid cell differentiation (PEComa), NOS, malignant	IXd	Not CNS affecting sarcomas
WHO CoT	5	8816/0	Calcifying aponeurotic fibroma	IXb	Not CNS affecting sarcomas
WHO CoT	5, 6	8817/0	Calcifying fibrous tumour	IXb	Not CNS affecting sarcomas
WHO CoT	5	8818/0	Osteofibrous dysplasia	VIIId	Not CNS affecting sarcomas
WHO CoT	4, 5	8828/0	Nodular fasciitis OR Proliferative fasciitis OR Proliferative myositis	IXb	Not CNS affecting sarcomas
ICD-O-3.1	3	8975/1	Calcifying nested epithelial stromal tumor	VIIa	Liver tumours
WHO CoT	7	8992/0	Pulmonary hamartoma	IXd	Not CNS affecting sarcomas
WHO CoT	10	9045/3	Biphenotypic sinonasal sarcoma	IXd	Not CNS affecting sarcomas
WHO CoT	7	9086/3	Germ cell tumours with associated haematological malignancy	Xb	Germ cell and trophoblastic tumours

Table A.4. Allocation of new morphology codes into the ICCC-3-2017 categories and morphological families

Source	Reference	ICD-O code	Term	ICCC-3-2017 category	Morphological family[2]
		Morphology/behaviour			
WHO CoT	5, 7	9137/3	Intimal sarcoma	IXd	Not CNS affecting sarcomas
WHO CoT	5	9138/1	Pseudomyogenic haemangioendothelioma	IXd	Not site-specific sarcomas
WHO CoT	5	9211/0	Osteochondromyxoma	VIIIb	Bone tumours
WHO CoT	5	9212/0	Bizarre parosteal osteochondromatous proliferation	VIIIb	Bone tumours
WHO CoT	5	9213/0	Subungual exostosis	VIIIb	Bone tumours
WHO CoT	5, 10	9222/1	Atypical cartilaginous tumour / Chondrosarcoma grade I	VIIIb	Bone tumours
WHO CoT	9	9385/3	Diffuse midline glioma, H3 K27M-mutant	IIId	CNS tumours
ICD-O-3.1	3	9395/3	Papillary tumor of the pineal region	IIIe	Pineal tumours
WHO CoT	9	9396/3	Ependymoma, RELA fusion-positive	IIIa	CNS tumours
ICD-O-3.1	3	9425/3	Pilomyxoid astrocytoma	IIIb	CNS tumours
ICD-O-3.1	3	9431/1	Angiocentric glioma	IIId	CNS tumours
ICD-O-3.1	3	9432/1	Pituicytoma	IIIe	Pituitary tumours
WHO CoT	9	9445/3	Glioblastoma, IDH-mutant	IIId	CNS tumours
WHO CoT	9	9475/3	Medulloblastoma, WNT-activated	IIIc	CNS tumours
WHO CoT	9	9476/3	Medulloblastoma, SHH-activated and TP53-mutant	IIIc	CNS tumours
WHO CoT	9	9477/3	Medulloblastoma, non-WNT/non-SHH	IIIc	CNS tumours
WHO CoT	9	9478/3	Embryonal tumour with multilayered rosettes, NOS or C19MC-altered	IIIc	CNS tumours
ICD-O-3.1	3	9509/1	Papillary glioneuronal tumor	IIIe	CNS tumours
WHO CoT	5	9542/3	Epithelioid malignant peripheral nerve sheath tumour	IXb	Nerve sheath tumours
WHO CoT	5	9563/0	Hybrid nerve sheath tumours	IXb	Nerve sheath tumours
ICD-O-3.1	3	9597/3	Primary cutaneous follicle centre lymphoma	IIb	Skin tumours
ICD-O-3.1	3	9688/3	T-cell rich large B-cell lymphoma	IIb	Any site code
ICD-O-3.1	3	9712/3	Intravascular large B-cell lymphoma	IIb	Any site code
ICD-O-3.1	3	9724/3	Systemic EBV positive T-cell lymphoproliferative disease of childhood	IIb	Any site code
ICD-O-3.1	3	9725/3	Hydroa vacciniforme-like lymphoma	IIb	Skin tumours
ICD-O-3.1	3	9726/3	Primary cutaneous gamma-delta T-cell lymphoma	IIb	Skin tumours
ICD-O-3.1	3	9735/3	Plasmablastic lymphoma	IIb	Any site code
ICD-O-3.1	3	9737/3	ALK positive large B-cell lymphoma	IIb	Any site code
ICD-O-3.1	3	9738/3	Large B-cell lymphoma arising in HHV8-associated multicentric Castleman disease	IIb	Any site code
ICD-O-3.1	3	9759/3	Fibroblastic reticular cell tumor	IId	Any site code
ICD-O-3.1	3	9806/3	Mixed phenotype acute leukemia with t(9;22)(q34;q11.2); BCR-ABL1	Ie	Haematopoietic tumours
ICD-O-3.1	3	9807/3	Mixed phenotype acute leukemia with t(v;11q23); MLL rearranged	Ie	Haematopoietic tumours
ICD-O-3.1	3	9808/3	Mixed phenotype acute leukemia, B/myeloid, NOS	Ie	Haematopoietic tumours

Table A.4. Allocation of new morphology codes into the ICCC-3-2017 categories and morphological families

Source	Reference	ICD-O code	Term	ICCC-3-2017 category	Morphological family[2]
		Morphology/behaviour			
ICD-O-3.1	3	9809/3	Mixed phenotype acute leukemia, T/myeloid, NOS	Ie	Haematopoietic tumours
ICD-O-3.1	3	9811/3	B lymphoblastic leukemia/lymphoma, NOS	Ia, IIb	Haematopoietic tumours
ICD-O-3.1	3	9812/3	B lymphoblastic leukemia/lymphoma with t(9;22)(q34;q11.2); BCR-ABL1	Ia, IIb	Haematopoietic tumours
ICD-O-3.1	3	9813/3	B lymphoblastic leukemia/lymphoma with t(v;11q23); MLL rearranged	Ia, IIb	Haematopoietic tumours
ICD-O-3.1	3	9814/3	B lymphoblastic leukemia/lymphoma with t(12;21)(p13;q22); TEL-AML1 (ETV6-RUNX1)	Ia, IIb	Haematopoietic tumours
ICD-O-3.1	3	9815/3	B lymphoblastic leukemia/lymphoma with hyperdiploidy	Ia, IIb	Haematopoietic tumours
ICD-O-3.1	3	9816/3	B lymphoblastic leukemia/lymphoma with hypodiploidy (Hypodiploid ALL)	Ia, IIb	Haematopoietic tumours
ICD-O-3.1	3	9817/3	B lymphoblastic leukemia/lymphoma with t(5;14)(q31;q32); IL3-IGH	Ia, IIb	Haematopoietic tumours
ICD-O-3.1	3	9818/3	B lymphoblastic leukemia/lymphoma with t(1;19)(q23;p13.3); E2A-PBX1 (TCF3-PBX1)	Ia, IIb	Haematopoietic tumours
ICD-O-3.1	3	9831/3	T-cell large granular lymphocytic leukemia	Ia	Haematopoietic tumours
ICD-O-3.1	3	9865/3	Acute myeloid leukemia with t(6;9)(p23;q34); DEK-NUP214	Ib	Haematopoietic tumours
ICD-O-3.1	3	9869/3	Acute myeloid leukemia with inv(3)(q21q26.2) or t(3;3)(q21;q26.2); RPN1-EVI1	Ib	Haematopoietic tumours
ICD-O-3.1	3	9898/3	Myeloid leukemia associated with Down Syndrome	Ib	Haematopoietic tumours
ICD-O-3.1	3	9911/3	Acute myeloid leukemia (megakaryoblastic) with t(1;22)(p13;q13); RBM15-MKL1	Ib	Haematopoietic tumours
ICD-O-3.1	3	9965/3	Myeloid and lymphoid neoplasms with PDGFRA rearrangement	Ie	Haematopoietic tumours
ICD-O-3.1	3	9966/3	Myeloid neoplasms with PDGFRB rearrangement	Ie	Haematopoietic tumours
ICD-O-3.1	3	9967/3	Myeloid and lymphoid neoplasms with FGFR1 abnormalities	Ie	Haematopoietic tumours
ICD-O-3.1	3	9971/3	Polymorphic post transplant lymphoproliferative disorder	IIb	Any site code
ICD-O-3.1	3	9991/3	Refractory neutropenia	Id	Haematopoietic tumours
ICD-O-3.1	3	9992/3	Refractory thrombocytopenia	Id	Haematopoietic tumours

Table A.5. Numbers of unique cases included in IICC-3 and classified according to the ICCC-3-2017

IICC-3, International Incidence of Childhood Cancer, volume 3.
ICCC-3-2017, International Classification of Childhood Cancer, 3rd edition, update 2017.
— no table; CNS, central nervous system; GCT, germ cell tumours; N, number of unique cases in IICC-3; NOS, unspecified.
[a]Additional comparative tables may also provide data on some aspects of the given category: see Table A.13 for the full list.

ICCC-3-2017 category		N	%	Table[a]
	ALL NEOPLASMS	**774 549**	**100.0**	**7.1**
	I. LEUKAEMIAS, MYELOPROLIFERATIVE DISEASES, AND MYELODYSPLASTIC DISEASES	**212 663**	**27.5**	**7.2**
Ia.	Lymphoid leukaemias	151 524	19.6	8.1
Ia1.	Precursor cell leukaemias	146 131	18.9	9.1
Ia2.	Mature B-cell leukaemias	2 789	0.4	9.2
Ia3.	Mature T-cell and NK-cell leukaemias	350	0.0	—
Ia4.	Lymphoid leukaemias, NOS	2 254	0.3	9.3
Ib.	Acute myeloid leukaemias	38 870	5.0	8.2
Ic.	Chronic myeloproliferative diseases	7 786	1.0	8.3
Id.	Myelodysplastic syndrome and other myeloproliferative diseases	4 933	0.6	—
Ie.	Unspecified and other specified leukaemias	9 550	1.2	—
	II. LYMPHOMAS AND RETICULOENDOTHELIAL NEOPLASMS	**116 007**	**15.0**	**7.3**
IIa.	Hodgkin lymphomas	55 549	7.2	8.4
IIb.	Non-Hodgkin lymphomas (except Burkitt lymphoma)	37 560	4.8	8.5
IIb1.	Precursor cell lymphomas	9 263	1.2	9.4
IIb2.	Mature B-cell lymphomas (except Burkitt lymphoma)	12 777	1.6	9.5
IIb3.	Mature T-cell and NK-cell lymphomas	7 410	1.0	9.6
IIb4.	Non-Hodgkin lymphomas, NOS	8 110	1.0	9.7
IIc.	Burkitt lymphoma	13 194	1.7	8.6
IIb, IIc.	Non-Hodgkin lymphomas, including Burkitt lymphoma	50 754	6.6	8.7
IId.	Miscellaneous lymphoreticular neoplasms	5 321	0.7	—
IIe.	Unspecified lymphomas	4 383	0.6	—
Ia1, IIb1.	Precursor cell neoplasms	155 394	20.1	9.8
Ia2, IIb2, IIc.	Mature B-cell neoplasms including Burkitt lymphoma	28 760	3.7	9.9
Ia3, IIb3.	Mature T-cell and NK-cell neoplasms	7 760	1.0	9.10
	III. CNS AND MISCELLANEOUS INTRACRANIAL AND INTRASPINAL NEOPLASMS	**141 020**	**18.2**	**7.4**
IIIa.	Ependymomas and choroid plexus tumour	12 964	1.7	8.8
IIIa1.	Ependymomas	10 742	1.4	9.11
IIIa2.	Choroid plexus tumour	2 222	0.3	9.12
IIIb.	Astrocytomas	53 937	7.0	8.9
IIIc.	Intracranial and intraspinal embryonal tumours	27 300	3.5	8.10
IIIc1.	Medulloblastomas	19 516	2.5	9.13
IIIc2.	Primitive neuroectodermal tumour (PNET)	5 587	0.7	9.14
IIIc3.	Medulloepithelioma	323	0.0	—
IIIc4.	Atypical teratoid/rhabdoid tumour	1 874	0.2	9.15
IIId.	Other gliomas	16 563	2.1	8.11
IIId1.	Oligodendrogliomas	3 009	0.4	9.16
IIId2.	Mixed and unspecified gliomas	13 079	1.7	9.17
IIId3.	Neuroepithelial glial tumours of uncertain origin	475	0.1	—
IIIe.	Other specified intracranial and intraspinal neoplasms	17 903	2.3	—
IIIe1.	Pituitary adenomas and carcinomas	4 231	0.5	9.18
IIIe2.	Tumours of the sellar region (craniopharyngiomas)	3 948	0.5	9.19
IIIe3.	Pineal parenchymal tumours	1 437	0.2	9.20
IIIe4.	Neuronal and mixed neuronal-glial tumours	5 835	0.8	9.21
IIIe5.	Meningiomas	2 452	0.3	9.22
IIIf.	Unspecified intracranial and intraspinal neoplasms	12 353	1.6	10.7

Table A.5. Numbers of unique cases included in IICC-3 and classified according to the ICCC-3-2017

ICCC-3-2017 category		N	%	Table[a]
IV.	**NEUROBLASTOMA AND OTHER PERIPHERAL NERVOUS CELL TUMOURS**	**36 289**	**4.7**	**7.5**
IVa.	Neuroblastoma and ganglioneuroblastoma	35 252	4.6	8.12
IVb.	Other peripheral nervous cell tumours	1 037	0.1	—
V.	**RETINOBLASTOMA**	**15 852**	**2.0**	**7.6**
VI.	**RENAL TUMOURS**	**30 810**	**4.0**	**7.7**
VIa.	Nephroblastoma and other nonepithelial renal tumours	28 102	3.6	8.13
VIa1.	Nephroblastoma	26 819	3.5	9.23
VIa2.	Rhabdoid renal tumour	510	0.1	9.24
VIa3.	Kidney sarcomas	773	0.1	—
VIb.	Renal carcinomas	2 104	0.3	—
VIc.	Unspecified malignant renal tumours	604	0.1	—
VII.	**HEPATIC TUMOURS**	**9 939**	**1.3**	**7.8**
VIIa.	Hepatoblastoma and mesenchymal tumours of the liver	6 682	0.9	8.14
VIIa1.	Hepatoblastoma	6 223	0.8	—
VIIa2.	Rhabdoid hepatic tumour	88	0.0	—
VIIa3.	Embryonal sarcoma of the liver	371	0.0	—
VIIb.	Hepatic carcinomas	2 629	0.3	8.15
VIIc.	Unspecified malignant hepatic tumours	628	0.1	—
VIII.	**MALIGNANT BONE TUMOURS**	**42 551**	**5.5**	**7.9**
VIIIa.	Osteosarcomas	22 971	3.0	8.16
VIIIb.	Chondrosarcomas	1 815	0.2	8.17
VIIIc.	Ewing tumour and related sarcomas of bone	13 941	1.8	8.18
VIIIc1.	Ewing tumour and Askin tumour of bone	13 469	1.7	—
VIIIc2.	Peripheral neuroectodermal tumour (pPNET) of bone	472	0.1	—
VIIId.	Other specified malignant bone tumours	1 848	0.2	—
VIIId1.	Malignant fibrous neoplasms of bone	242	0.0	—
VIIId2.	Malignant chordomas	644	0.1	9.25
VIIId3.	Odontogenic malignant tumours	215	0.0	—
VIIId4.	Miscellaneous malignant bone tumours	747	0.1	—
VIIIe.	Unspecified malignant bone tumours	1 976	0.3	—
IX.	**SOFT TISSUE AND OTHER EXTRAOSSEOUS SARCOMAS**	**48 636**	**6.3**	**7.10**
IXa.	Rhabdomyosarcomas	20 187	2.6	8.19
IXb.	Fibrosarcomas, peripheral nerve sheath tumours, and other fibrous neoplasms	5 143	0.7	8.20
IXb1.	Fibroblastic and myofibroblastic tumours	2 733	0.4	9.26
IXb2.	Nerve sheath tumours	2 326	0.3	—
IXb3.	Other fibromatous neoplasms	84	0.0	—
IXc.	Kaposi sarcoma	1 305	0.2	8.21
IXd.	Other specified soft tissue sarcomas	16 929	2.2	—
IXd1.	Ewing tumour and Askin tumour of soft tissue	1 957	0.3	—
IXd2.	Peripheral neuroectodermal tumour (pPNET) of soft tissue	1 971	0.3	—
IXd1, IXd2.	Ewing sarcoma, Askin tumours and pPNET of soft tissue	3 928	0.5	9.27
VIIIc1, VIIIc2, IXd1, IXd2.	Ewing sarcoma, Askin tumours and pPNET of bone and soft tissue	17 869	2.3	9.28
IXd3.	Extrarenal extrahepatic rhabdoid tumour	630	0.1	9.29
IXd4.	Liposarcomas	987	0.1	—
IXd5.	Fibrohistiocytic tumours	3 672	0.5	9.30
IXd6.	Leiomyosarcomas	937	0.1	—
IXd7.	Synovial sarcomas	3 861	0.5	—
IXd8.	Blood vessel tumours	885	0.1	—
IXd9.	Osseous and chondromatous neoplasms of soft tissue	366	0.0	—
IXd10.	Alveolar soft parts sarcoma	550	0.1	—
IXd11.	Miscellaneous soft tissue sarcomas	1 113	0.1	—
IXe.	Unspecified soft tissue sarcomas	5 072	0.7	—

Table A.5. Numbers of unique cases included in IICC-3 and classified according to the ICCC-3-2017

ICCC-3-2017 category		N	%	Table[a]
X.	**GERM CELL TUMOURS, TROPHOBLASTIC TUMOURS, AND NEOPLASMS OF GONADS**	**44 895**	**5.8**	**7.11**
Xa.	Intracranial and intraspinal germ cell tumours	7 196	0.9	8.22
Xa1.	Intracranial and intraspinal germinomas	4 766	0.6	9.31
Xa2.	Intracranial and intraspinal teratomas	1 359	0.2	9.32
Xa3.	Intracranial and intraspinal embryonal carcinomas	105	0.0	—
Xa4.	Intracranial and intraspinal yolk sac tumour	160	0.0	—
Xa5.	Intracranial and intraspinal choriocarcinoma	164	0.0	—
Xa6.	Intracranial and intraspinal tumours of mixed forms	642	0.1	—
Xb.	Malignant extracranial and extragonadal germ cell tumours	6 168	0.8	8.23
Xb1.	Malignant germinomas of extracranial and extragonadal sites	833	0.1	9.33
Xb2.	Malignant teratomas of extracranial and extragonadal sites	2 479	0.3	9.34
Xb3.	Embryonal carcinomas of extracranial and extragonadal sitess	160	0.0	—
Xb4.	Yolk sac tumour of extracranial and extragonadal sites	1 490	0.2	9.35
Xb5.	Choriocarcinomas of extracranial and extragonadal sites	679	0.1	9.36
Xb6.	Other and unspecified malignant mixed GCT of extracranial and extragonadal sites	527	0.1	—
Xc.	Malignant gonadal germ cell tumours	27 277	3.5	8.24
Xc1.	Malignant gonadal germinomas	6 160	0.8	9.37
Xc2.	Malignant gonadal teratomas	6 965	0.9	9.38
Xc3.	Gonadal embryonal carcinomas	3 054	0.4	9.39
Xc4.	Gonadal yolk sac tumour	3 973	0.5	9.40
Xc5.	Gonadal choriocarcinoma	1 052	0.1	9.41
Xc6.	Malignant gonadal tumours of mixed forms	6 068	0.8	9.42
Xc7.	Malignant gonadal gonadoblastoma	5	0.0	—
Xd.	Gonadal carcinomas	2 450	0.3	—
Xe.	Other and unspecified malignant gonadal tumours	1 804	0.2	—
XI.	**OTHER MALIGNANT EPITHELIAL NEOPLASMS AND MALIGNANT MELANOMAS**	**66 525**	**8.6**	**7.12**
XIa.	Adrenocortical carcinomas	983	0.1	8.25
XIb.	Thyroid carcinoma	24 717	3.2	8.26
XIc.	Nasopharyngeal carcinomas	3 653	0.5	8.27
XId.	Malignant melanomas	15 651	2.0	8.28
XIe.	Skin carcinomas	3 164	0.4	8.29
XIf.	Other and unspecified carcinomas	18 357	2.4	8.30
XIf1.	Carcinomas of salivary glands	2 848	0.4	9.43
XIf2.	Carcinomas of colon and rectum	2 510	0.3	9.44
XIf3.	Carcinomas of appendix	2 570	0.3	—
XIf4.	Carcinomas of lung	1 585	0.2	9.45
XIf5.	Carcinomas of thymus	364	0.0	—
XIf6.	Carcinomas of breast	851	0.1	9.46
XIf7.	Carcinomas of cervix uteri	603	0.1	—
XIf8.	Carcinomas of bladder	702	0.1	9.47
XIf9.	Carcinomas of eye	208	0.0	—
XIf10.	Carcinomas of other specified sites	4 894	0.6	9.48
XIf11.	Carcinomas of unspecified site	1 222	0.2	—
XII.	**OTHER AND UNSPECIFIED MALIGNANT NEOPLASMS**	**9 362**	**1.2**	**7.13**
XIIa.	Other specified malignant tumours	1 389	0.2	8.31
XIIa1.	Malignant gastrointestinal stromal tumour	220	0.0	—
XIIa2.	Pancreatoblastoma	162	0.0	—
XIIa3.	Pulmonary blastoma and pleuropulmonary blastoma	469	0.1	9.49
XIIa4.	Other complex mixed and stromal neoplasms	330	0.0	—
XIIa5.	Mesothelioma	184	0.0	—
XIIa6.	Other specified malignant tumours	24	0.0	—
XIIb.	Other unspecified malignant tumours	7 973	1.0	8.32

Table A.6. Selected characteristics of the populations covered by the registries contributing to IICC-3

IICC-3, International Incidence of Childhood Cancer, volume 3. The data for race or ethnic groups in individual US states are available online.
Country coverage is calculated for the given year of reference; § rounded to 100% for registries reporting on the entire specified country or territory. National cancer registries: the reported percentage of childhood population covered by the registry may differ slightly between Country (calculations mostly based on the UN population estimates) and the Registry area (provided national data).
API, Asian Pacific Islander; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results.
Age is given in years; N, number; — not applicable; † covered period varied between the constituent registries.

Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
AFRICA													
ALGERIA, 5 registries	1996-2014	†	17 378 587	24 177 305	—	General	27.2	37.3	23.6	33.1	18.0	18.5	2010
ALGERIA, Algiers	2008-2012	5	3 388 560	4 798 135	1990	General	27.2	37.3	19.7	28.1	6.4	6.7	2010
ALGERIA, Annaba	2000-2010	11	1 671 265	2 318 530	2000	General	27.2	37.3	23.6	32.9	1.5	1.5	2010
ALGERIA, Batna	2008-2012	5	1 693 030	2 374 990	1995	General	27.2	37.3	29.3	41.1	3.5	3.5	2010
ALGERIA, Sétif	1996-2014	19	8 330 915	11 588 385	1986	General	27.2	37.3	25.7	36.2	4.0	4.2	2010
ALGERIA, Tlemcen	2006-2014	9	2 294 817	3 097 265	2006	General	27.2	37.3	25.9	35.0	2.6	2.6	2010
BOTSWANA	1999-2007	9	5 700 045	7 476 715	1999	General	33.1	43.8	33.1	43.8	100.0	100.0	2006
CAMEROON, Yaoundé	2004-2006	3	2 381 680	2 992 405	2004	General	43.4	54.4	50.3	63.4	10.6	10.6	2010
EGYPT, Gharbiah	1999-2010	12	15 219 583	20 700 783	1999	General	31.9	41.8	29.4	41.0	4.6	4.8	2007
FRANCE, Réunion	1990-2011	22	4 422 091	5 861 559	1988	General	25.4	33.9	25.0	33.3	100.0	100.0	2010
KENYA, 2 registries	2000-2012	†	10 795 259	13 750 358	—	General	42.6	53.2	32.7	41.9	7.7	7.9	2010
KENYA, Eldoret	2000-2011	12	4 108 045	5 169 022	1999	General	42.6	53.2	40.9	52.1	2.2	2.2	2010
KENYA, Nairobi	2006-2012	7	6 687 214	8 581 336	2001	General	42.6	53.2	30.3	39.0	5.5	5.7	2010
LIBYA, Benghazi	2003-2008	6	2 957 015	3 962 210	2003	General	28.9	37.8	32.4	43.4	26.9	27.5	2008
MALI, Bamako	2005-2014	10	7 269 789	9 829 453	1986	General	47.1	57.6	38.8	52.5	10.5	11.6	2010
MAURITIUS	2001-2013	13	3 772 141	5 091 589	2000	General	21.9	30.4	21.6	30.1	100.0	100.0	2010
MOROCCO, 2 registries	2005-2012	8	8 964 891	12 210 328	—	General	28.1	38.1	25.2	34.2	12.9	12.9	2010
MOROCCO, Casablanca	2005-2012	8	7 947 215	10 809 860	2004	General	28.1	38.1	25.9	35.1	11.5	11.5	2010
MOROCCO, Rabat	2005-2012	8	1 017 676	1 400 468	2005	General	28.1	38.1	20.3	28.0	1.3	1.4	2010
SOUTH AFRICA, paediatric	1998-2012	15	219 610 375	—	1987	Paediatric	29.2	38.8	29.2	38.8	100.0	—	2011
SOUTH AFRICA, paediatric, Asian	1998-2012	15	3 940 145	—	1987	Paediatric	20.1	27.8	20.1	27.8	100.0	—	2011
SOUTH AFRICA, paediatric, Black	1998-2012	15	184 099 526	—	1987	Paediatric	31.0	41.2	31.0	41.2	100.0	—	2011
SOUTH AFRICA, paediatric, Coloured	1998-2012	15	18 945 147	—	1987	Paediatric	28.4	37.8	28.4	37.8	100.0	—	2011
SOUTH AFRICA, paediatric, White	1998-2012	15	12 088 147	—	1987	Paediatric	16.8	23.0	16.8	23.0	100.0	—	2011
TUNISIA, 2 registries	1993-2007	†	18 917 999	25 886 732	—	General	23.3	32.2	24.2	34.1	53.1	54.3	2005
TUNISIA, North	1994-2006	13	16 718 287	22 910 620	1994	General	23.3	32.2	23.9	33.8	47.2	48.3	2005
TUNISIA, Sousse	1993-2007	15	2 199 712	2 976 112	1987	General	23.3	32.2	26.4	36.6	5.9	6.0	2005

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Table A.6. Selected characteristics of the populations covered by the registries contributing to IICC-3

Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
UGANDA, Kyadondo	1996-2013	18	13 440 956	17 935 920	1954	General	49.0	60.0	34.5	46.1	5.6	6.1	2010
ZIMBABWE, Harare, African	1995-2013	19	8 579 929	11 536 569	1990	General	41.5	53.5	32.9	43.7	8.2	8.5	2010
AMERICA, LATIN AND THE CARIBBEAN													
ARGENTINA, paediatric	2000-2013	14	144 812 778	—	2000	Paediatric	25.9	34.3	25.5	34.3	100.0	—	2010
ARGENTINA, 6 registries	1991-2013	†	22 012 147	29 456 211	—	General	25.9	34.3	26.2	35.3	19.7	20.1	2010
ARGENTINA, Bahía Blanca	1991-2007	17	1 184 824	1 602 296	1989	General	25.9	34.3	21.0	28.9	0.6	0.6	2010
ARGENTINA, Chaco	2002-2012	11	3 630 294	4 837 482	2002	General	25.9	34.3	29.7	40.4	3.0	3.1	2010
ARGENTINA, Córdoba	2004-2012	9	7 417 177	9 979 605	2003	General	25.9	34.3	24.9	33.6	7.7	7.9	2010
ARGENTINA, Entre Ríos	2001-2011	11	3 436 011	4 560 970	2001	General	25.9	34.3	26.4	35.4	2.6	2.7	2010
ARGENTINA, Mendoza	2003-2012	10	4 549 314	6 105 329	2003	General	25.9	34.3	27.0	36.4	4.4	4.5	2010
ARGENTINA, Neuquén	2003-2013	11	1 794 527	2 370 529	2008	General	25.9	34.3	26.6	36.0	1.4	1.4	2010
BRAZIL, 5 registries	1995-2012	†	18 468 166	25 804 892	—	General	25.4	33.8	22.1	31.0	2.9	3.1	2010
BRAZIL, Aracaju	1996-2012	17	2 245 524	3 132 138	1996	General	25.4	33.8	22.4	31.0	0.3	0.3	2010
BRAZIL, Belo Horizonte	2000-2006	7	3 930 976	5 536 010	2000	General	25.4	33.8	24.3	34.2	1.1	1.2	2005
BRAZIL, Curitiba	1998-2010	13	5 312 551	7 365 070	1998	General	25.4	33.8	20.0	27.9	0.7	0.7	2010
BRAZIL, Goiânia	1995-2011	17	4 920 364	6 905 593	1988	General	25.4	33.8	20.8	29.4	0.5	0.6	2010
BRAZIL, João Pessoa	1999-2010	12	2 058 751	2 866 081	1999	General	25.4	33.8	22.1	30.7	0.3	0.3	2010
CHILE, paediatric	2007-2011	5	18 755 963	—	2007	Paediatric	21.9	30.0	21.8	30.3	100.0	—	2010
CHILE, 4 registries	1998-2012	†	4 566 983	6 266 334	—	General	21.9	30.0	22.1	30.9	14.0	14.3	2010
CHILE, Antofagasta	2003-2010	8	1 129 490	1 512 008	1998	General	21.9	30.0	23.7	32.0	3.7	3.6	2010
CHILE, Bío Bío	2003-2012	10	939 197	1 276 016	2003	General	21.9	30.0	22.9	31.5	2.4	2.4	2010
CHILE, Concepción	2006-2010	5	1 087 103	1 557 855	2006	General	21.9	30.0	20.8	29.8	5.7	6.0	2010
CHILE, Valdivia	1998-2012	15	1 411 193	1 920 455	1993	General	21.9	30.0	22.3	31.4	2.3	2.3	2010
COLOMBIA, 4 registries	1992-2013	†	17 460 359	23 646 608	—	General	26.4	35.7	24.4	33.4	8.3	8.4	2010
COLOMBIA, Bucaramanga	2000-2012	13	3 534 400	4 810 057	2000	General	26.4	35.7	24.5	33.7	2.2	2.2	2010
COLOMBIA, Cali	1992-2013	22	11 494 973	15 485 957	1962	General	26.4	35.7	24.6	33.6	4.6	4.6	2010
COLOMBIA, Manizales	2003-2012	10	873 313	1 234 994	2003	General	26.4	35.7	21.7	30.3	0.7	0.7	2010
COLOMBIA, Pasto	1998-2012	15	1 557 673	2 115 600	1998	General	26.4	35.7	25.4	34.5	0.9	0.9	2010
COSTA RICA	1993-2012	20	23 820 890	31 776 348	1980	General	24.6	33.6	24.7	34.0	100.0	100.0	2010
CUBA	2000-2012	13	27 203 610	37 566 704	1964	General	17.6	24.2	17.2	23.5	100.0	100.0	2010
ECUADOR, 5 registries	1993-2013	†	21 904 750	29 274 157	—	General	30.7	40.5	29.1	38.5	38.4	38.6	2010
ECUADOR, Cuenca	1996-2013	18	2 531 519	3 414 928	1996	General	30.7	40.5	29.0	39.3	3.2	3.3	2010
ECUADOR, Guayaquil	2008-2012	5	3 390 507	4 469 368	1990	General	30.7	40.5	28.6	37.7	14.6	14.7	2010

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Table A.6. Selected characteristics of the populations covered by the registries contributing to IICC-3

Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
ECUADOR, Loja	1997-2013	17	1 043 238	1 403 326	2004	General	30.7	40.5	29.8	40.5	1.4	1.4	2010
ECUADOR, Manabí	1995-2011	17	6 717 364	8 962 965	1995	General	30.7	40.5	32.3	42.2	9.7	9.6	2010
ECUADOR, Quito	1993-2012	20	8 222 122	11 023 570	1985	General	30.7	40.5	26.9	35.9	9.5	9.6	2010
FRANCE, 3 registries	1990-2012	†	3 150 017	4 210 253	—	General	24.0	31.8	24.0	31.8	100.0	100.0	2010
FRANCE, French Guiana	2003-2012	10	755 138	950 976	2005	General	35.2	43.8	35.2	44.3	100.0	100.0	2010
FRANCE, Guadeloupe	2008-2012	5	433 764	590 976	2008	General	22.8	30.1	21.9	29.6	100.0	100.0	2010
FRANCE, Martinique	1990-2012	23	1 961 115	2 668 301	1981	General	19.5	26.6	19.6	26.9	100.0	100.0	2010
HONDURAS, Francisco Morazán	2002-2012	11	5 129 599	6 621 187	2002	General	35.9	47.3	33.6	43.4	17.9	17.5	2010
JAMAICA, Kingston and St Andrew	1982-2012	31	5 833 026	7 860 376	1958	General	27.1	37.2	23.3	33.2	20.7	21.5	2010
MEXICO, Mexico City, paediatric	1997-2013	17	11 923 013	—	1996	Paediatric	30.0	39.7	19.9	27.3	1.7	—	2010
PERU, Lima	2010-2012	3	7 045 644	9 686 284	1990	General	29.4	39.1	25.6	35.2	27.2	28.1	2010
PERU, Trujillo	1990-2002	13	2 383 310	3 258 550	1984	General	29.4	39.1	25.3	34.5	2.3	2.3	2002
USA, Puerto Rico	1992-2012	21	17 932 846	24 298 019	1951	General	20.5	28.4	19.7	27.3	100.0	100.0	2010
URUGUAY	1993-2012	20	15 335 099	20 522 332	1991	General	22.5	30.4	22.4	30.2	100.0	100.0	2010
AMERICA, NORTH													
CANADA, 9 registries	1992-2013	†	115 923 360	157 935 673	—	General	16.5	23.0	16.6	23.2	96.1	96.4	2010
CANADA, Alberta	1992-2013	22	14 255 415	19 224 736	1951	General	16.5	23.0	18.3	25.0	12.2	11.9	2010
CANADA, British Columbia	1992-2013	22	15 633 778	21 521 989	1969	General	16.5	23.0	15.4	21.6	12.2	12.3	2010
CANADA, Manitoba	1992-2013	22	5 286 880	7 127 938	1956	General	16.5	23.0	19.0	26.2	4.2	4.1	2010
CANADA, Northwest Territories	1992-2012	21	222 400	292 880	1992	General	16.5	23.0	21.4	29.7	0.2	0.2	2010
CANADA, Nova Scotia	1992-2013	22	3 547 662	4 917 182	1964	General	16.5	23.0	14.9	21.2	2.5	2.5	2010
CANADA, Ontario	1992-2012	21	47 175 317	64 102 963	1964	General	16.5	23.0	16.9	23.7	39.4	39.6	2010
CANADA, Quebec	1992-2010	19	24 998 490	34 199 625	1981	General	16.5	23.0	15.5	21.9	21.9	22.1	2010
CANADA, Saskatchewan	1992-2013	22	4 661 250	6 356 782	1944	General	16.5	23.0	18.9	26.0	3.6	3.5	2010
CANADA, Yukon	1992-2013	22	142 168	191 578	1987	General	16.5	23.0	16.9	23.7	0.1	0.1	2010
USA	1998-2012	†	904 990 126	1 221 387 576	—	General	19.8	27.0	19.8	27.0	100.0	100.0	2010
USA, API	1998-2012	†	45 143 667	60 528 188	—	General	20.1	27.0	20.1	27.0	100.0	100.0	2010
USA, Black	1998-2012	†	148 288 303	199 572 533	—	General	24.0	33.0	24.0	33.0	100.0	100.0	2010
USA, Hispanic White	1998-2012	†	168 904 372	220 589 146	—	General	28.2	37.1	28.2	37.1	100.0	100.0	2010
USA, Native American	1998-2012	†	14 568 280	19 656 376	—	General	26.8	36.1	26.8	36.1	100.0	100.0	2010
USA, White NH	1998-2012	†	528 085 504	721 041 333	—	General	16.9	23.2	16.9	23.2	100.0	100.0	2010
USA, NPCR	1998-2012	†	865 802 257	1 168 550 319	1995	General	19.8	27.0	19.8	26.9	95.6	95.7	2010
USA, NPCR, API	1998-2012	†	41 186 935	55 246 606	1995	General	20.1	27.0	20.1	27.0	92.5	92.5	2010

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Table A.6. Selected characteristics of the populations covered by the registries contributing to IICC-3

Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
USA, NPCR, Black	1998-2012	†	145 809 030	196 290 280	1995	General	24.0	33.0	24.0	32.9	98.2	98.3	2010
USA, NPCR, Hispanic White	1998-2012	†	162 252 449	211 833 501	1995	General	28.2	37.1	28.2	37.1	96.0	96.0	2010
USA, NPCR, Native American	1998-2012	†	13 380 589	18 055 760	1995	General	26.8	36.1	26.8	36.0	92.7	92.7	2010
USA, NPCR, White NH	1998-2012	†	503 173 254	687 124 172	1995	General	16.9	23.2	16.8	23.1	95.1	95.2	2010
USA, SEER 18	1993-2012	†	286 318 670	382 671 058	2000	General	19.8	27.0	20.3	27.6	28.6	28.5	2010
USA, SEER 18, API	1993-2012	†	26 594 733	35 586 737	2000	General	20.1	27.0	19.5	26.2	50.2	50.4	2010
USA, SEER 18, Black	1993-2012	†	41 882 303	55 953 129	2000	General	24.0	33.0	23.8	32.7	25.8	25.8	2010
USA, SEER 18, Hispanic White	1993-2012	†	73 328 692	95 867 999	2000	General	28.2	37.1	27.8	37.0	38.0	38.5	2010
USA, SEER 18, Native American	1993-2012	†	5 498 161	7 395 504	2000	General	26.8	36.1	26.2	35.5	33.0	33.3	2010
USA, SEER 18, White NH	1993-2012	†	139 014 781	187 867 689	2000	General	16.9	23.2	16.7	22.9	23.5	23.4	2010
USA, Alabama	1998-2012	15	13 890 697	18 860 359	1996	General	19.8	27.0	19.5	26.7	1.5	1.5	2010
USA, Alaska	1998-2012	15	2 321 101	3 109 822	1996	General	19.8	27.0	21.9	29.3	0.3	0.2	2010
USA, Alaska Natives	1993-2012	20	696 278	912 127	1969	General	26.8	36.1	29.0	38.5	3.1	3.0	2010
USA, Arizona	1998-2012	15	18 872 505	25 079 066	1995	General	19.8	27.0	21.2	28.5	2.2	2.2	2010
USA, Arkansas	1998-2012	15	8 612 740	11 601 340	1996	General	19.8	27.0	20.3	27.3	1.0	1.0	2010
USA, California	1998-2012	15	115 781 338	155 288 043	1988	General	19.8	27.0	20.5	28.1	12.5	12.6	2010
USA, California, Greater California	2000-2012	13	56 577 739	76 459 077	1988	General	19.8	27.0	21.3	29.2	7.2	7.2	2010
USA, California, Los Angeles	1993-2012	20	42 822 294	56 663 992	1972	General	19.8	27.0	19.9	27.5	3.2	3.2	2010
USA, California, San Francisco	1993-2012	20	15 414 329	20 247 600	1973	General	19.8	27.0	17.6	23.6	1.2	1.2	2010
USA, California, San José-Monterey	1993-2012	20	10 089 072	13 310 401	1988	General	19.8	27.0	20.3	27.2	0.8	0.8	2010
USA, Colorado	1998-2012	15	14 517 417	19 423 554	1988	General	19.8	27.0	20.4	27.1	1.7	1.6	2010
USA, Connecticut	1993-2012	20	13 711 480	18 314 349	1935	General	19.8	27.0	18.5	25.6	1.1	1.1	2010
USA, Delaware	1998-2012	15	2 484 830	3 388 357	1980	General	19.8	27.0	18.8	26.0	0.3	0.3	2010
USA, District of Columbia	1998-2012	15	1 370 643	1 947 572	1996	General	19.8	27.0	13.9	20.6	0.1	0.1	2010
USA, Florida	1998-2012	15	47 846 566	64 860 345	1981	General	19.8	27.0	17.5	24.0	5.4	5.4	2010
USA, Georgia	1998-2012	15	29 235 960	39 042 726	1995	General	19.8	27.0	21.4	28.7	3.4	3.3	2010
USA, Georgia, Atlanta	1993-2012	20	13 045 378	17 138 008	1975	General	19.8	27.0	21.6	28.6	1.2	1.2	2010
USA, Hawaii	1993-2012	20	5 035 814	6 685 312	1973	General	19.8	27.0	18.5	24.8	0.4	0.4	2010
USA, Hawaii, Hawaiian	1993-2012	20	1 623 849	2 123 446	1973	General	29.7	39.1	29.7	39.1	100.0	100.0	2010
USA, Idaho	1998-2012	15	4 942 887	6 638 966	1971	General	19.8	27.0	23.0	30.3	0.6	0.6	2010
USA, Illinois	1998-2012	15	39 528 295	53 143 088	1986	General	19.8	27.0	20.1	27.3	4.2	4.2	2010
USA, Indiana	1998-2012	15	19 748 813	26 693 628	1987	General	19.8	27.0	20.5	27.9	2.2	2.2	2010
USA, Iowa	1993-2012	20	11 947 925	16 343 420	1973	General	19.8	27.0	19.8	26.9	1.0	1.0	2010

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Table A.6. Selected characteristics of the populations covered by the registries contributing to IICC-3

Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
USA, Kentucky	1998-2012	15	12 519 513	16 875 855	1995	General	19.8	27.0	19.6	26.4	1.4	1.4	2010
USA, Louisiana	1998-2012	15	14 281 691	19 403 680	1988	General	19.8	27.0	20.5	27.7	1.5	1.5	2010
USA, Maine	1998-2012	15	3 509 695	4 873 435	1983	General	19.8	27.0	16.8	23.4	0.4	0.4	2010
USA, Massachusetts	1998-2012	15	18 054 047	24 758 690	1982	General	19.8	27.0	17.7	24.8	1.9	1.9	2010
USA, Michigan	1998-2012	15	30 642 220	41 670 814	1985	General	19.8	27.0	19.3	26.8	3.1	3.2	2010
USA, Michigan, Detroit	1993-2012	20	16 960 805	22 376 592	1973	General	19.8	27.0	19.6	26.9	1.2	1.2	2010
USA, Minnesota	1998-2012	15	15 857 111	21 489 556	1988	General	19.8	27.0	20.0	27.0	1.7	1.7	2010
USA, Mississippi	2002-2012	11	6 877 989	9 324 749	1996	General	19.8	27.0	21.1	28.6	1.0	1.0	2010
USA, Missouri	1998-2012	15	17 606 960	23 895 810	1985	General	19.8	27.0	19.7	26.7	1.9	1.9	2010
USA, Montana	1998-2012	15	2 744 144	3 795 661	1979	General	19.8	27.0	18.6	25.4	0.3	0.3	2010
USA, Nebraska	1998-2012	15	5 611 751	7 606 671	1986	General	19.8	27.0	21.0	28.1	0.6	0.6	2010
USA, Nevada	1998-2012	15	7 490 032	9 814 134	1995	General	19.8	27.0	20.5	27.3	0.9	0.9	2010
USA, New Hampshire	1998-2012	15	3 684 885	5 072 869	1986	General	19.8	27.0	17.6	24.7	0.4	0.4	2010
USA, New Jersey	1998-2012	15	25 923 674	34 475 321	1979	General	19.8	27.0	19.3	26.1	2.8	2.8	2010
USA, New Mexico	1993-2012	20	8 386 222	11 280 048	1975	General	19.8	27.0	20.8	28.1	0.7	0.7	2010
USA, New York State	1998-2012	15	55 634 723	75 632 915	1976	General	19.8	27.0	18.2	25.3	5.8	5.9	2010
USA, North Carolina	1998-2012	15	26 579 182	35 642 902	1990	General	19.8	27.0	19.9	26.8	3.1	3.1	2010
USA, North Dakota	1998-2012	15	1 875 290	2 643 880	1997	General	19.8	27.0	18.5	25.6	0.2	0.2	2010
USA, Ohio	1998-2012	15	34 701 728	47 030 420	1996	General	19.8	27.0	19.4	26.6	3.7	3.7	2010
USA, Oklahoma	1998-2012	15	11 210 756	15 177 646	1997	General	19.8	27.0	20.7	27.8	1.3	1.3	2010
USA, Oregon	1998-2012	15	10 562 287	14 317 432	1996	General	19.8	27.0	18.7	25.4	1.2	1.2	2010
USA, Pennsylvania	1998-2012	15	35 025 360	48 300 780	1985	General	19.8	27.0	17.9	25.0	3.7	3.8	2010
USA, Rhode Island	1998-2012	15	2 921 840	4 099 993	1986	General	19.8	27.0	17.3	24.9	0.3	0.3	2010
USA, South Carolina	1998-2012	15	12 952 119	17 634 636	1996	General	19.8	27.0	19.4	26.5	1.5	1.5	2010
USA, South Dakota	2001-2012	12	1 977 669	2 696 431	2001	General	19.8	27.0	20.8	27.8	0.3	0.3	2010
USA, Tennessee	1999-2012	14	16 857 808	22 670 397	1986	General	19.8	27.0	19.5	26.4	2.0	2.0	2010
USA, Texas	1998-2012	15	79 622 341	105 930 232	1995	General	19.8	27.0	22.8	30.3	9.4	9.2	2010
USA, Utah	1993-2012	20	12 703 610	16 960 655	1966	General	19.8	27.0	26.8	34.7	1.2	1.2	2010
USA, Vermont	1998-2012	15	1 673 373	2 381 221	1994	General	19.8	27.0	16.7	24.0	0.2	0.2	2010
USA, Virginia	1998-2012	15	22 398 532	30 256 338	1980	General	19.8	27.0	19.2	26.0	2.5	2.5	2010
USA, Washington State	1998-2012	15	19 058 228	25 726 192	1992	General	19.8	27.0	19.4	26.3	2.1	2.1	2010
USA, Washington, Seattle	1993-2012	20	16 499 577	22 065 390	1974	General	19.8	27.0	18.6	25.1	1.4	1.4	2010
USA, West Virginia	1998-2012	15	4 836 480	6 659 911	1993	General	19.8	27.0	17.2	23.7	0.5	0.5	2010

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Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
USA, Wisconsin	1998-2012	15	16 611 853	22 738 594	1976	General	19.8	27.0	19.4	26.4	1.8	1.8	2010
USA, Wyoming	1998-2012	15	1 590 762	2 186 831	1962	General	19.8	27.0	20.1	26.9	0.2	0.2	2010
ASIA													
BAHRAIN	1998-2012	15	3 132 323	4 050 659	1998	General	19.7	25.6	20.1	25.9	100.0	100.0	2010
CHINA, 6 registries	1990-2013	†	56 423 277	84 719 054	—	General	17.4	25.4	12.6	17.9	1.8	1.7	2010
CHINA, Beijing	2000-2013	14	16 722 419	27 078 586	1977	General	17.4	25.4	8.5	12.7	0.3	0.3	2010
CHINA, Dalian	2003-2012	10	2 023 093	3 129 044	1985	General	17.4	25.4	8.5	12.2	0.1	0.1	2010
CHINA, Guangzhou	2010-2012	3	3 332 686	4 981 956	1999	General	17.4	25.4	13.8	20.9	0.5	0.5	2010
CHINA, Hong Kong	1990-2013	24	25 096 200	35 497 400	1963	General	17.4	25.4	12.0	18.1	0.4	0.4	2010
CHINA, Shanghai	2002-2012	11	5 610 015	9 282 415	1972	General	17.4	25.4	7.3	10.8	0.2	0.2	2010
CHINA, Zhongshan	2003-2012	10	3 638 864	4 749 653	1970	General	17.4	25.4	25.2	32.9	0.2	0.1	2010
INDIA, 7 registries	1990-2013	†	171 584 984	235 152 927	—	General	30.9	40.6	24.5	34.0	3.2	3.4	2010
INDIA, Bangalore	1993-2011	19	30 047 088	41 088 996	1982	General	30.9	40.6	23.0	31.1	0.5	0.5	2010
INDIA, Chennai	1993-2013	21	21 731 095	30 045 427	1982	General	30.9	40.6	21.7	29.7	0.3	0.3	2010
INDIA, Kollam	2006-2012	7	4 136 242	5 535 295	2006	General	30.9	40.6	22.3	29.8	0.2	0.2	2010
INDIA, Mumbai	1993-2012	20	62 392 953	86 846 026	1964	General	30.9	40.6	23.5	33.9	0.9	1.0	2010
INDIA, Nagpur	1990-2012	23	13 572 557	18 342 275	1980	General	30.9	40.6	25.5	35.6	0.2	0.2	2010
INDIA, New Delhi	2003-2010	8	37 594 873	50 461 753	1988	General	30.9	40.6	27.4	37.4	1.2	1.2	2010
INDIA, Trivandrum	2005-2012	8	2 110 176	2 833 155	2005	General	30.9	40.6	22.1	29.5	0.1	0.1	2010
ISLAMIC REPUBLIC OF IRAN, Golestan	2004-2011	8	3 548 604	5 239 806	2004	General	23.5	33.1	24.8	36.0	2.4	2.5	2010
ISRAEL	1990-2012	23	41 445 751	53 659 693	1960	General	27.2	34.8	28.0	35.8	100.0	100.0	2010
ISRAEL, Jews	1990-2012	23	30 141 643	39 410 131	1960	General	25.9	33.1	25.9	33.1	100.0	100.0	2010
ISRAEL, Non-Jews	1990-2012	23	11 304 108	14 249 562	1960	General	31.1	39.8	34.4	44.3	100.0	100.0	2010
JAPAN, 8 registries	1990-2013	†	60 757 895	84 986 617	—	General	13.3	18.0	13.6	18.4	21.4	21.4	2010
JAPAN, Aichi	2008-2012	5	5 332 418	7 162 718	1962	General	13.3	18.0	14.4	19.3	6.3	6.2	2010
JAPAN, Hiroshima	1990-2012	23	4 084 212	5 714 929	1957	General	13.3	18.0	14.3	19.2	1.0	1.0	2010
JAPAN, Miyagi	1990-2010	21	7 617 557	10 885 464	1959	General	13.3	18.0	13.1	18.3	1.8	1.9	2010
JAPAN, Nagasaki	1993-2012	20	4 661 163	6 480 546	1985	General	13.3	18.0	13.6	18.6	1.1	1.2	2010
JAPAN, Niigata	2003-2012	10	3 166 848	4 337 981	1991	General	13.3	18.0	12.7	17.4	1.8	1.8	2010
JAPAN, Osaka	1990-2012	23	29 312 340	41 431 230	1962	General	13.3	18.0	13.1	17.8	6.9	6.9	2010
JAPAN, Tochigi	2005-2012	8	2 198 178	2 975 081	1993	General	13.3	18.0	13.5	18.1	1.6	1.6	2010
JAPAN, Yamagata	1990-2013	24	4 385 179	5 998 668	1974	General	13.3	18.0	12.8	17.5	0.9	0.9	2010
JORDAN, Jordanians	2000-2012	13	27 165 773	35 156 066	1996	General	36.7	46.8	37.3	48.2	100.0	100.0	2010

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Table A.6. Selected characteristics of the populations covered by the registries contributing to IICC-3

Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
REPUBLIC OF KOREA	1999-2012	14	127 090 488	175 298 136	1999	General	16.2	23.3	16.3	23.4	100.0	100.0	2010
REPUBLIC OF KOREA, Busan	1999-2012	14	8 258 925	11 995 992	1999	General	16.2	23.3	13.7	20.6	6.1	6.4	2010
REPUBLIC OF KOREA, Daegu	1999-2012	14	6 507 352	9 157 341	1999	General	16.2	23.3	16.1	23.7	5.0	5.2	2010
REPUBLIC OF KOREA, Daejeon	1999-2012	14	4 069 111	5 610 118	1999	General	16.2	23.3	17.8	25.4	3.3	3.3	2010
REPUBLIC OF KOREA, Gwangju	1997-2012	16	4 779 668	6 594 431	1997	General	16.2	23.3	18.9	27.0	3.4	3.4	2010
REPUBLIC OF KOREA, Incheon	1998-2012	15	7 834 628	10 742 474	1997	General	16.2	23.3	16.6	24.2	5.7	5.8	2010
REPUBLIC OF KOREA, Jejudo	2000-2012	13	1 480 143	1 980 672	2000	General	16.2	23.3	18.6	26.0	1.3	1.3	2010
REPUBLIC OF KOREA, Seoul	1995-2012	18	32 150 107	45 498 865	1992	General	16.2	23.3	14.4	20.9	18.3	18.6	2010
REPUBLIC OF KOREA, Ulsan	2001-2012	12	2 708 687	3 711 649	2001	General	16.2	23.3	17.9	26.1	2.5	2.5	2010
KUWAIT	1994-2012	19	12 150 113	15 393 508	1974	General	23.6	30.5	21.0	26.5	100.0	100.0	2010
KUWAIT, Kuwaitis	1994-2012	19	7 159 297	9 040 942	1974	General	38.3	48.9	38.3	48.9	100.0	100.0	2010
KUWAIT, Non-Kuwaitis	1994-2012	19	4 990 816	6 352 566	1974	General	12.9	16.0	12.9	16.0	100.0	100.0	2010
LEBANON	2008-2010	3	3 624 385	4 866 185	2003	General	23.7	34.0	29.3	39.4	100.0	100.0	2010
PAKISTAN, Karachi	1995-2002	8	5 698 870	7 140 910	1995	General	36.2	47.1	42.5	53.3	1.2	1.2	2002
PAKISTAN, Lahore	2008-2012	5	18 664 550	24 058 052	2005	General	36.2	47.1	39.2	50.6	6.1	6.0	2010
PHILIPPINES, 2 registries	1993-2012	20	75 249 037	99 243 876	—	General	33.6	44.1	29.0	38.6	13.0	13.2	2010
PHILIPPINES, Manila	1993-2012	20	34 851 920	46 336 477	1980	General	33.6	44.1	28.2	37.9	5.9	6.1	2010
PHILIPPINES, Rizal	1993-2012	20	40 397 117	52 907 399	1977	General	33.6	44.1	29.6	39.3	7.1	7.1	2010
QATAR	2002-2014	13	2 956 096	3 754 348	2003	General	13.5	17.0	13.7	17.2	100.0	100.0	2010
SAUDI ARABIA, Riyadh	1994-2012	19	33 613 936	42 304 772	1994	General	30.4	39.4	30.0	38.3	23.8	23.5	2010
SAUDI ARABIA, Riyadh, Saudis	1994-2012	19	27 918 842	35 391 988	1994	General	29.6	41.3	37.0	48.0	28.7	26.6	2010
SAUDI ARABIA, Riyadh, Non-Saudis	1994-2012	19	5 695 094	6 912 784	1994	General	19.4	24.4	17.7	21.5	26.8	25.8	2010
THAILAND, 6 registries	1993-2013	†	39 540 891	55 696 751	—	General	19.2	26.3	16.2	23.3	18.2	19.2	2010
THAILAND, Bangkok	2001-2012	12	13 160 725	19 240 055	1990	General	19.2	26.3	13.4	20.2	8.1	8.8	2010
THAILAND, Chiang Mai	1993-2012	20	5 771 420	8 110 218	1983	General	19.2	26.3	16.9	24.5	2.0	2.1	2010
THAILAND, Chonburi	1998-2012	15	3 759 369	5 057 515	1998	General	19.2	26.3	20.9	28.2	2.1	2.1	2010
THAILAND, Khon Kaen	1993-2012	20	7 511 772	10 410 137	1985	General	19.2	26.3	19.7	27.7	2.7	2.7	2010
THAILAND, Lampang	1993-2013	21	2 929 817	4 101 229	1995	General	19.2	26.3	16.3	23.0	0.9	1.0	2010
THAILAND, Songkhla	1994-2013	20	6 407 788	8 777 597	1989	General	19.2	26.3	21.3	29.3	2.4	2.4	2010
TURKEY, paediatric	2009-2011	3	56 624 491	—	2002	Paediatric	26.9	35.6	25.3	33.8	100.0	—	2010
TURKEY, 8 registries	1992-2012	†	39 581 835	53 873 237	—	General	26.9	35.6	22.3	30.1	18.9	19.3	2010
TURKEY, Ankara	2008-2012	5	5 308 938	7 125 468	2006	General	26.9	35.6	22.3	29.8	5.5	5.5	2010
TURKEY, Antalya	1998-2012	15	6 144 194	8 199 211	1995	General	26.9	35.6	23.8	31.4	2.4	2.4	2010

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Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
TURKEY, Bursa	2004-2012	9	5 117 805	6 884 571	2000	General	26.9	35.6	22.7	30.5	3.0	3.1	2010
TURKEY, Edirne	2004-2012	9	614 600	870 329	2004	General	26.9	35.6	17.0	24.1	0.3	0.4	2010
TURKEY, Erzurum	2006-2012	7	1 655 282	2 192 103	2006	General	26.9	35.6	30.5	40.5	1.2	1.2	2010
TURKEY, İzmir	1992-2012	21	15 991 841	22 044 321	1992	General	26.9	35.6	19.8	27.1	4.0	4.2	2010
TURKEY, Samsun	2003-2012	10	3 065 732	4 201 062	2001	General	26.9	35.6	23.6	32.5	1.5	1.6	2010
TURKEY, Trabzon	2003-2012	10	1 683 443	2 356 172	2003	General	26.9	35.6	22.4	31.0	0.9	0.9	2010
VIET NAM, Ho Chi Minh City	1995-2013	19	24 263 444	35 546 372	1995	General	23.7	33.7	19.1	28.5	6.8	7.1	2010
EUROPE													
AUSTRIA	1990-2012	23	30 749 822	41 894 605	1970	General	14.7	20.7	14.8	20.8	100.0	100.0	2010
BELARUS, paediatric	1990-2014	25	44 496 229	62 528 685	1999	Paediatric	14.8	21.2	14.8	21.2	100.0	100.0	2010
BELGIUM	2004-2013	10	18 248 304	24 625 613	2004	General	16.8	22.8	16.9	22.9	100.0	100.0	2010
BULGARIA	1990-2013	24	30 362 911	43 032 681	1952	General	13.5	18.7	13.7	19.0	100.0	100.0	2010
CROATIA	2001-2014	14	9 334 538	12 900 527	1962	General	15.5	21.0	15.2	20.9	100.0	100.0	2010
CYPRUS, South-West	1998-2012	15	2 202 539	3 089 217	1998	General	17.8	25.4	16.8	24.4	100.0	100.0	2010
CZECH REPUBLIC	1990-2012	23	39 668 366	56 333 638	1976	General	14.3	20.0	14.3	20.0	100.0	100.0	2010
ESTONIA	1990-2012	23	5 806 471	8 032 655	1968	General	15.1	21.0	15.2	21.0	100.0	100.0	2010
FRANCE, paediatric	2000-2012	13	147 363 570	—	2000	Paediatric	18.5	24.5	18.5	24.5	100.0	—	2010
FRANCE, paediatric, haematological malignancies	1990-1999	10	112 947 386	—	1990	Paediatric	18.5	24.5	18.5	24.5	100.0	—	2010
FRANCE, 13 registries	1993-2012	†	31 315 980	42 373 856	—	General	18.5	24.5	18.3	24.5	17.9	18.0	2010
FRANCE, Bas-Rhin	1993-2011	19	3 716 912	5 035 555	1975	General	18.5	24.5	17.7	24.0	1.7	1.7	2010
FRANCE, Calvados	1990-2012	23	2 923 210	4 014 407	1978	General	18.5	24.5	18.5	24.8	1.1	1.1	2010
FRANCE, Doubs	1993-2012	20	1 960 432	2 682 953	1978	General	18.5	24.5	18.6	25.0	0.8	0.9	2010
FRANCE, Gironde	2008-2012	5	1 267 476	1 728 884	2008	General	18.5	24.5	17.3	23.4	2.2	2.2	2010
FRANCE, Haut-Rhin	1993-2012	20	2 784 711	3 688 407	1988	General	18.5	24.5	18.4	24.3	1.2	1.2	2010
FRANCE, Haute-Vienne	2009-2011	3	175 977	237 246	2003	General	18.5	24.5	15.5	20.9	0.5	0.5	2010
FRANCE, Hérault	1993-2012	20	3 336 728	4 594 978	1986	General	18.5	24.5	17.0	23.3	1.5	1.6	2010
FRANCE, Isère	1993-2012	20	4 530 796	6 086 411	1979	General	18.5	24.5	19.6	26.0	2.1	2.1	2010
FRANCE, Lille	2008-2012	5	741 691	1 018 249	2008	General	18.5	24.5	19.6	26.9	1.4	1.4	2010
FRANCE, Loire-Atlantique and Vendée	1998-2012	15	5 187 868	6 958 225	1998	General	18.5	24.5	19.2	25.2	3.2	3.2	2010
FRANCE, Manche	1994-2012	19	1 741 559	2 322 619	1994	General	18.5	24.5	17.9	23.6	0.8	0.8	2010
FRANCE, Somme	1993-2012	20	2 146 468	2 937 532	1982	General	18.5	24.5	18.5	24.8	0.9	0.9	2010
FRANCE, Tarn	1993-2012	20	1 199 296	1 618 280	1982	General	18.5	24.5	16.9	22.4	0.6	0.6	2010
GERMANY, paediatric	1996-2012	17	204 327 422	—	1980	Paediatric	13.5	18.8	13.5	18.8	100.0	—	2010

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Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
GERMANY, 6 Eastern states	2001-2007	7	13 501 815	21 040 027	1953	General	13.5	18.8	10.9	16.5	16.4	17.8	2007
GERMANY, 5 Western registries	1994-2012	†	49 539 018	68 229 522	—	General	13.5	18.8	13.9	19.6	36.3	36.7	2010
GERMANY, Bavaria	2002-2012	11	20 261 333	27 913 471	1998	General	13.5	18.8	14.0	19.5	16.1	16.2	2010
GERMANY, Lower Saxony	2003-2012	10	11 877 027	16 444 446	2000	General	13.5	18.8	14.2	20.0	10.4	10.5	2010
GERMANY, Rhineland-Palatinate	1998-2012	15	9 132 706	12 555 083	1998	General	13.5	18.8	13.7	19.4	5.1	5.2	2010
GERMANY, Saarland	1994-2012	19	2 786 571	3 846 375	1968	General	13.5	18.8	12.1	17.5	1.1	1.2	2010
GERMANY, Schleswig-Holstein	2000-2012	13	5 481 381	7 470 147	1998	General	13.5	18.8	13.9	19.4	3.6	3.6	2010
GREECE, paediatric specialized	1996-2014	19	31 766 444	—	1996	Paediatric	14.6	19.9	14.6	19.9	100.0	—	2010
HUNGARY, paediatric	1991-2014	24	40 172 699	—	1971	Paediatric	14.6	20.6	14.6	20.6	100.0	—	2010
ICELAND	1990-2014	25	1 638 848	2 186 259	1955	General	20.9	28.3	20.9	28.3	100.0	100.0	2010
IRELAND	1994-2012	19	16 649 790	22 584 775	1994	General	20.7	26.7	21.0	27.4	100.0	100.0	2010
ITALY, 2 paediatric registries	1998-2011	†	8 430 631	11 308 556	—	Paediatric	14.0	18.8	13.1	17.4	9.3	9.2	2010
ITALY, Marche, paediatric	1998-2007	10	1 922 034	2 625 469	1990	Paediatric	14.0	18.8	13.0	17.5	2.4	2.4	2007
ITALY, Piedmont, paediatric	1990-2011	22	11 760 302	—	1965	Paediatric	14.0	18.8	13.2	17.4	6.9	—	2010
ITALY, Piedmont, paediatric	2000-2011	12	6 508 597	8 683 087	2000	Paediatric	14.0	18.8	13.2	17.4	6.9	6.8	2010
ITALY, 26 registries	1992-2013	†	41 117 258	56 171 333	—	General	14.0	18.8	15.1	19.9	38.6	37.8	2010
ITALY, Biella	1995-2010	16	431 796	588 324	1995	General	14.0	18.8	11.9	16.1	0.5	0.5	2010
ITALY, Brescia	1999-2012	14	2 218 464	2 923 390	1999	General	14.0	18.8	15.4	20.0	2.1	2.0	2010
ITALY, Catania, Messina and Enna	2003-2013	11	3 246 364	4 530 969	2003	General	14.0	18.8	15.0	21.1	3.4	3.6	2010
ITALY, Catanzaro	2003-2009	7	323 192	459 923	2003	General	14.0	18.8	14.8	21.1	0.6	0.7	2007
ITALY, Como	2003-2011	9	718 990	952 520	2008	General	14.0	18.8	14.2	18.7	1.0	1.0	2010
ITALY, Ferrara	1991-2011	21	733 236	1 034 593	1991	General	14.0	18.8	10.9	14.4	0.5	0.5	2010
ITALY, Friuli Venezia Giulia	1995-2010	16	2 253 659	3 040 691	1995	General	14.0	18.8	12.5	16.5	1.9	1.8	2010
ITALY, Lecco	2003-2010	8	371 557	493 225	2003	General	14.0	18.8	14.5	19.1	0.6	0.6	2010
ITALY, Lodi and Pavia	2003-2009	7	656 167	871 351	2003	General	14.0	18.8	13.1	17.2	1.2	1.2	2009
ITALY, Milan	1999-2007	9	1 283 805	1 686 328	1999	General	14.0	18.8	12.7	16.5	1.9	1.8	2010
ITALY, Modena	1990-2012	23	1 892 417	2 585 861	1988	General	14.0	18.8	14.2	18.5	1.2	1.1	2010
ITALY, Naples South	1996-2012	17	2 366 477	3 233 449	1997	General	14.0	18.8	17.6	24.2	2.5	2.5	2010
ITALY, Nuoro	2003-2012	10	297 230	417 795	2003	General	14.0	18.8	13.1	18.4	0.3	0.4	2010
ITALY, Parma	1992-2013	22	1 072 898	1 452 583	1978	General	14.0	18.8	13.1	17.1	0.7	0.7	2010
ITALY, Ragusa and Caltanissetta	1992-2012	21	1 332 196	1 844 943	1981	General	14.0	18.8	15.9	22.1	1.1	1.1	2010
ITALY, Reggio Emilia	1996-2012	17	1 155 782	1 514 558	1996	General	14.0	18.8	15.2	19.6	1.0	0.9	2010
ITALY, Romagna	1990-2012	23	2 885 746	3 979 499	1986	General	14.0	18.8	13.2	17.3	2.0	1.9	2010

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	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
ITALY, Salerno	1997-2009	13	2 347 049	3 265 591	1996	General	14.0	18.8	14.9	20.9	2.0	2.1	2009
ITALY, Sassari	1992-2011	20	1 312 980	1 879 736	1992	General	14.0	18.8	12.8	17.4	0.8	0.8	2010
ITALY, Syracuse	1999-2012	14	868 662	1 210 439	1999	General	14.0	18.8	14.7	20.5	0.7	0.7	2010
ITALY, Trapani	2002-2009	8	541 289	743 243	2002	General	14.0	18.8	14.9	20.7	0.8	0.8	2009
ITALY, Trento	2001-2010	10	758 227	996 225	1999	General	14.0	18.8	15.5	20.5	1.0	0.9	2010
ITALY, Turin	1992-2012	21	2 173 523	2 970 190	1985	General	14.0	18.8	12.6	16.6	1.3	1.3	2010
ITALY, Umbria	1994-2011	18	1 892 034	2 608 763	1994	General	14.0	18.8	12.9	17.3	1.4	1.4	2010
ITALY, Varese	1992-2012	21	2 360 118	3 245 012	1976	General	14.0	18.8	13.9	18.4	1.4	1.4	2010
ITALY, Veneto	1992-2009	18	5 978 235	8 190 092	1987	General	14.0	18.8	14.0	18.4	4.3	4.2	2010
LITHUANIA	2000-2012	13	7 127 025	10 300 043	1957	General	14.8	22.0	14.9	22.1	100.0	100.0	2010
MALTA	1994-2013	20	1 438 646	2 000 189	1995	General	16.3	22.9	15.4	22.0	100.0	100.0	2010
THE NETHERLANDS	1993-2013	21	61 334 761	81 595 992	1989	General	17.4	23.4	17.5	23.6	100.0	100.0	2010
NORWAY	1990-2013	24	21 218 247	28 233 192	1952	General	18.8	25.4	18.8	25.4	100.0	100.0	2010
POLAND	2001-2013	13	80 579 661	116 424 217	1956	General	15.0	21.4	15.2	21.7	100.0	100.0	2010
POLAND, Greater Poland	1999-2013	15	8 923 124	12 793 320	1985	General	15.0	21.4	16.2	22.8	9.7	9.5	2010
POLAND, Kielce	1990-2013	24	5 434 164	7 704 455	1988	General	15.0	21.4	14.6	21.2	3.3	3.3	2010
POLAND, Lower Silesia	2000-2013	14	6 065 007	8 838 625	1984	General	15.0	21.4	14.1	20.0	7.1	7.1	2010
POLAND, Lublin	1999-2013	15	5 575 236	8 095 244	1974	General	15.0	21.4	15.5	22.4	5.9	5.9	2010
PORTUGAL	1991-2012	†	27 085 053	37 338 362	—	General	14.9	20.3	15.1	20.5	100.0	100.0	2010
PORTUGAL, Azores	1997-2011	15	743 579	1 027 305	1997	General	14.9	20.3	18.2	25.2	2.8	2.9	2010
PORTUGAL, Centre	2000-2010	11	3 909 614	5 406 211	1989	General	14.9	20.3	13.9	19.2	20.7	21.0	2010
PORTUGAL, North	1991-2010	20	11 448 575	16 009 471	1988	General	14.9	20.3	15.3	21.1	31.6	32.0	2010
PORTUGAL, South	1998-2012	15	10 983 285	14 895 375	1988	General	14.9	20.3	15.4	20.5	45.9	44.9	2010
RUSSIAN FEDERATION, Moscow region, paediatric	2000-2009	10	8 766 954	—	2000	Paediatric	14.9	21.0	12.2	17.4	4.1	—	2009
RUSSIAN FEDERATION, 2 registries	1998-2015	†	11 401 281	16 486 552	—	General	14.9	21.0	14.7	20.6	4.6	4.6	2010
RUSSIAN FEDERATION, Chelyabinsk	2008-2012	5	2 668 125	3 767 369	2007	General	14.9	21.0	15.3	21.5	2.5	2.5	2010
RUSSIAN FEDERATION, Samara	1998-2015	18	8 733 156	12 719 183	2003	General	14.9	21.0	14.0	19.7	2.1	2.1	2010
SLOVAKIA	1990-2009	20	21 412 691	30 139 835	1976	General	15.2	21.9	15.3	21.9	100.0	100.0	2010
SLOVAKIA, paediatric	2000-2012	13	11 776 124	—	2000	Paediatric	15.2	21.9	15.2	21.9	100.0	—	2010
SLOVENIA	1991-2012	22	7 036 706	9 913 327	1950	General	13.9	19.0	14.1	19.2	100.0	100.0	2010
SPAIN, 2 paediatric registries	1991-2013	†	48 091 205	—	—	Paediatric	14.6	19.3	15.0	19.5	51.1	—	2010
SPAIN, selected regions, paediatric	2000-2013	14	34 550 994	—	1990	Paediatric	14.6	19.3	15.0	19.4	39.9	—	2010
SPAIN, Valencia, paediatric	1991-2010	20	13 540 211	—	1985	Paediatric	14.6	19.3	15.2	19.9	11.2	—	2010

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Table A.6. Selected characteristics of the populations covered by the registries contributing to IICC-3

Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
SPAIN, 11 registries	1990-2013	†	31 989 098	45 110 844	—	General	14.6	19.3	15.0	19.8	24.3	24.2	2010
SPAIN, Albacete	1991-2010	20	1 250 143	1 752 522	1991	General	14.6	19.3	15.3	20.9	0.9	0.9	2010
SPAIN, Asturias	1992-2010	19	2 306 006	3 449 497	1982	General	14.6	19.3	10.6	14.3	1.7	1.7	2010
SPAIN, Basque Country	1990-2012	23	6 572 510	9 400 582	1986	General	14.6	19.3	13.4	17.4	4.3	4.2	2010
SPAIN, Canary Islands	1993-2011	19	4 778 395	6 772 909	1993	General	14.6	19.3	14.5	19.8	3.8	3.9	2010
SPAIN, Cuenca	1993-2012	20	583 433	818 192	1993	General	14.6	19.3	13.2	18.3	0.4	0.4	2010
SPAIN, Girona	1990-2013	24	2 324 210	3 185 311	1980	General	14.6	19.3	16.1	20.9	1.8	1.7	2010
SPAIN, Granada	1992-2013	22	3 314 959	4 612 851	1985	General	14.6	19.3	16.3	22.0	2.2	2.2	2010
SPAIN, Mallorca	1990-2012	23	2 652 306	3 653 444	1988	General	14.6	19.3	17.2	22.2	2.2	2.1	2010
SPAIN, Murcia	1991-2009	19	4 246 474	5 924 458	1982	General	14.6	19.3	17.6	23.1	3.8	3.8	2010
SPAIN, Navarra	1990-2010	21	1 732 990	2 443 010	1970	General	14.6	19.3	15.3	19.8	1.4	1.4	2010
SPAIN, Tarragona	1990-2011	22	2 227 672	3 098 068	1980	General	14.6	19.3	16.1	20.8	1.9	1.9	2010
SWEDEN	1990-2011	22	35 206 242	47 432 640	1958	General	16.5	23.4	16.5	23.2	100.0	100.0	2010
SWITZERLAND, paediatric	1990-2013	24	29 066 897	—	1976	Paediatric	15.1	20.9	15.1	20.9	100.0	—	2010
SWITZERLAND, 7 registries	1990-2013	†	10 623 097	14 267 242	—	General	15.1	20.9	15.4	21.1	47.3	46.6	2010
SWITZERLAND, Fribourg	2006-2013	8	388 654	534 716	2006	General	15.1	20.9	17.3	24.3	4.1	4.1	2010
SWITZERLAND, Geneva	1993-2013	21	1 463 012	1 954 486	1970	General	15.1	20.9	16.0	21.8	6.2	6.1	2010
SWITZERLAND, Neuchâtel	1993-2013	21	592 855	802 020	1974	General	15.1	20.9	15.8	22.3	2.3	2.3	2010
SWITZERLAND, Ticino	1996-2012	17	781 717	1 053 292	1996	General	15.1	20.9	13.8	18.9	3.9	3.9	2010
SWITZERLAND, Valais	1990-2012	23	1 124 056	1 531 149	1989	General	15.1	20.9	15.0	21.1	4.0	4.0	2010
SWITZERLAND, Vaud	1993-2012	20	2 216 342	2 971 432	1974	General	15.1	20.9	16.6	22.9	10.0	9.9	2010
SWITZERLAND, Zurich	1993-2013	21	4 056 461	5 420 147	1980	General	15.1	20.9	14.7	19.6	16.9	16.3	2010
UKRAINE	2002-2012	11	75 614 924	112 215 133	2002	General	13.9	19.9	14.6	19.9	100.0	100.0	2010
UNITED KINGDOM	2000-2011	†	132 010 334	178 588 831	—	General	17.7	24.2	17.7	24.2	100.0	100.0	2010
UNITED KINGDOM, England and Wales, paediatric	1991-2010	20	196 350 418	—	1962	Paediatric	17.7	24.2	17.7	24.0	88.7	—	2010
UNITED KINGDOM, England	1990-2013	24	223 007 071	297 565 791	1945	General	17.7	24.2	17.7	24.1	84.0	83.5	2010
UNITED KINGDOM, Northern Ireland	1993-2013	21	7 732 156	10 412 530	1993	General	17.7	24.2	19.7	26.7	3.2	3.2	2010
UNITED KINGDOM, Scotland	1991-2013	23	20 790 048	28 162 357	1958	General	17.7	24.2	16.3	22.6	7.7	7.8	2010
UNITED KINGDOM, Wales	2000-2011	12	6 364 545	8 711 888	1974	General	17.7	24.2	17.0	23.6	4.7	4.7	2010
OCEANIA													
AUSTRALIA	1992-2014	23	87 987 508	117 870 073	—	General	19.1	25.7	19.1	25.7	100.0	100.0	2010
AUSTRALIA, 3 registries, Indigenous	1992-2014	†	2 392 734	3 031 018	—	General	36.5	47.3	36.5	47.0	51.7	51.4	2010
AUSTRALIA, Australian Capital Territory	1992-2012	21	1 388 485	1 911 937	1982	General	19.1	25.7	18.2	25.3	1.6	1.6	2010

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Table A.6. Selected characteristics of the populations covered by the registries contributing to IICC-3

Dataset	IICC-3 contribution				Year registry started	Registry type	Childhood population (%)				Country coverage (%) §		Year of reference
	IICC-3 period	Years	Person-years				Country		Registry area				
		N	Age 0-14	Age 0-19			Age 0-14	Age 0-19	Age 0-14	Age 0-19	Age 0-14	Age 0-19	
AUSTRALIA, New South Wales	1992-2012	21	27 871 728	37 182 494	1972	General	19.1	25.7	19.0	25.5	32.4	32.2	2010
AUSTRALIA, Northern Territory	1992-2012	21	1 070 524	1 385 312	1981	General	19.1	25.7	23.0	30.2	1.3	1.2	2010
AUSTRALIA, Northern Territory, Indigenous	1992-2012	21	459 794	596 010	1981	General	36.5	47.3	33.2	43.3	9.5	9.5	2010
AUSTRALIA, Queensland	1992-2013	22	17 395 433	23 270 270	1982	General	19.1	25.7	20.0	26.9	21.0	20.9	2010
AUSTRALIA, Queensland, Indigenous	1992-2013	22	1 299 434	1 630 228	1982	General	36.5	47.3	38.1	48.8	29.3	29.0	2010
AUSTRALIA, South Australia	1992-2012	21	6 136 338	8 285 974	1977	General	19.1	25.7	17.8	24.4	6.9	7.0	2010
AUSTRALIA, Tasmania	1992-2013	22	2 203 413	2 952 021	1977	General	19.1	25.7	19.0	25.7	2.3	2.3	2010
AUSTRALIA, Victoria	1992-2014	23	22 362 735	30 045 182	1982	General	19.1	25.7	18.4	24.9	23.9	24.1	2010
AUSTRALIA, Western Australia	1992-2014	23	9 558 852	12 836 883	1982	General	19.1	25.7	19.4	26.1	10.6	10.6	2010
AUSTRALIA, Western Australia, Indigenous	1992-2014	23	633 506	804 780	1982	General	36.5	47.3	35.8	46.2	12.9	12.9	2010
FRANCE, 2 registries	1990-2013	†	3 039 243	4 025 482	—	General	23.6	32.6	25.4	34.2	100.0	100.0	2010
FRANCE, French Polynesia	1990-2011	22	1 580 845	2 093 587	1985	General	23.8	33.2	25.0	34.2	100.0	100.0	2010
FRANCE, New Caledonia	1990-2013	24	1 458 398	1 931 895	1977	General	23.5	32.0	23.5	32.0	100.0	100.0	2010
NEW ZEALAND	1993-2012	20	17 608 030	23 450 922	1948	General	20.5	27.9	20.5	27.9	100.0	100.0	2010
NEW ZEALAND, Maori	1993-2012	20	4 337 252	5 546 870	1948	General	34.1	44.3	34.1	44.3	100.0	100.0	2010
NEW ZEALAND, Pacific peoples	1993-2012	20	1 543 137	1 986 720	1948	General	31.8	41.7	31.8	41.7	100.0	100.0	2010
NEW ZEALAND, Other	1993-2012	20	11 727 641	15 917 332	1948	General	16.9	23.5	16.9	23.5	100.0	100.0	2010
NEW ZEALAND, paediatric	2000-2012	13	11 598 940	—	2000	Paediatric	20.5	27.9	20.5	27.9	100.0	—	2010
NEW ZEALAND, paediatric, Maori	2000-2012	13	2 867 500	—	2000	Paediatric	34.1	44.3	34.1	44.3	100.0	—	2010
NEW ZEALAND, paediatric, Non-Maori	2000-2012	13	8 731 440	—	2000	Paediatric	18.0	24.9	18.0	24.9	100.0	—	2010

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Table A.7. Selected characteristics of the countries, departments and territories in the periods represented in IICC-3

IICC-3, International Incidence of Childhood Cancer, volume 3.

Missing years (N), number of years within the shown range without the mortality data; N, number; NR, not reported; — not available.

[1] United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, DVD Edition.

[2] WHO Mortality Database at http://www.who.int/healthinfo/mortality_data/en/ accessed on 5 Feb 2018.

[3] Mathers et al., Bull World Health Organ 2005, 83: 171-177.

Country	UN population estimates 2010[1]			IICC-3 reference period	Population census		National mortality statistics		
	All years of age N	Age 0-14 years N	Age 15-19 years N		Years of relevance to IICC-3	Notes	WHO[2] Period available	WHO[2] Missing years (N)	Quality assessment[3]
AFRICA									
ALGERIA	36 036 159	9 798 703	3 631 120	1996-2014	1987, 1998, 2008		—	—	No recent data
BOTSWANA	2 047 831	678 342	219 286	1999-2007	1991, 2001, 2011		—	—	No recent data
CAMEROON	20 590 666	8 938 866	2 271 740	2004-2006	1987, 2005		—	—	No recent data
EGYPT	82 040 994	26 202 829	8 099 440	1999-2010	1996, 2006		1954-2015	18	Low quality
FRANCE, Réunion	830 516	211 093	70 055	1990-2011	1990, 1999, 2006, 2011		2001-2014	0	*NR*
KENYA	40 328 313	17 183 765	4 289 144	2000-2012	1999, 2009		—	—	No recent data
LIBYA	6 265 697	1 807 671	562 638	2003-2008	1995, 2006		—	—	No recent data
MALI	15 167 286	7 140 847	1 596 487	2005-2014	1998, 2009		—	—	No recent data
MAURITIUS	1 247 951	273 858	104 969	2001-2013	2000, 2011		1957-2016	0	Medium quality
MOROCCO	32 107 739	9 015 279	3 202 723	2005-2012	2004, 2014		2000-2014	2	<50% completeness/coverage
SOUTH AFRICA	51 621 594	15 971 248	5 199 673	1998-2012	1996, 2001, 2011		1993-2015	0	Low quality
TUNISIA	10 639 194	2 482 407	944 080	1993-2007	1994, 2004, 2014		2009-2013	3	No recent data
UGANDA	33 149 417	16 232 574	3 668 317	1996-2013	1991, 2002		—	—	No recent data
ZIMBABWE	13 973 897	5 804 076	1 667 528	1995-2013	1992, 2002, 2012		1990-1990	0	<50% completeness/coverage
AMERICA, LATIN AND THE CARIBBEAN									
ARGENTINA	41 222 875	10 665 164	3 464 351	1991-2013	1991, 2001, 2010		1966-2014	6	Low quality
BRAZIL	198 614 208	50 411 306	16 765 167	1995-2012	1991, 2000, 2010		1977-2015	0	Medium quality
CHILE	17 015 048	3 719 282	1 379 309	1998-2012	1992, 2002		1954-2015	0	Medium quality
COLOMBIA	45 918 101	12 118 671	4 258 709	1992-2013	1985, 1993, 2005		1953-2013	6	Medium quality
COSTA RICA	4 545 273	1 117 183	411 520	1993-2012	1984, 2000, 2011		1956-2014	0	Medium quality
CUBA	11 308 133	1 994 502	743 250	2000-2012	2002, 2012		1959-2015	6	High quality
ECUADOR	14 934 692	4 589 639	1 456 327	1993-2013	1990, 2001, 2010		1961-2015	2	Low quality
FRANCE, French Guiana	233 795	82 267	20 023	2003-2012	1999	Annual surveys since 2004	1968-2014	21	*NR*
FRANCE, Guadeloupe	456 822	104 224	33 168	2008-2012	1999, 2010	Annual surveys since 2004	1971-2014	19	*NR*
FRANCE, Martinique	394 690	77 039	27 913	1990-2012	1990, 1999	Annual surveys since 2004	1968-2014	25	*NR*

Table A.7. Selected characteristics of the countries, departments and territories in the periods represented in IICC-3

Country	UN population estimates 2010[1]			IICC-3 reference period	Population census		National mortality statistics		
	All years of age N	Age 0-14 years N	Age 15-19 years N		Years of relevance to IICC-3	Notes	WHO[2] Period available	WHO[2] Missing years (N)	Quality assessment[3]
HONDURAS	7 503 875	2 690 440	860 964	2002-2012	2001		1966-2013	21	No recent data
JAMAICA	2 741 253	743 644	275 480	1982-2012	1982, 1991, 2001, 2011		1960-2011	19	Low quality
MEXICO	118 617 542	35 552 714	11 494 180	1997-2013	1995, 2000, 2005, 2010		1955-2015	0	High quality
PERU	29 373 644	8 624 617	2 852 650	1990-2012	1981, 1993, 2005, 2007		1966-2015	7	Low quality
USA, Puerto Rico	3 709 671	759 332	295 571	1992-2012	1990, 2000, 2010		1955-2015	3	*NR*
URUGUAY	3 374 414	759 380	266 570	1993-2012	1985, 1996, 2004, 2011		1955-2015	6	Medium quality
AMERICA, NORTH									
CANADA	34 126 173	5 621 365	2 227 206	1992-2013	1991, 1996, 2001, 2006, 2011		1950-2013	0	High quality
USA	309 876 170	61 211 243	21 838 942	1993-2012	1990, 2000, 2010		1950-2015	0	High quality
ASIA									
BAHRAIN	1 261 319	248 535	74 020	1998-2012	1991, 2001, 2010		1985-2014	9	Low quality
CHINA	1 340 968 737	233 528 436	106 717 259	1990-2013	1990, 2000, 2010		1987-2000	0	Sampling system
INDIA	1 230 984 504	380 303 948	119 397 594	1990-2013	1981, 1991, 2001, 2011		—	—	Sampling system
ISLAMIC REPUBLIC OF IRAN	74 253 373	17 418 933	7 136 777	2004-2011	1996, 2006, 2011		1974-2015	28	Incomplete
ISRAEL	7 420 368	2 021 170	564 561	1990-2012	1983, 1995, 2008		1950-2014	0	Medium quality
JAPAN	127 319 802	16 920 662	6 055 624	1990-2013	1990, 1995, 2000, 2005, 2010		1950-2015	0	High quality
JORDAN	6 517 912	2 391 594	658 139	2000-2012	1994, 2004		1959-2012	33	No recent data
REPUBLIC OF KOREA	49 090 041	7 972 256	3 472 416	1995-2012	1995, 2000, 2005, 2010		1985-2015	0	Medium quality
KUWAIT	3 059 473	721 263	212 802	1994-2012	1985, 1995, 2005, 2011		1972-2014	7	Medium quality
LEBANON	4 337 156	1 028 833	443 912	2008-2010	2007, 2009	Surveys	—	—	<50% completeness/coverage
PAKISTAN	170 043 918	61 517 654	18 617 413	1995-2012	1998		1993-1994	0	No recent data
PHILIPPINES	93 038 902	31 270 306	9 768 233	1993-2012	1990, 1995, 2000, 2007, 2010		1963-2011	14	Medium quality
QATAR	1 765 513	238 245	62 708	2002-2014	1997, 2004, 2010		1995-2015	7	Low quality
SAUDI ARABIA	28 090 647	8 544 736	2 512 703	1994-2012	1992, 2004, 2010		2009-2012	2	No recent data
THAILAND	66 692 024	12 801 780	4 750 456	1993-2013	1990, 2000, 2010		1955-2015	4	Low quality
TURKEY	72 310 416	19 434 961	6 290 610	1992-2012	1990, 2000	Surveys since 2007	1978-2013	3	<50% completeness/coverage
VIET NAM	88 357 775	20 919 471	8 877 820	1995-2013	1989, 1999, 2009		—	—	No recent data
EUROPE									
AUSTRIA	8 391 986	1 236 028	503 208	1990-2012	1981, 1991, 2001, 2011		1955-2016	0	Medium quality
BELARUS	9 492 122	1 409 200	606 978	1990-2014	1989, 1999, 2009		1981-2014	7	Medium quality
BELGIUM	10 929 978	1 834 211	652 966	2004-2013	2001, 2011		1954-2014	0	Medium quality

Table A.7. Selected characteristics of the countries, departments and territories in the periods represented in IICC-3

Country	UN population estimates 2010[1]			IICC-3 reference period	Population census		National mortality statistics		
	All years of age N	Age 0-14 years N	Age 15-19 years N		Years of relevance to IICC-3	Notes	WHO[2] Period available	WHO[2] Missing years (N)	Quality assessment[3]
BULGARIA	7 407 297	1 002 178	385 984	1990-2013	1985, 1992, 2001, 2011		1964-2014	0	Medium quality
CROATIA	4 316 425	668 268	237 526	2001-2014	2001, 2011		1985-2015	0	Medium quality
CYPRUS	1 103 685	196 111	84 183	1998-2012	1992, 2001, 2011		1999-2015	3	Low quality
CZECH REPUBLIC	10 506 617	1 497 632	605 682	1990-2012	1980, 1991, 2001, 2011		1986-2015	0	Medium quality
ESTONIA	1 332 089	201 590	77 539	1990-2012	1989, 2000, 2011		1981-2015	2	High quality
FRANCE	62 961 136	11 619 861	3 787 276	1990-2012	1990, 1999	Annual surveys since 2004	1950-2014	1	Medium quality
GERMANY	80 435 307	10 876 006	4 212 741	1994-2012	1981, 1987, 2011	Registry-based in 2011	1990-2015	0	Medium quality
GREECE	11 177 509	1 634 208	584 880	1996-2014	1991, 2001, 2011		1956-2014	0	Low quality
HUNGARY	10 014 633	1 466 556	601 040	1991-2014	1990, 2001, 2011		1955-2015	0	High quality
ICELAND	318 042	66 534	23 520	1990-2014	2011		1951-2016	0	High quality
IRELAND	4 617 334	956 622	275 578	1994-2012	1991, 1996, 2002, 2006, 2011		1950-2014	0	High quality
ITALY	59 588 007	8 354 948	2 876 140	1990-2013	1991, 2001, 2011		1951-2014	0	Medium quality
LITHUANIA	3 122 835	461 133	226 451	2000-2012	1989, 2001, 2011		1981-2015	2	High quality
MALTA	412 064	67 184	27 377	1994-2013	1985, 1995, 2005, 2011		1955-2014	0	High quality
THE NETHERLANDS	16 631 571	2 889 045	1 003 577	1993-2013	2011	Register; survey in 2011	1950-2015	0	Medium quality
NORWAY	4 891 251	919 704	322 837	1990-2013	1990, 2001, 2011		1951-2015	0	Medium quality
POLAND	38 574 682	5 770 834	2 500 130	1990-2013	1988, 1995, 2002, 2011	Survey in 1995	1959-2015	2	Low quality
PORTUGAL	10 584 837	1 580 573	569 164	1991-2012	1991, 2001, 2011		1955-2014	1	Low quality
RUSSIAN FEDERATION	143 158 099	21 317 413	8 808 175	1998-2015	1989, 2002, 2010		1980-2013	0	Medium quality
SLOVAKIA	5 406 896	823 501	361 172	1990-2012	1980, 1991, 2001, 2011		1992-2014	1	High quality
SLOVENIA	2 052 480	286 016	104 039	1991-2012	1991, 2002, 2011		1985-2015	0	High quality
SPAIN	46 601 492	6 802 824	2 197 826	1990-2013	1981, 1991, 2001, 2011		1951-2015	0	Medium quality
SWEDEN	9 382 297	1 548 756	644 563	1990-2011	1990, 2005, 2012	Survey in 2012	1951-2015	0	Medium quality
SWITZERLAND	7 830 534	1 178 854	457 324	1990-2013	1990, 2000	Surveys since 2010	1951-2014	0	Medium quality
UKRAINE	45 647 497	6 338 812	2 748 622	2002-2012	2001		1981-2015	3	Medium quality
UNITED KINGDOM	62 716 684	11 098 032	4 066 041	1990-2013	1991, 2001, 2011		1950-2015	1	High quality
OCEANIA									
AUSTRALIA	22 162 863	4 212 641	1 488 434	1992-2014	1991, 1996, 2001, 2006, 2011		1950-2015	1	High quality
FRANCE, French Polynesia	268 065	63 676	25 190	1990-2011	1988, 1996, 2002, 2007, 2012		—	—	*NR*
FRANCE, New Caledonia	246 345	57 942	20 820	1990-2013	1989, 1996, 2004, 2009, 2014		—	—	*NR*
NEW ZEALAND	4 369 027	896 050	321 523	1993-2012	1986, 1996, 2001, 2006, 2013		1950-2013	0	High quality

Table A.8. Provision and processing of selected data items in IICC-3

IICC-3, International Incidence of Childhood Cancer, volume 3.

Datasets listed are those with a sufficient number of cases and selected for the printed publication (see Table A.12). The data for race or ethnic groups in individual US states are available online.

Missing annual population counts were estimated by (1) extrapolation or (2) interpolation and missing population counts in single years of age were estimated for (3) all calendar years or (4) some calendar years of the study period, as described in Chapter 2 and in the population at risk sections for the individual registries. Rounding, provided counts were rounded to the nearest integer.

[x] Where 0 or 100 are shown without decimals, no case or all cases respectively were in a given category, while 0.0 or 100.0 indicate that the percentage corresponding to the observed number of cases differed by less than 0.05 from the shown values. + applicable; — not reported for pooled datasets; % refers to the total number of included cases, unless specified otherwise.

API, Asian Pacific Islander; CNS, central nervous system; HM, haematological malignancies; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results.

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts: Calendar years (1)	Missing counts: Calendar years (2)	Missing counts: Single ages (3)	Missing counts: Single ages (4)	Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%): Birth: Day	Incomplete dates (%): Birth: Month	Incomplete dates (%): Birth: Year	Incomplete dates (%): Incidence: Day	Incomplete dates (%): Incidence: Month	Age calculated at IARC used	Queried age (%)
AFRICA														
ALGERIA, 5 registries (1996-2014)	—			+	+	Combined counts	0	62.9	50.9	12.0	4.0	3.7	—	9.2
ALGERIA, Algiers (2008-2012)				+			0	38.3	38.3	38.3	2.6	3.8		14.4
ALGERIA, Annaba (2000-2010)			+	+			0	77.9	63.4	0	4.5	2.9		1.1
ALGERIA, Batna (2008-2012)				+			0	83.4	79.7	0	10.0	16.0		0.9
ALGERIA, Sétif (1996-2014)				+			0	71.8	71.8	0	8.5	7.8		0.1
ALGERIA, Tlemcen (2006-2014)					+		0	72.1	60.7	0	11.9	8.4		34.8
BOTSWANA (1999-2007)		+					0	38.0	32.2	0	9.9	6.7		0
CAMEROON, Yaoundé (2004-2006)		+	+	+		Sex-specific counts	0	100	100	100	4.4	8.2		0
EGYPT, Gharbiah (1999-2010)				+			0	58.2	48.5	0	6.4	0		26.2
FRANCE, Réunion (1990-2011)					+		0	100	100	100	100	100		0
KENYA, 2 registries (2000-2012)	—	+	+	+		Combined counts	0	79.0	74.7	0.2	1.0	0.6	—	4.4
KENYA, Eldoret (2000-2011)		+	+	+			0	98.1	97.2	0.4	2.8	2.0		6.7
KENYA, Nairobi (2006-2012)				+		Rounding	0	66.3	62.7	0	1.4	4.1		2.7
LIBYA, Benghazi (2003-2008)		+		+			0	82.4	65.4	0	11.7	3.2		1.9
MALI, Bamako (2005-2014)				+			0	100	100	0.1	71.6	62.8		1.2
MAURITIUS (2001-2013)				+			0	66.2	61.6	0	3.2	2.0		10.5
MOROCCO, 2 registries (2005-2012)	—			+		Combined counts	0	62.7	49.6	5.2	7.1	2.9	—	0
MOROCCO, Casablanca (2005-2012)				+			0	63.7	49.2	0	7.1	2.9		0
MOROCCO, Rabat (2005-2012)	+						0	55.2	55.2	45.3	11.6	11.0		0
SOUTH AFRICA, paediatric (1998-2012)		+	+		+	Ethnicity counts	0	6.2	3.6	0	0	0	+	0
SOUTH AFRICA, paediatric, Asian (1998-2012)		+	+	+			0	13.7	3.1	0	2.0	8.7	+	0
SOUTH AFRICA, paediatric, Black (1998-2012)		+	+	+			0	7.9	4.8	0	0	0	+	0
SOUTH AFRICA, paediatric, Coloured (1998-2012)		+	+	+			0	0	0	0	0	0	+	0
SOUTH AFRICA, paediatric, White (1998-2012)		+	+	+			0	3.6	2.8	0	0	2.3	+	0

More datasets available online

Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts				Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%)					Age calculated at IARC used	Queried age (%)
		Calendar years		Single ages				Birth			Incidence			
		(1)	(2)	(3)	(4)			Day	Month	Year	Day	Month		
TUNISIA, 2 registries (1993-2007)	–			+		Combined counts	0	37.8	37.8	34.1	11.3	3.1	–	25.3
TUNISIA, North (1994-2006)	+						0	39.1	39.1	39.1	12.9	3.4		27.3
TUNISIA, Sousse (1993-2007)				+			0	28.9	28.9	0	2.7	7.3		12.3
UGANDA, Kyadondo (1996-2013)				+		Rounding	0	96.5	91.3	0.2	0	1.6		4.1
ZIMBABWE, Harare, African (1995-2013)		+		+		Rounding	0	100	100	100	0	1.8		0
AMERICA, LATIN AND THE CARIBBEAN														
ARGENTINA, paediatric (2000-2013)					+		0.1	2.1	1.7	0	4.9	0		0.3
ARGENTINA, 6 registries (1991-2013)	–	+	+	+	+	Combined counts	0	1.9	1.8	0	5.7	0	–	0.4
ARGENTINA, Bahía Blanca (1991-2007)		+	+		+		0	7.3	10.1	0	10.3	2.5		4.0
ARGENTINA, Chaco (2002-2012)				+			0	8.5	9.7	0	2.5	1.8		0
ARGENTINA, Córdoba (2004-2012)	+						0	0	0	0	6.9	0		0
ARGENTINA, Entre Ríos (2001-2011)				+			0	7.2	7.7	0	2.8	2.0		0.7
ARGENTINA, Mendoza (2003-2012)	+						0	0	0	0	7.0	0		0
ARGENTINA, Neuquén (2003-2013)	+						0	8.4	3.6	0	2.8	8.1		0.3
BRAZIL, 5 registries (1995-2012)	–		+			Combined counts	0	0.1	0.1	0.1	1.8	0	–	1.9
BRAZIL, Aracaju (1996-2012)	+						0	0	3.9	0	0	3.5		0
BRAZIL, Belo Horizonte (2000-2006)	+						0	0	2.2	0	2.8	3.6		0
BRAZIL, Curitiba (1998-2010)	+						0	0	1.9	0	5.6	0		0
BRAZIL, Goiânia (1995-2011)			+				0	0.4	2.0	0.4	0	4.0		6.7
BRAZIL, João Pessoa (1999-2010)	+						0	2.1	4.8	0	1.9	6.6		0
CHILE, paediatric (2007-2011)	+						0	0	0	0	0	0		0
CHILE, 4 registries (1998-2012)	–				+	Combined counts	0	0	1.9	0	5.1	4.0	–	0
CHILE, Antofagasta (2003-2010)	+						0	9.2	7.9	0	14.1	8.6		0
CHILE, Bío Bío (2003-2012)					+		0	5.4	12.9	0	1.9	2.1		0
CHILE, Concepción (2006-2010)					+		0	7.0	4.1	0	8.6	5.1		0
CHILE, Valdivia (1998-2012)	+						0	4.6	7.8	0	17.7	11.5		0
COLOMBIA, 4 registries (1992-2013)	–					Combined counts	0	11.5	9.9	0	3.1	0	–	0.0
COLOMBIA, Bucaramanga (2000-2012)	+						0	3.2	4.8	0	0	4.3		0
COLOMBIA, Cali (1992-2013)	+						0	14.1	12.0	0	3.9	0		0
COLOMBIA, Pasto (1998-2012)	+						0	11.9	12.2	0	4.4	8.0		0
COSTA RICA (1993-2012)	+						0	0	0	0	3.3	0		0

More datasets available online

Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts				Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%)					Age calculated at IARC used	Queried age (%)
		Calendar years		Single ages				Birth			Incidence			
		(1)	(2)	(3)	(4)			Day	Month	Year	Day	Month		
CUBA (2000-2012)	+						0	0	0	0	4.4	0		0
ECUADOR, 5 registries (1993-2013)	–					Combined counts	0	4.3	4.1	0	0	0	–	1.2
ECUADOR, Cuenca (1996-2013)	+						0	8.2	2.2	0	0	0		0
ECUADOR, Guayaquil (2008-2012)	+						0	5.4	5.1	0	0	4.2		0
ECUADOR, Loja (1997-2013)	+						0	6.5	11.9	0	9.0	11.5		0
ECUADOR, Manabí (1995-2011)	+						0	11.6	12.3	0	0	2.5		5.6
ECUADOR, Quito (1993-2012)	+						0	0	0	0	0.1	0		0
FRANCE, 3 registries (1990-2012)	–				+	Combined counts	0	69.8	4.2	0	69.8	2.3	–	0
FRANCE, French Guiana (2003-2012)					+		0	4.8	12.4	0	9.6	6.4		0
FRANCE, Martinique (1990-2012)	+					Rounding	0	100	7.9	0	100	6.8		0
HONDURAS, Francisco Morazán (2002-2012)				+			0	6.3	4.4	0	6.0	2.7		0
JAMAICA, Kingston and St Andrew (1982-2012)					+		0	58.0	58.0	53.2	2.5	3.3		0
MEXICO, Mexico City, paediatric (1997-2013)				+			0	100	0	0	100	0		0.3
PERU, Lima (2010-2012)	+						0	4.6	3.6	0	3.6	0		0
PERU, Trujillo (1990-2002)		+	+	+			0	26.2	26.4	0	100	100		2.0
USA, Puerto Rico (1992-2012)					+		0	7.7	2.8	0	5.9	3.1		0.0
URUGUAY (1993-2012)	+						0	7.2	8.4	0	58.5	19.7		0
AMERICA, NORTH														
CANADA, 9 registries (1992-2013)	–					Combined counts	0	20.3	12.9	0.0	16.0	12.9	–	0.0
CANADA, Alberta (1992-2013)	+						0	0	0	0	0.5	0.2		0
CANADA, British Columbia (1992-2013)	+						0	100	100	0	100	100		0
CANADA, Manitoba (1992-2013)	+						0	100	0	0	0.8	0.2		0
CANADA, Nova Scotia (1992-2013)	+						0	100	0	0	100	2.3		0
CANADA, Ontario (1992-2012)	+						0	0	0	0.0	5.2	1.9		0
CANADA, Quebec (1992-2010)	+						0	0	0	0	0	0		0.0
CANADA, Saskatchewan (1992-2013)	+						0	0	1.8	0	0.2	0		0
USA (1998-2012)	–					Combined counts	0	21.3	1.0	0.0	7.6	0.4	–	0.0
USA, API (1998-2012)	–					Combined counts	0	48.1	0.5	0	12.9	0.5	–	0
USA, Black (1998-2012)	–					Combined counts	0	11.9	0.5	0.0	3.9	0.5	–	0
USA, Hispanic White (1998-2012)	–					Combined counts	0	38.9	0.6	0	8.0	0.6	–	0.0
USA, Native American (1998-2012)	–					Combined counts	0	16.4	0.4	0	11.5	0.2	–	0

More datasets available online

Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing					Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts: Calendar years (1)	Missing counts: Calendar years (2)	Missing counts: Single ages (3)	Missing counts: Single ages (4)	Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%): Birth: Day	Incomplete dates (%): Birth: Month	Incomplete dates (%): Birth: Year	Incomplete dates (%): Incidence: Day	Incomplete dates (%): Incidence: Month	Age calculated at IARC used	Queried age (%)
USA, White NH (1998-2012)	–					Combined counts	0	17.0	1.1	0	8.0	0.3	–	0.0
USA, NPCR (1998-2012)	+						0	17.8	1.0	0.0	3.6	0.4		0.0
USA, NPCR, API (1998-2012)	+						0	42.9	0.6	0	4.3	0.6		0
USA, NPCR, Black (1998-2012)	+						0	10.6	0.5	0.0	2.5	0.5		0
USA, NPCR, Hispanic White (1998-2012)	+						0	36.4	0.6	0	4.3	0.7		0.0
USA, NPCR, Native American (1998-2012)	+						0	7.4	0.4	0	1.9	0.2		0
USA, NPCR, White NH (1998-2012)	+						0	13.0	1.2	0	3.5	0.3		0.0
USA, SEER 18 (1993-2012)	+						0	100	0	0	100	0.4		0
USA, SEER 18, API (1993-2012)	+						0	100	0	0	100	0.5		0
USA, SEER 18, Black (1993-2012)	+						0	100	0	0	100	0.4		0
USA, SEER 18, Hispanic White (1993-2012)	+						0	100	0	0	100	0.5		0
USA, SEER 18, Native American (1993-2012)	+						0	100	3.6	0	100	0.6		0
USA, SEER 18, White NH (1993-2012)	+						0	100	0	0	100	0.4		0
USA, Alabama (1998-2012)	+						0	0	0	0	3.9	0.2		0
USA, Alaska (1998-2012)	+						0	0	4.1	0	4.7	3.0		0
USA, Alaska Natives (1993-2012)	+						0	100	14.6	0	100	9.0		0
USA, Arizona (1998-2012)	+						0	0	0	0	2.9	0.4		0
USA, Arkansas (1998-2012)	+						0	0	0	0	1.3	0.4		0
USA, California (1998-2012)	+						0	100	0	0	4.1	0.7		0
USA, California, Greater California (2000-2012)	+						0	100	0	0	100	0.6		0
USA, California, Los Angeles (1993-2012)	+						0	100	0.1	0	100	0.5		0
USA, California, San Francisco (1993-2012)	+						0	100	0.1	0	100	0.6		0
USA, California, San José-Monterey (1993-2012)	+						0	100	0.1	0	100	0.5		0
USA, Colorado (1998-2012)	+						0	0	0	0	1.9	0.1		0
USA, Connecticut (1993-2012)	+						0	100	0	0	100	0.5		0
USA, Delaware (1998-2012)	+						0	0	2.1	0	0.9	0		0
USA, District of Columbia (1998-2012)	+						0	2.6	5.2	0	7.7	3.4		0
USA, Florida (1998-2012)	+						0	0	0	0	7.7	0		0
USA, Georgia (1998-2012)	+						0	0	0	0	0	0		0
USA, Georgia, Atlanta (1993-2012)	+						0	100	0	0	100	0		0
USA, Hawaii (1993-2012)	+						0	100	2.3	0	100	0.5		0

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Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts				Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%)					Age calculated at IARC used	Queried age (%)
		Calendar years		Single ages				Birth			Incidence			
		(1)	(2)	(3)	(4)			Day	Month	Year	Day	Month		
USA, Hawaii, Hawaiian (1993-2012)	+						0	0	4.4	0	0.9	3.5		0
USA, Idaho (1998-2012)	+						0	0	1.7	0	3.2	0.1		0
USA, Illinois (1998-2012)	+						0	0	0	0	0.7	0		0
USA, Indiana (1998-2012)	+						0	0	0	0	3.4	0.3		0
USA, Iowa (1993-2012)	+						0	100	0	0	100	0.4		0
USA, Kentucky (1998-2012)	+						0	0	0	0	2.1	0		0
USA, Louisiana (1998-2012)	+						0	0	0	0	4.5	0.7		0.1
USA, Maine (1998-2012)	+						0	0	0	0	0.1	0		0
USA, Massachusetts (1998-2012)	+						0	49.1	0	0	49.3	0		0
USA, Michigan (1998-2012)	+						0	0.2	0	0	4.7	0.3		0
USA, Michigan, Detroit (1993-2012)	+						0	100	0	0	100	0.7		0
USA, Minnesota (1998-2012)	+						0	0	0	0	0.2	0		0
USA, Mississippi (2002-2012)	+						0	0	0	0	1.3	0.2		0
USA, Missouri (1998-2012)	+						0	0	0	0	1.2	0.2		0
USA, Montana (1998-2012)	+						0	0	2.1	0	6.5	4.3		0
USA, Nebraska (1998-2012)	+						0	0.1	0	0	3.1	0.4		0
USA, Nevada (1998-2012)	+						0	0	0	0	7.9	2.2		0
USA, New Hampshire (1998-2012)	+						0	0	2.5	0	0.6	2.8		0
USA, New Jersey (1998-2012)	+						0	0	0	0	2.0	0.7		0
USA, New Mexico (1993-2012)	+						0	100	0	0	100	2.8		0
USA, New York State (1998-2012)	+						0	34.6	0	0	6.8	1.3		0
USA, North Carolina (1998-2012)	+						0	0	0	0	2.8	0		0
USA, North Dakota (1998-2012)	+						0	0.2	4.7	0	3.7	1.9		0
USA, Ohio (1998-2012)	+						0	0	0	0	0.2	0.1		0
USA, Oklahoma (1998-2012)	+						0	0	0	0	4.4	0		0
USA, Oregon (1998-2012)	+						0	0	0	0	0.6	0		0
USA, Pennsylvania (1998-2012)	+						0	0	0	0	1.4	0.4		0
USA, Rhode Island (1998-2012)	+						0	0	0	0	2.9	2.3		0
USA, South Carolina (1998-2012)	+						0	0	0	0	5.4	0		0
USA, South Dakota (2001-2012)	+						0	0	5.8	0	5.2	7.9		0
USA, Tennessee (1999-2012)	+						0	0	0	0	0.6	0.2		0

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Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts: Calendar years (1)	Missing counts: Calendar years (2)	Missing counts: Single ages (3)	Missing counts: Single ages (4)	Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%): Birth: Day	Incomplete dates (%): Birth: Month	Incomplete dates (%): Birth: Year	Incomplete dates (%): Incidence: Day	Incomplete dates (%): Incidence: Month	Age calculated at IARC used	Queried age (%)
USA, Texas (1998-2012)	+						0	0	0	0	12.7	0.8		0.0
USA, Utah (1993-2012)	+						0	100	0	0	100	0		0
USA, Vermont (1998-2012)	+						0	2.1	3.6	0	4.9	4.0		0
USA, Virginia (1998-2012)	+						0	0	0	0	3.8	0.1		0
USA, Washington State (1998-2012)	+						0	0	0	0	11.2	0.5		0
USA, Washington, Seattle (1993-2012)	+						0	100	0	0	100	0.3		0
USA, West Virginia (1998-2012)	+						0	0	0	0	1.6	0.5		0
USA, Wisconsin (1998-2012)	+						0	0	0	0	3.0	0.5		0
USA, Wyoming (1998-2012)	+						0	3.2	4.4	0	6.1	2.4		0
ASIA														
BAHRAIN (1998-2012)				+			0	3.6	1.7	0	4.6	2.4		0
CHINA, 6 registries (1990-2013)	–	+		+	+	Combined counts	0	3.1	3.1	3.1	45.0	22.5	–	0.0
CHINA, Beijing (2000-2013)					+		0	8.1	0	0	0	0		0
CHINA, Dalian (2003-2012)				+			0	2.9	3.9	0	3.8	1.7		0
CHINA, Guangzhou (2010-2012)	+						0	2.2	4.0	0	0	0		0
CHINA, Hong Kong (1990-2013)	+						0	6.8	6.8	6.8	100	49.6		0.0
CHINA, Shanghai (2002-2012)	+						0	0	3.8	0	4.1	2.9		0
CHINA, Zhongshan (2003-2012)		+		+		Rounding	0	3.0	6.3	0	2.0	5.5		0
INDIA, 7 registries (1990-2013)	–			+	+	Combined counts	0	100	100	100.0	0.2	0.1	–	0
INDIA, Bangalore (1993-2011)				+			0	100	100	100	2.0	0		0
INDIA, Chennai (1993-2013)				+			0	100	100	100	3.8	0		0
INDIA, Kollam (2006-2012)				+			0	99.7	99.7	99.7	3.9	1.9		0
INDIA, Mumbai (1993-2012)				+			0	100	100	100	0	0		0
INDIA, Nagpur (1990-2012)					+		0	100	100	100	2.4	4.1		0
INDIA, New Delhi (2003-2010)				+			0	100	100	100	0.8	0.5		0
INDIA, Trivandrum (2005-2012)				+			0	100	100	100	3.9	2.6		0
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	+						0	41.6	32.1	0	6.7	3.0		0
ISRAEL (1990-2012)					+		0	0	0	0	32.7	7.0		0
ISRAEL, Jews (1990-2012)					+		0	0	0	0	33.4	6.8		0
ISRAEL, Non-Jews (1990-2012)					+		0	0	0	0	30.4	7.5		0
JAPAN, 8 registries (1990-2013)	–					Combined counts	0	54.5	0	0	66.8	0.1	–	0

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Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts				Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%)					Age calculated at IARC used	Queried age (%)
		Calendar years		Single ages				Birth			Incidence			
		(1)	(2)	(3)	(4)			Day	Month	Year	Day	Month		
JAPAN, Aichi (2008-2012)	+						0	0	0	0	0.5	0	+	0
JAPAN, Hiroshima (1990-2012)	+						0	0.1	1.9	0	26.6	1.9	+	0
JAPAN, Miyagi (1990-2010)	+						0	0	1.7	0	18.7	0.5		0
JAPAN, Nagasaki (1993-2012)	+						0	0.2	0	0	100	0		0
JAPAN, Niigata (2003-2012)	+						0	100	0	0	100	5.6		0
JAPAN, Osaka (1990-2012)	+						0	100	0	0	100	0		0
JAPAN, Tochigi (2005-2012)	+						0	0	2.3	0	6.3	2.1	+	0
JAPAN, Yamagata (1990-2013)	+						0	2.0	3.4	0	0.8	0.2	+	0
JORDAN, Jordanians (2000-2012)	+						0	72.9	68.6	0.0	10.4	0		2.5
REPUBLIC OF KOREA (1999-2012)	+						0	0	1.6	0	0.9	0.2		0
REPUBLIC OF KOREA, Busan (1999-2012)	+						0	0	4.5	0	1.1	0.1		0
REPUBLIC OF KOREA, Daegu (1999-2012)	+						0	0	0	0	0.6	0.2		0
REPUBLIC OF KOREA, Daejeon (1999-2012)	+						0	0	5.7	0	7.0	2.9		0
REPUBLIC OF KOREA, Gwangju (1997-2012)	+						0	0	4.3	0	0	0		0
REPUBLIC OF KOREA, Incheon (1998-2012)	+						0	0	1.9	0	2.2	1.9		0
REPUBLIC OF KOREA, Jejudo (2000-2012)	+						0	2.9	7.1	0	5.2	4.3		0
REPUBLIC OF KOREA, Seoul (1995-2012)	+						0	0	1.8	0	3.6	0.3	+	0
REPUBLIC OF KOREA, Ulsan (2001-2012)	+						0	4.0	3.7	0	2.5	6.2		0
KUWAIT (1994-2012)				+			0	13.2	11.5	0.1	25.3	0		0.7
KUWAIT, Kuwaitis (1994-2012)				+			0	9.8	8.9	0	23.8	0		0.6
KUWAIT, Non-Kuwaitis (1994-2012)				+			0	18.1	15.1	0.1	27.6	5.6		0.8
LEBANON (2008-2010)				+			0	100	100	0.1	100	100		0.1
PAKISTAN, Karachi (1995-2002)		+		+			0	92.9	88.1	35.5	7.4	4.5		1.8
PAKISTAN, Lahore (2008-2012)	+						0	18.6	14.8	0	4.1	0		0.2
PHILIPPINES, 2 registries (1993-2012)	–				+	Combined counts	0	55.0	46.3	0.4	9.7	4.6	–	1.4
PHILIPPINES, Manila (1993-2012)					+	Rounding	0	53.6	44.7	0.6	13.8	7.9		0.1
PHILIPPINES, Rizal (1993-2012)					+	Rounding	0	56.4	52.9	0.2	5.6	0		2.7
QATAR (2002-2014)				+			0	13.0	8.9	0	13.9	5.6	+	0
SAUDI ARABIA, Riyadh (1994-2012)		+		+		Rounding	0	31.0	26.3	0	6.4	0		0.0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)		+		+		Rounding	0	27.3	23.2	0	5.6	0		0.0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)		+		+		Rounding	0	47.4	39.7	0	9.6	0		0.1

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Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts				Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%)					Age calculated at IARC used	Queried age (%)
		Calendar years		Single ages				Birth			Incidence			
		(1)	(2)	(3)	(4)			Day	Month	Year	Day	Month		
THAILAND, 6 registries (1993-2013)	–	+		+	+	Combined counts	0	21.2	15.4	0.5	9.7	2.5	–	18.6
THAILAND, Bangkok (2001-2012)		+		+			0	24.8	22.7	0	13.9	6.8		52.0
THAILAND, Chiang Mai (1993-2012)	+						0	24.2	20.2	0.2	0	1.5		0
THAILAND, Chonburi (1998-2012)	+						0	8.9	5.4	0	5.2	2.2		0
THAILAND, Khon Kaen (1993-2012)					+		0	18.0	11.7	0	0	0		3.6
THAILAND, Lampang (1993-2013)					+		0	28.2	11.6	6.3	7.5	0		0.4
THAILAND, Songkhla (1994-2013)	+						0	18.9	14.8	0	27.0	0		0
TURKEY, paediatric (2009-2011)	+						0.1	5.6	3.6	0	0	0	+	0
TURKEY, 8 registries (1992-2012)	–	+			+	Combined counts	0	16.0	13.3	0	7.1	1.4	–	0.1
TURKEY, Ankara (2008-2012)	+						0	7.5	4.9	0	6.1	0		0
TURKEY, Antalya (1998-2012)					+		0	15.8	10.1	0	3.1	0.7		0
TURKEY, Bursa (2004-2012)					+		0	9.4	8.8	0	4.0	0.2		0
TURKEY, Erzurum (2006-2012)					+		0	25.5	6.2	0	8.2	3.4		0.5
TURKEY, İzmir (1992-2012)		+			+		0	22.9	20.3	0	9.9	3.0	+	0
TURKEY, Samsun (2003-2012)					+		0	23.3	15.4	0	15.6	2.9		0
TURKEY, Trabzon (2003-2012)					+		0	16.7	11.5	0	6.4	2.0		2.6
VIET NAM, Ho Chi Minh City (1995-2013)		+	+		+		0	98.3	98.3	0	0	0		0.3
EUROPE														
AUSTRIA (1990-2012)	+						0	0	0	0	6.3	0		0
BELARUS, paediatric (1990-2014)	+						0	3.5	4.6	0	8.7	0		0
BELGIUM (2004-2013)	+						0	0	0	0	0	0		0
BULGARIA (1990-2013)	+						0	0.9	0.9	0.9	29.3	3.2		0
CROATIA (2001-2014)	+						0	0	0	0	1.9	0		0
CYPRUS, South-West (1998-2012)	+						0	4.0	3.9	0	4.2	2.0		0
CZECH REPUBLIC (1990-2012)	+						0	0	0	0	0	0		0
ESTONIA (1990-2012)	+						0	0	2.3	0	26.7	1.7		0
FRANCE, paediatric (2000-2012)	+						0	0	0	0	0	0		0
FRANCE, paediatric, haematological malignancies (1990-1999)	+						0	0	0	0	0	0		0
FRANCE, 13 registries (1993-2012)	–					Combined counts, rounding	0	100	0	0	100	0.2	–	0.2
FRANCE, Bas-Rhin (1993-2011)	+					Rounding	0	100	2.6	0	100	4.4		0
FRANCE, Calvados (1990-2012)	+					Rounding	0	100	0	0	100	2.5		0

More datasets available online

Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing					Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts				Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%)				Age calculated at IARC used	Queried age (%)
		Calendar years		Single ages				Birth			Incidence			
		(1)	(2)	(3)	(4)			Day	Month	Year	Day	Month		
FRANCE, Doubs (1993-2012)	+					Rounding	0	100	2.6	0	100	0		0
FRANCE, Gironde (2008-2012)	+					Rounding	0	100	0	0	100	9.8		0
FRANCE, Haut-Rhin (1993-2012)	+					Rounding	0	100	0	0	100	0.2		0.2
FRANCE, Hérault (1993-2012)	+					Rounding	0	100	2.4	0	100	3.1		0
FRANCE, Isère (1993-2012)	+					Rounding	0	100	0	0	100	0		0
FRANCE, Lille (2008-2012)	+					Rounding	0	100	10.3	0	100	7.0		0
FRANCE, Loire-Atlantique and Vendée (1998-2012)	+					Rounding	0	100	0	0	100	3.0		0
FRANCE, Manche (1994-2012)	+					Rounding	0	100	6.3	0	100	6.0		0
FRANCE, Somme (1993-2012)	+					Rounding	0	100	4.0	0	100	0		0
FRANCE, Tarn (1993-2012)	+					Rounding	0	100	7.3	0	100	2.1		0
GERMANY, paediatric (1996-2012)	+						0	100	0	0	3.8	0		0.0
GERMANY, 6 Eastern states (2001-2007)				+			0	100	0	0	100	0		0.0
GERMANY, 5 Western registries (1994-2012)	–			+		Combined counts	0.0	82.8	4.1	0	94.3	0.1	–	0
GERMANY, Bavaria (2002-2012)	+					Rounding	0	100	0	0	100	0		0
GERMANY, Lower Saxony (2003-2012)	+						0	100	17.4	0	100	0.4		0
GERMANY, Rhineland-Palatinate (1998-2012)				+			0.1	100	0	0	100	0		0
GERMANY, Saarland (1994-2012)				+			0	0	1.5	0	20.7	2.0		0
GERMANY, Schleswig-Holstein (2000-2012)	+						0	0	0	0	100	1.6		0
GREECE, paediatric HM (1996-2014), CNS tumours (2010-2014)	+						0	2.6	2.2	0	0	0		0
HUNGARY, paediatric (1991-2014)				+			0.0	0	0	0	0	0		0.1
ICELAND (1990-2014)	+					Rounding	0	100	7.0	0	100	7.2		0
IRELAND (1994-2012)	+						0	100	0	0.0	0	0		0
ITALY, 2 paediatric registries (1998-2011)	–					Combined counts	0	0	0	0	0	0	–	0.0
ITALY, Marche, paediatric (1998-2007)	+						0	4.0	0	0	3.0	0		0
ITALY, Piedmont, paediatric (1990-2011)	+						0	0	0	0	0	0		0
ITALY, Piedmont, paediatric (2000-2011)	+						0	0	0	0	0	0		0.1
ITALY, 26 registries (1992-2013)	–					Combined counts	0.0	0	0	0	0	0	–	1.0
ITALY, Brescia (1999-2012)	+						0	0	1.8	0	3.9	0		0
ITALY, Catania, Messina and Enna (2003-2013)	+						0.1	0	0	0	0	2.8		4.4
ITALY, Como (2003-2011)	+						0	7.2	8.1	0	8.0	4.6		0
ITALY, Ferrara (1991-2011)	+						0	7.1	5.8	0	7.2	5.7		0

More datasets available online

Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts				Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%)					Age calculated at IARC used	Queried age (%)
		Calendar years		Single ages				Birth			Incidence			
		(1)	(2)	(3)	(4)			Day	Month	Year	Day	Month		
ITALY, Friuli Venezia Giulia (1995-2010)	+						0	0	2.6	0	0	0		0
ITALY, Lodi and Pavia (2003-2009)	+						0	6.3	5.9	0	9.2	6.8		0
ITALY, Milan (1999-2007)	+						0	3.8	1.9	0	3.8	6.2		0
ITALY, Modena (1990-2012)	+						0	0	3.3	0	4.9	0		0
ITALY, Naples South (1996-2012)	+						0	0	1.5	0	0	2.1		0
ITALY, Parma (1992-2013)	+						0	0	4.6	0	4.1	3.2		0
ITALY, Ragusa and Caltanissetta (1992-2012)	+						0	8.3	5.3	0	6.3	3.3		0
ITALY, Reggio Emilia (1996-2012)	+						0	7.8	2.0	0	7.4	1.7		0
ITALY, Romagna (1990-2012)	+						0	1.7	3.0	0	2.3	6.1		0
ITALY, Salerno (1997-2009)	+						0	1.7	1.7	0	6.2	0		0
ITALY, Sassari (1992-2011)	+						0	3.0	7.0	0	4.4	5.7		0
ITALY, Syracuse (1999-2012)	+						0	4.2	4.4	0	4.1	1.8		0
ITALY, Trento (2001-2010)	+						0	7.5	9.9	0	6.9	9.0		0
ITALY, Turin (1992-2012)	+						0	0	0	0	0	1.7		0
ITALY, Umbria (1994-2011)	+						0	0	2.6	0	2.1	0		0
ITALY, Varese (1992-2012)	+						0	2.1	0	0	8.9	3.0		0
ITALY, Veneto (1992-2009)	+						0	0	0	0	0	0		0
LITHUANIA (2000-2012)	+						0	0	0	0	2.7	2.1		0
MALTA (1994-2013)	+						0	0	4.6	0	0	5.1		0
THE NETHERLANDS (1993-2013)	+						0	100	0	0	100	0		0
NORWAY (1990-2013)	+						0	100	0	0	100	0		0
POLAND (2001-2013)	+						0	0	0	0	13.8	3.7		0.2
POLAND, Greater Poland (1999-2013)	+						0	0	0	0	55.3	3.9	+	0
POLAND, Kielce (1990-2013)	+						0	0.1	2.2	0	54.2	10.1	+	0
POLAND, Lower Silesia (2000-2013)	+						0	0	2.3	0	27.1	11.1		0
POLAND, Lublin (1999-2013)	+						0	0	0	0	10.5	1.7		0
PORTUGAL (1991-2012)	–					Combined counts	0	0.1	0.1	0.1	24.0	0	–	0
PORTUGAL, Azores (1997-2011)	+						0	8.4	4.2	0	17.8	3.2		0
PORTUGAL, Centre (2000-2010)	+						0	0	0	0	11.1	2.9		0
PORTUGAL, North (1991-2010)	+						0	0.2	0.2	0.2	52.0	0		0
PORTUGAL, South (1998-2012)	+					Rounding	0	0	0	0	4.2	0		0

More datasets available online

Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts				Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%)					Age calculated at IARC used	Queried age (%)
		Calendar years		Single ages				Birth			Incidence			
		(1)	(2)	(3)	(4)			Day	Month	Year	Day	Month		
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	+						0	6.9	5.6	0	10.0	6.8		0
RUSSIAN FEDERATION, 2 registries (1998-2015)	–					Combined counts	0	0	0	0	9.1	4.1	–	0
RUSSIAN FEDERATION, Chelyabinsk (2008-2012)	+						0	1.7	1.9	0	3.9	3.9		0
RUSSIAN FEDERATION, Samara (1998-2015)	+						0	0	0	0	12.8	4.2		0
SLOVAKIA (1990-2009)					+		0	7.3	7.4	0	1.9	0		6.8
SLOVAKIA, paediatric (2000-2012)	+					Rounding	0	0	2.0	0	1.4	0.3		0
SLOVENIA (1991-2012)	+						0	0	0	0	4.7	1.6		0
SPAIN, 2 paediatric registries (1991-2013)	–					Combined counts	0	0	0	0	75.6	0	–	0.1
SPAIN, selected regions, paediatric (2000-2013)	+						0	0	0	0	100	0		0.1
SPAIN, Valencia, paediatric (1991-2010)	+						0	0	0	0	24.9	0		0
SPAIN, 11 registries (1990-2013)	–				+	Combined counts	0	0.1	0.1	0.1	16.3	0.1	–	0.4
SPAIN, Albacete (1991-2010)	+						0	0	7.0	0	9.5	6.7		11.2
SPAIN, Asturias (1992-2010)	+						0	1.9	4.1	0	2.6	3.6		0
SPAIN, Basque Country (1990-2012)	+						0	0	1.7	0	4.2	0		0
SPAIN, Canary Islands (1993-2011)					+		0	0	3.4	0	0	0		0
SPAIN, Cuenca (1993-2012)	+						0	12.6	3.4	0	13.4	11.3		0
SPAIN, Girona (1990-2013)	+						0	2.3	4.4	0	24.1	2.1		0
SPAIN, Granada (1992-2013)	+						0	0	1.9	0	2.4	0		0
SPAIN, Mallorca (1990-2012)	+						0	2.9	5.1	0.2	82.9	0.5		0
SPAIN, Murcia (1991-2009)	+						0	0	2.0	0	24.9	0		0
SPAIN, Navarra (1990-2010)	+						0	2.0	1.6	0	2.0	0		0
SPAIN, Tarragona (1990-2011)	+						0	3.2	2.0	0.5	62.4	0.4		0
SWEDEN (1990-2011)	+						0	100	1.8	0	100	0		0
SWITZERLAND, paediatric (1990-2013)	+						0	100	100	0	100	100		0
SWITZERLAND, 7 registries (1990-2013)	–	+				Combined counts	0	46.8	0	0	46.8	0	–	5.5
SWITZERLAND, Geneva (1993-2013)		+					0	0	3.1	0	2.5	2.4		0
SWITZERLAND, Neuchâtel (1993-2013)	+						0	7.2	17.0	0	11.3	8.2		4.3
SWITZERLAND, Ticino (1996-2012)	+						0	100	8.5	0	100	1.9		0
SWITZERLAND, Valais (1990-2012)	+						0	0	8.6	0	5.6	6.0	+	0
SWITZERLAND, Vaud (1993-2012)	+						0	2.5	0	0	0	2.3		2.7
SWITZERLAND, Zurich (1993-2013)	+						0	100	1.8	0	100	0		0

More datasets available online

Table A.8. Provision and processing of selected data items in IICC-3

Dataset (IICC-3 period)	Population data provision and processing						Cancer cases data provision and processing [x]							
	All required detail provided	Missing counts: Calendar years (1)	Missing counts: Calendar years (2)	Missing counts: Single ages (3)	Missing counts: Single ages (4)	Other estimations conducted at IARC	Sex unknown (%)	Incomplete dates (%): Birth: Day	Incomplete dates (%): Birth: Month	Incomplete dates (%): Birth: Year	Incomplete dates (%): Incidence: Day	Incomplete dates (%): Incidence: Month	Age calculated at IARC used	Queried age (%)
UKRAINE (2002-2012)	+						0	2.6	2.6	0	100	3.2		0.0
UNITED KINGDOM (2000-2011)	–	+			+	Combined counts	0	91.1	0	0	91.1	0	–	0
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	+						0	0	0	0	0	0		0.0
UNITED KINGDOM, England (1990-2013)		+			+		0	100	0	0	100	0		0
UNITED KINGDOM, Northern Ireland (1993-2013)	+						0	0	0	0	0	1.5		0
UNITED KINGDOM, Scotland (1991-2013)	+						0	100	0	0	100	1.6		0
UNITED KINGDOM, Wales (2000-2011)	+						0	0	0	0	0	0		0
OCEANIA														
AUSTRALIA (1992-2014)	–				+	Combined counts	0	12.0	0	0	10.1	0	–	1.3
AUSTRALIA, 3 registries, Indigenous (1992-2014)	–			+		Combined and ethnicity counts	0	33.3	5.3	0	19.3	0	–	0.6
AUSTRALIA, Australian Capital Territory (1992-2012)	+						0	4.8	3.4	0	8.9	0		0
AUSTRALIA, New South Wales (1992-2012)					+		0	0	0	0	6.0	0		0
AUSTRALIA, Northern Territory (1992-2012)					+		0	12.0	3.8	0	94.5	5.2		0
AUSTRALIA, Queensland (1992-2013)	+					Ethnicity counts	0	0	0	0	2.0	0		0
AUSTRALIA, Queensland, Indigenous (1992-2013)		+			+		0	10.6	9.4	0	8.8	2.4		0
AUSTRALIA, South Australia (1992-2012)	+						0	0	2.2	0	85.3	1.9		0
AUSTRALIA, Tasmania (1992-2013)	+						0	0	0	0	42.8	0		44.9
AUSTRALIA, Victoria (1992-2014)	+						0	0	0	0	0	0		0
AUSTRALIA, Western Australia (1992-2014)	+					Ethnicity counts	0	96.7	0	0	0	0		1.6
FRANCE, 2 registries (1990-2013)	–		+			Combined counts	0	0	2.4	0	9.8	0	–	0.2
FRANCE, French Polynesia (1990-2011)	+						0	3.0	9.5	0	15.9	1.9		0.4
FRANCE, New Caledonia (1990-2013)			+				0	0	6.2	0	9.2	6.1		0
NEW ZEALAND (1993-2012)	+					Ethnicity counts	0	0	0	0	0	0		0
NEW ZEALAND, Maori (1993-2012)		+		+			0	3.9	0	0	0	0		0
NEW ZEALAND, Pacific peoples (1993-2012)		+		+			0	1.8	0	0	0	5.2		0
NEW ZEALAND, Other (1993-2012)		+		+			0	0	0	0	0	0		0
NEW ZEALAND, paediatric (2000-2012)	+						0	0	1.6	0	0	0		0
NEW ZEALAND, paediatric, Maori (2000-2012)	+						0	2.3	2.1	0	2.8	0		0
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	+						0	0	2.0	0	0	0		0

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Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

IICC-3, International Incidence of Childhood Cancer, volume 3. Datasets listed are those with a sufficient number of cases and selected for the printed publication (see Table A.12). The data for race or ethnic groups in individual US states are available online. The colour code of the tabulated values is explained in Chapter 4, Figure 4.1.

Column headers: ASR, Age-standardized incidence rate (World standard); CNS, central nervous system; DCO, death certificate only; M/F, sex-specific ASR ratio; MV, microscopic verification; N, number; age is given in years; % refers to the total number of included cases, unless specified otherwise; III and Xa are the categories of the the International Classification of Childhood Cancer (ICCC-3-2017).

Dataset column: API, Asian Pacific Islander; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results; [a] the indicators refer only to haematological malignancies; [b] the indicators refer only to haematological malignancies (HM) in period 1996-2014 and CNS tumours in period 2010-2014; [a] and [b]: out-of-range indicators are not highlighted.

Body of the table: + applicable; — not applicable; † covered period varied between the constituent registries; ‡ access to death certificates varied between the constituent registries.

Non-malignant in CNS, registration of non-malignant CNS tumours: No, not collected; Non-systematic, reporting likely incomplete; Not provided, collected but not submitted to IICC-3; Selective, collecting selected categories or time periods; Yes, collected and reported.

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0	Age 0-14	Age 19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19	in 0-14	in 0-19	in 15-19	0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
AFRICA																			
ALGERIA, 5 registries (1996-2014)	†		1 658	2 640	96.3	107.1	3.3	62.8	23.9	1.4	1.1	91.5	6.5	1.7	0.3	20.1	13.3	4.7	Selective
ALGERIA, Algiers (2008-2012)	5		575	824	171.8	172.9	4.0	69.8	27.3	1.4	1.1	90.0	7.4	2.5	0.0	17.1	9.3	6.6	Non-systematic
ALGERIA, Annaba (2000-2010)	11		185	271	112.4	117.0	2.7	68.3	15.1	1.7	1.4	90.8	8.1	0.0	1.1	10.7	5.5	0.0	No
ALGERIA, Batna (2008-2012)	5		127	211	76.5	87.0	7.9	60.2	20.2	1.6	1.0	85.3	14.7	0.0	0.0	15.2	3.8	0.0	Yes
ALGERIA, Sétif (1996-2014)	19		552	992	66.3	81.8	0.2	55.6	25.9	1.3	1.1	96.9	2.0	0.6	0.5	18.8	16.3	0.0	No
ALGERIA, Tlemcen (2006-2014)	9		219	342	94.4	107.7	6.8	64.0	18.7	1.4	1.0	83.9	10.8	5.3	0.0	41.5	26.0	11.3	Yes
BOTSWANA (1999-2007)	9		312	450	54.5	59.7	1.9	69.3	16.7	1.1	0.9	88.4	5.6	6.0	0.0	7.8	5.1	0.0	No
CAMEROON, Yaoundé (2004-2006)	3		298	373	125.0	124.5	1.7	79.9	25.3	1.5	1.0	70.5	29.0	0.5	0.0	10.5	3.8	0.0	Yes
EGYPT, Gharbiah (1999-2010)	12		1 812	2 597	122.5	127.2	5.8	69.8	18.7	1.4	1.3	89.6	3.9	6.4	0.1	10.9	3.1	3.9	Yes
FRANCE, Réunion (1990-2011)	22		459	657	106.2	113.3	6.8	69.9	19.2	1.1	1.5	92.8	4.7	2.4	0.0	4.9	1.8	0.0	No
KENYA, 2 registries (2000-2012)	†		1 165	1 620	108.5	118.7	2.1	71.9	18.9	1.5	1.6	84.6	8.3	6.5	0.6	18.7	8.0	1.1	Selective
KENYA, Eldoret (2000-2011)	12		514	721	124.9	140.7	0.8	71.3	16.9	1.5	1.2	85.3	5.8	7.5	1.4	19.1	10.7	4.3	Yes
KENYA, Nairobi (2006-2012)	7		651	899	99.0	106.2	3.2	72.4	20.6	1.5	1.9	84.0	10.2	5.8	0.0	18.4	5.9	0.0	No
LIBYA, Benghazi (2003-2008)	6		318	420	110.1	108.2	4.1	75.7	22.5	1.3	1.1	87.6	9.0	2.1	1.2	27.6	20.0	8.9	Non-systematic
MALI, Bamako (2005-2014)	10		1 158	1 470	159.3	150.9	1.4	78.8	18.3	1.5	1.7	70.4	28.3	1.0	0.3	33.6	11.1	3.7	Non-systematic
MAURITIUS (2001-2013)	13		369	551	101.1	109.4	1.1	67.0	18.7	1.3	1.4	85.5	14.5	0.0	0.0	38.7	24.1	0.0	No
MOROCCO, 2 registries (2005-2012)	8		1 146	1 688	129.3	137.8	4.7	67.9	18.8	1.4	1.1	98.2	0.6	‡	0.0	8.5	8.1	15.6	Selective
MOROCCO, Casablanca (2005-2012)	8		996	1 496	126.4	137.2	4.1	66.6	19.4	1.3	1.1	100.0	0.0	—	0.0	9.0	9.0	14.6	Yes
MOROCCO, Rabat (2005-2012)	8		150	192	152.6	143.0	8.7	78.1	11.9	1.7	1.1	84.4	5.2	10.4	0.0	5.2	1.6	21.2	Selective
SOUTH AFRICA, paediatric (1998-2012)	15	+	9 694	—	45.6	—	8.3	—	—	1.3	—	91.5	8.4	—	0.0	3.5	1.1	6.5	Yes
SOUTH AFRICA, paediatric, Asian (1998-2012)	15	+	285	—	78.3	—	6.3	—	—	1.3	—	96.5	3.5	—	0.0	1.1	0.0	8.3	Yes
SOUTH AFRICA, paediatric, Black (1998-2012)	15	+	6 984	—	39.0	—	8.0	—	—	1.3	—	90.2	9.8	—	0.0	4.0	1.3	7.4	Yes
SOUTH AFRICA, paediatric, Coloured (1998-2012)	15	+	1 302	—	71.5	—	9.8	—	—	1.2	—	93.6	6.4	—	0.0	3.3	0.8	4.9	Yes
SOUTH AFRICA, paediatric, White (1998-2012)	15	+	1 122	—	100.6	—	9.2	—	—	1.2	—	96.3	3.7	—	0.0	1.7	0.5	4.5	Yes
TUNISIA, 2 registries (1993-2007)	†		1 830	2 712	97.8	104.3	2.9	67.5	21.3	1.3	1.1	97.3	2.7	—	0.0	5.7	3.2	9.4	Selective
TUNISIA, North (1994-2006)	13		1 591	2 362	96.0	102.4	2.5	67.4	21.8	1.4	1.1	97.3	2.7	—	0.0	6.1	3.5	9.4	Selective
TUNISIA, Sousse (1993-2007)	15		239	350	111.1	118.2	5.9	68.3	18.0	1.2	1.0	97.1	2.9	—	0.0	2.6	1.1	10.0	Selective
UGANDA, Kyadondo (1996-2013)	18		1 877	2 494	139.4	138.9	2.6	75.3	20.1	1.5	1.3	67.4	30.9	1.7	0.0	22.7	4.7	0.0	No

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Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0 in 0-14	Age 0-14 in 0-19	Age 19 in 15-19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19				0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
ZIMBABWE, Harare, African (1995-2013)	19		1 082	1 454	126.3	126.2	5.6	74.4	20.7	1.3	1.6	77.6	17.0	5.4	0.0	16.9	5.2	6.0	Non-systematic
AMERICA, LATIN AND THE CARIBBEAN																			
ARGENTINA, paediatric (2000-2013)	14	+	18 067	—	128.1	—	9.4	—	—	1.2	—	95.6	2.2	2.2	0.0	6.4	2.1	14.4	Yes
ARGENTINA, 6 registries (1991-2013)	†		2 951	4 071	137.5	140.4	9.0	72.5	23.4	1.2	1.3	94.0	3.4	2.1	0.4	11.3	7.2	11.7	Selective
ARGENTINA, Bahía Blanca (1991-2007)	17		194	273	166.8	171.8	12.4	71.1	21.5	0.8	1.5	82.8	8.8	3.7	4.8	19.8	12.5	10.8	Selective
ARGENTINA, Chaco (2002-2012)	11		473	618	133.5	130.5	7.0	76.5	23.4	1.2	1.3	94.8	4.4	0.8	0.0	12.6	9.7	1.0	Selective
ARGENTINA, Córdoba (2004-2012)	9		1 010	1 402	139.8	142.8	9.2	72.0	24.5	1.1	1.5	95.6	2.0	2.4	0.0	10.3	6.1	10.5	Yes
ARGENTINA, Entre Ríos (2001-2011)	11		409	555	121.5	123.4	7.3	73.7	20.5	1.3	1.1	94.2	2.5	3.2	0.0	14.8	9.2	1.3	Selective
ARGENTINA, Mendoza (2003-2012)	10		597	893	134.7	147.2	9.5	66.9	24.3	1.2	1.0	96.2	2.4	0.9	0.6	8.5	5.7	22.8	Yes
ARGENTINA, Neuquén (2003-2013)	11		268	330	153.8	143.4	10.8	81.2	21.0	1.3	1.4	88.8	7.3	3.9	0.0	7.9	3.6	18.2	Yes
BRAZIL, 5 registries (1995-2012)	†		2 603	3 858	145.2	151.0	7.3	67.5	24.0	1.1	1.2	91.7	2.1	6.2	0.0	10.2	5.5	5.8	Selective
BRAZIL, Aracaju (1996-2012)	17		269	414	122.1	131.4	5.2	65.0	29.7	1.3	1.0	91.3	4.1	4.6	0.0	8.7	1.4	7.2	Selective
BRAZIL, Belo Horizonte (2000-2006)	7		516	771	132.1	138.2	7.0	66.9	25.1	1.2	1.3	86.5	0.8	12.6	0.1	13.1	4.4	15.4	Selective
BRAZIL, Curitiba (1998-2010)	13		816	1 192	160.4	165.5	8.3	68.5	23.1	1.1	1.3	91.8	1.7	6.5	0.0	6.4	3.3	6.2	Non-systematic
BRAZIL, Goiânia (1995-2011)	17		754	1 114	157.6	163.0	7.6	67.7	23.3	1.2	1.1	94.2	2.2	3.7	0.0	7.5	4.8	0.0	No
BRAZIL, João Pessoa (1999-2010)	12		248	367	127.0	131.6	5.6	67.6	19.3	1.1	1.4	95.1	3.5	1.4	0.0	26.2	21.3	0.0	No
CHILE, paediatric (2007-2011)	5	+	2 380	—	131.5	—	9.5	—	—	1.2	—	93.4	4.0	2.6	0.0	5.4	1.6	16.4	Yes
CHILE, 4 registries (1998-2012)	†		630	909	146.3	150.3	9.7	69.3	22.9	1.4	1.7	93.8	4.7	1.4	0.0	9.4	4.1	17.7	Yes
CHILE, Antofagasta (2003-2010)	8		140	186	130.0	127.8	12.1	75.3	26.1	1.5	1.6	94.1	2.2	3.8	0.0	14.0	8.6	0.0	Not provided
CHILE, Bío Bío (2003-2012)	10		125	174	141.7	142.5	12.8	71.8	28.6	1.5	1.8	93.1	6.9	0.0	0.0	9.2	2.9	24.1	Yes
CHILE, Concepción (2006-2010)	5		171	255	163.4	166.8	6.4	67.1	21.4	1.3	1.2	93.3	5.1	1.6	0.0	9.4	2.7	23.9	Yes
CHILE, Valdivia (1998-2012)	15		194	294	149.5	160.1	8.8	66.0	20.0	1.3	2.4	94.6	4.8	0.7	0.0	6.5	3.1	13.9	Yes
COLOMBIA, 4 registries (1992-2013)	†		2 537	3 537	149.6	152.3	6.2	71.7	21.8	1.1	1.4	94.1	4.7	1.2	0.0	9.9	5.1	18.5	Selective
COLOMBIA, Bucaramanga (2000-2012)	13		520	725	151.0	153.1	4.2	71.7	22.9	1.2	1.7	92.4	5.5	2.1	0.0	20.7	14.3	12.0	Yes
COLOMBIA, Cali (1992-2013)	22		1 737	2 398	155.6	157.8	6.4	72.4	20.4	1.1	1.3	94.9	4.5	0.6	0.0	7.4	3.1	21.3	Selective
COLOMBIA, Pasto (1998-2012)	15		188	271	126.7	131.7	9.0	69.4	26.5	1.3	1.2	90.8	5.9	3.3	0.0	5.9	0.0	15.0	Yes
COSTA RICA (1993-2012)	20		3 112	4 555	133.9	144.6	6.5	68.3	20.7	1.1	1.2	91.2	7.4	1.4	0.0	11.2	2.4	0.0	No
CUBA (2000-2012)	13		3 411	4 741	130.2	129.7	7.2	71.9	17.7	1.2	1.0	89.4	3.5	6.6	0.5	13.1	4.4	2.8	Non-systematic
ECUADOR, 5 registries (1993-2013)	†		3 018	4 145	141.7	144.2	6.8	72.8	20.9	1.2	1.3	91.8	5.8	2.4	0.0	10.4	3.5	1.0	Selective
ECUADOR, Cuenca (1996-2013)	18		328	460	132.2	136.1	8.8	71.3	22.7	1.1	1.3	91.5	6.7	1.7	0.0	11.3	2.8	1.7	Selective
ECUADOR, Guayaquil (2008-2012)	5		566	758	171.9	173.3	6.9	74.7	17.7	1.2	1.3	89.8	8.7	1.5	0.0	12.5	2.5	0.0	No
ECUADOR, Loja (1997-2013)	17		168	226	165.3	164.4	9.5	74.3	15.5	1.3	0.9	91.2	8.4	0.4	0.0	6.6	2.2	0.0	Selective
ECUADOR, Manabí (1995-2011)	17		656	850	101.7	98.2	4.6	77.2	22.7	1.3	1.3	88.9	5.6	5.4	0.0	12.9	2.8	0.0	No
ECUADOR, Quito (1993-2012)	20		1 300	1 851	161.7	169.6	7.1	70.2	21.4	1.1	1.3	94.0	4.1	1.9	0.0	8.6	4.6	1.9	Selective
FRANCE, 3 registries (1990-2012)	†		343	493	111.0	117.9	7.9	69.6	28.7	1.3	1.1	91.3	5.5	‡	3.0	7.7	3.7	35.2	Yes
FRANCE, French Guiana (2003-2012)	10		101	149	135.8	160.4	15.8	67.8	29.2	1.5	1.1	84.6	10.1	0.7	4.7	18.1	6.7	40.0	Yes
FRANCE, Martinique (1990-2012)	23		187	275	97.3	103.4	5.3	68.0	28.4	1.3	1.2	93.5	3.6	—	2.9	4.0	2.9	34.2	Yes
HONDURAS, Francisco Morazán (2002-2012)	11		488	676	95.1	102.1	4.9	72.2	18.1	1.3	1.1	94.8	4.6	0.3	0.3	7.7	4.0	19.8	Yes

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Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0 in 0-14	Age 0-14 in 0-19	Age 19 in 15-19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19				0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
JAMAICA, Kingston and St Andrew (1982-2012)	31		433	616	76.1	79.3	7.9	70.3	19.1	1.0	1.1	94.3	5.2	0.5	0.0	6.8	4.9	6.1	Selective
MEXICO, Mexico City, paediatric (1997-2013)	17	+	1 560	—	134.7	—	6.0	—	—	1.2	—	98.9	1.1	—	0.0	0.8	0.6	6.1	Yes
PERU, Lima (2010-2012)	3		1 052	1 498	153.1	156.7	7.1	70.2	21.5	1.1	1.2	84.1	11.1	4.8	0.0	16.2	5.6	39.9	Yes
PERU, Trujillo (1990-2002)	13		252	348	107.1	107.6	3.6	72.4	19.8	1.4	1.2	92.8	4.9	2.3	0.0	15.5	8.9	0.0	No
USA, Puerto Rico (1992-2012)	21		2 188	3 218	125.7	133.8	8.5	68.0	22.4	1.2	1.0	95.5	2.0	1.9	0.6	8.5	6.5	12.6	Selective
URUGUAY (1993-2012)	20		2 114	2 930	142.4	145.7	8.2	72.2	19.2	1.3	1.1	89.8	2.7	7.5	0.0	10.0	4.8	0.0	No
AMERICA, NORTH																			
CANADA, 9 registries (1992-2013)	†		18 309	27 396	164.9	176.4	10.4	66.8	23.5	1.1	1.1	88.0	9.3	0.2	2.5	5.0	2.3	13.9	Selective
CANADA, Alberta (1992-2013)	22		2 203	3 329	159.6	174.7	10.7	66.2	23.5	1.1	1.1	94.4	5.6	0.0	0.0	1.5	1.3	28.8	Yes
CANADA, British Columbia (1992-2013)	22		2 398	3 503	160.5	166.6	9.0	68.5	23.7	1.1	1.1	92.3	6.9	0.2	0.5	1.9	1.4	10.0	Yes
CANADA, Manitoba (1992-2013)	22		778	1 199	151.3	168.7	7.5	64.9	28.0	1.0	0.9	93.7	6.2	0.1	0.0	2.2	1.3	27.6	Yes
CANADA, Nova Scotia (1992-2013)	22		566	831	170.2	175.5	9.9	68.1	24.5	1.1	1.1	92.1	6.6	0.1	1.2	3.4	2.9	32.0	Yes
CANADA, Ontario (1992-2012)	21		7 441	11 374	164.3	179.6	10.5	65.4	23.3	1.1	1.1	83.2	10.7	0.2	5.9	7.3	2.4	11.8	Selective
CANADA, Quebec (1992-2010)	19		4 160	6 039	175.3	181.8	12.2	68.9	23.3	1.1	1.1	87.7	11.8	0.5	0.0	5.7	3.5	0.0	No
CANADA, Saskatchewan (1992-2013)	22		722	1 066	161.3	170.7	7.9	67.7	21.5	1.1	1.1	95.3	4.5	0.2	0.0	2.3	1.6	26.1	Yes
USA (1998-2012)	15		146 015	216 741	166.9	179.6	10.5	67.4	23.1	1.1	1.0	93.4	5.7	0.5	0.5	2.8	1.9	21.4	Selective
USA, API (1998-2012)	15		5 596	7 965	127.1	133.1	10.7	70.3	21.9	1.2	1.0	94.1	5.1	0.5	0.3	2.5	1.8	19.5	Selective
USA, Black (1998-2012)	15		18 286	26 339	126.4	133.3	9.8	69.4	21.5	1.1	1.0	92.6	6.3	0.5	0.5	3.5	2.5	23.2	Selective
USA, Hispanic White (1998-2012)	15		27 854	38 677	167.3	176.7	10.7	72.0	22.0	1.1	1.1	93.3	5.6	0.5	0.6	3.1	2.1	23.5	Selective
USA, Native American (1998-2012)	15		1 233	1 849	87.8	95.3	10.7	66.7	21.4	1.2	0.9	93.3	5.4	0.8	0.4	3.2	2.4	26.1	Selective
USA, White NH (1998-2012)	15		88 962	135 752	176.0	190.9	10.5	65.5	23.6	1.1	1.0	93.6	5.6	0.4	0.4	2.6	1.8	20.2	Selective
USA, NPCR (1998-2012)	†		139 841	207 568	167.1	179.8	10.5	67.4	23.1	1.1	1.0	93.3	5.7	0.5	0.5	2.8	1.9	22.2	Selective
USA, NPCR, API (1998-2012)	†		5 097	7 247	126.9	132.7	10.8	70.3	21.7	1.1	1.0	94.0	5.2	0.5	0.3	2.5	1.8	21.3	Selective
USA, NPCR, Black (1998-2012)	†		18 013	25 946	126.6	133.5	9.8	69.4	21.4	1.1	1.0	92.6	6.3	0.5	0.5	3.5	2.5	23.5	Selective
USA, NPCR, Hispanic White (1998-2012)	†		26 803	37 198	167.5	177.0	10.7	72.1	22.0	1.1	1.1	93.3	5.6	0.5	0.6	3.1	2.1	24.2	Selective
USA, NPCR, Native American (1998-2012)	†		1 105	1 669	85.9	93.7	10.4	66.2	21.6	1.2	0.9	93.3	5.5	0.8	0.4	3.3	2.5	27.3	Selective
USA, NPCR, White NH (1998-2012)	†		84 812	129 458	176.1	191.1	10.5	65.5	23.5	1.1	1.0	93.5	5.6	0.4	0.4	2.6	1.8	21.0	Selective
USA, SEER 18 (1993-2012)	20		44 741	65 217	161.3	172.9	10.3	68.6	23.0	1.1	1.1	95.5	4.0	0.1	0.4	2.1	1.7	0.0	Not provided
USA, SEER 18, API (1993-2012)	20		3 428	4 889	133.0	139.7	10.9	70.1	21.6	1.2	1.0	95.8	3.7	0.1	0.4	2.0	1.7	0.0	Not provided
USA, SEER 18, Black (1993-2012)	20		5 070	7 104	124.5	129.0	10.4	71.4	20.7	1.1	1.0	95.0	4.5	0.2	0.3	3.0	2.5	0.0	Not provided
USA, SEER 18, Hispanic White (1993-2012)	20		12 166	16 750	168.7	176.5	10.3	72.6	22.0	1.1	1.2	96.2	3.3	0.1	0.4	2.0	1.7	0.0	Not provided
USA, SEER 18, Native American (1993-2012)	20		471	667	90.4	93.3	12.3	70.6	26.5	1.3	0.8	94.6	4.5	0.1	0.7	3.1	2.2	0.0	Not provided
USA, SEER 18, White NH (1993-2012)	20		23 020	34 916	172.5	188.5	9.9	65.9	23.9	1.1	1.1	95.4	4.1	0.1	0.4	1.8	1.5	0.0	Not provided
USA, Alabama (1998-2012)	15		1 960	2 881	145.2	154.2	10.6	68.0	23.8	1.1	1.0	93.9	4.3	0.9	0.8	3.9	2.6	16.6	Selective
USA, Alaska (1998-2012)	15		364	553	165.3	182.0	14.0	65.8	25.4	1.5	0.7	92.4	7.2	0.2	0.2	4.0	3.1	33.3	Selective
USA, Alaska Natives (1993-2012)	20		115	159	176.5	182.7	14.8	72.3	25.0	1.5	0.6	95.0	4.4	0.0	0.6	6.3	5.0	0.0	Not provided
USA, Arizona (1998-2012)	15		2 994	4 341	163.1	175.2	11.2	69.0	22.7	1.0	1.0	91.7	6.8	0.5	1.0	3.4	2.0	20.6	Selective
USA, Arkansas (1998-2012)	15		1 341	1 914	160.7	167.7	11.1	70.1	20.9	1.1	1.0	89.7	9.4	0.4	0.6	3.7	2.4	23.7	Selective

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Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0	Age 0-14	Age 19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19	in 0-14	in 0-19	in 15-19	0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
USA, California (1998-2012)	15		18 742	27 570	167.2	179.9	9.6	68.0	22.6	1.2	1.1	95.4	4.3	0.4	0.0	1.7	1.3	22.9	Selective
USA, California, Greater California (2000-2012)	13		9 048	13 237	166.1	176.2	9.2	68.4	23.0	1.2	1.1	96.0	3.5	0.1	0.4	1.6	1.3	0.0	Not provided
USA, California, Los Angeles (1993-2012)	20		6 545	9 333	156.6	166.7	10.0	70.1	23.0	1.1	1.2	97.6	2.2	0.1	0.2	1.6	1.4	0.0	Not provided
USA, California, San Francisco (1993-2012)	20		2 357	3 358	157.2	168.4	12.2	70.2	22.3	1.2	1.1	96.4	3.2	0.1	0.3	1.8	1.7	0.0	Not provided
USA, California, San José-Monterey (1993-2012)	20		1 633	2 363	165.5	179.2	10.5	69.1	21.5	1.1	1.1	96.8	2.9	0.1	0.1	1.8	1.6	0.0	Not provided
USA, Colorado (1998-2012)	15		2 201	3 356	156.0	173.8	10.2	65.6	25.9	1.1	1.1	92.6	6.5	0.6	0.3	1.9	1.0	22.3	Selective
USA, Connecticut (1993-2012)	20		2 231	3 297	169.0	183.1	10.0	67.7	22.5	1.1	1.1	94.7	4.5	0.3	0.5	2.6	2.2	0.0	Not provided
USA, Delaware (1998-2012)	15		465	663	193.3	199.1	10.1	70.1	27.3	1.0	1.2	90.8	8.0	0.5	0.8	2.9	2.1	20.2	Selective
USA, District of Columbia (1998-2012)	15		246	338	181.2	176.3	15.4	72.8	31.5	1.2	1.3	86.1	5.0	3.0	5.9	7.4	2.4	16.9	Selective
USA, Florida (1998-2012)	15		7 861	11 510	170.4	180.3	10.5	68.3	21.8	1.1	1.0	94.2	5.3	0.4	0.1	2.9	2.3	22.0	Selective
USA, Georgia (1998-2012)	15		4 513	6 541	158.8	169.6	10.1	69.0	21.9	1.1	1.0	93.0	6.6	0.3	0.0	2.9	2.2	23.3	Selective
USA, Georgia, Atlanta (1993-2012)	20		1 890	2 681	148.8	158.8	11.5	70.5	23.0	1.2	1.1	95.4	4.3	0.1	0.2	2.2	1.9	0.0	Not provided
USA, Hawaii (1993-2012)	20		731	1 059	148.7	160.0	10.7	69.0	23.2	1.2	1.2	96.7	2.5	0.1	0.8	2.1	2.0	0.0	Not provided
USA, Hawaii, Hawaiian (1993-2012)	20		226	317	141.2	150.4	10.6	71.3	25.3	1.4	1.2	96.5	2.5	0.6	0.3	1.6	1.6	0.0	Not provided
USA, Idaho (1998-2012)	15		795	1 201	166.0	182.5	9.7	66.2	24.6	1.1	1.2	93.9	5.4	0.3	0.3	2.6	2.2	16.4	Selective
USA, Illinois (1998-2012)	15		6 236	9 369	162.6	177.8	9.5	66.6	22.7	1.1	1.0	94.4	5.1	0.5	0.0	2.5	2.0	26.1	Selective
USA, Indiana (1998-2012)	15		3 215	4 757	169.5	181.3	10.8	67.6	22.4	1.1	1.0	93.0	6.6	0.2	0.2	1.9	1.4	20.1	Selective
USA, Iowa (1993-2012)	20		1 937	2 869	169.3	178.9	9.3	67.5	25.4	1.1	1.1	95.7	3.9	0.2	0.2	1.6	1.3	0.0	Not provided
USA, Kentucky (1998-2012)	15		2 140	3 160	176.0	189.1	10.1	67.7	21.6	1.1	1.0	89.5	9.4	1.1	0.0	2.7	2.1	25.3	Selective
USA, Louisiana (1998-2012)	15		2 145	3 162	154.8	164.6	10.6	67.8	20.9	1.0	1.1	92.1	6.7	1.2	0.0	3.7	2.5	22.6	Selective
USA, Maine (1998-2012)	15		634	962	188.6	200.3	11.4	65.9	20.4	1.2	0.9	96.4	2.9	0.2	0.5	1.2	1.0	14.1	Selective
USA, Massachusetts (1998-2012)	15		3 056	4 643	176.6	190.1	10.7	65.8	23.7	1.1	1.1	94.8	5.0	0.1	0.1	1.9	1.3	19.2	Selective
USA, Michigan (1998-2012)	15		5 167	7 752	177.2	190.0	12.3	66.7	25.1	1.1	1.0	94.4	4.7	0.2	0.7	2.9	2.4	19.7	Selective
USA, Michigan, Detroit (1993-2012)	20		2 553	3 772	157.2	172.5	10.8	67.7	24.4	1.1	1.0	97.3	2.2	0.1	0.3	3.0	2.8	0.0	Not provided
USA, Minnesota (1998-2012)	15		2 532	3 872	165.7	181.9	9.8	65.4	24.3	1.2	1.1	99.3	0.5	0.2	0.0	2.1	1.9	18.5	Selective
USA, Mississippi (2002-2012)	11		976	1 435	146.1	155.4	10.8	68.0	20.3	1.1	1.0	92.3	7.0	0.5	0.3	2.2	1.7	29.3	Selective
USA, Missouri (1998-2012)	15		2 721	3 951	161.2	168.9	11.8	68.9	24.6	1.2	1.0	94.6	4.6	0.9	0.0	2.0	1.1	17.5	Selective
USA, Montana (1998-2012)	15		415	678	156.8	177.8	11.1	61.2	24.3	1.1	1.1	93.1	5.0	0.9	1.0	2.2	1.0	17.4	Selective
USA, Nebraska (1998-2012)	15		949	1 447	173.9	190.9	9.7	65.6	24.3	1.3	1.0	89.6	9.3	1.0	0.0	2.1	1.4	27.0	Selective
USA, Nevada (1998-2012)	15		1 076	1 571	147.6	162.3	12.2	68.5	21.6	1.3	1.0	95.4	2.5	0.9	1.1	4.3	2.9	16.8	Selective
USA, New Hampshire (1998-2012)	15		636	999	181.6	199.6	10.1	63.7	20.1	1.0	1.3	95.2	3.8	0.8	0.2	2.3	2.0	19.8	Selective
USA, New Jersey (1998-2012)	15		4 520	6 735	179.9	197.7	10.6	67.1	22.8	1.2	1.0	93.5	5.6	1.0	0.0	3.0	2.0	19.1	Selective
USA, New Mexico (1993-2012)	20		1 149	1 712	140.9	152.9	11.3	67.1	22.7	1.2	1.0	94.0	4.6	0.5	0.9	2.7	2.0	0.0	Not provided
USA, New York State (1998-2012)	15		9 548	14 435	177.2	192.3	10.2	66.1	23.0	1.1	1.0	92.9	6.4	0.1	0.5	2.8	2.0	24.6	Selective
USA, North Carolina (1998-2012)	15		4 146	5 982	160.7	170.1	10.5	69.3	21.8	1.1	1.0	94.3	5.0	0.3	0.4	2.5	1.9	20.2	Selective
USA, North Dakota (1998-2012)	15		270	425	147.1	159.4	10.4	63.5	22.6	1.4	0.9	93.4	5.2	0.5	0.9	3.8	3.1	14.7	Selective
USA, Ohio (1998-2012)	15		5 363	7 931	161.0	171.6	10.3	67.6	24.5	1.2	1.1	93.3	6.1	0.3	0.3	2.2	1.6	20.7	Selective
USA, Oklahoma (1998-2012)	15		1 722	2 552	158.9	170.3	10.0	67.5	23.5	1.1	1.1	94.3	4.8	0.5	0.4	4.7	3.6	20.8	Selective

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Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0	Age 0-14	Age 19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19	in 0-14	in 0-19	in 15-19	0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
USA, Oregon (1998-2012)	15		1 817	2 758	177.8	194.2	9.5	65.9	23.9	1.1	1.1	92.9	6.8	0.2	0.2	1.9	1.2	24.6	Selective
USA, Pennsylvania (1998-2012)	15		5 886	9 053	176.6	190.5	11.3	65.0	23.3	1.1	1.0	92.9	6.3	0.4	0.4	2.0	1.5	19.8	Selective
USA, Rhode Island (1998-2012)	15		513	736	181.9	183.6	11.7	69.7	20.2	1.0	1.0	97.4	2.0	0.1	0.4	3.0	2.4	20.4	Selective
USA, South Carolina (1998-2012)	15		1 834	2 698	145.8	154.5	10.4	68.0	25.1	1.1	1.0	92.2	5.9	0.5	1.4	3.4	2.2	22.5	Selective
USA, South Dakota (2001-2012)	12		257	404	133.2	149.2	12.1	63.6	28.6	1.4	1.3	88.9	6.2	1.7	3.2	2.2	0.7	20.2	Selective
USA, Tennessee (1999-2012)	14		2 664	3 901	164.0	175.0	11.0	68.3	24.5	1.1	1.0	93.2	6.3	0.2	0.3	3.5	2.7	27.1	Selective
USA, Texas (1998-2012)	15		13 808	19 914	177.9	190.1	11.4	69.3	23.1	1.1	1.0	89.8	7.6	0.7	1.9	5.1	2.8	24.8	Selective
USA, Utah (1993-2012)	20		1 965	2 917	157.6	172.5	12.5	67.4	25.1	1.1	1.2	96.2	3.8	0.0	0.0	1.9	1.8	0.0	Not provided
USA, Vermont (1998-2012)	15		268	448	164.7	184.9	8.6	59.8	18.9	1.2	1.0	92.6	6.9	0.2	0.2	2.9	2.2	35.2	Selective
USA, Virginia (1998-2012)	15		3 248	4 727	149.8	158.5	10.3	68.7	24.5	1.2	1.0	94.0	4.9	0.7	0.5	3.1	2.2	18.6	Selective
USA, Washington State (1998-2012)	15		3 222	4 910	174.8	192.5	10.2	65.6	23.9	1.0	0.9	91.0	8.3	0.2	0.5	1.9	1.1	25.2	Selective
USA, Washington, Seattle (1993-2012)	20		2 681	3 956	168.2	181.9	9.6	67.8	23.6	1.1	0.9	93.9	6.0	0.0	0.1	1.5	1.3	0.0	Not provided
USA, West Virginia (1998-2012)	15		754	1 157	162.0	175.3	11.7	65.2	18.6	1.3	0.9	93.9	5.3	0.5	0.3	2.0	1.4	21.8	Selective
USA, Wisconsin (1998-2012)	15		2 705	4 197	170.6	187.0	10.3	64.5	20.7	1.1	1.0	94.5	4.6	0.6	0.3	3.2	1.9	21.4	Selective
USA, Wyoming (1998-2012)	15		225	341	147.1	157.8	9.8	66.0	24.1	1.2	1.2	91.5	7.9	0.0	0.6	3.8	2.9	16.9	Selective
ASIA																			
BAHRAIN (1998-2012)	15		366	481	118.8	120.2	9.0	76.1	21.7	1.4	0.9	92.9	6.2	0.6	0.2	13.1	9.4	22.1	Yes
CHINA, 6 registries (1990-2013)	†		7 064	11 188	131.9	135.0	9.6	63.1	23.9	1.2	1.0	92.4	6.9	0.7	0.0	21.2	14.1	16.5	Selective
CHINA, Beijing (2000-2013)	14		1 982	3 161	124.3	121.9	10.3	62.7	22.8	1.2	1.1	92.0	7.6	0.4	0.1	15.4	7.4	11.4	Yes
CHINA, Dalian (2003-2012)	10		280	453	142.5	145.6	8.6	61.8	20.2	1.0	1.2	80.8	12.1	7.1	0.0	26.9	7.9	15.1	Yes
CHINA, Guangzhou (2010-2012)	3		484	768	149.4	154.5	7.9	63.0	23.9	1.4	1.0	91.8	7.8	0.4	0.0	12.9	6.1	20.9	Yes
CHINA, Hong Kong (1990-2013)	24		3 397	5 105	145.7	149.8	10.1	66.5	23.2	1.2	1.0	94.2	5.5	0.3	0.0	9.8	4.0	0.0	No
CHINA, Shanghai (2002-2012)	11		635	1 278	114.4	128.1	7.9	49.7	29.1	1.2	0.9	90.5	8.1	1.4	0.0	17.7	10.2	27.7	Yes
CHINA, Zhongshan (2003-2012)	10		314	495	88.2	105.1	5.4	63.4	24.9	1.2	1.2	93.5	6.5	0.0	0.0	15.4	9.1	28.3	Yes
INDIA, 7 registries (1990-2013)	†		16 240	22 670	96.9	97.9	2.9	71.6	18.7	1.5	1.3	93.8	4.9	1.2	0.2	15.5	9.7	0.0	No
INDIA, Bangalore (1993-2011)	19		2 164	2 954	72.7	72.4	0.3	73.3	22.9	1.3	1.3	95.5	2.3	1.9	0.3	12.9	9.4	0.0	No
INDIA, Chennai (1993-2013)	21		2 531	3 464	119.9	118.2	3.7	73.1	20.9	1.4	1.3	92.5	5.5	2.0	0.0	12.8	6.3	0.0	No
INDIA, Kollam (2006-2012)	7		393	586	97.4	106.5	1.8	67.1	25.9	1.4	1.2	92.7	4.8	2.6	0.0	16.0	8.7	0.0	No
INDIA, Mumbai (1993-2012)	20		5 219	7 300	86.5	86.2	3.1	71.5	18.9	1.5	1.2	95.6	3.4	1.0	0.0	14.6	10.2	0.0	No
INDIA, Nagpur (1990-2012)	23		1 403	2 071	104.2	112.3	3.3	67.7	16.2	1.6	1.1	88.7	9.6	1.8	0.0	23.9	12.6	0.0	No
INDIA, New Delhi (2003-2010)	8		4 320	5 981	117.6	120.2	3.5	72.2	15.3	1.9	1.5	93.6	5.8	0.1	0.5	16.8	10.4	0.0	No
INDIA, Trivandrum (2005-2012)	8		210	314	100.6	110.3	0.0	66.9	21.2	1.1	0.9	92.4	7.0	0.6	0.0	11.8	4.1	0.0	No
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	8		360	618	99.8	111.7	2.8	58.3	20.5	1.5	1.2	87.4	9.1	3.6	0.0	26.7	14.1	0.0	No
ISRAEL (1990-2012)	23		6 229	9 022	152.0	169.3	11.0	69.0	22.4	1.2	1.0	92.1	4.4	0.5	3.0	7.8	3.6	16.2	Yes
ISRAEL, Jews (1990-2012)	23		4 636	6 886	155.6	175.2	10.5	67.3	22.6	1.2	1.0	92.1	4.4	0.4	3.2	7.3	3.3	15.2	Yes
ISRAEL, Non-Jews (1990-2012)	23		1 593	2 136	142.4	151.8	12.2	74.6	21.5	1.2	1.0	92.1	4.6	0.9	2.4	9.3	4.5	19.4	Yes
JAPAN, 8 registries (1990-2013)	†		7 755	10 565	134.3	130.2	14.7	73.4	23.8	1.1	1.1	89.8	8.9	0.8	0.4	8.5	3.1	28.5	Selective
JAPAN, Aichi (2008-2012)	5		627	844	122.0	121.2	11.0	74.3	19.8	1.2	0.9	91.2	8.6	0.1	0.0	7.3	2.6	35.9	Yes

More datasets available online

Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0	Age 0-14	Age 19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19	in 0-14	in 0-19	in 15-19	0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
JAPAN, Hiroshima (1990-2012)	23		565	824	144.5	147.7	16.3	68.6	24.7	1.1	1.1	91.5	7.6	0.7	0.1	4.0	2.2	38.8	Yes
JAPAN, Miyagi (1990-2010)	21		950	1 334	131.6	128.4	13.3	71.2	27.9	1.3	1.2	94.5	4.8	0.7	0.0	7.3	3.2	27.5	Selective
JAPAN, Nagasaki (1993-2012)	20		567	823	129.6	132.1	14.3	68.9	21.5	1.0	1.0	91.7	7.9	0.4	0.0	4.9	2.3	41.4	Yes
JAPAN, Niigata (2003-2012)	10		399	563	132.5	134.2	14.0	70.9	21.3	1.3	0.9	96.1	3.6	0.4	0.0	2.5	1.2	22.9	Yes
JAPAN, Osaka (1990-2012)	23		3 971	5 193	142.5	133.1	16.3	76.5	23.8	1.1	1.2	86.9	11.5	0.8	0.8	10.5	3.2	24.8	Yes
JAPAN, Tochigi (2005-2012)	8		271	378	128.8	130.8	11.8	71.7	28.0	1.2	1.3	88.9	9.3	1.6	0.3	9.5	3.7	34.7	Selective
JAPAN, Yamagata (1990-2013)	24		405	606	95.6	102.1	8.9	66.8	21.9	1.1	1.3	92.6	4.1	3.1	0.2	12.5	6.6	16.7	Selective
JORDAN, Jordanians (2000-2012)	13		2 698	3 757	101.0	108.1	1.6	71.8	21.7	1.3	1.0	97.0	2.8	0.1	0.1	4.7	4.2	0.5	Non-systematic
REPUBLIC OF KOREA (1999-2012)	14		16 312	24 079	135.9	141.6	11.7	67.7	24.4	1.2	0.9	91.8	6.9	1.3	0.0	8.6	3.0	0.0	Not provided
REPUBLIC OF KOREA, Busan (1999-2012)	14		1 004	1 586	129.7	135.6	11.0	63.3	26.3	1.2	0.9	90.2	8.4	1.3	0.0	9.6	2.6	0.0	Not provided
REPUBLIC OF KOREA, Daegu (1999-2012)	14		850	1 304	138.1	145.6	11.4	65.2	24.0	1.1	0.8	91.7	7.4	0.8	0.0	9.7	4.1	0.0	Not provided
REPUBLIC OF KOREA, Daejeon (1999-2012)	14		511	755	133.1	138.8	10.8	67.7	26.6	1.0	1.0	91.1	7.8	1.1	0.0	8.5	3.3	0.0	Not provided
REPUBLIC OF KOREA, Gwangju (1997-2012)	16		714	1 027	158.7	161.8	11.8	69.5	23.6	1.1	0.9	90.4	8.0	1.7	0.0	7.6	2.5	42.9	Yes
REPUBLIC OF KOREA, Incheon (1998-2012)	15		1 061	1 558	140.9	147.7	10.4	68.1	25.2	1.1	1.0	89.8	9.6	0.6	0.0	8.0	2.4	42.9	Yes
REPUBLIC OF KOREA, Jejudo (2000-2012)	13		204	292	140.5	148.4	7.8	69.9	22.7	1.0	0.7	90.8	8.6	0.7	0.0	8.9	2.4	0.0	Not provided
REPUBLIC OF KOREA, Seoul (1995-2012)	18		4 182	6 274	135.7	140.4	13.3	66.7	23.4	1.2	1.0	90.9	7.1	2.0	0.0	10.0	2.9	0.0	Not provided
REPUBLIC OF KOREA, Ulsan (2001-2012)	12		340	491	134.0	137.8	10.6	69.2	20.5	1.0	0.9	94.1	5.1	0.8	0.0	6.1	3.1	0.0	Not provided
KUWAIT (1994-2012)	19		1 360	1 798	112.8	117.8	9.2	75.6	22.1	1.3	1.0	91.8	2.6	5.6	0.1	7.1	1.1	24.2	Selective
KUWAIT, Kuwaitis (1994-2012)	19		797	1 070	112.3	119.7	9.4	74.5	23.1	1.4	0.8	92.1	2.4	5.4	0.1	7.0	1.3	25.8	Selective
KUWAIT, Non-Kuwaitis (1994-2012)	19		563	728	113.6	115.3	8.9	77.3	20.6	1.2	1.3	91.3	2.7	5.9	0.0	7.1	0.8	21.2	Selective
LEBANON (2008-2010)	3		505	765	141.2	156.5	2.0	66.0	23.5	1.3	1.3	100.0	0.0	—	0.0	5.6	5.6	0.0	No
PAKISTAN, Karachi (1995-2002)	8		545	840	94.3	119.1	1.5	64.9	19.3	1.6	1.2	96.2	3.0	0.7	0.1	11.5	8.8	0.0	No
PAKISTAN, Lahore (2008-2012)	5		1 406	1 891	75.6	78.8	2.3	74.4	14.2	1.6	1.5	97.9	2.1	—	0.0	10.9	10.6	29.6	Yes
PHILIPPINES, 2 registries (1993-2012)	20		8 826	12 052	118.3	121.9	6.5	73.2	23.4	1.3	1.1	85.1	7.7	7.2	0.0	20.1	9.2	0.4	Non-systematic
PHILIPPINES, Manila (1993-2012)	20		4 393	6 039	127.0	130.6	6.5	72.7	23.5	1.2	1.1	86.3	7.0	6.7	0.0	16.3	7.6	0.0	No
PHILIPPINES, Rizal (1993-2012)	20		4 433	6 013	110.8	114.3	6.6	73.7	23.2	1.3	1.1	83.9	8.4	7.6	0.1	23.9	10.8	0.8	Non-systematic
QATAR (2002-2014)	13		301	430	102.4	115.7	9.0	70.0	17.8	1.0	0.8	96.5	2.1	1.2	0.2	6.5	4.4	16.0	Non-systematic
SAUDI ARABIA, Riyadh (1994-2012)	19		3 921	5 317	118.2	127.7	8.2	73.7	19.3	1.2	1.0	97.0	2.3	0.4	0.3	3.0	2.5	0.0	No
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	19		3 167	4 347	115.1	124.8	8.5	72.9	19.2	1.3	1.0	97.3	2.2	0.3	0.2	2.9	2.4	0.0	No
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	19		754	970	133.3	143.2	6.8	77.7	19.9	1.1	1.2	95.9	2.8	0.6	0.7	3.5	2.9	0.0	No
THAILAND, 6 registries (1993-2013)	†		4 260	6 155	111.4	112.7	5.9	69.2	21.3	1.2	1.0	89.2	8.4	2.3	0.0	20.9	10.2	4.8	Selective
THAILAND, Bangkok (2001-2012)	12		1 444	2 125	112.1	112.1	2.4	68.0	21.7	1.2	1.1	90.1	8.1	1.8	0.0	24.6	14.7	4.4	Non-systematic
THAILAND, Chiang Mai (1993-2012)	20		666	958	118.3	119.8	6.6	69.5	15.4	1.3	1.0	88.1	9.0	2.9	0.0	15.8	4.3	14.4	Selective
THAILAND, Chonburi (1998-2012)	15		491	694	133.7	138.8	6.3	70.7	24.6	1.2	0.9	90.8	6.6	2.6	0.0	25.2	16.0	1.3	Non-systematic
THAILAND, Khon Kaen (1993-2012)	20		732	994	103.1	100.2	8.7	73.6	21.8	1.2	0.9	87.8	10.0	2.2	0.0	17.9	5.7	0.0	Not provided
THAILAND, Lampang (1993-2013)	21		318	492	113.9	121.7	7.5	64.6	20.1	1.3	0.9	87.4	9.6	3.0	0.0	23.4	10.8	0.0	No
THAILAND, Songkhla (1994-2013)	20		609	892	99.1	103.7	9.2	68.3	24.4	1.0	1.0	89.9	7.6	2.5	0.0	16.0	6.1	4.1	Non-systematic
TURKEY, paediatric (2009-2011)	3	+	5 251	—	96.5	—	9.0	—	—	1.3	—	94.2	5.8	—	0.0	1.2	1.0	21.8	Non-systematic

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Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0 in 0-14	Age 0-14 in 0-19	Age 19 in 15-19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19				0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
TURKEY, 8 registries (1992-2012)	†		6 000	8 663	157.2	163.8	8.6	69.3	21.8	1.2	1.1	94.9	4.5	0.4	0.2	5.0	2.9	34.7	Yes
TURKEY, Ankara (2008-2012)	5		910	1 362	175.6	192.1	10.8	66.8	24.8	1.2	1.0	99.6	0.4	0.0	0.0	2.9	2.5	23.1	Yes
TURKEY, Antalya (1998-2012)	15		946	1 293	160.1	162.1	8.2	73.2	17.0	1.1	0.9	94.4	5.3	0.3	0.1	4.9	2.9	36.5	Yes
TURKEY, Bursa (2004-2012)	9		679	958	137.6	142.1	8.0	70.9	21.5	1.3	1.1	93.0	7.0	0.0	0.0	7.3	3.3	37.6	Yes
TURKEY, Erzurum (2006-2012)	7		248	370	154.1	170.6	6.5	67.0	22.1	1.0	0.9	86.8	12.2	0.0	1.1	12.7	5.4	37.9	Yes
TURKEY, İzmir (1992-2012)	21		2 414	3 534	156.2	162.7	8.2	68.3	22.5	1.2	1.2	94.5	4.3	0.9	0.3	4.7	2.9	34.7	Yes
TURKEY, Samsun (2003-2012)	10		468	624	161.1	155.8	10.0	75.0	18.6	1.1	1.0	96.2	3.8	0.0	0.0	3.8	1.9	39.1	Yes
TURKEY, Trabzon (2003-2012)	10		247	389	156.2	168.5	6.1	63.5	19.7	1.3	1.0	93.3	6.4	0.3	0.0	5.1	2.8	48.6	Yes
VIET NAM, Ho Chi Minh City (1995-2013)	19		2 718	3 552	116.0	106.5	6.7	76.5	25.4	1.2	1.0	84.5	15.4	—	0.1	25.3	11.9	5.3	Yes
EUROPE																			
AUSTRIA (1990-2012)	23		4 578	6 848	154.0	165.2	10.3	66.9	22.7	1.1	1.3	97.3	0.7	1.6	0.4	5.4	3.7	25.2	Yes
BELARUS, paediatric (1990-2014)	25		6 863	10 294	157.0	164.5	7.0	66.7	21.6	1.1	0.9	96.7	3.1	0.2	0.0	4.2	1.6	26.8	Yes
BELGIUM (2004-2013)	10		3 426	5 201	191.6	211.1	11.6	65.9	23.8	1.1	1.1	96.6	3.4	—	0.0	1.9	0.9	51.4	Yes
BULGARIA (1990-2013)	24		3 533	5 274	120.8	124.6	6.5	67.0	24.1	1.3	1.2	90.7	3.9	5.5	0.0	11.6	3.5	7.0	Selective
CROATIA (2001-2014)	14		1 738	2 572	193.9	202.9	7.6	67.6	21.3	1.3	1.1	90.8	9.0	0.2	0.0	13.6	5.1	34.4	Selective
CYPRUS, South-West (1998-2012)	15		360	615	166.6	193.8	9.7	58.5	24.3	1.2	0.9	93.7	3.4	2.1	0.8	4.1	1.5	0.0	No
CZECH REPUBLIC (1990-2012)	23		6 301	9 642	165.7	173.5	10.1	65.3	22.7	1.2	1.1	93.1	5.3	1.4	0.2	7.6	3.5	24.3	Yes
ESTONIA (1990-2012)	23		819	1 239	146.6	156.1	8.7	66.1	21.9	1.1	1.1	95.0	4.5	0.5	0.0	5.9	1.5	34.0	Selective
FRANCE, paediatric (2000-2012)	13	+	22 584	—	157.6	—	10.8	—	—	1.1	—	94.6	5.4	—	0.0	1.5	1.2	44.1	Yes
FRANCE, paediatric, haematological malignancies (1990-1999) [a]	10	+	6 283	—	57.1	—	4.4	—	—	1.3	—	95.1	4.9	—	0.0	1.1	1.0	—	—
FRANCE, 13 registries (1993-2012)	†		4 822	7 204	158.4	171.2	10.1	66.9	25.1	1.2	1.0	96.6	3.3	—	0.1	2.3	1.4	39.2	Selective
FRANCE, Bas-Rhin (1993-2011)	19		589	872	162.8	174.5	10.2	67.5	25.4	1.4	1.2	95.5	4.5	—	0.0	2.9	1.4	40.0	Selective
FRANCE, Calvados (1990-2012)	23		404	625	140.9	154.7	7.9	64.6	20.8	1.0	1.1	97.8	2.2	—	0.0	4.2	4.0	34.1	Selective
FRANCE, Doubs (1993-2012)	20		298	462	155.2	171.4	10.1	64.5	26.8	1.2	1.1	97.0	3.0	—	0.0	3.7	2.8	41.2	Selective
FRANCE, Gironde (2008-2012)	5		208	317	167.4	182.9	12.5	65.6	32.1	1.3	1.1	95.6	4.4	—	0.0	1.3	0.3	47.1	Yes
FRANCE, Haut-Rhin (1993-2012)	20		386	594	141.0	161.1	7.5	65.0	26.9	1.2	0.9	98.1	1.7	—	0.2	2.0	1.2	37.3	Yes
FRANCE, Hérault (1993-2012)	20		568	821	177.9	183.1	11.6	69.2	24.1	1.3	1.2	97.0	3.0	—	0.0	1.1	0.5	31.9	Yes
FRANCE, Isère (1993-2012)	20		767	1 100	173.6	182.7	10.4	69.7	22.8	1.0	0.9	96.7	2.8	—	0.5	1.6	1.3	43.6	Yes
FRANCE, Lille (2008-2012)	5		124	192	170.4	187.4	15.3	64.6	33.8	1.3	1.2	96.9	3.1	—	0.0	0.5	0.5	37.5	Selective
FRANCE, Loire-Atlantique and Vendée (1998-2012)	15		767	1 181	152.2	170.6	12.1	64.9	23.4	1.1	0.9	97.0	3.0	—	0.0	2.5	1.0	50.0	Selective
FRANCE, Manche (1994-2012)	19		255	370	152.0	162.3	8.6	68.9	27.0	1.4	1.2	96.8	3.2	—	0.0	2.4	2.2	40.3	Yes
FRANCE, Somme (1993-2012)	20		281	425	136.0	146.4	8.9	66.1	27.1	1.4	1.3	95.1	4.9	—	0.0	1.6	1.6	0.0	Not provided
FRANCE, Tarn (1993-2012)	20		185	263	157.0	163.6	4.3	70.3	26.9	1.3	1.3	94.7	5.3	—	0.0	4.2	1.5	51.6	Yes
GERMANY, paediatric (1996-2012)	17	+	30 770	—	158.5	—	10.3	—	—	1.2	—	95.5	4.5	—	0.0	1.1	0.8	40.2	Yes
GERMANY, 6 Eastern states (2001-2007)	7		1 839	3 230	141.2	150.9	12.3	56.9	22.0	1.1	1.2	94.9	2.0	2.6	0.6	4.8	2.0	0.0	Not provided
GERMANY, 5 Western registries (1994-2012)	†		7 471	11 480	157.5	170.4	9.3	65.1	23.6	1.2	1.2	91.3	5.1	1.8	1.7	3.2	1.5	28.6	Selective
GERMANY, Bavaria (2002-2012)	11		3 038	4 695	156.0	169.6	10.0	64.7	24.1	1.2	1.1	92.9	4.5	2.1	0.5	4.3	1.4	32.0	Selective
GERMANY, Lower Saxony (2003-2012)	10		1 720	2 726	152.4	167.7	8.6	63.1	25.0	1.2	1.3	92.9	4.3	1.1	1.7	2.7	2.0	0.0	No

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Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0 in 0-14	Age 0-14 in 0-19	Age 19 in 15-19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19				0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
GERMANY, Rhineland-Palatinate (1998-2012)	15		1 454	2 079	166.9	170.4	9.2	69.9	20.8	1.1	1.1	86.3	6.7	2.3	4.7	2.7	1.2	43.0	Yes
GERMANY, Saarland (1994-2012)	19		428	659	160.8	173.7	8.4	64.9	23.8	1.4	1.3	95.6	3.2	1.1	0.2	3.0	1.7	25.8	Non-systematic
GERMANY, Schleswig-Holstein (2000-2012)	13		831	1 321	157.1	177.2	8.9	62.9	22.7	1.0	1.1	88.2	7.8	1.8	2.2	1.7	1.4	33.2	Selective
GREECE, paediatric HM (1996-2014), CNS tumours (2010-2014) [b]	19	+	2 411	—	79.0	—	3.4	—	—	1.4	—	98.5	1.5	—	0.0	0.8	0.7	29.1	Yes
HUNGARY, paediatric (1991-2014)	24	+	5 705	—	149.6	—	10.8	—	—	1.2	—	97.3	2.7	—	0.0	0.5	0.5	31.7	Yes
ICELAND (1990-2014)	25		228	376	141.3	170.3	8.8	60.6	30.4	1.3	1.3	96.0	4.0	0.0	0.0	4.8	1.3	40.7	Yes
IRELAND (1994-2012)	19		2 473	3 781	152.8	168.0	9.6	65.4	23.1	1.1	1.1	94.4	5.2	0.2	0.2	3.8	2.3	38.3	Yes
ITALY, 2 paediatric registries (1998-2011)	†		1 610	2 414	195.4	214.3	10.2	66.7	23.8	1.2	1.2	96.3	3.6	‡	0.2	1.4	0.6	44.7	Selective
ITALY, Marche, paediatric (1998-2007)	10		362	559	195.3	214.4	13.5	64.8	24.9	1.1	1.2	96.8	2.5	—	0.7	1.1	1.1	19.5	Selective
ITALY, Piedmont, paediatric (1990-2011)	22	+	2 178	—	190.0	—	9.5	—	—	1.2	—	96.0	3.9	0.0	0.0	2.6	0.8	47.4	Selective
ITALY, Piedmont, paediatric (2000-2011)	12		1 248	1 855	195.6	214.4	9.3	67.3	23.4	1.2	1.2	96.1	3.9	0.0	0.0	1.6	0.4	51.9	Selective
ITALY, 26 registries (1992-2013)	†		7 517	11 663	186.1	206.2	9.3	64.5	22.7	1.2	1.1	91.9	7.8	0.2	0.0	8.4	2.6	36.7	Selective
ITALY, Brescia (1999-2012)	14		367	559	166.7	190.4	10.6	65.7	16.7	1.3	1.0	80.3	18.6	1.1	0.0	17.5	3.6	0.0	Not provided
ITALY, Catania, Messina and Enna (2003-2013)	11		657	1 044	204.7	226.4	6.7	62.9	14.2	1.0	0.9	85.1	14.8	0.1	0.0	18.0	5.7	71.9	Yes
ITALY, Como (2003-2011)	9		137	229	195.8	240.4	10.9	59.8	25.0	1.0	0.8	92.6	7.4	0.0	0.0	4.8	0.0	54.9	Yes
ITALY, Ferrara (1991-2011)	21		146	240	204.6	228.7	11.6	60.8	20.2	1.5	1.1	85.4	13.8	0.8	0.0	11.7	2.1	41.9	Yes
ITALY, Friuli Venezia Giulia (1995-2010)	16		397	620	179.9	203.2	11.1	64.0	26.9	1.3	1.1	93.5	6.5	0.0	0.0	6.0	1.6	0.0	Not provided
ITALY, Lodi and Pavia (2003-2009)	7		120	187	185.3	213.7	9.2	64.2	19.4	1.5	1.2	87.7	12.3	0.0	0.0	12.8	1.1	11.1	Selective
ITALY, Milan (1999-2007)	9		246	356	192.4	210.6	9.8	69.1	24.5	1.7	1.2	94.9	5.1	0.0	0.0	4.5	1.7	23.1	Non-systematic
ITALY, Modena (1990-2012)	23		335	503	179.1	193.3	11.9	66.6	29.2	1.1	1.1	95.4	4.0	0.6	0.0	4.0	0.8	37.2	Yes
ITALY, Naples South (1996-2012)	17		469	727	204.2	225.2	9.2	64.5	24.8	1.1	0.9	94.2	5.6	0.1	0.0	5.9	1.1	45.7	Yes
ITALY, Parma (1992-2013)	22		220	325	207.1	222.7	12.7	67.7	28.6	1.0	0.9	95.7	4.3	0.0	0.0	6.2	3.7	37.1	Yes
ITALY, Ragusa and Caltanissetta (1992-2012)	21		239	364	182.7	196.5	6.7	65.7	21.6	1.1	1.0	90.1	9.9	0.0	0.0	10.4	3.3	48.3	Yes
ITALY, Reggio Emilia (1996-2012)	17		207	313	181.0	206.8	9.2	66.1	24.5	1.3	1.2	96.8	2.9	0.3	0.0	2.9	1.3	44.1	Yes
ITALY, Romagna (1990-2012)	23		541	832	191.5	208.3	9.4	65.0	25.8	1.1	1.0	88.9	10.8	0.2	0.0	10.8	2.3	50.3	Yes
ITALY, Salerno (1997-2009)	13		428	698	184.3	209.0	9.6	61.3	19.6	1.1	1.2	86.0	13.9	0.1	0.0	16.8	3.4	9.9	Selective
ITALY, Sassari (1992-2011)	20		223	381	174.7	198.1	6.7	58.5	17.7	1.2	1.0	89.5	8.1	2.4	0.0	15.7	5.5	30.6	Yes
ITALY, Syracuse (1999-2012)	14		129	213	153.5	174.3	7.0	60.6	31.0	0.9	1.1	94.8	5.2	0.0	0.0	8.5	5.2	0.0	No
ITALY, Trento (2001-2010)	10		118	172	157.8	173.4	7.6	68.6	29.6	1.2	1.1	88.4	11.6	0.0	0.0	13.4	5.2	16.1	Selective
ITALY, Turin (1992-2012)	21		357	540	166.5	180.8	8.7	66.1	23.0	1.1	1.5	96.7	3.0	0.0	0.4	4.3	1.9	0.0	Not provided
ITALY, Umbria (1994-2011)	18		402	610	217.9	234.2	10.7	65.9	23.1	1.0	1.1	96.2	3.3	0.0	0.5	6.4	3.3	25.9	Yes
ITALY, Varese (1992-2012)	21		456	672	197.5	208.0	9.0	67.9	25.5	1.0	1.2	96.3	3.6	0.1	0.0	2.1	1.5	29.8	Selective
ITALY, Veneto (1992-2009)	18		1 035	1 629	175.7	196.6	9.1	63.5	24.1	1.2	1.2	95.6	4.2	0.2	0.0	3.4	1.7	33.9	Yes
LITHUANIA (2000-2012)	13		880	1 400	133.5	140.3	9.2	62.9	23.5	1.0	1.1	94.1	4.4	1.3	0.2	6.9	1.4	6.6	Yes
MALTA (1994-2013)	20		247	352	177.7	179.8	6.5	70.2	22.9	1.2	1.3	97.4	2.6	0.0	0.0	1.4	0.6	13.0	Yes
THE NETHERLANDS (1993-2013)	21		9 227	13 816	154.5	170.7	9.3	66.8	24.8	1.2	1.1	95.9	4.1	—	0.0	1.9	0.7	42.5	Selective
NORWAY (1990-2013)	24		3 410	5 090	165.2	181.9	11.0	67.0	24.1	1.1	1.1	94.1	5.8	0.1	0.0	7.5	4.3	50.1	Selective
POLAND (2001-2013)	13		10 205	16 155	132.8	140.3	9.6	63.2	24.3	1.2	1.2	92.3	6.6	0.4	0.7	10.3	3.1	7.3	Selective

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Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0 in 0-14	Age 0-14 in 0-19	Age 19 in 15-19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19				0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
POLAND, Greater Poland (1999-2013)	15		1 311	2 057	155.4	163.8	10.6	63.7	23.7	1.2	1.3	94.4	5.5	0.1	0.0	8.2	2.5	1.9	Non-systematic
POLAND, Kielce (1990-2013)	24		710	1 106	138.8	146.8	7.6	64.2	22.5	1.1	1.1	91.8	7.6	—	0.6	12.5	4.4	3.8	Selective
POLAND, Lower Silesia (2000-2013)	14		655	1 096	111.7	122.4	9.9	59.8	24.9	1.1	1.2	96.8	3.2	0.0	0.0	5.0	1.8	0.0	No
POLAND, Lublin (1999-2013)	15		799	1 252	152.9	158.9	10.6	63.8	25.8	1.3	1.2	87.6	11.4	1.0	0.0	13.9	1.8	4.5	Selective
PORTUGAL (1991-2012)	†		4 339	6 448	164.6	173.8	8.8	67.3	22.5	1.2	1.1	96.3	3.5	‡	0.2	4.2	2.7	33.4	Yes
PORTUGAL, Azores (1997-2011)	15		117	198	160.4	188.5	6.8	59.1	22.2	1.0	0.9	96.0	4.0	0.0	0.0	2.5	1.0	10.5	Yes
PORTUGAL, Centre (2000-2010)	11		658	969	174.2	181.7	9.0	67.9	26.0	1.2	1.0	91.8	7.7	—	0.4	5.7	3.9	32.2	Yes
PORTUGAL, North (1991-2010)	20		1 708	2 575	154.7	162.7	8.8	66.3	21.8	1.3	1.0	97.2	2.3	—	0.5	4.8	2.6	33.6	Yes
PORTUGAL, South (1998-2012)	15		1 856	2 706	171.9	182.1	8.9	68.6	21.9	1.1	1.2	97.0	3.0	—	0.0	3.1	2.5	35.0	Yes
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	10	+	1 176	—	139.8	—	7.3	—	—	1.1	—	93.9	6.1	—	0.0	2.7	0.5	35.8	Yes
RUSSIAN FEDERATION, 2 registries (1998-2015)	†		1 545	2 285	141.1	142.1	12.4	67.6	24.7	1.0	1.0	98.8	0.2	1.0	0.0	5.0	4.8	2.5	Non-systematic
RUSSIAN FEDERATION, Chelyabinsk (2008-2012)	5		394	539	148.3	144.6	9.4	73.1	30.3	1.1	1.0	98.5	0.0	1.5	0.0	7.6	6.7	5.3	Non-systematic
RUSSIAN FEDERATION, Samara (1998-2015)	18		1 151	1 746	139.7	141.9	13.4	65.9	23.4	0.9	1.0	98.9	0.3	0.8	0.0	4.2	4.2	1.5	Non-systematic
SLOVAKIA (1990-2009)	20		2 955	4 574	145.8	154.7	9.7	64.6	21.5	1.2	1.3	96.4	2.2	1.4	0.0	5.2	1.7	32.9	Yes
SLOVAKIA, paediatric (2000-2012)	13	+	1 626	—	144.6	—	10.5	—	—	1.1	—	95.9	3.9	—	0.2	3.4	1.5	33.9	Yes
SLOVENIA (1991-2012)	22		971	1 535	144.2	155.9	8.4	63.3	23.9	1.1	1.2	98.6	1.4	0.0	0.0	2.4	1.0	21.6	Yes
SPAIN, 2 paediatric registries (1991-2013)	†	+	7 497	—	159.2	—	11.2	—	—	1.2	—	92.2	7.7	‡	0.0	1.9	1.1	30.5	Yes
SPAIN, selected regions, paediatric (2000-2013)	14	+	5 293	—	155.1	—	11.4	—	—	1.2	—	91.5	8.5	—	0.1	1.8	1.1	31.3	Yes
SPAIN, Valencia, paediatric (1991-2010)	20	+	2 204	—	171.3	—	10.8	—	—	1.1	—	94.1	5.9	0.0	0.0	2.4	1.2	28.6	Yes
SPAIN, 11 registries (1990-2013)	†		5 081	7 839	164.3	174.6	9.8	64.8	22.1	1.2	1.2	95.4	4.0	0.4	0.2	4.4	1.9	31.4	Selective
SPAIN, Albacete (1991-2010)	20		190	286	159.8	166.9	13.7	66.4	14.6	1.4	1.3	95.8	3.8	0.3	0.0	3.5	1.7	32.1	Selective
SPAIN, Asturias (1992-2010)	19		350	561	155.3	161.9	8.3	62.4	18.5	1.2	1.4	96.8	2.9	0.4	0.0	4.3	3.6	29.6	Yes
SPAIN, Basque Country (1990-2012)	23		1 131	1 728	178.6	185.9	10.5	65.5	25.8	1.3	1.2	94.1	5.3	0.6	0.0	7.3	3.1	39.9	Selective
SPAIN, Canary Islands (1993-2011)	19		677	1 064	147.3	157.8	8.0	63.6	23.0	1.3	1.1	94.9	4.0	0.6	0.5	4.3	1.3	36.4	Selective
SPAIN, Cuenca (1993-2012)	20		96	155	174.1	191.5	8.3	61.9	25.4	0.9	0.9	89.7	9.7	0.0	0.6	11.0	5.2	40.5	Yes
SPAIN, Girona (1990-2013)	24		403	594	178.1	187.9	10.2	67.8	23.0	1.3	1.3	96.6	2.5	0.3	0.5	2.2	1.5	39.6	Yes
SPAIN, Granada (1992-2013)	22		472	753	146.1	162.0	7.4	62.7	22.1	1.0	1.1	94.6	5.2	0.3	0.0	5.0	0.4	39.3	Selective
SPAIN, Mallorca (1990-2012)	23		407	621	157.1	169.9	11.1	65.5	20.1	1.2	1.3	96.1	3.2	0.0	0.6	2.6	1.3	24.5	Selective
SPAIN, Murcia (1991-2009)	19		686	1 033	166.9	175.9	9.2	66.4	20.2	1.1	1.3	96.6	2.8	0.2	0.4	2.7	1.5	0.0	No
SPAIN, Navarra (1990-2010)	21		295	475	176.2	193.6	11.5	62.1	19.4	1.1	1.1	95.8	3.4	0.8	0.0	2.7	2.3	29.1	Selective
SPAIN, Tarragona (1990-2011)	22		374	569	172.1	183.8	11.2	65.7	23.1	1.2	1.0	96.7	3.0	0.4	0.0	2.6	1.1	23.7	Non-systematic
SWEDEN (1990-2011)	22		5 284	7 557	155.3	162.2	10.2	69.9	22.8	1.1	1.1	96.6	3.4	—	0.0	7.1	4.4	37.6	Yes
SWITZERLAND, paediatric (1990-2013)	24	+	4 481	—	159.2	—	9.8	—	—	1.2	—	93.6	5.3	0.2	1.0	1.6	1.1	40.3	Yes
SWITZERLAND, 7 registries (1990-2013)	†		1 798	2 665	173.1	187.7	9.7	67.5	21.0	1.2	1.1	96.8	2.9	0.3	0.0	2.9	1.8	45.0	Selective
SWITZERLAND, Geneva (1993-2013)	21		223	345	154.2	175.4	8.1	64.6	18.0	1.0	1.1	94.8	5.2	0.0	0.0	1.7	1.2	57.4	Selective
SWITZERLAND, Neuchâtel (1993-2013)	21		106	163	185.3	205.0	9.4	65.0	33.3	1.1	1.1	98.2	1.2	0.6	0.0	1.8	0.0	42.9	Yes
SWITZERLAND, Ticino (1996-2012)	17		129	201	171.8	192.8	10.1	64.2	25.0	1.2	1.0	99.5	0.5	0.0	0.0	1.0	1.0	27.5	Non-systematic
SWITZERLAND, Valais (1990-2012)	23		185	270	167.0	176.4	7.6	68.5	16.5	1.2	0.8	96.3	3.3	0.4	0.0	4.1	1.1	29.1	Yes

More datasets available online

Table A.9. Characteristics and quality indicators of the datasets included in IICC-3

Dataset (IICC-3 period)	Years covered	Age 0-14 only	Total number of cases		ASR per million		Age 0 in 0-14	Age 0-14 in 0-19	Age 19 in 15-19	M/F by age		Basis of diagnosis				Unspecified morphology		Non-malignant in CNS (categories III and Xa)	
			age 0-14	age 0-19	age 0-14	age 0-19				0-14	15-19	MV	Clinical	DCO	Unknown		MV		Registration
	N						%	%	%			%	%	%	%	%	%	%	
SWITZERLAND, Vaud (1993-2012)	20		382	520	177.9	179.0	9.4	73.5	21.0	1.1	0.9	98.7	0.8	0.6	0.0	2.1	1.0	39.3	Yes
SWITZERLAND, Zurich (1993-2013)	21		688	1 046	172.8	193.0	11.0	65.8	19.6	1.4	1.3	96.5	3.3	0.2	0.0	3.8	3.1	49.8	Yes
UKRAINE (2002-2012)	11		10 079	16 358	139.6	146.8	9.8	61.6	24.1	1.2	1.0	94.5	5.3	0.2	0.0	10.7	6.0	0.0	No
UNITED KINGDOM (2000-2011)	†		17 942	26 346	140.5	149.5	9.5	68.1	23.3	1.2	1.2	93.1	5.7	0.1	1.1	3.7	2.0	29.9	Selective
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	20	+	27 799	—	145.8	—	9.2	—	—	1.2	—	91.3	6.0	0.4	2.3	2.5	1.0	38.4	Yes
UNITED KINGDOM, England (1990-2013)	24		29 819	42 512	137.7	145.0	9.4	70.1	23.9	1.2	1.2	91.0	5.9	0.3	2.7	4.2	2.3	24.1	Yes
UNITED KINGDOM, Northern Ireland (1993-2013)	21		1 132	1 678	151.9	163.6	9.8	67.5	23.1	1.2	1.2	85.6	14.3	0.1	0.0	12.1	3.3	35.0	Yes
UNITED KINGDOM, Scotland (1991-2013)	23		2 945	4 477	146.6	160.4	9.9	65.8	24.3	1.2	1.0	94.0	4.3	0.1	1.5	3.5	2.3	46.6	Selective
UNITED KINGDOM, Wales (2000-2011)	12		923	1 415	150.9	164.1	8.9	65.2	20.5	1.1	1.5	82.9	5.4	0.4	11.3	8.9	2.6	44.7	Yes
OCEANIA																			
AUSTRALIA (1992-2014)	23		13 190	20 508	154.9	175.1	10.3	64.3	24.2	1.2	1.2	95.2	4.4	0.1	0.3	2.5	1.3	8.5	Selective
AUSTRALIA, 3 registries, Indigenous (1992-2014)	†		249	336	105.4	112.4	15.3	74.1	23.0	1.0	1.1	93.2	6.3	0.6	0.0	1.8	0.9	14.5	Selective
AUSTRALIA, Australian Capital Territory (1992-2012)	21		214	336	160.7	177.0	10.7	63.7	20.5	1.0	1.1	93.2	6.8	0.0	0.0	1.8	1.5	0.0	No
AUSTRALIA, New South Wales (1992-2012)	21		4 022	6 230	149.2	169.0	11.4	64.6	25.3	1.2	1.2	95.0	5.0	0.0	0.0	2.2	1.7	0.0	No
AUSTRALIA, Northern Territory (1992-2012)	21		122	182	116.9	133.4	18.9	67.0	26.7	2.0	2.1	94.5	5.5	0.0	0.0	2.2	1.6	0.0	No
AUSTRALIA, Queensland (1992-2013)	22		2 548	4 204	150.9	180.3	9.5	60.6	23.4	1.1	1.1	93.9	5.8	0.2	0.1	1.3	1.0	0.0	No
AUSTRALIA, Queensland, Indigenous (1992-2013)	22		118	156	91.3	96.6	11.9	75.6	18.4	1.0	0.6	92.3	7.1	0.6	0.0	1.3	0.0	0.0	No
AUSTRALIA, South Australia (1992-2012)	21		887	1 388	149.8	168.5	9.8	63.9	23.6	1.1	1.3	97.1	2.9	0.0	0.0	1.0	0.9	0.0	No
AUSTRALIA, Tasmania (1992-2013)	22		325	490	152.3	167.7	6.8	66.3	20.6	1.1	1.0	95.3	3.5	0.0	1.2	1.0	0.6	42.0	Yes
AUSTRALIA, Victoria (1992-2014)	23		3 450	5 179	159.5	174.3	9.4	66.6	24.8	1.1	1.2	96.0	2.9	0.1	1.0	4.7	1.3	0.0	No
AUSTRALIA, Western Australia (1992-2014)	23		1 622	2 499	174.9	195.7	10.9	64.9	23.1	1.2	1.2	95.6	4.2	0.2	0.0	2.0	1.2	41.5	Yes
FRANCE, 2 registries (1990-2013)	†		376	523	127.0	132.0	10.4	71.9	19.7	1.1	1.1	94.5	5.2	0.4	0.0	8.2	4.6	21.2	Selective
FRANCE, French Polynesia (1990-2011)	22		171	240	110.3	115.8	8.8	71.3	21.7	1.2	1.0	90.0	9.2	0.8	0.0	13.3	6.3	0.0	No
FRANCE, New Caledonia (1990-2013)	24		205	283	145.2	149.6	11.7	72.4	17.9	1.0	1.2	98.2	1.8	0.0	0.0	3.9	3.2	32.7	Yes
NEW ZEALAND (1993-2012)	20		2 606	3 871	152.6	167.0	10.3	67.3	22.7	1.1	1.1	96.2	3.3	0.6	0.0	3.2	1.9	0.0	No
NEW ZEALAND, Maori (1993-2012)	20		570	813	133.2	148.4	11.1	70.1	20.2	1.2	1.4	96.4	2.8	0.7	0.0	3.2	2.0	0.0	No
NEW ZEALAND, Pacific peoples (1993-2012)	20		286	394	186.8	199.5	10.5	72.6	18.5	1.2	0.7	94.9	4.1	1.0	0.0	5.1	3.0	0.0	No
NEW ZEALAND, Other (1993-2012)	20		1 750	2 664	155.7	169.8	10.0	65.7	23.9	1.1	1.1	96.3	3.3	0.5	0.0	2.9	1.7	0.0	No
NEW ZEALAND, paediatric (2000-2012)	13	+	1 769	—	157.4	—	10.5	—	—	1.1	—	95.5	4.4	0.1	0.0	1.9	1.7	38.7	Yes
NEW ZEALAND, paediatric, Maori (2000-2012)	13	+	360	—	127.0	—	9.7	—	—	1.4	—	95.6	4.2	0.3	0.0	1.7	1.7	32.9	Yes
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	13	+	1 409	—	168.0	—	10.7	—	—	1.1	—	95.5	4.5	0.0	0.0	2.0	1.7	40.1	Yes

More datasets available online

Table A.10. Coding systems used by the contributing cancer registries during the period covered in IICC-3

IICC-3, International Incidence of Childhood Cancer, volume 3. All registries contributing to IICC-3 are listed.

Coding systems used are reported only for the respective period of contribution to IICC-3. The most recent ICD-O standards are shown with preference over older and other standards if several coding systems were used concurrently.

ICD, International Classification of Diseases; ICD-O, International Classificaton of Diseases for Oncology; FTE, Field Trial Edition; (ICD-O-2), at least one morphology code was found and recoded centrally from ICD-O-2 to ICD-O-3.

Complete citations of the tabulated classification systems can be found in Chapter 3.

Registry (IICC-3 period)	Registry starting year	Coding system submitted	Coding system used to code neoplasms at the time of registration as reported by the registry (first year of use)											
			ICD-O-3		ICD-O-2		ICD-O-1		Morphology			Topography		
			Morphology	Topography	Morphology	Topography	Morphology	Topography	ICD-O-FTE	Motnac	Other	ICD-10	ICD-9	Other
AFRICA														
ALGERIA, Algiers (2008-2012)	1990	ICD-O-3	2008	2008										
ALGERIA, Annaba (2000-2010)	2000	ICD-O-3	2003	2003	2000	2000								
ALGERIA, Batna (2008-2012)	1995	ICD-O-3	2008	2008										
ALGERIA, Sétif (1996-2014)	1986	ICD-O-3 (ICD-O-2)	2007	2007								1996		
ALGERIA, Tlemcen (2006-2014)	2006	ICD-O-3	2006									2006		
BOTSWANA (1999-2007)	1999	ICD-O-3	1999	1999										
CAMEROON, Yaoundé (2004-2006)	2004	ICD-O-3	2004	2004										
EGYPT, Gharbiah (1999-2010)	1999	ICD-O-3	2002	2002	1999	1999								
FRANCE, Réunion (1990-2011)	1988	ICD-O-3	2001	2001	1990	1990								
KENYA, Eldoret (2000-2011)	1999	ICD-O-3	2000	2000										
KENYA, Nairobi (2006-2012)	2001	ICD-O-3	2006	2006										
LIBYA, Benghazi (2003-2008)	2003	ICD-O-3	2003	2003										
MALI, Bamako (2005-2014)	1986	ICD-O-3	2011	2011	2005	2005								
MAURITIUS (2001-2013)	2000	ICD-O-3	2005	2005										
MOROCCO, Casablanca (2005-2012)	2004	ICD-O-3	2005	2005										
MOROCCO, Rabat (2005-2012)	2005	ICD-O-3	2005	2005										
SOUTH AFRICA, paediatric (1998-2012)	1987	ICD-O-3	1998	1998										
TUNISIA, North (1994-2006)	1994	ICD-O-3	2004	2004			1994	1994						
TUNISIA, Sousse (1993-2007)	1987	ICD-O-3	2002	2002	1993	1993								
UGANDA, Kyadondo (1996-2013)	1954	ICD-O-3	1996	1996										
ZIMBABWE, Harare, African (1995-2013)	1990	ICD-O-3	1995	1995										
AMERICA, LATIN AND THE CARIBBEAN														
ARGENTINA, paediatric (2000-2013)	2000	ICD-O-3	2000	2000										
ARGENTINA, Bahía Blanca (1991-2007)	1989	ICD-O-3	1998	1998	1991	1993							1991	
ARGENTINA, Chaco (2002-2012)	2002	ICD-O-3	2002	2002										
ARGENTINA, Córdoba (2004-2012)	2003	ICD-O-3	2004	2004										
ARGENTINA, Entre Ríos (2001-2011)	2001	ICD-O-3	2003	2003	2001	2001								
ARGENTINA, Mendoza (2003-2012)	2003	ICD-O-3	2003	2003										
ARGENTINA, Neuquén (2003-2013)	2008	ICD-O-3	2003	2003										
BRAZIL, Aracaju (1996-2012)	1996	ICD-O-3	2005	2005	1996	1996								
BRAZIL, Belo Horizonte (2000-2006)	2000	ICD-O-3	2005	2005	2000	2000								
BRAZIL, Curitiba (1998-2010)	1998	ICD-O-3	2005	2005	1998	1998								

Table A.10. Coding systems used by the contributing cancer registries during the period covered in IICC-3

Registry (IICC-3 period)	Registry starting year	Coding system submitted	Coding system used to code neoplasms at the time of registration as reported by the registry (first year of use)												
			ICD-O-3		ICD-O-2		ICD-O-1		Morphology			Topography		
			Morphology	Topography	Morphology	Topography	Morphology	Topography	ICD-O-FTE	Motnac	Other	ICD-10	ICD-9	Other
BRAZIL, Goiânia (1995-2011)	1988	ICD-O-3	2002	2002	1995	1995								
BRAZIL, João Pessoa (1999-2010)	1999	ICD-O-3 (ICD-O-2)	2005	2005	1999	1999								
CHILE, paediatric (2007-2011)	2007	ICD-O-3	2007	2007										
CHILE, Antofagasta (2003-2010)	1998	ICD-O-3	2003	2003										
CHILE, Bío Bío (2003-2012)	2003	ICD-O-3	2003	2003										
CHILE, Concepción (2006-2010)	2006	ICD-O-3	2006	2006										
CHILE, Valdivia (1998-2012)	1993	ICD-O-3	2003	2003										
COLOMBIA, Bucaramanga (2000-2012)	2000	ICD-O-3	2000	2000										
COLOMBIA, Cali (1992-2013)	1962	ICD-O-3	1992	1992										
COLOMBIA, Manizales (2003-2012)	2003	ICD-O-3	2003	2003										
COLOMBIA, Pasto (1998-2012)	1998	ICD-O-3	1998	1998										
COSTA RICA (1993-2012)	1980	ICD-O-3 (ICD-O-2)	2003	2003	1993	1993								
CUBA (2000-2012)	1964	ICD-O-3	2007	2007			2000	2000						
ECUADOR, Cuenca (1996-2013)	1996	ICD-O-3	2004	2004	1996	1996								
ECUADOR, Guayaquil (2008-2012)	1990	ICD-O-3	2008	2008										
ECUADOR, Loja (1997-2013)	2004	ICD-O-3	2003	2003	1997	1997								
ECUADOR, Manabí (1995-2011)	1995	ICD-O-3	2003	2003	1995	1995								
ECUADOR, Quito (1993-2012)	1985	ICD-O-3	2003	2003	1994	1994	1993	1993						
FRANCE, French Guiana (2003-2012)	2005	ICD-O-3	2003	2003										
FRANCE, Guadeloupe (2008-2012)	2008	ICD-O-3	2008	2008										
FRANCE, Martinique (1990-2012)	1981	ICD-O-3	2003	2003	1990	1990								
HONDURAS, Francisco Morazán (2002-2012)	2002	ICD-O-3	2002	2002										
JAMAICA, Kingston and St Andrew (1982-2012)	1958	ICD-O-3	2003	2003	1993						1982 Other		1982	
MEXICO, Mexico City, paediatric (1997-2013)	1996	ICD-O-3	2000	2000	1997	1997								
PERU, Lima (2010-2012)	1990	ICD-O-3	2010	2010										
PERU, Trujillo (1990-2002)	1984	ICD-O-3	1996		1990							1990		
USA, Puerto Rico (1992-2012)	1951	ICD-O-3	1992	1992										
URUGUAY (1993-2012)	1991	ICD-O-3	2006	2005			1993	1993						
AMERICA, NORTH														
CANADA, Alberta (1992-2013)	1951	ICD-O-3 (ICD-O-2)	2001	2001	1992	1992								
CANADA, British Columbia (1992-2013)	1969	ICD-O-3	2001	2001	1992	1992								
CANADA, Manitoba (1992-2013)	1956	ICD-O-3	2001	2001	1992	1992								
CANADA, Northwest Territories (1992-2012)	1992	ICD-O-3	2001	2001	1992	1992								
CANADA, Nova Scotia (1992-2013)	1964	ICD-O-3	2001	2001	1992	1992								
CANADA, Ontario (1992-2012)	1964	ICD-O-3	1999	1999	1993	1993	1992						1992	
CANADA, Quebec (1992-2010)	1981	ICD-O-3	2008		1992							2000	1992	
CANADA, Saskatchewan (1992-2013)	1944	ICD-O-3	2002	2002	1992	1992								

Table A.10. Coding systems used by the contributing cancer registries during the period covered in IICC-3

Registry (IICC-3 period)	Registry starting year	Coding system submitted	Coding system used to code neoplasms at the time of registration as reported by the registry (first year of use)											
			ICD-O-3		ICD-O-2		ICD-O-1		Morphology			Topography		
			Morphology	Topography	Morphology	Topography	Morphology	Topography	ICD-O-FTE	Motnac	Other	ICD-10	ICD-9	Other
CANADA, Yukon (1992-2013)	1987	ICD-O-3	2001	2001	1992	1992								
USA, NPCR (1998-2012)	1995	ICD-O-3	2001	2001	1998	1998								
USA, SEER 18 (1993-2012)	2000	ICD-O-3	2001	2001	1993	1993								
USA, Alabama (1998-2012)	1996	ICD-O-3	2001	2001	1998	1998								
USA, Alaska (1998-2012)	1996	ICD-O-3	2001	2001	1998	1998								
USA, Alaska Natives (1993-2012)	1969	ICD-O-3	2001	2001	1993	1993								
USA, Arizona (1998-2012)	1995	ICD-O-3	2001	2001	1998	1998								
USA, Arkansas (1998-2012)	1996	ICD-O-3	2001	2001	1998	1998								
USA, California (1998-2012)	1988	ICD-O-3	2001	2001	1998	1998								
USA, California, Greater California (2000-2012)	1988	ICD-O-3	2001	2001	2000	2000								
USA, California, Los Angeles (1993-2012)	1972	ICD-O-3	2001	2001	1993	1993								
USA, California, San Francisco (1993-2012)	1973	ICD-O-3	2001	2001	1993	1993								
USA, California, San José-Monterey (1993-2012)	1988	ICD-O-3	2001	2001	1993	1993								
USA, Colorado (1998-2012)	1988	ICD-O-3	2001	2001	1998	1998								
USA, Connecticut (1993-2012)	1935	ICD-O-3	2001	2001	1993	1993								
USA, Delaware (1998-2012)	1980	ICD-O-3	2001	2001	1998	1998								
USA, District of Columbia (1998-2012)	1996	ICD-O-3	2001	2001	1998	1998								
USA, Florida (1998-2012)	1981	ICD-O-3	2001	2001	1998	1998								
USA, Georgia (1998-2012)	1995	ICD-O-3	2001	2001	1998	1998								
USA, Georgia, Atlanta (1993-2012)	1975	ICD-O-3	2001	2001	1993	1993								
USA, Georgia, Greater Georgia (2000-2012)	2000	ICD-O-3	2001	2001	2000	2000								
USA, Georgia, Rural (1993-2012)	1992	ICD-O-3	2001	2001	1993	1993								
USA, Hawaii (1993-2012)	1973	ICD-O-3	2001	2001	1993	1993								
USA, Idaho (1998-2012)	1971	ICD-O-3	2001	2001	1998	1998								
USA, Illinois (1998-2012)	1986	ICD-O-3	2001	2001	1998	1998								
USA, Indiana (1998-2012)	1987	ICD-O-3	2001	2001	1998	1998								
USA, Iowa (1993-2012)	1973	ICD-O-3	2001	2001	1993	1993								
USA, Kentucky (1998-2012)	1995	ICD-O-3	2001	2001	1998	1998								
USA, Louisiana (1998-2012)	1988	ICD-O-3	2001	2001	1998	1998								
USA, Maine (1998-2012)	1983	ICD-O-3	2001	2001	1998	1998								
USA, Massachusetts (1998-2012)	1982	ICD-O-3	2001	2001	1998	1998								
USA, Michigan (1998-2012)	1985	ICD-O-3	2001	2001	1998	1998								
USA, Michigan, Detroit (1993-2012)	1973	ICD-O-3	2001	2001	1993	1993								
USA, Minnesota (1998-2012)	1988	ICD-O-3	2001	2001	1998	1998								
USA, Mississippi (2002-2012)	1996	ICD-O-3	2002	2002										
USA, Missouri (1998-2012)	1985	ICD-O-3	2001	2001	1998	1998								
USA, Montana (1998-2012)	1979	ICD-O-3	2001	2001	1998	1998								

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Registry (IICC-3 period)	Registry starting year	Coding system submitted	Coding system used to code neoplasms at the time of registration as reported by the registry (first year of use)											
			ICD-O-3		ICD-O-2		ICD-O-1		Morphology			Topography		
			Morphology	Topography	Morphology	Topography	Morphology	Topography	ICD-O-FTE	Motnac	Other	ICD-10	ICD-9	Other
USA, Nebraska (1998-2012)	1986	ICD-O-3	2001	2001	1998	1998								
USA, Nevada (1998-2012)	1995	ICD-O-3	2001	2001	1998	1998								
USA, New Hampshire (1998-2012)	1986	ICD-O-3	2001	2001	1998	1998								
USA, New Jersey (1998-2012)	1979	ICD-O-3	2001	2001	1998	1998								
USA, New Mexico (1993-2012)	1975	ICD-O-3	2001	2001	1993	1993								
USA, New York State (1998-2012)	1976	ICD-O-3	2001	2001	1998	1998								
USA, North Carolina (1998-2012)	1990	ICD-O-3	2001	2001	1998	1998								
USA, North Dakota (1998-2012)	1997	ICD-O-3	2001	2001	1998	1998								
USA, Ohio (1998-2012)	1996	ICD-O-3	2001	2001	1998	1998								
USA, Oklahoma (1998-2012)	1997	ICD-O-3	2001	2001	1998	1998								
USA, Oregon (1998-2012)	1996	ICD-O-3	2001	2001	1998	1998								
USA, Pennsylvania (1998-2012)	1985	ICD-O-3	2001	2001	1998	1998								
USA, Rhode Island (1998-2012)	1986	ICD-O-3	2001	2001	1998	1998								
USA, South Carolina (1998-2012)	1996	ICD-O-3	2001	2001	1998	1998								
USA, South Dakota (2001-2012)	2001	ICD-O-3	2001	2001										
USA, Tennessee (1999-2012)	1986	ICD-O-3	2001	2001	1999	1999								
USA, Texas (1998-2012)	1995	ICD-O-3	2001	2001	1998	1998								
USA, Utah (1993-2012)	1966	ICD-O-3	2001	2001	1993	1993								
USA, Vermont (1998-2012)	1994	ICD-O-3	2001	2001	1998	1998								
USA, Virginia (1998-2012)	1980	ICD-O-3	2001	2001	1998	1998								
USA, Washington State (1998-2012)	1992	ICD-O-3	2001	2001	1998	1998								
USA, Washington, Seattle (1993-2012)	1974	ICD-O-3	2001	2001	1993	1993								
USA, West Virginia (1998-2012)	1993	ICD-O-3	2001	2001	1998	1998								
USA, Wisconsin (1998-2012)	1976	ICD-O-3	2001	2001	1998	1998								
USA, Wyoming (1998-2012)	1962	ICD-O-3	2001	2001	1998	1998								
ASIA														
BAHRAIN (1998-2012)	1998	ICD-O-3	1998	1998										
CHINA, Beijing (2000-2013)	1977	ICD-O-3	2000	2000										
CHINA, Dalian (2003-2012)	1985	ICD-O-3	2003	2003										
CHINA, Guangzhou (2010-2012)	1999	ICD-O-3	2010	2010										
CHINA, Hong Kong (1990-2013)	1963	ICD-O-3 + ICD-10	2001						1990			2001	1990	
CHINA, Shanghai (2002-2012)	1972	ICD-O-3	2010	2010	2002	2002								
CHINA, Zhongshan (2003-2012)	1970	ICD-O-3	2004	2004	2003	2003								
INDIA, Bangalore (1993-2011)	1982	ICD-O-3	2002	1993										
INDIA, Chennai (1993-2013)	1982	ICD-O-3 (ICD-O-2)	2003	2003	1998	1998	1993	1993						
INDIA, Kollam (2006-2012)	2006	ICD-O-3	2006	2006										
INDIA, Mumbai (1993-2012)	1964	ICD-O-3	2002	2002	1998	2000	1993						1993	

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			ICD-O-3		ICD-O-2		ICD-O-1		Morphology			Topography		
			Morphology	Topography	Morphology	Topography	Morphology	Topography	ICD-O-FTE	Motnac	Other	ICD-10	ICD-9	Other
INDIA, Nagpur (1990-2012)	1980	ICD-O-3	2002	2002										
INDIA, New Delhi (2003-2010)	1988	ICD-O-3	2003	2003										
INDIA, Trivandrum (2005-2012)	2005	ICD-O-3	2005	2005										
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	2004	ICD-O-3	2004	2004										
ISRAEL (1990-2012)	1960	ICD-O-3	2001	2000							1990 Other		1990	
JAPAN, Aichi (2008-2012)	1962	ICD-O-3	2008	2008										
JAPAN, Hiroshima (1990-2012)	1957	ICD-O-3	2004	2004	1998	1998	1990	1990						
JAPAN, Miyagi (1990-2010)	1959	ICD-O-3 (ICD-O-2)	2003	2003	1990	1993							1990	
JAPAN, Nagasaki (1993-2012)	1985	ICD-O-3	1993	1993										
JAPAN, Niigata (2003-2012)	1991	ICD-O-3	2003	2003										
JAPAN, Osaka (1990-2012)	1962	ICD-O-3	1990	1990										
JAPAN, Tochigi (2005-2012)	1993	ICD-O-3	2005	2005										
JAPAN, Yamagata (1990-2013)	1974	ICD-O-3	2006	2006	1990							1990		
JORDAN, Jordanians (2000-2012)	1996	ICD-O-3	2000	2000										
REPUBLIC OF KOREA (1999-2012)	1999	ICD-O-3	2003	2003	1999	1999								
REPUBLIC OF KOREA, Busan (1999-2012)	1999	ICD-O-3	2003	2003	1999	1999								
REPUBLIC OF KOREA, Daegu (1999-2012)	1999	ICD-O-3	2003	2003	1999	1999								
REPUBLIC OF KOREA, Daejeon (1999-2012)	1999	ICD-O-3	2003	2003	1999	1999								
REPUBLIC OF KOREA, Gwangju (1997-2012)	1997	ICD-O-3	2003	2003	1997	1997								
REPUBLIC OF KOREA, Incheon (1998-2012)	1997	ICD-O-3	2003	2003	1998	1998								
REPUBLIC OF KOREA, Jejudo (2000-2012)	2000	ICD-O-3	2003	2003	2000	2000								
REPUBLIC OF KOREA, Seoul (1995-2012)	1992	ICD-O-3	2003	2003	1995	1995								
REPUBLIC OF KOREA, Ulsan (2001-2012)	2001	ICD-O-3	2003	2003	2001	2001								
KUWAIT (1994-2012)	1974	ICD-O-3	2000	2000	1994	1994								
LEBANON (2008-2010)	2003	ICD-O-3	2008	2008										
PAKISTAN, Karachi (1995-2002)	1995	ICD-O-3 (ICD-O-2)	1998	1998	1995	1995								
PAKISTAN, Lahore (2008-2012)	2005	ICD-O-3	2008	2008										
PHILIPPINES, Manila (1993-2012)	1980	ICD-O-3	1998	1998	1993	1993								
PHILIPPINES, Rizal (1993-2012)	1977	ICD-O-3	1998	1998	1993	1993								
QATAR (2002-2014)	2003	ICD-O-3	2003	2003										
SAUDI ARABIA, Riyadh (1994-2012)	1994	ICD-O-3	2001	2001	1994	1994								
THAILAND, Bangkok (2001-2012)	1990	ICD-O-3	2001	2001										
THAILAND, Chiang Mai (1993-2012)	1983	ICD-O-3	2003	2003	1993	1993								
THAILAND, Chonburi (1998-2012)	1998	ICD-O-3	1998	1998										
THAILAND, Khon Kaen (1993-2012)	1985	ICD-O-3	2004	2004	1999		1993							
THAILAND, Lampang (1993-2013)	1995	ICD-O-3	2007	2007	1995	1995								
THAILAND, Songkhla (1994-2013)	1989	ICD-O-3	2001	2001	1994	1994								

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Registry (IICC-3 period)	Registry starting year	Coding system submitted	Coding system used to code neoplasms at the time of registration as reported by the registry (first year of use)											
			ICD-O-3		ICD-O-2		ICD-O-1		Morphology			Topography		
			Morphology	Topography	Morphology	Topography	Morphology	Topography	ICD-O-FTE	Motnac	Other	ICD-10	ICD-9	Other
TURKEY, paediatric (2009-2011)	2002	ICD-O-3	2009	2009										
TURKEY, Ankara (2008-2012)	2006	ICD-O-3	2008	2008										
TURKEY, Antalya (1998-2012)	1995	ICD-O-3	2003	2003	1998	1998								
TURKEY, Bursa (2004-2012)	2000	ICD-O-3	2004	2004										
TURKEY, Edirne (2004-2012)	2004	ICD-O-3	2004	2004										
TURKEY, Erzurum (2006-2012)	2006	ICD-O-3	2006	2006										
TURKEY, İzmir (1992-2012)	1992	ICD-O-3	2000	2000	1992	1992								
TURKEY, Samsun (2003-2012)	2001	ICD-O-3	2003	2003										
TURKEY, Trabzon (2003-2012)	2003	ICD-O-3	2003	2003										
VIET NAM, Ho Chi Minh City (1995-2013)	1995	ICD-O-3	1997	1997	1995	1995								
EUROPE														
AUSTRIA (1990-2012)	1970	ICD-O-3	2006	2006	2002	2002	1990	1990						
BELARUS, paediatric (1990-2014)	1999	ICD-O-3	1990	1990										
BELGIUM (2004-2013)	2004	ICD-O-3	2004	2004										
BULGARIA (1990-2013)	1952	ICD-O-3	1990									1990		
CROATIA (2001-2014)	1962	ICD-O-3			2001	2001								
CYPRUS, South-West (1998-2012)	1998	ICD-O-3	2000	2000	1998	1998								
CZECH REPUBLIC (1990-2012)	1976	ICD-O-3	2005	2005	1994	1994	1990	1990						
ESTONIA (1990-2012)	1968	ICD-O-3			1998	1998	1990	1990						
FRANCE, paediatric (2000-2012)	2000	ICD-O-3	2000	2000										
FRANCE, paediatric, haematological malignancies (1990-1999)	1990	ICD-O-3	1990	1990										
FRANCE, Bas-Rhin (1993-2011)	1975	ICD-O-3	2001	2001	1999	1999	1993	1993						
FRANCE, Calvados (1990-2012)	1978	ICD-O-3	2001	2001	1990	1990								
FRANCE, Doubs (1993-2012)	1978	ICD-O-3	2002	2002	1993	1993								
FRANCE, Gironde (2008-2012)	2008	ICD-O-3	2008	2008										
FRANCE, Haut-Rhin (1993-2012)	1988	ICD-O-3			1994	1994	1993	1993						
FRANCE, Haute-Vienne (2009-2011)	2003	ICD-O-3	2009	2009										
FRANCE, Hérault (1993-2012)	1986	ICD-O-3	2001	2001	1995	1995	1993	1993						
FRANCE, Isère (1993-2012)	1979	ICD-O-3	2001	2001	1993	1993								
FRANCE, Lille (2008-2012)	2008	ICD-O-3	2008	2008										
FRANCE, Loire-Atlantique and Vendée (1998-2012)	1998	ICD-O-3	2002	2002	1998	1998								
FRANCE, Manche (1994-2012)	1994	ICD-O-3	2002	2002	1994	1994								
FRANCE, Somme (1993-2012)	1982	ICD-O-3	2001	2001	1993	1993								
FRANCE, Tarn (1993-2012)	1982	ICD-O-3	2002	2002	1993	1993								
GERMANY, paediatric (1996-2012)	1980	ICD-O-3	1996	1996										
GERMANY, 6 Eastern states (2001-2007)	1953	ICD-O-3	2001	2001										
GERMANY, Bavaria (2002-2012)	1998	ICD-O-3	2002	2002										

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			ICD-O-3		ICD-O-2		ICD-O-1		Morphology			Topography			
			Morphology	Topography	Morphology	Topography	Morphology	Topography	ICD-O-FTE	Motnac	Other	ICD-10	ICD-9	Other	
GERMANY, Lower Saxony (2003-2012)	2000	ICD-O-3	2004	2004	2003	2003									
GERMANY, Rhineland-Palatinate (1998-2012)	1998	ICD-O-3	2012	2012	1998	1998									
GERMANY, Saarland (1994-2012)	1968	ICD-O-3	2003	2003	1996	1994	1994								
GERMANY, Schleswig-Holstein (2000-2012)	1998	ICD-O-3	2004	2004	2000	2000									
GREECE, paediatric specialized (1996-2014)	1996	ICD-O-3	2007	2007							1996 Other			1996	Other
HUNGARY, paediatric (1991-2014)	1971	ICD-O-3 (ICD-O-2)	1991	1991											
ICELAND (1990-2014)	1955	ICD-O-3	1990									1990			
IRELAND (1994-2012)	1994	ICD-O-3	2005	2005	1994	1994									
ITALY, Marche, paediatric (1998-2007)	1990	ICD-O-3	1998	1998											
ITALY, Piedmont, paediatric (1990-2011)	1965	ICD-O-3	1990	1990											
ITALY, Biella (1995-2010)	1995	ICD-O-3	1995	1995											
ITALY, Brescia (1999-2012)	1999	ICD-O-3	2007	2007	1999	1999									
ITALY, Catania, Messina and Enna (2003-2013)	2003	ICD-O-3	2003	2003											
ITALY, Catanzaro (2003-2009)	2003	ICD-O-3	2003	2003											
ITALY, Como (2003-2011)	2008	ICD-O-3	2003	2003											
ITALY, Ferrara (1991-2011)	1991	ICD-O-3	1998	1998			1991	1991							
ITALY, Friuli Venezia Giulia (1995-2010)	1995	ICD-O-3	1995	1995											
ITALY, Lecco (2003-2010)	2003	ICD-O-3	2003	2003											
ITALY, Lodi and Pavia (2003-2009)	2003	ICD-O-3	2003	2003											
ITALY, Milan (1999-2007)	1999	ICD-O-3	1999	1999											
ITALY, Modena (1990-2012)	1988	ICD-O-3	1990	1990											
ITALY, Naples South (1996-2012)	1997	ICD-O-3	2000	2000	1997	1997									
ITALY, Nuoro (2003-2012)	2003	ICD-O-3	2003	2003											
ITALY, Parma (1992-2013)	1978	ICD-O-3	1998	1998			1992	1992							
ITALY, Ragusa and Caltanissetta (1992-2012)	1981	ICD-O-3	1992	1992											
ITALY, Reggio Emilia (1996-2012)	1996	ICD-O-3	1996	1996											
ITALY, Romagna (1990-2012)	1986	ICD-O-3	2004	2004			1990	1990							
ITALY, Salerno (1997-2009)	1996	ICD-O-3	2002	2002			1997						1997		
ITALY, Sassari (1992-2011)	1992	ICD-O-3	2003	2003	1992	1992									
ITALY, Syracuse (1999-2012)	1999	ICD-O-3	1999	1999											
ITALY, Trapani (2002-2009)	2002	ICD-O-3	2002	2002											
ITALY, Trento (2001-2010)	1999	ICD-O-3					2001	2001							
ITALY, Turin (1992-2012)	1985	ICD-O-3	1992	1992											
ITALY, Umbria (1994-2011)	1994	ICD-O-3	2002	2002	1994	1994									
ITALY, Varese (1992-2012)	1976	ICD-O-3	2003	2003	1996	1996	1992	1992							
ITALY, Veneto (1992-2009)	1987	ICD-O-3			1992	1992									
LITHUANIA (2000-2012)	1957	ICD-O-3	2003		2000							2000			

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			ICD-O-3		ICD-O-2		ICD-O-1		Morphology			Topography			
			Morphology	Topography	Morphology	Topography	Morphology	Topography	ICD-O-FTE	Motnac	Other	ICD-10	ICD-9	Other	
MALTA (1994-2013)	1995	ICD-O-3	2004	2004	1994	1994									
THE NETHERLANDS (1993-2013)	1989	ICD-O-3	2001	2001	1993	1993									
NORWAY (1990-2013)	1952	ICD-O-3	2002		1993	1993				1990				1990	ICD-7
POLAND (2001-2013)	1956	ICD-O-3	2013	2013	2001	2001									
POLAND, Greater Poland (1999-2013)	1985	ICD-O-3 (ICD-O-2)	2013	2013	1999	1999									
POLAND, Kielce (1990-2013)	1988	ICD-O-3								1990		1999	1990		
POLAND, Lower Silesia (2000-2013)	1984	ICD-O-3 (ICD-O-2)	2000	2000											
POLAND, Lublin (1999-2013)	1974	ICD-O-3	2013	2013	1999	1999									
PORTUGAL, Azores (1997-2011)	1997	ICD-O-3	1997	1997											
PORTUGAL, Centre (2000-2010)	1989	ICD-O-3 (ICD-O-2)	2002	2002			2000	2000							
PORTUGAL, North (1991-2010)	1988	ICD-O-3	1997	1997				1991							
PORTUGAL, South (1998-2012)	1988	ICD-O-3	1998	1998											
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	2000	ICD-O-3	2000	2000											
RUSSIAN FEDERATION, Chelyabinsk (2008-2012)	2007	ICD-O-3	2008	2008											
RUSSIAN FEDERATION, Samara (1998-2015)	2003	ICD-O-2 + ICD-10			2003	2003									
SLOVAKIA (1990-2009)	1976	ICD-O-3	2007	2007	2000	2000	1990	1990							
SLOVAKIA, paediatric (2000-2012)	2000	ICD-O-3	2000	2000											
SLOVENIA (1991-2012)	1950	ICD-O-3	2001		1991							1997		1991	ICD-8
SPAIN, selected regions, paediatric (2000-2013)	1990	ICD-O-3	2012	2012	2000	2000									
SPAIN, Valencia, paediatric (1991-2010)	1985	ICD-O-3	1991	1991											
SPAIN, Albacete (1991-2010)	1991	ICD-O-3	1991	1991											
SPAIN, Asturias (1992-2010)	1982	ICD-O-3	2001	2001	1992	1992									
SPAIN, Basque Country (1990-2012)	1986	ICD-O-3	2003	2003	1995	1995	1990	1990							
SPAIN, Canary Islands (1993-2011)	1993	ICD-O-3	2003	2003	1993	1993									
SPAIN, Cuenca (1993-2012)	1993	ICD-O-3	2003	2003	1993	1993									
SPAIN, Girona (1990-2013)	1980	ICD-O-3	1998	2000	1993		1990	1990							
SPAIN, Granada (1992-2013)	1985	ICD-O-3	1998	1998	1992	1992									
SPAIN, Mallorca (1990-2012)	1988	ICD-O-3	2000	2000			1990	1990							
SPAIN, Murcia (1991-2009)	1982	ICD-O-3	2002	2002	1996	1996	1991	1991							
SPAIN, Navarra (1990-2010)	1970	ICD-O-3	2003	2003	1993	1993	1990						1990		
SPAIN, Tarragona (1990-2011)	1980	ICD-O-3	1998	1998	1993		1990	1990							
SWEDEN (1990-2011)	1958	ICD-O-3	2005	2005	1993	1993					1990 Other		1990		
SWITZERLAND, paediatric (1990-2013)	1976	ICD-O-3	1990	1990											
SWITZERLAND, Fribourg (2006-2013)	2006	ICD-O-3	2006	2006											
SWITZERLAND, Geneva (1993-2013)	1970	ICD-O-3	2003	2003	1993	1993									
SWITZERLAND, Neuchâtel (1993-2013)	1974	ICD-O-3	2005	2005			1993	1993							
SWITZERLAND, Ticino (1996-2012)	1996	ICD-O-3	2003	2003	1996	1996									

Table A.10. Coding systems used by the contributing cancer registries during the period covered in IICC-3

Registry (IICC-3 period)	Registry starting year	Coding system submitted	Coding system used to code neoplasms at the time of registration as reported by the registry (first year of use)												
			ICD-O-3		ICD-O-2		ICD-O-1		Morphology			Topography			
			Morphology	Topography	Morphology	Topography	Morphology	Topography	ICD-O-FTE	Motnac	Other	ICD-10	ICD-9	Other	
SWITZERLAND, Valais (1990-2012)	1989	ICD-O-3	2003	2003	1995	1995	1990	1990							
SWITZERLAND, Vaud (1993-2012)	1974	ICD-O-3	2005	2005			1993	1993							
SWITZERLAND, Zurich (1993-2013)	1980	ICD-O-3	2003	2003			1993	1993							
UKRAINE (2002-2012)	2002	ICD-O-3									2002 Other			2002	Other
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	1962	ICD-O-3	1991	1991											
UNITED KINGDOM, England (1990-2013)	1945	ICD-O-3	2010	2010	1990							1990			
UNITED KINGDOM, Northern Ireland (1993-2013)	1993	ICD-O-3	2006	2006	1993	1993									
UNITED KINGDOM, Scotland (1991-2013)	1958	ICD-O-3	2006	2006	1997	1997	1991						1991		
UNITED KINGDOM, Wales (2000-2011)	1974	ICD-O-3	2000	2000											
OCEANIA															
AUSTRALIA, Australian Capital Territory (1992-2012)	1982	ICD-O-3	2003	2003	1999	1999							1992		
AUSTRALIA, New South Wales (1992-2012)	1972	ICD-O-3	2003	2003	2002	2002	1999	1999					1992		
AUSTRALIA, Northern Territory (1992-2012)	1981	ICD-O-3	1992	1992											
AUSTRALIA, Queensland (1992-2013)	1982	ICD-O-3	1992	1992											
AUSTRALIA, South Australia (1992-2012)	1977	ICD-O-3	2008	2008							1992 SNOMED		1992		
AUSTRALIA, Tasmania (1992-2013)	1977	ICD-O-3	2003	2003							1992 SNOMED		1992		
AUSTRALIA, Victoria (1992-2014)	1982	ICD-O-3	2003	2003	1992	2000							1992		
AUSTRALIA, Western Australia (1992-2014)	1982	ICD-O-3	1992	1992											
FRANCE, French Polynesia (1990-2011)	1985	ICD-O-3	2002	2002	1999	1999	1990	1990							
FRANCE, New Caledonia (1990-2013)	1977	ICD-O-3	1990	1990											
NEW ZEALAND (1993-2012)	1948	ICD-O-3 (ICD-O-2)	2003	2003	1993	1993									
NEW ZEALAND, paediatric (2000-2012)	2000	ICD-O-3 (ICD-O-2)	2000	2000											

Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

IICC-3, International Incidence of Childhood Cancer, volume 3.

Datasets listed are those with a sufficient number of cases and selected for the printed publication (see Table A.12). The data for race or ethnic groups in individual US states are available online.

The tabulated characteristics are defined in Chapter 4, Tables 4.2, 4.3, 4.4 and 4.5. The colour code of the tabulated values is explained in Chapter 4, Figure 4.1. Age is given in years. — not applicable.

Ca., carcinoma; Ca-Sa., carcinosarcoma; CLL, chronic lymphoid leukaemia; MM, multiple myeloma; Nb., neuroblastoma; NOS, unspecified; PE, polyembryoma; Sa., sarcoma; STS, soft tissue sarcoma.

API, Asian Pacific Islander; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results.

[a] The indicators refer only to haematological malignancies; [b] the indicators refer only to haematological malignancies (HM) in period 1996-2014 and central nervous system (CNS) tumours in period 2010-2015.

[x] Where 0 or 100 are shown without decimals, no case or all cases respectively were in a given category, while 0.0 or 100.0 indicate that the percentage corresponding to the observed number of cases differed by less than 0.05 from the shown values. + applicable; — not reported for pooled datasets; % refers to the total number of included cases, unless specified otherwise.

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain		All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
				Ca.	Nb.												
AFRICA																	
ALGERIA, 5 registries (1996-2014)	1 658	2 640	1.2	0.1	1.5	1.7	0	5.6	0	0	0	0	0	0	0.3	0.1	0
ALGERIA, Algiers (2008-2012)	575	824	1.3	0.1	3.9	2.4	0.1	2.8	0	0	0	0.1	0.1	0	0.2	0.1	0
ALGERIA, Annaba (2000-2010)	185	271	0.4	0	0	2.6	0	0.7	0	0	0	0	0	0	0.7	0	0
ALGERIA, Batna (2008-2012)	127	211	0.5	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	0
ALGERIA, Sétif (1996-2014)	552	992	1.3	0.1	0.6	1.4	0	**10.7**	0	0	0	0	0	0	0.2	0	0.1
ALGERIA, Tlemcen (2006-2014)	219	342	1.5	0	0.6	1.5	0	5.0	0	0	0	0	0	0	0	0	0
BOTSWANA (1999-2007)	312	450	0.2	0	0.9	1.1	0	0.4	0	0	0	0	0	0	0.4	0	0
CAMEROON, Yaoundé (2004-2006)	298	373	0.8	0	0	1.1	0	**20.1**	0	0	0	0	0	0	0.3	0.3	0
EGYPT, Gharbiah (1999-2010)	1 812	2 597	0.5	0	0	0.9	0	1.5	0	0	0	0	0	0	0	0	0
FRANCE, Réunion (1990-2011)	459	657	0.3	0	0	1.8	0.2	1.1	0	0	0.3	0.2	0	0	0.2	0.2	0
KENYA, 2 registries (2000-2012)	1 165	1 620	0.6	0	0.5	1.5	0.1	3.6	0	0	0	0.1	0.1	0	0.1	0.1	0
KENYA, Eldoret (2000-2011)	514	721	1.0	0	0.8	1.4	0	5.7	0	0	0	0.1	0.3	0	0	0	0
KENYA, Nairobi (2006-2012)	651	899	0.2	0	0.2	1.6	0.2	1.9	0	0	0	0	0	0	0.1	0.1	0
LIBYA, Benghazi (2003-2008)	318	420	**9.8**	0.7	0	3.6	**0.7**	3.1	0	0	0	0.2	0	0	0	0	0
MALI, Bamako (2005-2014)	1 158	1 470	4.2	0	0.1	2.5	0.1	7.1	0	0	0	0	0.1	0	0.3	0.1	0
MAURITIUS (2001-2013)	369	551	0.5	0	0	0	0	2.2	0	0	0	0	0	0	0.4	0.4	0.2
MOROCCO, 2 registries (2005-2012)	1 146	1 688	2.9	0.1	0.4	2.9	**0.7**	1.6	0.1	0	0	0	0	0	0.2	0.2	0
MOROCCO, Casablanca (2005-2012)	996	1 496	3.2	0.1	0.5	3.1	**0.7**	0.9	0.1	0	0	0	0	0	0.3	0.2	0
MOROCCO, Rabat (2005-2012)	150	192	0.5	0	0	1.0	0	7.3	0	0	0	0	0	0	0	0	0
SOUTH AFRICA, paediatric (1998-2012)	9 694	—	0	0	0	1.7	0	0.1	0	0	0	0	0	0	0	0	0
SOUTH AFRICA, paediatric, Asian (1998-2012)	285	—	0	0	0	0.7	0	0	0	0	0.4	0	0	0	0	0	0
SOUTH AFRICA, paediatric, Black (1998-2012)	6 984	—	0	0	0	2.1	0	0.1	0	0	0	0	0	0	0	0	0
SOUTH AFRICA, paediatric, Coloured (1998-2012)	1 302	—	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0.1
SOUTH AFRICA, paediatric, White (1998-2012)	1 122	—	0.1	0	0	1.1	0	0	0	0	0	0	0	0	0	0	0
TUNISIA, 2 registries (1993-2007)	1 830	2 712	0.1	0	0	0.7	0	1.0	0	0	0.1	0	0	0	0	0	0

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
TUNISIA, North (1994-2006)	1 591	2 362	0	0	0	0.7	0	1.1	0	0	0.1	0	0	0	0	0	0
TUNISIA, Sousse (1993-2007)	239	350	0.3	0	0	0.9	0	0.6	0	0	0	0	0	0	0	0	0
UGANDA, Kyadondo (1996-2013)	1 877	2 494	0.1	0	0.2	1.4	0	8.1	0.2	0	0	0	0.1	0	0.1	0	0
ZIMBABWE, Harare, African (1995-2013)	1 082	1 454	0.1	0	0.1	1.7	0	1.7	0.2	0	0	0	0	0	0.1	0	0
AMERICA, LATIN AND THE CARIBBEAN																	
ARGENTINA, paediatric (2000-2013)	18 067	—	0.4	0	0	1.0	0	0.7	0	0	0	0	0	0	0	0	0
ARGENTINA, 6 registries (1991-2013)	2 951	4 071	0.2	0	0.3	0.8	0	2.9	0	0	0	0	0	0	0	0	0.3
ARGENTINA, Bahía Blanca (1991-2007)	194	273	0.4	0	1.1	1.5	0.4	**16.8**	0	0	0	0	0	0	0.4	0	0.4
ARGENTINA, Chaco (2002-2012)	473	618	0.3	0.2	0	1.5	0.2	4.9	0	0	0	0.2	0	0	0	0	0
ARGENTINA, Córdoba (2004-2012)	1 010	1 402	0.2	0	0.1	0.6	0	0.5	0.1	0	0	0	0	0	0	0	0.5
ARGENTINA, Entre Ríos (2001-2011)	409	555	0.2	0	1.3	0.7	0	1.8	0	0.2	0	0	0	0	0	0	0
ARGENTINA, Mendoza (2003-2012)	597	893	0	0	0.1	0.4	0	0.8	0	0	0	0	0	0	0.1	0	0.3
ARGENTINA, Neuquén (2003-2013)	268	330	0	0	0	1.2	0	6.1	0	0	0	0	0	0	0	0	0
BRAZIL, 5 registries (1995-2012)	2 603	3 858	0.3	0.1	0.2	1.0	0	4.6	0	0	0.1	0	0	0	0.1	0	0
BRAZIL, Aracaju (1996-2012)	269	414	0	0	0	0.7	0	1.4	0	0	0	0	0	0	0	0	0
BRAZIL, Belo Horizonte (2000-2006)	516	771	0.1	0	0	0.6	0	6.1	0	0	0.1	0	0	0	0	0	0
BRAZIL, Curitiba (1998-2010)	816	1 192	0.5	0.3	0	1.3	0.1	5.2	0.1	0	0.1	0	0	0	0	0	0.1
BRAZIL, Goiânia (1995-2011)	754	1 114	0.1	0	0.7	1.0	0	2.9	0	0	0.1	0	0	0	0.1	0	0
BRAZIL, João Pessoa (1999-2010)	248	367	0.5	0	0	1.4	0	8.4	0	0	0	0	0	0	0.3	0.3	0
CHILE, paediatric (2007-2011)	2 380	—	0.1	0	0	0.8	0	1.8	0	0	0.1	0	0	0	0	0	0
CHILE, 4 registries (1998-2012)	630	909	0	0.1	0.4	0.7	0	0.4	0	0	0	0	0	0	0.1	0	0.1
CHILE, Antofagasta (2003-2010)	140	186	0	0	1.1	1.1	0	0.5	0	0	0	0	0	0	0	0	0
CHILE, Bío Bío (2003-2012)	125	174	0	0	0.6	0.6	0	0	0	0	0	0	0	0	0.6	0	0
CHILE, Concepción (2006-2010)	171	255	0	0.4	0	0.4	0	0	0	0	0	0	0	0	0	0	0
CHILE, Valdivia (1998-2012)	194	294	0	0	0.3	0.7	0	1.0	0	0	0	0	0	0	0	0	0.3
COLOMBIA, 4 registries (1992-2013)	2 537	3 537	0.3	0	0.1	0.5	0	0.9	0	0	0.1	0	0	0	0	0	0
COLOMBIA, Bucaramanga (2000-2012)	520	725	0.3	0	0.4	0.6	0	1.7	0	0	0	0	0	0	0	0	0.1
COLOMBIA, Cali (1992-2013)	1 737	2 398	0.3	0	0	0.5	0	0.6	0	0	0.1	0	0	0	0	0	0
COLOMBIA, Pasto (1998-2012)	188	271	0	0	0.4	0.4	0	1.8	0	0	0	0	0	0	0	0	0
COSTA RICA (1993-2012)	3 112	4 555	0	0	0	0.5	0	0	0.1	0	0	0	0	0	0.1	0	0
CUBA (2000-2012)	3 411	4 741	0.1	0	0	1.9	0	1.8	0	0	0	0.1	0	0	0	0	0
ECUADOR, 5 registries (1993-2013)	3 018	4 145	0.4	0	0	0.9	0	0.7	0	0	0	0	0	0	0	0	0
ECUADOR, Cuenca (1996-2013)	328	460	0.4	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0
ECUADOR, Guayaquil (2008-2012)	566	758	0.1	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0.1

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
ECUADOR, Loja (1997-2013)	168	226	0	0	0	1.8	0	3.5	0	0	0	0	0	0	0	0	0
ECUADOR, Manabí (1995-2011)	656	850	1.3	0.1	0	0.7	0	0.7	0.2	0	0	0	0	0	0	0	0
ECUADOR, Quito (1993-2012)	1 300	1 851	0.1	0	0	1.0	0	0.9	0	0	0.1	0.1	0	0	0.1	0.1	0
FRANCE, 3 registries (1990-2012)	343	493	0.6	0	0	1.2	0	2.4	0.2	0	0	0	0	0	0	0	0.6
FRANCE, French Guiana (2003-2012)	101	149	0	0	0	1.3	0	2.0	0	0	0	0	0	0	0	0	0.7
FRANCE, Martinique (1990-2012)	187	275	1.1	0	0	1.5	0	2.5	0.4	0	0	0	0	0	0	0	0.7
HONDURAS, Francisco Morazán (2002-2012)	488	676	0.1	0	0	1.9	0	1.0	0	0.1	0	0	0	0	0	0	0
JAMAICA, Kingston and St Andrew (1982-2012)	433	616	0.2	0	0	1.0	0	1.3	0	0	0.2	0.3	0	0	0.2	0.2	0
MEXICO, Mexico City, paediatric (1997-2013)	1 560	—	1.0	0	0	0.8	0	0.6	0	0	0.1	0	0	0	0.1	0	0
PERU, Lima (2010-2012)	1 052	1 498	0	0	0.1	0.3	0	3.4	0	0.1	0.1	0	0	0	0	0	0
PERU, Trujillo (1990-2002)	252	348	0.9	0	0	0.9	0.3	1.7	0	0	0	0	0	0	0	0	0
USA, Puerto Rico (1992-2012)	2 188	3 218	1.6	0	0.2	0.7	0	4.5	0.1	0	0	0	0	0	0.2	0.2	0.1
URUGUAY (1993-2012)	2 114	2 930	0.2	0.1	0	0.9	0	6.6	0	0	0.1	0.1	0	0	0	0	1.1
AMERICA, NORTH																	
CANADA, 9 registries (1992-2013)	18 309	27 396	1.4	0	0.1	0.7	0.1	6.2	0	0	0.1	0	0	0	0	0	0.2
CANADA, Alberta (1992-2013)	2 203	3 329	1.1	0	0	0.8	0	1.4	0	0	0.1	0	0	0	0	0	0.3
CANADA, British Columbia (1992-2013)	2 398	3 503	1.2	0	0	0.7	0	2.9	0	0	0.1	0	0	0	0	0	0.3
CANADA, Manitoba (1992-2013)	778	1 199	0.7	0	0	0.3	0	2.0	0	0	0	0	0	0	0	0	0.2
CANADA, Nova Scotia (1992-2013)	566	831	1.0	0	0.1	0.7	0	3.0	0.1	0	0	0	0	0	0	0	0.4
CANADA, Ontario (1992-2012)	7 441	11 374	1.6	0	0.1	0.7	0.1	9.2	0.1	0	0.1	0	0	0	0	0	0.3
CANADA, Quebec (1992-2010)	4 160	6 039	1.6	0	0	0.7	0	6.8	0	0	0	0	0	0	0.1	0	0
CANADA, Saskatchewan (1992-2013)	722	1 066	1.0	0.1	0	0.7	0	1.4	0	0	0.1	0.1	0	0	0	0	0.4
USA (1998-2012)	146 015	216 741	1.4	0	0.1	0.7	0	2.1	0	0	0.1	0	0	0	0.1	0	0.1
USA, API (1998-2012)	5 596	7 965	1.5	0	0.1	0.6	0	1.7	0	0	0.1	0	0	0	0	0	0
USA, Black (1998-2012)	18 286	26 339	1.5	0	0.1	0.9	0.1	2.3	0	0	0.1	0	0	0	0.1	0.1	0.1
USA, Hispanic White (1998-2012)	27 854	38 677	1.3	0	0.1	0.6	0	2.3	0	0	0.1	0	0	0	0.1	0	0.1
USA, Native American (1998-2012)	1 233	1 849	1.8	0	0.1	0.6	0	2.4	0.1	0	0.1	0	0	0	0.2	0.2	0.1
USA, White NH (1998-2012)	88 962	135 752	1.4	0	0.1	0.7	0	2.0	0	0	0.1	0	0	0	0.1	0	0.2
USA, NPCR (1998-2012)	139 841	207 568	1.4	0	0.1	0.7	0	2.1	0	0	0.1	0	0	0	0.1	0	0.1
USA, NPCR, API (1998-2012)	5 097	7 247	1.5	0	0.1	0.6	0	1.8	0	0	0.1	0	0	0	0	0	0
USA, NPCR, Black (1998-2012)	18 013	25 946	1.5	0	0.2	0.9	0.1	2.3	0	0	0.1	0	0	0	0.1	0.1	0.1
USA, NPCR, Hispanic White (1998-2012)	26 803	37 198	1.3	0	0.1	0.6	0	2.3	0	0	0.1	0	0	0	0.1	0	0.1
USA, NPCR, Native American (1998-2012)	1 105	1 669	1.6	0	0.1	0.6	0	2.3	0.1	0	0.1	0	0	0	0.1	0.1	0.1
USA, NPCR, White NH (1998-2012)	84 812	129 458	1.4	0	0.1	0.7	0	2.0	0	0	0.1	0	0	0	0	0	0.2

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
USA, SEER 18 (1993-2012)	44 741	65 217	1.4	0	0.1	0.7	0	1.5	0	0	0.1	0	0	0	0.1	0	0.1
USA, SEER 18, API (1993-2012)	3 428	4 889	1.5	0	0.1	0.6	0	1.3	0	0	0.2	0	0	0	0.1	0.1	0
USA, SEER 18, Black (1993-2012)	5 070	7 104	1.7	0	0.1	0.8	0	1.6	0	0	0.2	0.1	0	0	0.1	0	0
USA, SEER 18, Hispanic White (1993-2012)	12 166	16 750	1.4	0	0.1	0.6	0	1.4	0	0	0.2	0	0	0	0.1	0	0
USA, SEER 18, Native American (1993-2012)	471	667	1.2	0	0	0.7	0	2.4	0	0	0	0	0	0	0.4	0.3	0
USA, SEER 18, White NH (1993-2012)	23 020	34 916	1.4	0	0.1	0.7	0	1.5	0	0	0.1	0	0	0	0.1	0	0.1
USA, Alabama (1998-2012)	1 960	2 881	1.9	0	0	0.8	0.2	2.1	0.1	0	0.1	0	0	0	0.1	0.1	0.3
USA, Alaska (1998-2012)	364	553	0	0	0.2	0.5	0	1.4	0	0	0.2	0	0	0	0.2	0	0
USA, Alaska Natives (1993-2012)	115	159	0	0	0	1.3	0	1.9	0	0	0	0	0	0	0.6	0	0
USA, Arizona (1998-2012)	2 994	4 341	1.2	0	0	0.6	0.1	3.1	0	0	0.2	0	0	0	0	0	0.3
USA, Arkansas (1998-2012)	1 341	1 914	1.1	0.1	0.2	0.7	0	4.6	0.1	0	0	0	0	0	0.2	0.2	0.2
USA, California (1998-2012)	18 742	27 570	1.6	0	0.1	0.6	0	1.3	0	0	0.2	0	0	0	0	0	0
USA, California, Greater California (2000-2012)	9 048	13 237	1.6	0	0.1	0.6	0	1.4	0	0	0.2	0	0	0	0.1	0	0.1
USA, California, Los Angeles (1993-2012)	6 545	9 333	1.4	0	0	0.6	0	0.7	0.1	0	0.2	0	0	0	0.1	0	0
USA, California, San Francisco (1993-2012)	2 357	3 358	1.7	0	0	0.7	0.1	1.3	0	0	0.2	0.1	0	0	0.1	0.1	0
USA, California, San José-Monterey (1993-2012)	1 633	2 363	1.7	0	0	0.6	0	0.9	0	0	0	0	0	0	0	0	0
USA, Colorado (1998-2012)	2 201	3 356	1.2	0	0	0.7	0	2.1	0	0	0.1	0	0	0	0.1	0	0.1
USA, Connecticut (1993-2012)	2 231	3 297	1.0	0	0.1	0.7	0.1	2.1	0	0	0.1	0	0	0	0.1	0	0.4
USA, Delaware (1998-2012)	465	663	1.7	0	0	0.3	0	3.2	0	0	0	0	0.2	0	0	0	0.2
USA, District of Columbia (1998-2012)	246	338	2.4	0	0.3	1.2	0	5.0	0	0	0	0.3	0	0	0	0	0.3
USA, Florida (1998-2012)	7 861	11 510	1.1	0	0.2	0.7	0	1.6	0	0	0.1	0	0	0	0.1	0	0.1
USA, Georgia (1998-2012)	4 513	6 541	1.5	0	0	0.6	0	1.9	0	0	0	0	0	0	0	0	0.1
USA, Georgia, Atlanta (1993-2012)	1 890	2 681	1.1	0	0.1	0.8	0	1.1	0	0	0.2	0	0	0	0	0	0
USA, Hawaii (1993-2012)	731	1 059	1.6	0	0.2	0.7	0	1.4	0	0	0.1	0	0	0	0	0	0.1
USA, Hawaii, Hawaiian (1993-2012)	226	317	1.9	0	0.3	0.6	0	1.3	0	0	0	0	0	0	0	0	0
USA, Idaho (1998-2012)	795	1 201	2.2	0	0.1	0.4	0	2.4	0	0	0	0	0	0	0	0	0.1
USA, Illinois (1998-2012)	6 236	9 369	1.5	0	0.1	0.7	0	1.4	0	0	0.1	0	0	0	0.1	0	0.1
USA, Indiana (1998-2012)	3 215	4 757	1.7	0	0	0.6	0	1.2	0	0	0.1	0	0	0	0	0	0.2
USA, Iowa (1993-2012)	1 937	2 869	1.4	0	0.2	0.8	0	0.8	0	0	0.1	0	0	0	0.1	0	0
USA, Kentucky (1998-2012)	2 140	3 160	1.1	0	0.1	0.7	0	3.3	0	0	0.1	0	0	0	0	0	0.1
USA, Louisiana (1998-2012)	2 145	3 162	1.3	0	0.1	0.6	0	3.1	0.1	0	0.1	0.1	0	0	0.1	0	0.1
USA, Maine (1998-2012)	634	962	1.5	0	0	0.6	0.2	1.5	0	0	0	0	0	0	0.2	0.1	0.2
USA, Massachusetts (1998-2012)	3 056	4 643	1.8	0	0.1	0.9	0	0.9	0	0	0	0.1	0	0	0	0	0
USA, Michigan (1998-2012)	5 167	7 752	1.4	0	0	1.1	0.2	1.9	0	0	0.1	0	0	0	0.1	0	0.3

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
USA, Michigan, Detroit (1993-2012)	2 553	3 772	1.9	0	0	0.7	0	1.3	0	0	0.1	0	0	0	0.1	0.1	0.1
USA, Minnesota (1998-2012)	2 532	3 872	1.9	0	0	0.7	0	0.3	0	0	0.1	0.1	0	0	0	0	0.1
USA, Mississippi (2002-2012)	976	1 435	2.0	0	0	0.9	0.1	3.4	0.2	0	0.1	0	0	0	0.3	0.2	0.1
USA, Missouri (1998-2012)	2 721	3 951	1.5	0	0	0.7	0	1.2	0	0	0.1	0	0	0	0.1	0	0.1
USA, Montana (1998-2012)	415	678	0.7	0	0	0.1	0	3.1	0.1	0	0	0	0	0	0	0	0.4
USA, Nebraska (1998-2012)	949	1 447	1.3	0	0.1	0.8	0.1	2.7	0	0	0	0.1	0.1	0	0	0	0.2
USA, Nevada (1998-2012)	1 076	1 571	1.5	0	0.1	0.4	0	2.5	0	0	0.2	0.1	0	0	0	0	0.1
USA, New Hampshire (1998-2012)	636	999	1.3	0	0.3	0.9	0	1.5	0.1	0	0.1	0	0	0	0	0	0
USA, New Jersey (1998-2012)	4 520	6 735	0.9	0	0.1	0.8	0	2.2	0.1	0	0	0	0	0	0	0	0.1
USA, New Mexico (1993-2012)	1 149	1 712	1.6	0	0.1	0.6	0	3.2	0.1	0	0.1	0	0	0	0.3	0.2	0.2
USA, New York State (1998-2012)	9 548	14 435	1.0	0	0.1	0.7	0	2.0	0	0	0.1	0	0	0	0	0	0.2
USA, North Carolina (1998-2012)	4 146	5 982	1.2	0	0.2	0.6	0.1	1.7	0	0	0.1	0	0	0	0.2	0.1	0.2
USA, North Dakota (1998-2012)	270	425	2.4	0	0	0.7	0	3.1	0	0	0.2	0	0	0	0	0	0.7
USA, Ohio (1998-2012)	5 363	7 931	1.7	0	0.2	0.5	0	1.9	0	0	0.1	0	0	0	0	0	0.1
USA, Oklahoma (1998-2012)	1 722	2 552	1.2	0	0.1	0.9	0.1	3.0	0	0	0.2	0	0	0	0	0	0.2
USA, Oregon (1998-2012)	1 817	2 758	1.7	0	0	0.4	0	1.3	0	0	0.1	0	0	0	0.1	0.1	0.1
USA, Pennsylvania (1998-2012)	5 886	9 053	1.2	0	0	0.5	0.1	1.6	0	0	0.1	0	0	0	0.1	0	0.1
USA, Rhode Island (1998-2012)	513	736	1.0	0	0.4	0.7	0	0.7	0	0	0.1	0	0	0	0	0	0.1
USA, South Carolina (1998-2012)	1 834	2 698	1.8	0	0.2	0.9	0	2.6	0.1	0	0	0	0	0	0	0	0.2
USA, South Dakota (2001-2012)	257	404	1.7	0	0	0.2	0	4.2	0	0	0.2	0	0	0	0	0	0
USA, Tennessee (1999-2012)	2 664	3 901	1.6	0	0.1	0.7	0	2.2	0	0	0.1	0.1	0	0	0.1	0.1	0.1
USA, Texas (1998-2012)	13 808	19 914	1.2	0	0.1	0.7	0.1	3.7	0.1	0	0.1	0	0	0	0	0	0.2
USA, Utah (1993-2012)	1 965	2 917	2.3	0	0.1	0.5	0	1.2	0.1	0	0	0	0	0	0.1	0	0
USA, Vermont (1998-2012)	268	448	3.1	0	0	0.7	0	2.0	0	0	0	0	0	0	0	0	0
USA, Virginia (1998-2012)	3 248	4 727	1.4	0	0.1	0.6	0	2.5	0	0	0	0	0	0	0.1	0	0.1
USA, Washington State (1998-2012)	3 222	4 910	1.1	0	0	0.4	0	2.1	0	0	0.1	0	0	0	0	0	0.1
USA, Washington, Seattle (1993-2012)	2 681	3 956	1.2	0	0	0.4	0	1.4	0	0	0.1	0	0	0	0	0	0.2
USA, West Virginia (1998-2012)	754	1 157	1.6	0	0	0.9	0	2.4	0	0	0	0	0.1	0	0.1	0.1	0.3
USA, Wisconsin (1998-2012)	2 705	4 197	1.1	0	0.1	0.9	0.1	1.5	0.1	0	0.1	0	0	0	0.1	0	0.2
USA, Wyoming (1998-2012)	225	341	1.5	0	0	0.6	0	5.3	0	0	0.3	0	0	0	0.3	0.3	0.3
ASIA																	
BAHRAIN (1998-2012)	366	481	0	0	0	0.8	0	1.5	0	0	0	0	0.2	0	0.2	0	0.4
CHINA, 6 registries (1990-2013)	7 064	11 188	1.0	0.1	0.1	0.6	0	3.2	0	0	0	0	0	0	0	0	0
CHINA, Beijing (2000-2013)	1 982	3 161	0.2	0	0.1	0.5	0	0.2	0	0	0	0	0	0	0	0	0

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
CHINA, Dalian (2003-2012)	280	453	0.7	0	0	0.4	0	1.1	0	0	0	0.4	0	0	0.2	0.2	0
CHINA, Guangzhou (2010-2012)	484	768	1.0	0	0	0.7	0	0.1	0	0	0	0	0	0	0	0	0
CHINA, Hong Kong (1990-2013)	3 397	5 105	1.7	0	0.1	0.8	0	0	0	0	0.1	0	0	0	0.1	0	0
CHINA, Shanghai (2002-2012)	635	1 278	1.0	0.5	0	0.2	0.2	6.2	0	0	0.1	0	0	0	0	0	0
CHINA, Zhongshan (2003-2012)	314	495	1.2	0.2	0	0.2	0	6.1	0	0	0	0	0.2	0	0	0	0
INDIA, 7 registries (1990-2013)	16 240	22 670	0.5	0	0.6	1.4	0	0.7	0.1	0	0	0	0	0	0.1	0	0
INDIA, Bangalore (1993-2011)	2 164	2 954	1.3	0	0.2	1.1	0	1.9	0.1	0	0	0	0	0	0.2	0.1	0
INDIA, Chennai (1993-2013)	2 531	3 464	0.2	0	0.1	1.3	0	1.0	0.1	0	0	0	0.1	0	0	0	0
INDIA, Kollam (2006-2012)	393	586	0.2	0	0	1.0	0	1.7	0	0	0	0	0.2	0	0	0	0
INDIA, Mumbai (1993-2012)	5 219	7 300	0.6	0.1	0.6	1.9	0	0.1	0.1	0	0	0	0.1	0	0	0	0.1
INDIA, Nagpur (1990-2012)	1 403	2 071	0.8	0.3	1.6	2.9	0.1	0.5	0.1	0	0	0	0	0	0.3	0.1	0
INDIA, New Delhi (2003-2010)	4 320	5 981	0.1	0	0.8	0.5	0	0.6	0	0	0	0	0	0	0	0	0
INDIA, Trivandrum (2005-2012)	210	314	0	0	0	1.3	0	0.6	0	0	0	0	0	0	0	0	0
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	360	618	0	0	0	0.8	0	0	2.4	0	0	0	0	0	0	0	0.2
ISRAEL (1990-2012)	6 229	9 022	1.2	0	0.2	0.7	0	2.5	0.1	0	0	0	0	0	0.1	0	0
ISRAEL, Jews (1990-2012)	4 636	6 886	1.2	0	0.1	0.7	0	2.5	0.1	0	0	0	0	0	0.1	0	0
ISRAEL, Non-Jews (1990-2012)	1 593	2 136	1.2	0	0.2	0.6	0	2.5	0.1	0	0	0	0	0	0	0	0
JAPAN, 8 registries (1990-2013)	7 755	10 565	0.7	0	0	0.7	0	1.1	0	0	0.1	0	0	0	0	0	0
JAPAN, Aichi (2008-2012)	627	844	1.7	0	0	0.6	0	1.7	0	0	0.1	0	0	0	0.1	0.1	0.2
JAPAN, Hiroshima (1990-2012)	565	824	1.6	0	0.2	0.8	0	3.2	0	0	0	0	0	0	0	0	0
JAPAN, Miyagi (1990-2010)	950	1 334	0.3	0	0	0.4	0	0.1	0	0	0.1	0	0	0	0.1	0	0
JAPAN, Nagasaki (1993-2012)	567	823	0.9	0	0.1	0.6	0	3.2	0	0	0	0	0	0	0.1	0	0
JAPAN, Niigata (2003-2012)	399	563	1.4	0	0	0.9	0	0	0	0	0	0	0	0	0	0	0.2
JAPAN, Osaka (1990-2012)	3 971	5 193	0.4	0	0	0.7	0	0.6	0	0	0.1	0	0	0	0	0	0
JAPAN, Tochigi (2005-2012)	271	378	1.3	0	0	0.5	0	1.3	0	0	0	0	0	0	0	0	0
JAPAN, Yamagata (1990-2013)	405	606	0.3	0	0	1.3	0	1.8	0	0	0	0.2	0.2	0	0.2	0.2	0
JORDAN, Jordanians (2000-2012)	2 698	3 757	0.3	0	0.4	1.1	0	0.7	0	0	0.1	0	0	0	0	0	0.2
REPUBLIC OF KOREA (1999-2012)	16 312	24 079	0.9	0	0.1	0.7	0	1.1	0	0	0	0	0	0	0.1	0	0
REPUBLIC OF KOREA, Busan (1999-2012)	1 004	1 586	0.8	0	0	0.6	0	1.3	0	0	0	0	0	0	0.1	0	0.1
REPUBLIC OF KOREA, Daegu (1999-2012)	850	1 304	0.5	0	0.2	0.6	0	1.2	0	0	0.1	0	0	0	0	0	0.1
REPUBLIC OF KOREA, Daejeon (1999-2012)	511	755	0.3	0	0.1	1.2	0	1.5	0	0	0	0	0	0	0.1	0.1	0
REPUBLIC OF KOREA, Gwangju (1997-2012)	714	1 027	0.4	0	0	0.7	0	0.6	0	0	0	0	0	0	0	0	0.1
REPUBLIC OF KOREA, Incheon (1998-2012)	1 061	1 558	0.8	0	0.1	0.8	0	1.2	0	0	0.1	0.1	0.1	0	0.1	0	0.1
REPUBLIC OF KOREA, Jejudo (2000-2012)	204	292	1.4	0	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
REPUBLIC OF KOREA, Seoul (1995-2012)	4 182	6 274	1.1	0	0	0.7	0	1.1	0	0	0	0.1	0	0	0.1	0	0.1
REPUBLIC OF KOREA, Ulsan (2001-2012)	340	491	1.0	0	0.2	0.4	0	0.4	0	0	0	0	0	0	0	0	0.2
KUWAIT (1994-2012)	1 360	1 798	**55.9**	0.5	0.3	**9.1**	0.2	0.9	0	0	0	0	0	0	0.1	0.1	0
KUWAIT, Kuwaitis (1994-2012)	797	1 070	**56.8**	0.5	0.5	**9.1**	0.3	1.1	0	0	0	0	0	0	0	0	0
KUWAIT, Non-Kuwaitis (1994-2012)	563	728	**54.5**	0.5	0.1	**9.1**	0	0.5	0	0	0	0	0	0	0.3	0.3	0
LEBANON (2008-2010)	505	765	0.1	0	0	0.7	0	0.1	0	0	0	0	0.3	0	0.1	0	0.4
PAKISTAN, Karachi (1995-2002)	545	840	0.8	0.1	0.1	0.7	0	3.3	0	0	0	0	0	0	0.1	0	0
PAKISTAN, Lahore (2008-2012)	1 406	1 891	0.1	0	0	1.2	0	2.8	0.1	0	0.1	0	0	0	0	0	0.1
PHILIPPINES, 2 registries (1993-2012)	8 826	12 052	0.1	0	0.2	1.3	0	3.4	0	0	0	0	0	0	0	0	0
PHILIPPINES, Manila (1993-2012)	4 393	6 039	0	0	0	1.4	0	3.6	0	0	0	0	0	0	0	0	0
PHILIPPINES, Rizal (1993-2012)	4 433	6 013	0.1	0.1	0.4	1.3	0.1	3.2	0	0	0	0	0	0	0.1	0	0
QATAR (2002-2014)	301	430	1.9	0.2	0	0.5	0	2.3	0	0	0	0	0	0	0	0	0.2
SAUDI ARABIA, Riyadh (1994-2012)	3 921	5 317	0.8	0	0.1	1.2	0	1.0	0	0	0	0	0	0	0	0	0
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	3 167	4 347	0.8	0	0.1	1.1	0	0.9	0	0	0	0	0	0	0	0	0
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	754	970	0.7	0	0.1	1.4	0	1.3	0	0	0.1	0	0	0	0	0	0
THAILAND, 6 registries (1993-2013)	4 260	6 155	0.5	0	0.1	1.4	0.1	0.2	0	0	0.1	0	0	0	0	0	0.1
THAILAND, Bangkok (2001-2012)	1 444	2 125	0.8	0.1	0.3	3.0	0.3	0.1	0	0	0.2	0	0	0	0	0	0
THAILAND, Chiang Mai (1993-2012)	666	958	0.2	0	0	0.6	0.1	0.5	0	0.1	0	0.1	0	0	0	0	0.1
THAILAND, Chonburi (1998-2012)	491	694	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0
THAILAND, Khon Kaen (1993-2012)	732	994	0.7	0	0	0.9	0	0	0	0	0	0	0	0	0	0	0
THAILAND, Lampang (1993-2013)	318	492	0	0	0	0.6	0.2	0	0	0	0	0	0	0	0	0	0.6
THAILAND, Songkhla (1994-2013)	609	892	0.3	0	0	0.7	0	0.4	0	0	0	0	0	0	0	0	0
TURKEY, paediatric (2009-2011)	5 251	—	0.2	0	0	1.1	0	1.2	0	0	0	0	0	0	0	0	0
TURKEY, 8 registries (1992-2012)	6 000	8 663	0.1	0	0	0.8	0	0.6	0	0	0	0	0	0	0	0	0.2
TURKEY, Ankara (2008-2012)	910	1 362	0	0	0	1.3	0	0	0.1	0	0	0.1	0.1	0	0	0	0
TURKEY, Antalya (1998-2012)	946	1 293	0.2	0	0.1	0.9	0	0.7	0	0	0	0	0.1	0	0	0	0.2
TURKEY, Bursa (2004-2012)	679	958	0.1	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.3
TURKEY, Erzurum (2006-2012)	248	370	0	0	0	0.5	0	2.4	0	0	0.3	0.3	0	0	0.3	0	**1.4**
TURKEY, İzmir (1992-2012)	2 414	3 534	0.2	0	0	0.6	0	0.8	0	0	0	0.1	0	0	0.1	0	0.1
TURKEY, Samsun (2003-2012)	468	624	0	0	0.2	0.8	0	0	0	0	0.2	0	0	0	0	0	0.2
TURKEY, Trabzon (2003-2012)	247	389	0	0	0	1.0	0	0.5	0	0	0	0	0	0	0	0	0.8
VIET NAM, Ho Chi Minh City (1995-2013)	2 718	3 552	0.1	0	0.2	1.2	0	0.6	0	0	0	0	0	0	0.2	0.1	0

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
EUROPE																	
AUSTRIA (1990-2012)	4 578	6 848	0.5	0	0	0.7	0	2.1	0.2	0	0.1	0	0	0	0.1	0	0
BELARUS, paediatric (1990-2014)	6 863	10 294	0.2	0	0	0.6	0	0.3	0	0	0.1	0	0	0	0.1	0.1	0
BELGIUM (2004-2013)	3 426	5 201	0.2	0	0	0.7	0	0.2	0	0	0.1	0	0	0	0	0	3.5
BULGARIA (1990-2013)	3 533	5 274	0.1	0	0	0.9	0	1.5	0	0	0	0.1	0	0	0	0	0
CROATIA (2001-2014)	1 738	2 572	0	0	0	0.2	0	1.4	0	0	0	0	0	0	0	0	0
CYPRUS, South-West (1998-2012)	360	615	0.3	0	0	0.7	0	1.6	0	0	0.3	0	0	0	0	0	0
CZECH REPUBLIC (1990-2012)	6 301	9 642	1.6	0	0.1	1.1	0	3.7	0	0	0	0.1	0	0	0.1	0	0.6
ESTONIA (1990-2012)	819	1 239	0.2	0	0	1.6	0	0.2	0	0	0.1	0.1	0	0	0	0	0
FRANCE, paediatric (2000-2012)	22 584	—	0.5	0	0	0.7	0	1.0	0	0	0.1	0	0	0	0	0	0
FRANCE, paediatric, haematological malignancies (1990-1999) [a]	6 283	—	0	—	—	0.1	—	4.8	0	—	—	—	0	—	—	—	—
FRANCE, 13 registries (1993-2012)	4 822	7 204	0.6	0	0	0.9	0	0.4	0	0	0	0	0	0	0	0	0.4
FRANCE, Bas-Rhin (1993-2011)	589	872	0.8	0.1	0	1.3	0	1.5	0	0	0.2	0	0	0	0	0	0.6
FRANCE, Calvados (1990-2012)	404	625	0.6	0	0	0.8	0	1.0	0	0	0	0	0	0	0	0	0.2
FRANCE, Doubs (1993-2012)	298	462	0.2	0	0	0.4	0	0	0	0	0.2	0	0	0	0	0	1.9
FRANCE, Gironde (2008-2012)	208	317	0.6	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0
FRANCE, Haut-Rhin (1993-2012)	386	594	0.8	0.2	0	0.7	0	0.3	0	0	0	0	0	0	0	0	0
FRANCE, Hérault (1993-2012)	568	821	0.4	0	0	0.7	0	0.1	0	0	0	0.1	0	0	0	0	0.2
FRANCE, Isère (1993-2012)	767	1 100	0.5	0	0	1.1	0	0.3	0	0	0	0	0	0	0	0	0.2
FRANCE, Lille (2008-2012)	124	192	1.0	0	0	0.5	0	1.0	0	0	0	0	0	0	0	0	0.5
FRANCE, Loire-Atlantique and Vendée (1998-2012)	767	1 181	0.5	0	0	0.8	0	0	0	0	0	0	0	0	0.1	0	0.1
FRANCE, Manche (1994-2012)	255	370	0.3	0	0	0.8	0	0.5	0	0	0	0	0	0	0.3	0	0
FRANCE, Somme (1993-2012)	281	425	0.7	0	0	0.7	0	0	0	0	0	0.2	0	0	0	0	1.6
FRANCE, Tarn (1993-2012)	185	263	0.8	0	0	1.5	0	0	0	0	0	0	0	0	0	0	0.4
GERMANY, paediatric (1996-2012)	30 770	—	2.4	0	0	0.7	0	0.1	0	0	0	0	0	0	0	0	0
GERMANY, 6 Eastern states (2001-2007)	1 839	3 230	1.1	0	0.1	0.8	0	1.7	0.2	0	0	0	0.1	0	0	0	0.6
GERMANY, 5 Western registries (1994-2012)	7 471	11 480	0.6	0	0	0.7	0	4.1	0	0	0.1	0	0	0	0.1	0	0.5
GERMANY, Bavaria (2002-2012)	3 038	4 695	0.2	0	0	0.9	0	2.7	0	0	0.1	0	0	0	0.1	0	0.7
GERMANY, Lower Saxony (2003-2012)	1 720	2 726	0.7	0	0	0.6	0	3.3	0	0	0	0	0	0	0	0	0
GERMANY, Rhineland-Palatinate (1998-2012)	1 454	2 079	0.7	0	0	0.6	0	7.4	0	0	0	0	0	0	0.1	0	0.3
GERMANY, Saarland (1994-2012)	428	659	1.5	0.2	0	0.6	0	1.1	0	0	0	0	0	0	0	0	0
GERMANY, Schleswig-Holstein (2000-2012)	831	1 321	1.1	0	0	0.7	0	7.4	0	0	0	0	0	0	0	0	1.3
GREECE, paediatric HM (1996-2014), CNS tumours (2010-2014) [b]	2 411	—	0	0	0	0	—	0.3	0	—	—	—	0	0	—	—	—
HUNGARY, paediatric (1991-2014)	5 705	—	0.2	0	0.1	1.0	0	0.1	0	0	0	0	0	0	0	0	0.1

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
ICELAND (1990-2014)	228	376	0.8	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0
IRELAND (1994-2012)	2 473	3 781	1.2	0	0	0.5	0	1.4	0	0	0.1	0.1	0	0	0	0	0.3
ITALY, 2 paediatric registries (1998-2011)	1 610	2 414	0.3	0	0	0.3	0	1.0	0	0	0.1	0	0	0	0	0	0.1
ITALY, Marche, paediatric (1998-2007)	362	559	0.9	0	0	0	0	2.3	0	0	0	0	0	0	0	0	0
ITALY, Piedmont, paediatric (1990-2011)	2 178	—	0.1	0	0	0.5	0	0.5	0	0	0.1	0	0	0	0	0	0.1
ITALY, Piedmont, paediatric (2000-2011)	1 248	1 855	0.2	0	0	0.4	0	0.6	0	0	0.2	0	0	0	0	0	0.2
ITALY, 26 registries (1992-2013)	7 517	11 663	0.4	0	0.1	0.6	0	1.7	0.1	0	0	0	0	0	0	0	0.2
ITALY, Brescia (1999-2012)	367	559	1.4	0	0.2	0.4	0	7.0	0	0	0	0	0.2	0	0	0	0
ITALY, Catania, Messina and Enna (2003-2013)	657	1 044	0.4	0	0	0.3	0	5.7	0	0	0	0	0	0	0	0	0
ITALY, Como (2003-2011)	137	229	0.9	0	0	0	0	0.4	0	0	0	0	0	0	0	0	0
ITALY, Ferrara (1991-2011)	146	240	0	0	0	0.4	0	1.7	0	0	0	0	0	0	0.4	0	0
ITALY, Friuli Venezia Giulia (1995-2010)	397	620	0.6	0	0.5	1.1	0	1.1	0.6	0	0	0	0	0	0.2	0	0
ITALY, Lodi and Pavia (2003-2009)	120	187	0.5	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0
ITALY, Milan (1999-2007)	246	356	0.3	0	0	0.3	0.3	0.3	0.3	0	0.3	0	0	0	0	0	0
ITALY, Modena (1990-2012)	335	503	0.2	0	0	1.4	0	0.8	0	0	0.2	0	0	0	0.2	0	0.6
ITALY, Naples South (1996-2012)	469	727	0.4	0	0	0.6	0	0.3	0	0	0	0	0	0	0	0	0.1
ITALY, Parma (1992-2013)	220	325	0.3	0	0	0	0	0.6	0.3	0	0	0	0	0	0	0	0.6
ITALY, Ragusa and Caltanissetta (1992-2012)	239	364	0.5	0	0.3	1.1	0	0.3	0	0	0.3	0	0	0	0.3	0.3	0
ITALY, Reggio Emilia (1996-2012)	207	313	0	0	0	1.0	0	0.6	0	0	0	0.3	0	0	0	0	0
ITALY, Romagna (1990-2012)	541	832	0.4	0	0	0.4	0	1.0	0.2	0	0.1	0.1	0	0	0.1	0.1	**1.1**
ITALY, Salerno (1997-2009)	428	698	0.4	0	0	1.0	0	0.3	0.1	0	0	0	0	0	0	0	0.1
ITALY, Sassari (1992-2011)	223	381	0	0	0	1.0	0	5.2	0	0	0	0	0	0	0	0	0
ITALY, Syracuse (1999-2012)	129	213	0	0	0	0	0	3.3	0	0	0	0	0	0	0	0	0
ITALY, Trento (2001-2010)	118	172	0	0	0	0.6	0	1.2	0	0	0	0	0	0	0	0	0
ITALY, Turin (1992-2012)	357	540	0.2	0	0	0.6	0	0	0	0	0	0	0	0	0	0	0.6
ITALY, Umbria (1994-2011)	402	610	0.2	0	0.2	0	0	0.5	0	0	0	0	0	0	0	0	0.3
ITALY, Varese (1992-2012)	456	672	0.4	0	0	0.1	0	0.9	0	0	0	0	0	0	0	0	0
ITALY, Veneto (1992-2009)	1 035	1 629	0.3	0	0	0.9	0	1.5	0	0	0.1	0	0	0	0	0	0.1
LITHUANIA (2000-2012)	880	1 400	0.4	0	0	1.4	0	0.2	0	0	0	0	0	0	0.1	0	0
MALTA (1994-2013)	247	352	0	0	0	0.3	0	0	0	0	0	0	0	0	0.3	0	0
THE NETHERLANDS (1993-2013)	9 227	13 816	0.6	0	0	0.6	0	0.8	0	0	0	0	0	0	0.1	0	**2.5**
NORWAY (1990-2013)	3 410	5 090	1.7	0	0.1	0.6	0	3.9	0	0	0	0	0	0	0.1	0	0.4
POLAND (2001-2013)	10 205	16 155	0	0.1	0.4	1.1	0	1.3	0	0	0	0	0	0	0	0	0.1
POLAND, Greater Poland (1999-2013)	1 311	2 057	0.2	0	0	1.1	0	0	0	0	0	0	0	0	0	0	0

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
POLAND, Kielce (1990-2013)	710	1 106	0.4	0	0	1.7	0.1	0.2	0	0	0.1	0	0	0	0.1	0	0.3
POLAND, Lower Silesia (2000-2013)	655	1 096	0.2	0	0	0.9	0	0	0	0.1	0	0	0	0	0	0	0.2
POLAND, Lublin (1999-2013)	799	1 252	0.5	0	0.1	1.0	0	0.3	0	0	0.1	0.1	0	0	0	0	0
PORTUGAL (1991-2012)	4 339	6 448	0.4	0	0	0.9	0	1.0	0.1	0	0.1	0	0	0	0	0	0.2
PORTUGAL, Azores (1997-2011)	117	198	0	0	0	2.5	0	0	0	0	0	0.5	0	0	0	0	0
PORTUGAL, Centre (2000-2010)	658	969	0.6	0	0	1.2	0.3	3.8	0	0	0	0	0	0	0	0	0.6
PORTUGAL, North (1991-2010)	1 708	2 575	0.4	0	0	0.9	0	0.2	0.1	0	0.1	0	0	0	0	0	0.3
PORTUGAL, South (1998-2012)	1 856	2 706	0.2	0	0	0.6	0	0.8	0	0	0.1	0	0	0	0	0	0
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	1 176	—	0.2	0	0	1.0	0	1.5	0	0	0.1	0	0	0	0	0	0
RUSSIAN FEDERATION, 2 registries (1998-2015)	1 545	2 285	0.6	0	0.1	1.8	0	1.9	0.1	0	0	0.1	0	0.1	0	0	0.3
RUSSIAN FEDERATION, Chelyabinsk (2008-2012)	394	539	0	0	0	1.3	0	6.1	0.2	0	0.2	0	0.2	0.4	0.2	0.2	0
RUSSIAN FEDERATION, Samara (1998-2015)	1 151	1 746	0.8	0	0.2	2.0	0	0.6	0.1	0	0	0.2	0	0	0	0	0.3
SLOVAKIA (1990-2009)	2 955	4 574	0.3	0	0.2	1.0	0	0.2	0	0	0.1	0.1	0	0	0.1	0.1	0.2
SLOVAKIA, paediatric (2000-2012)	1 626	—	0	0	0.1	0.9	0	0.5	0	0	0.1	0	0	0	0.1	0.1	0.6
SLOVENIA (1991-2012)	971	1 535	0.9	0	0	0.3	0	0.2	0	0	0.2	0.1	0	0	0.1	0.1	0.3
SPAIN, 2 paediatric registries (1991-2013)	7 497	—	0.2	0	0	0.8	0	1.4	0	0	0.1	0	0	0	0	0	0
SPAIN, selected regions, paediatric (2000-2013)	5 293	—	0.3	0	0	0.9	0	1.2	0	0	0.1	0	0	0	0	0	0
SPAIN, Valencia, paediatric (1991-2010)	2 204	—	0	0	0	0.6	0	1.9	0	0	0	0	0	0	0	0	0
SPAIN, 11 registries (1990-2013)	5 081	7 839	0.3	0	0	0.7	0	0.4	0	0	0	0	0	0	0	0	0.1
SPAIN, Albacete (1991-2010)	190	286	0.3	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0
SPAIN, Asturias (1992-2010)	350	561	0.7	0	0.2	0.5	0	0.5	0	0	0.2	0.2	0	0	0	0	0.4
SPAIN, Basque Country (1990-2012)	1 131	1 728	0.4	0.1	0	0.6	0.1	0.1	0	0	0.1	0	0	0	0	0	0.1
SPAIN, Canary Islands (1993-2011)	677	1 064	0.2	0	0	0.8	0	0.1	0	0	0	0	0	0	0.1	0.1	0
SPAIN, Cuenca (1993-2012)	96	155	0	0	0	0.6	0	0.6	0	0	0	0	0	0	0	0	0
SPAIN, Girona (1990-2013)	403	594	0.2	0	0	0.7	0	1.3	0	0	0	0	0	0	0.2	0.2	0.3
SPAIN, Granada (1992-2013)	472	753	0.4	0	0	0.4	0	0	0	0	0	0	0.1	0	0	0	0.3
SPAIN, Mallorca (1990-2012)	407	621	0	0	0	1.1	0	0.6	0	0	0	0	0	0	0	0	0
SPAIN, Murcia (1991-2009)	686	1 033	0.4	0	0	0.7	0	0.5	0.1	0	0.1	0	0	0	0	0	0
SPAIN, Navarra (1990-2010)	295	475	0.6	0	0	1.3	0	1.1	0	0	0	0.2	0	0	0	0	0
SPAIN, Tarragona (1990-2011)	374	569	0.4	0	0	0.7	0	0.4	0	0	0	0	0	0	0.2	0	0
SWEDEN (1990-2011)	5 284	7 557	1.2	0	0.1	0.8	0	1.9	0	0	0	0	0	0	0	0	0.2
SWITZERLAND, paediatric (1990-2013)	4 481	—	0.3	0	0	0.8	0	1.2	0	0	0.1	0	0	0	0	0	0.1
SWITZERLAND, 7 registries (1990-2013)	1 798	2 665	0.6	0.1	0	0.7	0	0.9	0	0	0.2	0	0	0	0.1	0	0.6
SWITZERLAND, Geneva (1993-2013)	223	345	0.6	0.3	0.3	0.9	0	1.7	0	0	0.3	0.3	0	0	0	0	2.3

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Table A.11. Internal consistency and proportion of some rare entities in the IICC-3 datasets

Dataset (IICC-3 period)	Total number of cases		Unlikely combinations (% of included cases) [x]						Rare cancers (% of included cases) [x]								
			Site-Morphology			Age-Tumour		Basis-Histology	B-cell	Embryonal		Meso-thelioma	MM	PE	Bone	STS	Carcinoid of appendix
	Age 0-14	Age 0-19	All sites	Brain Ca.	Brain Nb.	All	Ca. NOS age<1		CLL	Ca-Sa.	Sa.						
SWITZERLAND, Neuchâtel (1993-2013)	106	163	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6
SWITZERLAND, Ticino (1996-2012)	129	201	0.5	0	0	0.5	0	0	0	0	0	0	0	0	0	0	1.0
SWITZERLAND, Valais (1990-2012)	185	270	2.6	0.4	0	0.7	0	0.4	0	0	0.4	0	0	0	0	0	0
SWITZERLAND, Vaud (1993-2012)	382	520	0.2	0	0	0.6	0	0.2	0	0	0.2	0	0	0	0.2	0.2	0
SWITZERLAND, Zurich (1993-2013)	688	1 046	0.5	0	0	0.9	0	1.3	0	0	0.2	0	0.1	0	0.1	0	0.6
UKRAINE (2002-2012)	10 079	16 358	0.9	0	0	1.3	0	1.7	0.1	0	0	0.1	0	0	0.3	0.1	0.1
UNITED KINGDOM (2000-2011)	17 942	26 346	0.6	0	0	0.7	0	3.0	0	0	0.1	0	0	0	0	0	0.4
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	27 799	—	0.7	0	0	0.7	0	3.0	0	0	0.1	0	0	0	0	0	0.1
UNITED KINGDOM, England (1990-2013)	29 819	42 512	0.7	0	0	0.8	0	4.6	0	0	0.1	0	0	0	0	0	0.6
UNITED KINGDOM, Northern Ireland (1993-2013)	1 132	1 678	0.9	0	0	0.3	0	5.7	0	0	0.1	0.1	0	0	0	0	0.5
UNITED KINGDOM, Scotland (1991-2013)	2 945	4 477	0.8	0	0	0.6	0	2.5	0	0	0.1	0	0	0	0	0	0.2
UNITED KINGDOM, Wales (2000-2011)	923	1 415	1.7	0	0.1	0.9	0	**11.0**	0	0	0.1	0	0	0	0.1	0.1	0.1
OCEANIA																	
AUSTRALIA (1992-2014)	13 190	20 508	0.5	0	0	0.6	0	1.8	0	0	0	0	0	0	0	0	**1.8**
AUSTRALIA, 3 registries, Indigenous (1992-2014)	249	336	0.9	0	0	0.9	0	3.0	0	0	0.3	0	0	0	0	0	**1.8**
AUSTRALIA, Australian Capital Territory (1992-2012)	214	336	0.3	0	0	0.6	0	3.3	0	0	0	0	0	0	0	0	**5.1**
AUSTRALIA, New South Wales (1992-2012)	4 022	6 230	0.4	0	0	0.5	0	2.7	0	0	0	0	0	0	0.1	0.1	**2.1**
AUSTRALIA, Northern Territory (1992-2012)	122	182	0	0	0	0	0	1.6	0	0	0	0	0	0	0	0	0
AUSTRALIA, Queensland (1992-2013)	2 548	4 204	0.2	0	0	0.8	0	3.1	0	0	0.1	0	0	0	0	0	0.6
AUSTRALIA, Queensland, Indigenous (1992-2013)	118	156	0	0	0	1.9	0	4.5	0	0	0.6	0	0	0	0	0	**1.3**
AUSTRALIA, South Australia (1992-2012)	887	1 388	0.1	0	0	0.8	0	0.9	0	0	0.1	0	0	0	0.1	0	0.7
AUSTRALIA, Tasmania (1992-2013)	325	490	1.0	0	0.2	0.4	0	2.2	0	0	0	0	0	0	0	0	0.2
AUSTRALIA, Victoria (1992-2014)	3 450	5 179	0.6	0	0	0.5	0	0.1	0	0	0	0	0	0	0	0	**1.3**
AUSTRALIA, Western Australia (1992-2014)	1 622	2 499	1.6	0	0	0.5	0	1.4	0	0	0	0	0	0	0	0	**4.4**
FRANCE, 2 registries (1990-2013)	376	523	0	0	0	0.8	0	0.6	0	0	0	0	0	0	0	0	0.4
FRANCE, French Polynesia (1990-2011)	171	240	0	0	0	0.8	0	1.3	0	0	0	0	0	0	0	0	0
FRANCE, New Caledonia (1990-2013)	205	283	0	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0.7
NEW ZEALAND (1993-2012)	2 606	3 871	1.4	0	0.2	0.9	0	1.1	0	0	0.1	0	0	0	0.1	0	0
NEW ZEALAND, Maori (1993-2012)	570	813	1.7	0	0.1	0.7	0	0.7	0	0	0.1	0	0	0	0	0	0
NEW ZEALAND, Pacific peoples (1993-2012)	286	394	1.0	0	0	1.3	0	2.0	0	0	0.3	0	0	0	0	0	0
NEW ZEALAND, Other (1993-2012)	1 750	2 664	1.4	0	0.2	0.9	0	1.0	0	0	0.1	0	0	0	0.1	0	0
NEW ZEALAND, paediatric (2000-2012)	1 769	—	0.3	0	0	0.9	0	0.8	0	0	0.1	0	0	0	0.1	0	0
NEW ZEALAND, paediatric, Maori (2000-2012)	360	—	0.6	0	0	1.1	0	1.1	0	0	0	0	0	0	0	0	0
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	1 409	—	0.3	0	0	0.9	0	0.7	0	0	0.1	0	0	0	0.1	0	0

More datasets available online

Table A.12. Presentation of data from registries in the IICC-3 tables

IICC-3, International Incidence of Childhood Cancer, volume 3.
All datasets selected for IICC-3 are listed. Most USA datasets have contributed to more than one pool – see Chapter 6, Table 6.1.
API, Asian Pacific Islander; CNS, central nervous system; HM, haematological malignancies; NH, Non-Hispanic; NPCR, National Program of Cancer Registries; SEER, Surveillance, Epidemiology and End Results.
+ applicable; ++ two periods; — not applicable; # 15 cases or less. Age is given in years.

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
AFRICA									
ALGERIA, 5 registries (1996-2014)	1 658	2 640		+		+	+		
ALGERIA, Algiers (2008-2012)	575	824			+		+		
ALGERIA, Annaba (2000-2010)	185	271			+			+	
ALGERIA, Batna (2008-2012)	127	211			+			+	
ALGERIA, Sétif (1996-2014)	552	992			+		+		
ALGERIA, Tlemcen (2006-2014)	219	342			+		+		
BOTSWANA (1999-2007)	312	450				+	+		
CAMEROON, Yaoundé (2004-2006)	298	373				+	+		
EGYPT, Gharbiah (1999-2010)	1 812	2 597				+	+		
FRANCE, Réunion (1990-2011)	459	657				+	+		
KENYA, 2 registries (2000-2012)	1 165	1 620		+		+	+		
KENYA, Eldoret (2000-2011)	514	721			+		+		
KENYA, Nairobi (2006-2012)	651	899			+		+		
LIBYA, Benghazi (2003-2008)	318	420				+	+		
MALI, Bamako (2005-2014)	1 158	1 470				+	+		
MAURITIUS (2001-2013)	369	551				+	+		
MOROCCO, 2 registries (2005-2012)	1 146	1 688		+		+	+		
MOROCCO, Casablanca (2005-2012)	996	1 496			+		+		
MOROCCO, Rabat (2005-2012)	150	192			+			+	
SOUTH AFRICA, paediatric (1998-2012)	9 694	—	+			+	+		
SOUTH AFRICA, paediatric, Asian (1998-2012)	285	—	+			+	+		
SOUTH AFRICA, paediatric, Black (1998-2012)	6 984	—	+			+	+		
SOUTH AFRICA, paediatric, Coloured (1998-2012)	1 302	—	+			+	+		
SOUTH AFRICA, paediatric, White (1998-2012)	1 122	—	+			+	+		
TUNISIA, 2 registries (1993-2007)	1 830	2 712		+		+	+		
TUNISIA, North (1994-2006)	1 591	2 362			+		+		
TUNISIA, Sousse (1993-2007)	239	350			+		+		
UGANDA, Kyadondo (1996-2013)	1 877	2 494				+	+		
ZIMBABWE, Harare, African (1995-2013)	1 082	1 454				+	+		
AMERICA, LATIN AND THE CARIBBEAN									
ARGENTINA, paediatric (2000-2013)	18 067	—	+			+	+		
ARGENTINA, 6 registries (1991-2013)	2 951	4 071		+		+	+		
ARGENTINA, Bahía Blanca (1991-2007)	194	273			+			+	
ARGENTINA, Chaco (2002-2012)	473	618			+		+		
ARGENTINA, Córdoba (2004-2012)	1 010	1 402			+		+		
ARGENTINA, Entre Ríos (2001-2011)	409	555			+		+		
ARGENTINA, Mendoza (2003-2012)	597	893			+		+		
ARGENTINA, Neuquén (2003-2013)	268	330			+		+		
BRAZIL, 5 registries (1995-2012)	2 603	3 858		+		+	+		
BRAZIL, Aracaju (1996-2012)	269	414			+		+		
BRAZIL, Belo Horizonte (2000-2006)	516	771			+		+		
BRAZIL, Curitiba (1998-2010)	816	1 192			+		+		
BRAZIL, Goiânia (1995-2011)	754	1 114			+		+		
BRAZIL, João Pessoa (1999-2010)	248	367			+		+		
CHILE, paediatric (2007-2011)	2 380	—	+			+	+		
CHILE, 4 registries (1998-2012)	630	909		+		+	+		
CHILE, Antofagasta (2003-2010)	140	186			+			+	
CHILE, Bío Bío (2003-2012)	125	174			+			+	
CHILE, Concepción (2006-2010)	171	255			+			+	
CHILE, Valdivia (1998-2012)	194	294			+			+	
COLOMBIA, 4 registries (1992-2013)	2 537	3 537		+		+	+		
COLOMBIA, Bucaramanga (2000-2012)	520	725			+		+		
COLOMBIA, Cali (1992-2013)	1 737	2 398			+		+		
COLOMBIA, Manizales (2003-2012)	92	143			+				+
COLOMBIA, Pasto (1998-2012)	188	271			+			+	
COSTA RICA (1993-2012)	3 112	4 555				+	+		
CUBA (2000-2012)	3 411	4 741				+	+		
ECUADOR, 5 registries (1993-2013)	3 018	4 145		+		+	+		

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
ECUADOR, Cuenca (1996-2013)	328	460			+		+		
ECUADOR, Guayaquil (2008-2012)	566	758			+		+		
ECUADOR, Loja (1997-2013)	168	226			+			+	
ECUADOR, Manabí (1995-2011)	656	850			+		+		
ECUADOR, Quito (1993-2012)	1 300	1 851			+		+		
FRANCE, 3 registries (1990-2012)	343	493		+		+	+		
FRANCE, French Guiana (2003-2012)	101	149			+			+	
FRANCE, Guadeloupe (2008-2012)	55	69			+				+
FRANCE, Martinique (1990-2012)	187	275			+			+	
HONDURAS, Francisco Morazán (2002-2012)	488	676				+	+		
JAMAICA, Kingston and St Andrew (1982-2012)	433	616				+	+		
MEXICO, Mexico City, paediatric (1997-2013)	1 560	—	+			+	+		
PERU, Lima (2010-2012)	1 052	1 498				+	+		
PERU, Trujillo (1990-2002)	252	348				+	+		
USA, Puerto Rico (1992-2012)	2 188	3 218				+	+		
URUGUAY (1993-2012)	2 114	2 930				+	+		
AMERICA, NORTH									
CANADA, 9 registries (1992-2013)	18 309	27 396		+		+	+		
CANADA, Alberta (1992-2013)	2 203	3 329			+		+		
CANADA, British Columbia (1992-2013)	2 398	3 503			+		+		
CANADA, Manitoba (1992-2013)	778	1 199			+		+		
CANADA, Northwest Territories (1992-2012)	25	33			+				+
CANADA, Nova Scotia (1992-2013)	566	831			+		+		
CANADA, Ontario (1992-2012)	7 441	11 374			+		+		
CANADA, Quebec (1992-2010)	4 160	6 039			+		+		
CANADA, Saskatchewan (1992-2013)	722	1 066			+		+		
CANADA, Yukon (1992-2013)	16	22			+				+
USA (1998-2012)	146 015	216 741		+		+	+		
USA, API (1998-2012)	5 596	7 965		+	+	+	+		
USA, Black (1998-2012)	18 286	26 339		+	+	+	+		
USA, Hispanic White (1998-2012)	27 854	38 677		+	+	+	+		
USA, Native American (1998-2012)	1 233	1 849		+	+	+	+		
USA, White NH (1998-2012)	88 962	135 752		+	+	+	+		
USA, NPCR (1998-2012)	139 841	207 568		+		+	+		
USA, NPCR, API (1998-2012)	5 097	7 247		+	+		+		
USA, NPCR, Black (1998-2012)	18 013	25 946		+	+		+		
USA, NPCR, Hispanic White (1998-2012)	26 803	37 198		+	+		+		
USA, NPCR, Native American (1998-2012)	1 105	1 669		+	+		+		
USA, NPCR, White NH (1998-2012)	84 812	129 458		+	+		+		
USA, SEER 18 (1993-2012)	44 741	65 217		+		+	+		
USA, SEER 18, API (1993-2012)	3 428	4 889		+	+		+		
USA, SEER 18, Black (1993-2012)	5 070	7 104		+	+		+		
USA, SEER 18, Hispanic White (1993-2012)	12 166	16 750		+	+		+		
USA, SEER 18, Native American (1993-2012)	471	667		+	+		+		
USA, SEER 18, White NH (1993-2012)	23 020	34 916		+	+		+		
USA, SEER 9, Black (1993-2012)	2 146	2 956		+	+		+		
USA, SEER 9, White (1993-2012)	13 332	19 796		+	+		+		
USA, Alabama (1998-2012)	1 960	2 881			+		+		
USA, Alabama, API (1998-2012)	19	23			+				+
USA, Alabama, Black (1998-2012)	536	772			+		+		
USA, Alabama, Hispanic White (1998-2012)	78	90			+				+
USA, Alabama, Native American (1998-2012)	#	#			+				+
USA, Alabama, White NH (1998-2012)	1 303	1 949			+		+		
USA, Alaska (1998-2012)	364	553			+		+		
USA, Alaska, API (1998-2012)	34	43			+				+
USA, Alaska, Black (1998-2012)	#	#			+				+
USA, Alaska, Hispanic White (1998-2012)	17	19			+				+
USA, Alaska, Native American (1998-2012)	96	154			+			+	
USA, Alaska, White NH (1998-2012)	196	306			+		+		
USA, Alaska Natives (1993-2012)	115	159			+			+	
USA, Arizona (1998-2012)	2 994	4 341			+		+		
USA, Arizona, API (1998-2012)	53	72			+				+
USA, Arizona, Black (1998-2012)	97	145			+				+
USA, Arizona, Hispanic White (1998-2012)	1 038	1 427			+		+		
USA, Arizona, Native American (1998-2012)	168	249			+			+	
USA, Arizona, White NH (1998-2012)	1 449	2 220			+		+		

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
USA, Arkansas (1998-2012)	1 341	1 914			+		+		
USA, Arkansas, API (1998-2012)	#	22			+				+
USA, Arkansas, Black (1998-2012)	215	336			+		+		
USA, Arkansas, Hispanic White (1998-2012)	70	91			+				+
USA, Arkansas, Native American (1998-2012)	#	#			+				+
USA, Arkansas, White NH (1998-2012)	1 019	1 437			+		+		
USA, California (1998-2012)	18 742	27 570			+		+		
USA, California, API (1998-2012)	1 825	2 708			+		+		
USA, California, Black (1998-2012)	1 140	1 638			+		+		
USA, California, Hispanic White (1998-2012)	8 847	12 306			+		+		
USA, California, Native American (1998-2012)	69	103			+				+
USA, California, White NH (1998-2012)	6 731	10 556			+		+		
USA, California, Greater California (2000-2012)	9 048	13 237			+		+		
USA, California, Greater California, API (2000-2012)	660	973			+		+		
USA, California, Greater California, Black (2000-2012)	455	631			+		+		
USA, California, Greater California, Hispanic White (2000-2012)	4 224	5 785			+		+		
USA, California, Greater California, Native American (2000-2012)	90	142			+				+
USA, California, Greater California, White NH (2000-2012)	3 510	5 520			+		+		
USA, California, Los Angeles (1993-2012)	6 545	9 333			+		+		
USA, California, Los Angeles, API (1993-2012)	569	830			+		+		
USA, California, Los Angeles, Black (1993-2012)	539	770			+		+		
USA, California, Los Angeles, Hispanic White (1993-2012)	3 863	5 281			+		+		
USA, California, Los Angeles, Native American (1993-2012)	#	#			+				+
USA, California, Los Angeles, White NH (1993-2012)	1 500	2 336			+		+		
USA, California, San Francisco (1993-2012)	2 357	3 358			+		+		
USA, California, San Francisco, API (1993-2012)	467	670			+		+		
USA, California, San Francisco, Black (1993-2012)	233	325			+		+		
USA, California, San Francisco, Hispanic White (1993-2012)	600	832			+		+		
USA, California, San Francisco, Native American (1993-2012)	#	#			+				+
USA, California, San Francisco, White (1993-2012)	1 573	2 243			+		+		
USA, California, San Francisco, White NH (1993-2012)	973	1 411			+		+		
USA, California, San José-Monterey (1993-2012)	1 633	2 363			+		+		
USA, California, San José-Monterey, API (1993-2012)	305	434			+		+		
USA, California, San José-Monterey, Black (1993-2012)	35	54			+				+
USA, California, San José-Monterey, Hispanic White (1993-2012)	676	952			+		+		
USA, California, San José-Monterey, Native American (1993-2012)	#	#			+				+
USA, California, San José-Monterey, White NH (1993-2012)	600	889			+		+		
USA, Colorado (1998-2012)	2 201	3 356			+		+		
USA, Colorado, API (1998-2012)	58	86			+				+
USA, Colorado, Black (1998-2012)	89	127			+				+
USA, Colorado, Hispanic White (1998-2012)	593	823			+		+		
USA, Colorado, Native American (1998-2012)	18	23			+				+
USA, Colorado, White NH (1998-2012)	1 398	2 217			+		+		
USA, Connecticut (1993-2012)	2 231	3 297			+		+		
USA, Connecticut, API (1993-2012)	50	77			+				+
USA, Connecticut, Black (1993-2012)	234	333			+		+	+	
USA, Connecticut, Hispanic White (1993-2012)	345	472			+		+		
USA, Connecticut, Native American (1993-2012)	#	#			+				+
USA, Connecticut, White (1993-2012)	1 908	2 825			+		+		
USA, Connecticut, White NH (1993-2012)	1 563	2 353			+		+		
USA, Delaware (1998-2012)	465	663			+		+		
USA, Delaware, API (1998-2012)	#	#			+				+
USA, Delaware, Black (1998-2012)	116	164			+			+	
USA, Delaware, Hispanic White (1998-2012)	46	58			+				+
USA, Delaware, Native American (1998-2012)	#	-			+				+
USA, Delaware, White NH (1998-2012)	282	415			+		+		
USA, District of Columbia (1998-2012)	246	338			+		+		
USA, District of Columbia, API (1998-2012)	#	#			+				+
USA, District of Columbia, Black (1998-2012)	136	188			+			+	
USA, District of Columbia, Hispanic White (1998-2012)	21	24			+				+
USA, District of Columbia, Native American (1998-2012)	#	#			+				+
USA, District of Columbia, White NH (1998-2012)	55	80			+				+

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
USA, Florida (1998-2012)	7 861	11 510			+		+		
USA, Florida, API (1998-2012)	107	143			+			+	
USA, Florida, Black (1998-2012)	1 436	2 033			+		+		
USA, Florida, Hispanic White (1998-2012)	2 073	2 876			+		+		
USA, Florida, Native American (1998-2012)	#	18			+				+
USA, Florida, White NH (1998-2012)	4 072	6 198			+		+		
USA, Georgia (1998-2012)	4 513	6 541			+		+		
USA, Georgia, API (1998-2012)	123	163			+			+	
USA, Georgia, Black (1998-2012)	1 387	1 944			+		+		
USA, Georgia, Hispanic White (1998-2012)	378	505			+		+		
USA, Georgia, Native American (1998-2012)	#	#			+				+
USA, Georgia, White NH (1998-2012)	2 567	3 844			+		+		
USA, Georgia, Atlanta (1993-2012)	1 890	2 681			+		+		
USA, Georgia, Atlanta, API (1993-2012)	97	129			+				+
USA, Georgia, Atlanta, Black (1993-2012)	739	1 002			+		+		
USA, Georgia, Atlanta, Hispanic White (1993-2012)	216	287			+		+		
USA, Georgia, Atlanta, Native American (1993-2012)	#	#			+				+
USA, Georgia, Atlanta, White (1993-2012)	1 033	1 520			+		+		
USA, Georgia, Atlanta, White NH (1993-2012)	817	1 233			+		+		
USA, Georgia, Greater Georgia (2000-2012)	2 440	3 533			+				+
USA, Georgia, Greater Georgia, API (2000-2012)	35	43			+				+
USA, Georgia, Greater Georgia, Black (2000-2012)	619	879			+				+
USA, Georgia, Greater Georgia, Hispanic White (2000-2012)	189	251			+				+
USA, Georgia, Greater Georgia, Native American (2000-2012)	#	#			+				+
USA, Georgia, Greater Georgia, White NH (2000-2012)	1 565	2 316			+				+
USA, Georgia, Rural (1993-2012)	63	91			+				+
USA, Georgia, Rural, API (1993-2012)	#	-			+				+
USA, Georgia, Rural, Black (1993-2012)	29	39			+				+
USA, Georgia, Rural, Hispanic White (1993-2012)	#	-			+				+
USA, Georgia, Rural, Native American (1993-2012)	#	-			+				+
USA, Georgia, Rural, White NH (1993-2012)	33	51			+				+
USA, Hawaii (1993-2012)	731	1 059			+		+		
USA, Hawaii, API (1993-2012)	531	775			+		+		
USA, Hawaii, Black (1993-2012)	21	24			+				+
USA, Hawaii, Hawaiian (1993-2012)	226	317			+	+	+		
USA, Hawaii, Hispanic White (1993-2012)	17	24			+				+
USA, Hawaii, Native American (1993-2012)	#	#			+				+
USA, Hawaii, White (1993-2012)	159	235			+			+	
USA, Hawaii, White NH (1993-2012)	142	211			+			++	
USA, Idaho (1998-2012)	795	1 201			+		+		
USA, Idaho, API (1998-2012)	#	#			+				+
USA, Idaho, Black (1998-2012)	#	#			+				+
USA, Idaho, Hispanic White (1998-2012)	90	119			+				+
USA, Idaho, Native American (1998-2012)	#	#			+				+
USA, Idaho, White NH (1998-2012)	674	1 037			+		+		
USA, Illinois (1998-2012)	6 236	9 369			+		+		
USA, Illinois, API (1998-2012)	212	304			+		+		
USA, Illinois, Black (1998-2012)	896	1 322			+		+		
USA, Illinois, Hispanic White (1998-2012)	1 149	1 623			+		+		
USA, Illinois, Native American (1998-2012)	#	#			+				+
USA, Illinois, White NH (1998-2012)	3 859	5 934			+		+		
USA, Indiana (1998-2012)	3 215	4 757			+		+		
USA, Indiana, API (1998-2012)	45	55			+				+
USA, Indiana, Black (1998-2012)	291	417			+		+		
USA, Indiana, Hispanic White (1998-2012)	193	267			+			+	
USA, Indiana, Native American (1998-2012)	#	#			+				+
USA, Indiana, White NH (1998-2012)	2 629	3 938			+		+		
USA, Iowa (1993-2012)	1 937	2 869			+		+		
USA, Iowa, API (1993-2012)	33	40			+				+
USA, Iowa, Black (1993-2012)	67	96			+				+
USA, Iowa, Hispanic White (1993-2012)	118	144			+			+	
USA, Iowa, Native American (1993-2012)	#	#			+				+
USA, Iowa, White (1993-2012)	1 807	2 693			+		+		
USA, Iowa, White NH (1993-2012)	1 689	2 549			+		+		

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
USA, Kentucky (1998-2012)	2 140	3 160			+		+		
USA, Kentucky, API (1998-2012)	23	28			+				+
USA, Kentucky, Black (1998-2012)	166	245			+			++	
USA, Kentucky, Hispanic White (1998-2012)	57	78			+				+
USA, Kentucky, Native American (1998-2012)	#	#			+				+
USA, Kentucky, White NH (1998-2012)	1 817	2 695			+		+		
USA, Louisiana (1998-2012)	2 145	3 162			+		+		
USA, Louisiana, API (1998-2012)	34	54			+				+
USA, Louisiana, Black (1998-2012)	688	999			+		+		
USA, Louisiana, Hispanic White (1998-2012)	74	95			+				+
USA, Louisiana, Native American (1998-2012)	#	#			+				+
USA, Louisiana, White NH (1998-2012)	1 302	1 950			+		+		
USA, Maine (1998-2012)	634	962			+		+		
USA, Maine, API (1998-2012)	#	#			+				+
USA, Maine, Black (1998-2012)	#	#			+				+
USA, Maine, Hispanic White (1998-2012)	#	#			+				+
USA, Maine, Native American (1998-2012)	#	#			+				+
USA, Maine, White NH (1998-2012)	605	921			+		+		
USA, Massachusetts (1998-2012)	3 056	4 643			+		+		
USA, Massachusetts, API (1998-2012)	109	150			+			+	
USA, Massachusetts, Black (1998-2012)	202	302			+		+		
USA, Massachusetts, Hispanic White (1998-2012)	303	452			+		+		
USA, Massachusetts, Native American (1998-2012)	#	#			+				+
USA, Massachusetts, White NH (1998-2012)	2 363	3 606			+		+		
USA, Michigan (1998-2012)	5 167	7 752			+		+		
USA, Michigan, API (1998-2012)	69	93			+				+
USA, Michigan, Black (1998-2012)	773	1 089			+		+		
USA, Michigan, Hispanic White (1998-2012)	232	306			+		+		
USA, Michigan, Native American (1998-2012)	21	35			+				+
USA, Michigan, White NH (1998-2012)	3 894	5 937			+		+		
USA, Michigan, Detroit (1993-2012)	2 553	3 772			+		+		
USA, Michigan, Detroit, API (1993-2012)	66	92			+				+
USA, Michigan, Detroit, Black (1993-2012)	633	888			+		+		
USA, Michigan, Detroit, Hispanic White (1993-2012)	123	163			+			+	
USA, Michigan, Detroit, Native American (1993-2012)	#	#			+				+
USA, Michigan, Detroit, White (1993-2012)	1 826	2 741			+		+		
USA, Michigan, Detroit, White NH (1993-2012)	1 703	2 578			+		+		
USA, Minnesota (1998-2012)	2 532	3 872			+		+		
USA, Minnesota, API (1998-2012)	144	191			+			+	
USA, Minnesota, Black (1998-2012)	143	204			+			+	
USA, Minnesota, Hispanic White (1998-2012)	68	95			+				+
USA, Minnesota, Native American (1998-2012)	40	58			+				+
USA, Minnesota, White NH (1998-2012)	1 900	2 899			+		+		
USA, Mississippi (2002-2012)	976	1 435			+		+		
USA, Mississippi, API (2002-2012)	#	#			+				+
USA, Mississippi, Black (2002-2012)	370	540			+		+		
USA, Mississippi, Hispanic White (2002-2012)	16	22			+				+
USA, Mississippi, Native American (2002-2012)	#	#			+				+
USA, Mississippi, White NH (2002-2012)	567	837			+		+		
USA, Missouri (1998-2012)	2 721	3 951			+		+		
USA, Missouri, API (1998-2012)	38	47			+				+
USA, Missouri, Black (1998-2012)	352	515			+		+		
USA, Missouri, Hispanic White (1998-2012)	94	116			+				+
USA, Missouri, Native American (1998-2012)	#	#			+				+
USA, Missouri, White NH (1998-2012)	1 921	2 792			+		+		
USA, Montana (1998-2012)	415	678			+		+		
USA, Montana, API (1998-2012)	#	#			+				+
USA, Montana, Black (1998-2012)	#	#			+				+
USA, Montana, Hispanic White (1998-2012)	#	21			+				+
USA, Montana, Native American (1998-2012)	56	70			+				+
USA, Montana, White NH (1998-2012)	331	564			+		+		
USA, Nebraska (1998-2012)	949	1 447			+		+		
USA, Nebraska, API (1998-2012)	17	26			+				+
USA, Nebraska, Black (1998-2012)	63	85			+				+
USA, Nebraska, Hispanic White (1998-2012)	87	122			+				+
USA, Nebraska, Native American (1998-2012)	#	#			+				+
USA, Nebraska, White NH (1998-2012)	743	1 153			+		+		

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
USA, Nevada (1998-2012)	1 076	1 571			+		+		
USA, Nevada, API (1998-2012)	55	76			+				+
USA, Nevada, Black (1998-2012)	83	112			+				+
USA, Nevada, Hispanic White (1998-2012)	349	485			+		+		
USA, Nevada, Native American (1998-2012)	#	#			+				+
USA, Nevada, White NH (1998-2012)	549	835			+		+		
USA, New Hampshire (1998-2012)	636	999			+		+		
USA, New Hampshire, API (1998-2012)	#	#			+				+
USA, New Hampshire, Black (1998-2012)	#	#			+				+
USA, New Hampshire, Hispanic White (1998-2012)	24	36			+				+
USA, New Hampshire, Native American (1998-2012)	#	#			+				+
USA, New Hampshire, White NH (1998-2012)	584	922			+		+		
USA, New Jersey (1998-2012)	4 520	6 735			+		+		
USA, New Jersey, API (1998-2012)	317	411			+		+		
USA, New Jersey, Black (1998-2012)	658	916			+		+		
USA, New Jersey, Hispanic White (1998-2012)	663	971			+		+		
USA, New Jersey, Native American (1998-2012)	#	#			+				+
USA, New Jersey, White NH (1998-2012)	2 755	4 250			+		+		
USA, New Mexico (1993-2012)	1 149	1 712			+		+		
USA, New Mexico, API (1993-2012)	20	23			+				+
USA, New Mexico, Black (1993-2012)	30	39			+				+
USA, New Mexico, Hispanic White (1993-2012)	531	778			+		+		
USA, New Mexico, Native American (1993-2012)	126	182			+			+	
USA, New Mexico, White (1993-2012)	965	1 453			+		+		
USA, New Mexico, White NH (1993-2012)	434	675			+		+		
USA, New York State (1998-2012)	9 548	14 435			+		+		
USA, New York State, API (1998-2012)	598	851			+		+		
USA, New York State, Black (1998-2012)	1 589	2 336			+		+		
USA, New York State, Hispanic White (1998-2012)	1 600	2 279			+		+		
USA, New York State, Native American (1998-2012)	17	25			+				+
USA, New York State, White (1998-2012)	7 126	10 881			+		+		
USA, New York State, White NH (1998-2012)	5 526	8 602			+		+		
USA, North Carolina (1998-2012)	4 146	5 982			+		+		
USA, North Carolina, API (1998-2012)	76	96			+				+
USA, North Carolina, Black (1998-2012)	844	1 262			+		+		
USA, North Carolina, Hispanic White (1998-2012)	395	536			+		+		
USA, North Carolina, Native American (1998-2012)	36	53			+				+
USA, North Carolina, White NH (1998-2012)	2 714	3 932			+		+		
USA, North Dakota (1998-2012)	270	425			+		+		
USA, North Dakota, API (1998-2012)	#	#			+				+
USA, North Dakota, Black (1998-2012)	#	#			+				+
USA, North Dakota, Hispanic White (1998-2012)	#	#			+				+
USA, North Dakota, Native American (1998-2012)	31	42			+				+
USA, North Dakota, White NH (1998-2012)	231	372			+		+		
USA, Ohio (1998-2012)	5 363	7 931			+		+		
USA, Ohio, API (1998-2012)	64	85			+				+
USA, Ohio, Black (1998-2012)	659	959			+		+		
USA, Ohio, Hispanic White (1998-2012)	119	160			+			+	
USA, Ohio, Native American (1998-2012)	#	#			+				+
USA, Ohio, White NH (1998-2012)	4 345	6 463			+		+		
USA, Oklahoma (1998-2012)	1 722	2 552			+		+		
USA, Oklahoma, API (1998-2012)	25	41			+				+
USA, Oklahoma, Black (1998-2012)	157	230			+			+	
USA, Oklahoma, Hispanic White (1998-2012)	164	207			+			+	
USA, Oklahoma, Native American (1998-2012)	212	345			+		+		
USA, Oklahoma, White NH (1998-2012)	1 118	1 661			+		+		
USA, Oregon (1998-2012)	1 817	2 758			+		+		
USA, Oregon, API (1998-2012)	65	93			+				+
USA, Oregon, Black (1998-2012)	41	54			+				+
USA, Oregon, Hispanic White (1998-2012)	262	352			+		+		
USA, Oregon, Native American (1998-2012)	27	41			+				+
USA, Oregon, White NH (1998-2012)	1 366	2 137			+		+		

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
USA, Pennsylvania (1998-2012)	5 886	9 053			+		+		
USA, Pennsylvania, API (1998-2012)	112	158			+			+	
USA, Pennsylvania, Black (1998-2012)	729	1 053			+		+		
USA, Pennsylvania, Hispanic White (1998-2012)	205	309			+		+		
USA, Pennsylvania, Native American (1998-2012)	#	#			+				+
USA, Pennsylvania, White NH (1998-2012)	4 606	7 178			+		+		
USA, Rhode Island (1998-2012)	513	736			+		+		
USA, Rhode Island, API (1998-2012)	#	#			+				+
USA, Rhode Island, Black (1998-2012)	31	41			+				+
USA, Rhode Island, Hispanic White (1998-2012)	80	104			+				+
USA, Rhode Island, Native American (1998-2012)	#	#			+				+
USA, Rhode Island, White NH (1998-2012)	380	559			+		+		
USA, South Carolina (1998-2012)	1 834	2 698			+		+		
USA, South Carolina, API (1998-2012)	20	27			+				+
USA, South Carolina, Black (1998-2012)	510	753			+		+		
USA, South Carolina, Hispanic White (1998-2012)	85	109			+				+
USA, South Carolina, Native American (1998-2012)	#	#			+				+
USA, South Carolina, White NH (1998-2012)	1 186	1 764			+		+		
USA, South Dakota (2001-2012)	257	404			+		+		
USA, South Dakota, API (2001-2012)	#	#			+				+
USA, South Dakota, Black (2001-2012)	#	#			+				+
USA, South Dakota, Hispanic White (2001-2012)	#	#			+				+
USA, South Dakota, Native American (2001-2012)	36	50			+				+
USA, South Dakota, White NH (2001-2012)	207	337			+		+		
USA, Tennessee (1999-2012)	2 664	3 901			+		+		
USA, Tennessee, API (1999-2012)	30	42			+				+
USA, Tennessee, Black (1999-2012)	520	721			+		+		
USA, Tennessee, Hispanic White (1999-2012)	109	140			+			+	
USA, Tennessee, Native American (1999-2012)	#	#			+				+
USA, Tennessee, White NH (1999-2012)	1 931	2 897			+		+		
USA, Texas (1998-2012)	13 808	19 914			+		+		
USA, Texas, API (1998-2012)	265	384			+		+		
USA, Texas, Black (1998-2012)	1 384	1 976			+		+		
USA, Texas, Hispanic White (1998-2012)	6 131	8 467			+		+		
USA, Texas, Native American (1998-2012)	41	60			+				+
USA, Texas, White NH (1998-2012)	5 606	8 483			+		+		
USA, Utah (1993-2012)	1 965	2 917			+		+		
USA, Utah, API (1993-2012)	41	52			+				+
USA, Utah, Black (1993-2012)	21	31			+				+
USA, Utah, Hispanic White (1993-2012)	263	367			+		+		
USA, Utah, Native American (1993-2012)	26	29			+				+
USA, Utah, White (1993-2012)	1 875	2 802			+		+		
USA, Utah, White NH (1993-2012)	1 612	2 435			+		+		
USA, Vermont (1998-2012)	268	448			+		+		
USA, Vermont, API (1998-2012)	#	#			+				+
USA, Vermont, Black (1998-2012)	#	#			+				+
USA, Vermont, Hispanic White (1998-2012)	#	-			+				+
USA, Vermont, Native American (1998-2012)	#	-			+				+
USA, Vermont, White NH (1998-2012)	262	435			+		+		
USA, Virginia (1998-2012)	3 248	4 727			+		+		
USA, Virginia, API (1998-2012)	108	153			+			+	
USA, Virginia, Black (1998-2012)	571	851			+		+		
USA, Virginia, Hispanic White (1998-2012)	232	306			+		+		
USA, Virginia, Native American (1998-2012)	#	#			+				+
USA, Virginia, White NH (1998-2012)	2 183	3 189			+		+		
USA, Washington State (1998-2012)	3 222	4 910			+		+		
USA, Washington State, API (1998-2012)	192	285			+			+	
USA, Washington State, Black (1998-2012)	163	204			+			+	
USA, Washington State, Hispanic White (1998-2012)	388	537			+		+		
USA, Washington State, Native American (1998-2012)	68	106			+				+
USA, Washington State, White NH (1998-2012)	2 254	3 559			+		+		

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
USA, Washington, Seattle (1993-2012)	2 681	3 956			+		+		
USA, Washington, Seattle, API (1993-2012)	237	336			+		+		
USA, Washington, Seattle, Black (1993-2012)	168	218			+			+	
USA, Washington, Seattle, Hispanic White (1993-2012)	226	303			+		+		
USA, Washington, Seattle, Native American (1993-2012)	63	84			+				+
USA, Washington, Seattle, White (1993-2012)	2 186	3 284			+		+		
USA, Washington, Seattle, White NH (1993-2012)	1 960	2 981			+		+		
USA, West Virginia (1998-2012)	754	1 157			+		+		
USA, West Virginia, API (1998-2012)	#	#			+				+
USA, West Virginia, Black (1998-2012)	30	34			+				+
USA, West Virginia, Hispanic White (1998-2012)	#	#			+				+
USA, West Virginia, Native American (1998-2012)	#	-			+				+
USA, West Virginia, White NH (1998-2012)	711	1 100			+		+		
USA, Wisconsin (1998-2012)	2 705	4 197			+		+		
USA, Wisconsin, API (1998-2012)	85	107			+				+
USA, Wisconsin, Black (1998-2012)	196	272			+			+	
USA, Wisconsin, Hispanic White (1998-2012)	140	218			+			+	
USA, Wisconsin, Native American (1998-2012)	42	55			+				+
USA, Wisconsin, White NH (1998-2012)	2 073	3 344			+		+		
USA, Wyoming (1998-2012)	225	341			+		+		
USA, Wyoming, API (1998-2012)	#	#			+				+
USA, Wyoming, Black (1998-2012)	#	#			+				+
USA, Wyoming, Hispanic White (1998-2012)	18	23			+				+
USA, Wyoming, Native American (1998-2012)	#	#			+				+
USA, Wyoming, White NH (1998-2012)	193	294			+			+	
ASIA									
BAHRAIN (1998-2012)	366	481				+	+		
CHINA, 6 registries (1990-2013)	7 064	11 188		+		+	+		
CHINA, Beijing (2000-2013)	1 982	3 161			+		+		
CHINA, Dalian (2003-2012)	280	453			+		+		
CHINA, Guangzhou (2010-2012)	484	768			+		+		
CHINA, Hong Kong (1990-2013)	3 397	5 105			+	+	+		
CHINA, Shanghai (2002-2012)	635	1 278			+		+		
CHINA, Zhongshan (2003-2012)	314	495			+		+		
INDIA, 7 registries (1990-2013)	16 240	22 670		+		+	+		
INDIA, Bangalore (1993-2011)	2 164	2 954			+		+		
INDIA, Chennai (1993-2013)	2 531	3 464			+		+		
INDIA, Kollam (2006-2012)	393	586			+		+		
INDIA, Mumbai (1993-2012)	5 219	7 300			+		+		
INDIA, Nagpur (1990-2012)	1 403	2 071			+		+		
INDIA, New Delhi (2003-2010)	4 320	5 981			+		+		
INDIA, Trivandrum (2005-2012)	210	314			+		+		
ISLAMIC REPUBLIC OF IRAN, Golestan (2004-2011)	360	618				+	+		
ISRAEL (1990-2012)	6 229	9 022				+	+		
ISRAEL, Jews (1990-2012)	4 636	6 886				+	+		
ISRAEL, Non-Jews (1990-2012)	1 593	2 136				+	+		
JAPAN, 8 registries (1990-2013)	7 755	10 565		+		+	+		
JAPAN, Aichi (2008-2012)	627	844			+		+		
JAPAN, Hiroshima (1990-2012)	565	824			+		+		
JAPAN, Miyagi (1990-2010)	950	1 334			+		+		
JAPAN, Nagasaki (1993-2012)	567	823			+		+		
JAPAN, Niigata (2003-2012)	399	563			+		+		
JAPAN, Osaka (1990-2012)	3 971	5 193			+		+		
JAPAN, Tochigi (2005-2012)	271	378			+		+		
JAPAN, Yamagata (1990-2013)	405	606			+		+		
JORDAN, Jordanians (2000-2012)	2 698	3 757				+	+		
REPUBLIC OF KOREA (1999-2012)	16 312	24 079				+	+		
REPUBLIC OF KOREA, Busan (1999-2012)	1 004	1 586					+		
REPUBLIC OF KOREA, Daegu (1999-2012)	850	1 304					+		
REPUBLIC OF KOREA, Daejeon (1999-2012)	511	755					+		
REPUBLIC OF KOREA, Gwangju (1997-2012)	714	1 027					+		
REPUBLIC OF KOREA, Incheon (1998-2012)	1 061	1 558					+		
REPUBLIC OF KOREA, Jejudo (2000-2012)	204	292					+		
REPUBLIC OF KOREA, Seoul (1995-2012)	4 182	6 274					+		
REPUBLIC OF KOREA, Ulsan (2001-2012)	340	491					+		

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
KUWAIT (1994-2012)	1 360	1 798				+	+		
KUWAIT, Kuwaitis (1994-2012)	797	1 070				+	+		
KUWAIT, Non-Kuwaitis (1994-2012)	563	728				+	+		
LEBANON (2008-2010)	505	765				+	+		
PAKISTAN, Karachi (1995-2002)	545	840				+	+		
PAKISTAN, Lahore (2008-2012)	1 406	1 891				+	+		
PHILIPPINES, 2 registries (1993-2012)	8 826	12 052		+		+	+		
PHILIPPINES, Manila (1993-2012)	4 393	6 039			+		+		
PHILIPPINES, Rizal (1993-2012)	4 433	6 013			+		+		
QATAR (2002-2014)	301	430				+	+		
SAUDI ARABIA, Riyadh (1994-2012)	3 921	5 317				+	+		
SAUDI ARABIA, Riyadh, Saudis (1994-2012)	3 167	4 347				+	+		
SAUDI ARABIA, Riyadh, Non-Saudis (1994-2012)	754	970				+	+		
THAILAND, 6 registries (1993-2013)	4 260	6 155		+		+	+		
THAILAND, Bangkok (2001-2012)	1 444	2 125			+		+		
THAILAND, Chiang Mai (1993-2012)	666	958			+		+		
THAILAND, Chonburi (1998-2012)	491	694			+		+		
THAILAND, Khon Kaen (1993-2012)	732	994			+		+		
THAILAND, Lampang (1993-2013)	318	492			+		+		
THAILAND, Songkhla (1994-2013)	609	892			+		+		
TURKEY, paediatric (2009-2011)	5 251	—	+			+	+		
TURKEY, 8 registries (1992-2012)	6 000	8 663		+		+	+		
TURKEY, Ankara (2008-2012)	910	1 362			+		+		
TURKEY, Antalya (1998-2012)	946	1 293			+		+		
TURKEY, Bursa (2004-2012)	679	958			+		+		
TURKEY, Edirne (2004-2012)	88	133			+				+
TURKEY, Erzurum (2006-2012)	248	370			+		+		
TURKEY, İzmir (1992-2012)	2 414	3 534			+		+		
TURKEY, Samsun (2003-2012)	468	624			+		+		
TURKEY, Trabzon (2003-2012)	247	389			+		+		
VIET NAM, Ho Chi Minh City (1995-2013)	2 718	3 552				+	+		
EUROPE									
AUSTRIA (1990-2012)	4 578	6 848				+	+		
BELARUS, paediatric (1990-2014)	6 863	10 294				+	+		
BELGIUM (2004-2013)	3 426	5 201				+	+		
BULGARIA (1990-2013)	3 533	5 274				+	+		
CROATIA (2001-2014)	1 738	2 572				+	+		
CYPRUS, South-West (1998-2012)	360	615				+	+		
CZECH REPUBLIC (1990-2012)	6 301	9 642				+	+		
ESTONIA (1990-2012)	819	1 239				+	+		
FRANCE, paediatric (2000-2012)	22 584	—	+			+	+		
FRANCE, paediatric, haematological malignancies (1990-1999)	6 283	—	+			+	+		
FRANCE, 13 registries (1993-2012)	4 822	7 204		+		+	+		
FRANCE, Bas-Rhin (1993-2011)	589	872			+		+		
FRANCE, Calvados (1990-2012)	404	625			+		+		
FRANCE, Doubs (1993-2012)	298	462			+		+		
FRANCE, Gironde (2008-2012)	208	317			+		+		
FRANCE, Haut-Rhin (1993-2012)	386	594			+		+		
FRANCE, Haute-Vienne (2009-2011)	26	43			+				+
FRANCE, Hérault (1993-2012)	568	821			+		+		
FRANCE, Isère (1993-2012)	767	1 100			+		+		
FRANCE, Lille (2008-2012)	124	192			+			+	
FRANCE, Loire-Atlantique and Vendée (1998-2012)	767	1 181			+		+		
FRANCE, Manche (1994-2012)	255	370			+		+		
FRANCE, Somme (1993-2012)	281	425			+		+		
FRANCE, Tarn (1993-2012)	185	263			+			+	
GERMANY, paediatric (1996-2012)	30 770	—	+			+	+		
GERMANY, 6 Eastern states (2001-2007)	1 839	3 230				+	+		
GERMANY, 5 Western registries (1994-2012)	7 471	11 480		+		+	+		
GERMANY, Bavaria (2002-2012)	3 038	4 695			+		+		
GERMANY, Lower Saxony (2003-2012)	1 720	2 726			+		+		
GERMANY, Rhineland-Palatinate (1998-2012)	1 454	2 079			+		+		
GERMANY, Saarland (1994-2012)	428	659			+		+		
GERMANY, Schleswig-Holstein (2000-2012)	831	1 321			+		+		
GREECE, paediatric HM (1996-2014), CNS tumours (2010-2014)	2 411	—	+			+	+		
HUNGARY, paediatric (1991-2014)	5 705	—	+			+	+		
ICELAND (1990-2014)	228	376				+	+		

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
IRELAND (1994-2012)	2 473	3 781				+	+		
ITALY, 2 paediatric registries (1998-2011)	1 610	2 414		+		+	+		
ITALY, Marche, paediatric (1998-2007)	362	559			+		+		
ITALY, Piedmont, paediatric (1990-2011)	2 178	—	+			+	+		
ITALY, Piedmont, paediatric (2000-2011)	1 248	1 855			+		+		
ITALY, 26 registries (1992-2013)	7 517	11 663		+		+	+		
ITALY, Biella (1995-2010)	81	137			+				+
ITALY, Brescia (1999-2012)	367	559			+		+		
ITALY, Catania, Messina and Enna (2003-2013)	657	1 044			+		+		
ITALY, Catanzaro (2003-2009)	53	85			+				+
ITALY, Como (2003-2011)	137	229			+			+	
ITALY, Ferrara (1991-2011)	146	240			+			+	
ITALY, Friuli Venezia Giulia (1995-2010)	397	620			+		+		
ITALY, Lecco (2003-2010)	64	92			+				+
ITALY, Lodi and Pavia (2003-2009)	120	187			+			+	
ITALY, Milan (1999-2007)	246	356			+		+		
ITALY, Modena (1990-2012)	335	503			+		+		
ITALY, Naples South (1996-2012)	469	727			+		+		
ITALY, Nuoro (2003-2012)	56	99			+				+
ITALY, Parma (1992-2013)	220	325			+		+		
ITALY, Ragusa and Caltanissetta (1992-2012)	239	364			+		+		
ITALY, Reggio Emilia (1996-2012)	207	313			+		+		
ITALY, Romagna (1990-2012)	541	832			+		+		
ITALY, Salerno (1997-2009)	428	698			+		+		
ITALY, Sassari (1992-2011)	223	381			+		+		
ITALY, Syracuse (1999-2012)	129	213			+			+	
ITALY, Trapani (2002-2009)	86	137			+				+
ITALY, Trento (2001-2010)	118	172			+			+	
ITALY, Turin (1992-2012)	357	540			+		+		
ITALY, Umbria (1994-2011)	402	610			+		+		
ITALY, Varese (1992-2012)	456	672			+		+		
ITALY, Veneto (1992-2009)	1 035	1 629			+		+		
LITHUANIA (2000-2012)	880	1 400				+	+		
MALTA (1994-2013)	247	352				+	+		
THE NETHERLANDS (1993-2013)	9 227	13 816				+	+		
NORWAY (1990-2013)	3 410	5 090				+	+		
POLAND (2001-2013)	10 205	16 155				+	+		
POLAND, Greater Poland (1999-2013)	1 311	2 057					+		
POLAND, Kielce (1990-2013)	710	1 106					+		
POLAND, Lower Silesia (2000-2013)	655	1 096					+		
POLAND, Lublin (1999-2013)	799	1 252					+		
PORTUGAL (1991-2012)	4 339	6 448		+		+	+		
PORTUGAL, Azores (1997-2011)	117	198			+			+	
PORTUGAL, Centre (2000-2010)	658	969			+		+		
PORTUGAL, North (1991-2010)	1 708	2 575			+		+		
PORTUGAL, South (1998-2012)	1 856	2 706			+		+		
RUSSIAN FEDERATION, Moscow region, paediatric (2000-2009)	1 176	—	+			+	+		
RUSSIAN FEDERATION, 2 registries (1998-2015)	1 545	2 285		+		+	+		
RUSSIAN FEDERATION, Chelyabinsk (2008-2012)	394	539			+		+		
RUSSIAN FEDERATION, Samara (1998-2015)	1 151	1 746			+		+		
SLOVAKIA (1990-2009)	2 955	4 574				+	+		
SLOVAKIA, paediatric (2000-2012)	1 626	—	+			+	+		
SLOVENIA (1991-2012)	971	1 535				+	+		

Table A.12. Presentation of data from registries in the IICC-3 tables

Dataset (IICC-3 period)	Total number of cases		Age 0-14 only	National pool	Pool member	Book standard table	Online standard table	Online abbreviated table	No table
	Age 0-14	Age 0-19							
SPAIN, 2 paediatric registries (1991-2013)	7 497	—	+	+		+	+		
SPAIN, selected regions, paediatric (2000-2013)	5 293	—	+		+	+	+		
SPAIN, Valencia, paediatric (1991-2010)	2 204	—	+		+	+	+		
SPAIN, 11 registries (1990-2013)	5 081	7 839		+		+	+		
SPAIN, Albacete (1991-2010)	190	286			+			+	
SPAIN, Asturias (1992-2010)	350	561			+		+		
SPAIN, Basque Country (1990-2012)	1 131	1 728			+		+		
SPAIN, Canary Islands (1993-2011)	677	1 064			+		+		
SPAIN, Cuenca (1993-2012)	96	155			+			+	
SPAIN, Girona (1990-2013)	403	594			+		+		
SPAIN, Granada (1992-2013)	472	753			+		+		
SPAIN, Mallorca (1990-2012)	407	621			+		+		
SPAIN, Murcia (1991-2009)	686	1 033			+		+		
SPAIN, Navarra (1990-2010)	295	475			+		+		
SPAIN, Tarragona (1990-2011)	374	569			+		+		
SWEDEN (1990-2011)	5 284	7 557				+	+		
SWITZERLAND, paediatric (1990-2013)	4 481	—	+			+	+		
SWITZERLAND, 7 registries (1990-2013)	1 798	2 665		+		+	+		
SWITZERLAND, Fribourg (2006-2013)	85	120			+				+
SWITZERLAND, Geneva (1993-2013)	223	345			+		+		
SWITZERLAND, Neuchâtel (1993-2013)	106	163			+			+	
SWITZERLAND, Ticino (1996-2012)	129	201			+			+	
SWITZERLAND, Valais (1990-2012)	185	270			+			+	
SWITZERLAND, Vaud (1993-2012)	382	520			+		+		
SWITZERLAND, Zurich (1993-2013)	688	1 046			+		+		
UKRAINE (2002-2012)	10 079	16 358				+	+		
UNITED KINGDOM (2000-2011)	17 942	26 346		+		+	+		
UNITED KINGDOM, England and Wales, paediatric (1991-2010)	27 799	—	+			+	+		
UNITED KINGDOM, England (1990-2013)	29 819	42 512			+		+		
UNITED KINGDOM, Northern Ireland (1993-2013)	1 132	1 678			+		+		
UNITED KINGDOM, Scotland (1991-2013)	2 945	4 477			+		+		
UNITED KINGDOM, Wales (2000-2011)	923	1 415			+		+		
OCEANIA									
AUSTRALIA (1992-2014)	13 190	20 508		+		+	+		
AUSTRALIA, 3 registries, Indigenous (1992-2014)	249	336		+		+	+		
AUSTRALIA, Australian Capital Territory (1992-2012)	214	336			+		+		
AUSTRALIA, New South Wales (1992-2012)	4 022	6 230			+		+		
AUSTRALIA, Northern Territory (1992-2012)	122	182			+			+	
AUSTRALIA, Northern Territory, Indigenous (1992-2012)	44	62			+				+
AUSTRALIA, Queensland (1992-2013)	2 548	4 204			+		+		
AUSTRALIA, Queensland, Indigenous (1992-2013)	118	156			+			+	
AUSTRALIA, South Australia (1992-2012)	887	1 388			+		+		
AUSTRALIA, Tasmania (1992-2013)	325	490			+		+		
AUSTRALIA, Victoria (1992-2014)	3 450	5 179			+		+		
AUSTRALIA, Western Australia (1992-2014)	1 622	2 499			+		+		
AUSTRALIA, Western Australia, Indigenous (1992-2014)	87	118			+				+
FRANCE, 2 registries (1990-2013)	376	523		+		+	+		
FRANCE, French Polynesia (1990-2011)	171	240			+			+	
FRANCE, New Caledonia (1990-2013)	205	283			+		+		
NEW ZEALAND (1993-2012)	2 606	3 871				+	+		
NEW ZEALAND, Maori (1993-2012)	570	813				+	+		
NEW ZEALAND, Pacific peoples (1993-2012)	286	394				+	+		
NEW ZEALAND, Other (1993-2012)	1 750	2 664				+	+		
NEW ZEALAND, paediatric (2000-2012)	1 769	—	+			+	+		
NEW ZEALAND, paediatric, Maori (2000-2012)	360	—	+			+	+		
NEW ZEALAND, paediatric, Non-Maori (2000-2012)	1 409	—	+			+	+		

Table A.13. List and characteristics of the neoplasm-specific IICC-3 comparative tables

Inclusion criteria: eligible datasets, see Table A.12; [o]no restriction on number of cases and completeness of laterality in the online tables.

Not available: data were either not collected (1, 2, 3, 5, 6), not relevant (4) or not provided (7); 1 France, paediatric, haematological malignancies; 2 Greece, paediatric, specialised; 3 Greece, paediatric, specialised, prior to 2011; 4 Italy, Piedmont, paediatric in 2000-2011 for ages 0-19 years; 5 UK, Scotland in 1991-2007; 6 USA registries prior to 2004; 7 USA registries† in period 2003-2007.

† Alabama, Alaska, Arizona, Arkansas, North Carolina, South Carolina, Colorado, North Dakota, South Dakota, Delaware, District of Columbia, Florida, Idaho, Indiana, Maine, Massachusetts, Michigan, Mississippi, Montana, Nevada, New Hampshire, New York State, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Vermont, Virginia, West Virginia, Washington State, Wisconsin, Wyoming.

CNS, central nervous system; ICCC, International Classification of Childhood Cancer; NOS, unspecified; IICC-3, International Incidence of Childhood Cancer, volume 3.

ICCC category		Number		Inclusion criteria	Not available	Filename of the online table
		Chapter	Table			
	All neoplasms	7	7.1	All eligible datasets	1, 2	00_AllNeoplasms
I.	Leukaemias, myeloproliferative diseases, and myelodysplastic diseases	7	7.2	All eligible datasets	None	01_Leukaemia
II.	Lymphomas and reticuloendothelial neoplasms	7	7.3	All eligible datasets	None	02_Lymphoma
III.	CNS and miscellaneous intracranial and intraspinal neoplasms	7	7.4	All eligible datasets	1, 3	03_CNStumour
IV.	Neuroblastoma and other peripheral nervous cell tumours	7	7.5	All eligible datasets	1, 2	04_Neuroblastoma
V.	Retinoblastoma	7	7.6	All eligible datasets	1, 2	05_Retinoblastoma
VI.	Renal tumours	7	7.7	All eligible datasets	1, 2	06_RenalTumour
VII.	Hepatic tumours	7	7.8	All eligible datasets	1, 2	07_HepaticTumour
VIII.	Malignant bone tumours	7	7.9	All eligible datasets	1, 2	08_BoneTumour
IX.	Soft tissue and other extraosseous sarcomas	7	7.10	All eligible datasets	1, 2	09_SoftTissueSarcoma
X.	Germ cell tumours, trophoblastic tumours, and neoplasms of gonads	7	7.11	All eligible datasets	1, 2	10_GermCellTumour
XI.	Other malignant epithelial neoplasms and malignant melanomas	7	7.12	All eligible datasets	1, 2	11_CarcinomasMelanoma
XII.	Other and unspecified malignant neoplasms	7	7.13	All eligible datasets	1, 2	12_OtherAndNOS
Ia.	Lymphoid leukaemias	8	8.1	All eligible datasets	None	01a_LeukaemiaLymphoid
Ib.	Acute myeloid leukaemias	8	8.2	All eligible datasets	None	01b_LeukaemiaMyeloidAcute
Ic.	Chronic myeloproliferative diseases	8	8.3	All eligible datasets	None	01c_LeukaemiaChronicMPD
IIa.	Hodgkin lymphomas	8	8.4	All eligible datasets	None	02a_LymphomaHodgkin
IIb.	Non-Hodgkin lymphomas (except Burkitt lymphoma)	8	8.5	All eligible datasets	None	02b_LymphomaNHLnotBL
IIc.	Burkitt lymphoma	8	8.6	All eligible datasets	None	02c_BurkittLymphoma
IIb, IIc.	Non-Hodgkin lymphomas, including Burkitt lymphoma	8	8.7	All eligible datasets	None	02bc_LymphomaNHLandBL
IIIa.	Ependymomas and choroid plexus tumour	8	8.8	All eligible datasets	1, 3	03a_EpendChoroidPlexus
IIIb.	Astrocytomas	8	8.9	All eligible datasets	1, 3	03b_Astrocytoma
IIIc.	Intracranial and intraspinal embryonal tumours	8	8.10	All eligible datasets	1, 3	03c_CNSembryonal
IIId.	Other gliomas	8	8.11	All eligible datasets	1, 3	03d_OtherGliomas
IVa.	Neuroblastoma and ganglioneuroblastoma	8	8.12	All eligible datasets	1, 2	04a_NeuroblastomaGanglioneuroblastoma
Va.	Nephroblastoma and other nonepithelial renal tumours	8	8.13	All eligible datasets	1, 2	06a_NephroblatomaOtherNonEpithelial
VIa.	Hepatoblastoma and mesenchymal tumours of the liver	8	8.14	All eligible datasets	1, 2	07a_HepatoblastomaMesenchymalTumour
VIb.	Hepatic carcinomas	8	8.15	All eligible datasets	1, 2	07b_HepaticCarcinoma
VIIa.	Osteosarcomas	8	8.16	All eligible datasets	1, 2	08a_Osteosarcoma
VIIb.	Chondrosarcomas	8	8.17	All eligible datasets	1, 2	08b_Chondrosarcoma
VIIc.	Ewing tumour and related sarcomas of bone	8	8.18	All eligible datasets	1, 2	08c_Bone-EwingRelated
IXa.	Rhabdomyosarcomas	8	8.19	All eligible datasets	1, 2	09a_Rhabdomyosarcoma
IXb.	Fibrosarcomas, peripheral nerve sheath tumours, and other fibrous neoplasms	8	8.20	All eligible datasets	1, 2	09b_Fibrosarcoma
IXc.	Kaposi sarcoma	8	8.21	All eligible datasets	1, 2	09c_KaposiSarcoma
Xa.	Intracranial and intraspinal germ cell tumours	8	8.22	All eligible datasets	1, 3	10a_GCT-CNS
Xb.	Malignant extracranial and extragonadal germ cell tumours	8	8.23	All eligible datasets	1, 2	10b_GCT-not-CranialGonadal
Xc.	Malignant gonadal germ cell tumours	8	8.24	All eligible datasets	1, 2	10c_GCTgonadal

Table A.13. List and characteristics of the neoplasm-specific IICC-3 comparative tables

ICCC category		Number		Inclusion criteria	Not available	Filename of the online table
		Chapter	Table			
XIa.	Adrenocortical carcinomas	8	8.25	All eligible datasets	1, 2	11a_CarcinomaAdrenoCortical
XIb.	Thyroid carcinoma	8	8.26	All eligible datasets	1, 2	11b_CarcinomaThyroid
XIc.	Nasopharyngeal carcinomas	8	8.27	All eligible datasets	1, 2	11c_CarcinomaNasopharyngeal
XId.	Malignant melanomas	8	8.28	All eligible datasets	1, 2	11d_Melanoma
XIe.	Skin carcinomas	8	8.29	All eligible datasets	1, 2	11e_CarcinomaSkin
XIf.	Other and unspecified carcinomas	8	8.30	All eligible datasets	1, 2	11f_CarcinomaOtherNOS
XIIa.	Other specified malignant tumours	8	8.31	All eligible datasets	1, 2	12a_OtherSpecified
XIIb.	Other unspecified malignant tumours	8	8.32	All eligible datasets	1, 2	12b_OtherNOS
Ia1.	Precursor cell leukaemias	9	9.1	Eligible datasets; if more than 20 cases classified in Ia1	None	01a1_LeukaemiaLymphoidPrecursor
Ia2.	Mature B-cell leukaemias	9	9.2	Eligible datasets; if more than 20 cases classified in Ia2	None	01a2_LeukaemiaLymphoidBcell
Ia4.	Lymphoid leukaemias, NOS	9	9.3	Eligible datasets; if more than 20 cases classified in Ia4	None	01a4_LeukaemiaLymphoidNOS
IIb1.	Precursor cell lymphomas	9	9.4	Eligible datasets; if more than 20 cases classified in IIb1	None	02b1_LymphomaNHL-Precursor
IIb2.	Mature B-cell lymphomas (except Burkitt lymphoma)	9	9.5	Eligible datasets; if more than 20 cases classified in IIb2	None	02b2_LymphomaNHL-BcellNotBL
IIb3.	Mature T-cell and NK-cell lymphomas	9	9.6	Eligible datasets; if more than 20 cases classified in IIb3	None	02b3_LymphomaNHL-T-NKcell
IIb4.	Non-Hodgkin lymphomas, NOS	9	9.7	Eligible datasets; if more than 20 cases classified in IIb4	None	02b4_LymphomaNHL-NOS
Ia1, IIb1.	Precursor cell neoplasms	9	9.8	Eligible datasets; if more than 20 cases classified in Ia1, IIb1	None	01a1-02b1_PrecursorCellNeoplasm
Ia2, IIb2, IIc.	Mature B-cell neoplasms including Burkitt lymphoma	9	9.9	Eligible datasets; if more than 20 cases classified in Ia2, IIb2, IIc	None	01a2-02b2-02c_MatureBcellNeoplasmsAndBL
Ia3, IIb3.	Mature T-cell and NK-cell neoplasms	9	9.10	Eligible datasets; if more than 20 cases classified in Ia3, IIb3	None	01a3-02b3_MatureT-NKcellNeoplasms
IIIa1.	Ependymomas	9	9.11	Eligible datasets; if more than 20 cases classified in IIIa1	1, 3	03a1_Ependymoma
IIIa2.	Choroid plexus tumour	9	9.12	Eligible datasets; if more than 20 cases classified in IIIa2	1, 3	03a2_ChoroidPlexusTumour
IIIc1.	Medulloblastomas	9	9.13	Eligible datasets; if more than 20 cases classified in IIIc1	1, 3	03c1_Medulloblastoma
IIIc2.	Primitive neuroectodermal tumour (PNET)	9	9.14	Eligible datasets; if more than 20 cases classified in IIIc2	1, 3	03c2_CNS-PNET
IIIc4.	Atypical teratoid/rhabdoid tumour	9	9.15	Eligible datasets; if more than 20 cases classified in IIIc4	1, 3	03c4_CNS-ATRT
IIId1.	Oligodendrogliomas	9	9.16	Eligible datasets; if more than 20 cases classified in IIId1	1, 3	03d1_Oligodendroglioma
IIId2.	Mixed and unspecified gliomas	9	9.17	Eligible datasets; if more than 20 cases classified in IIId2	1, 3	03d2_MixedGliomaNOS
IIIe1.	Pituitary adenomas and carcinomas	9	9.18	Eligible datasets; if more than 20 cases classified in IIIe1	1, 3	03e1_PituitaryAdenomaCarcinoma
IIIe2.	Tumours of the sellar region (craniopharyngiomas)	9	9.19	Eligible datasets; if more than 20 cases classified in IIIe2	1, 3	03e2_SellarRegionCraniopharyngioma
IIIe3.	Pineal parenchymal tumours	9	9.20	Eligible datasets; if more than 20 cases classified in IIIe3	1, 3	03e3_PinealParenchymalTumour
IIIe4.	Neuronal and mixed neuronal-glial tumours	9	9.21	Eligible datasets; if more than 20 cases classified in IIIe4	1, 3	03e4_NeuronalGlialMixedTumour
IIIe5.	Meningiomas	9	9.22	Eligible datasets; if more than 20 cases classified in IIIe5	1, 3	03e5_Meningioma
VIa1.	Nephroblastoma	9	9.23	Eligible datasets; if more than 20 cases classified in VIa1	1, 2	06a1_Nephroblatoma
VIa2.	Rhabdoid renal tumour	9	9.24	Eligible datasets; if more than 20 cases classified in VIa2	1, 2	06a2_RhabdoidRenalTumour
VIIId2.	Malignant chordomas	9	9.25	Eligible datasets; if more than 20 cases classified in VIIId2	1, 2	08d2_Chordoma
IXb1.	Fibroblastic and myofibroblastic tumours	9	9.26	Eligible datasets; if more than 20 cases classified in IXb1	1, 2	09b1_FibroblasticMyofibroblasticTumour
IXd1, IXd2.	Ewing sarcoma, Askin tumours and PNET of soft tissue	9	9.27	Eligible datasets; if more than 20 cases classified in IXd1, IXd2	1, 2	09d1d2_EwingAskinPNET-STS
VIIIc1, VIIIc2, IXd1, IXd2.	Ewing sarcoma, Askin tumours and PNET of bone and soft tissue	9	9.28	Eligible datasets; if more than 20 cases classified in VIIIc1, VIIIc2, IXd1, IXd2	1, 2	08c1c2-09d1d2_EwingAskinPNET-BoneSTS
IXd3.	Extrarenal extrahepatic rhabdoid tumour	9	9.29	Eligible datasets; if more than 20 cases classified in IXd3	1, 2	09d3_RhabdoidExtra-RenalHepatic
IXd5.	Fibrohistiocytic tumours	9	9.30	Eligible datasets; if more than 20 cases classified in IXd5	1, 2	09d5_FibrohistiocyticTumour
Xa1.	Intracranial and intraspinal germinomas	9	9.31	Eligible datasets; if more than 20 cases classified in Xa1	1, 3	10a1_Germinoma-CNS
Xa2.	Intracranial and intraspinal teratomas	9	9.32	Eligible datasets; if more than 20 cases classified in Xa2	1, 3	10a2_Teratoma-CNS

Table A.13. List and characteristics of the neoplasm-specific IICC-3 comparative tables

ICCC category		Number		Inclusion criteria	Not available	Filename of the online table
		Chapter	Table			
Xb1.	Malignant germinomas of extracranial and extragonadal sites	9	9.33	Eligible datasets; if more than 20 cases classified in Xb1	1, 2	10b1_Germinoma-not-CranialGonadal
Xb2.	Malignant teratomas of extracranial and extragonadal sites	9	9.34	Eligible datasets; if more than 20 cases classified in Xb2	1, 2	10b2_Teratoma-not-CranialGonadal
Xb4.	Yolk sac tumour of extracranial and extragonadal sites	9	9.35	Eligible datasets; if more than 20 cases classified in Xb4	1, 2	10b4_YolkSac-not-CranialGonadal
Xb5.	Choriocarcinomas of extracranial and extragonadal sites	9	9.36	Eligible datasets; if more than 20 cases classified in Xb5	1, 2	10b5_Choriocarcinoma-not-CranialGonadal
Xc1.	Malignant gonadal germinomas	9	9.37	Eligible datasets; if more than 20 cases classified in Xc1	1, 2	10c1_GerminomaGonadal
Xc2.	Malignant gonadal teratomas	9	9.38	Eligible datasets; if more than 20 cases classified in Xc2	1, 2	10c2_TeratomaGonadal
Xc3.	Gonadal embryonal carcinomas	9	9.39	Eligible datasets; if more than 20 cases classified in Xc3	1, 2	10c3_CarcinomaGonadalEmbryonal
Xc4.	Gonadal yolk sac tumour	9	9.40	Eligible datasets; if more than 20 cases classified in Xc4	1, 2	10c4_GonadalYolkSac
Xc5.	Gonadal choriocarcinoma	9	9.41	Eligible datasets; if more than 20 cases classified in Xc5	1, 2	10c5_ChoriocarcinomaGonadal
Xc6.	Malignant gonadal tumours of mixed forms	9	9.42	Eligible datasets; if more than 20 cases classified in Xc6	1, 2	10c6_MixedGonadal
XIf1.	Carcinomas of salivary glands	9	9.43	Eligible datasets; if more than 20 cases classified in XIf1	1, 2	11f01_CarcinomaSalivaryGlands
XIf2.	Carcinomas of colon and rectum	9	9.44	Eligible datasets; if more than 20 cases classified in XIf2	1, 2	11f02_CarcinomaColonRectum
XIf4.	Carcinomas of lung	9	9.45	Eligible datasets; if more than 20 cases classified in XIf4	1, 2	11f04_CarcinomaLung
XIf6.	Carcinomas of breast	9	9.46	Eligible datasets; if more than 20 cases classified in XIf6	1, 2	11f06_CarcinomaBreast
XIf8.	Carcinomas of bladder	9	9.47	Eligible datasets; if more than 20 cases classified in XIf8	1, 2	11f08_CarcinomaBladder
XIf10.	Carcinomas of other specified sites	9	9.48	Eligible datasets; if more than 20 cases classified in XIf10	1, 2	11f10_CarcinomaOtherSites
XIIa3.	Pulmonary blastoma and pleuropulmonary blastoma	9	9.49	Eligible datasets; if more than 20 cases classified in XIIa3	1, 2	12a3_Pleuro-PulmonaryBlastoma
III.	CNS and miscellaneous intracranial and intraspinal neoplasms	10	10.1	All eligible datasets	1, 3, 6	T-10-1_Behaviour_03_CNStumour
IIIa.	Ependymomas and choroid plexus tumour	10	10.2	All eligible datasets	1, 3, 6	T-10-2_Behaviour_03a_EpendChoroidPlexus
IIIb.	Astrocytomas	10	10.3	All eligible datasets	1, 3, 6	T-10-3_Behaviour_03b_Astrocytoma
III.	Effect of pilocytic astrocytoma (M-9421) on CNS tumours incidence	10	10.4	All eligible datasets	1, 3, 6	T-10-4_Behaviour_03bPA_CNSall-M9421
IIId.	Other gliomas	10	10.5	All eligible datasets	1, 3, 6	T-10-5_Behaviour_03d_OtherGliomas
IIIe, IIIe1, IIIe2.	Other specified intracranial and intraspinal neoplasms	10	10.6.a	All eligible datasets	1, 3, 6	T-10-6-a_Behaviour_03e-1-2_CNSotherSpec
IIIe3, IIIe4, IIIe5.	Other specified intracranial and intraspinal neoplasms	10	10.6.b	All eligible datasets	1, 3, 6	T-10-6-b_Behaviour_03e3-4-5_CNSotherSpec
IIIf.	Unspecified intracranial and intraspinal neoplasms	10	10.7	All eligible datasets	1, 3, 6	T-10-7_Behaviour_03f_CNS-NOS
Xa.	Intracranial and intraspinal germ cell tumours	10	10.8	All eligible datasets	1, 3, 6	T-10-8_Behaviour_10a_GCT-CNS
III, Xa.	CNS tumours	11	11.1	Eligible datasets; if more than 20 cases classified in III, Xa	1, 3	T-11-1_Topography_03-10a_CNStumour
XId.	Malignant melanomas	11	11.2	Eligible datasets; if more than 20 cases classified in XId	1, 2	T-11-2_Topography_11d_Melanoma
XIe.	Skin carcinomas	11	11.3	Eligible datasets; if more than 20 cases classified in XIe	1, 2	T-11-3_Topography_11e_CarcinomaSkin
XIf.	Other and unspecified carcinomas	11	11.4	All eligible datasets	1, 2	T-11-4_Topography_11f_CarcinomaOtherNOS
XIIb, C00-C48.	Other unspecified malignant tumours	11	11.5.a	All eligible datasets	1, 2	T-11-5-a_Topography_12b-1_OtherNOS
XIIb, C49-C80.	Other unspecified malignant tumours	11	11.5.b	All eligible datasets	1, 2	T-11-5-b_Topography_12b-2_OtherNOS
IIa.	Hodgkin lymphomas	12	12.1	Eligible datasets; if more than 20 cases classified in IIa	None	T-12-1_Morphology_02a_LymphomaHodgkin
XIb.	Thyroid carcinoma	12	12.2	Eligible datasets; if more than 20 cases classified in XIb	1, 2	T-12-2_Morphology_11b_CarcinomaThyroid
XIe.	Skin carcinomas	12	12.3	Eligible datasets; if more than 20 cases classified in XIe	1, 2	T-12-3_Morphology_11e_CarcinomaSkin
V.	Retinoblastoma	13	13.1	Eligible datasets; if more than 20 cases aged 0-14 years classified in V and laterality known for at least 95% of these cases[o]	1, 2, 4, 5, 7	T-13-1_Laterality_05_Retinoblastoma
VIa1.	Nephroblastoma	13	13.2	Eligible datasets; if more than 20 cases aged 0-14 years classified in VIa1 and laterality known for at least 95% of these cases[o]	1, 2, 4, 5, 7	T-13-2_Laterality_06a1_Nephroblastoma
female - Xc, Xd, Xe.	Ovarian tumours	13	13.3	Eligible datasets; if more than 20 cases in females classified in female - Xc, Xd, Xe and laterality known for at least 95% of these cases[o]	1, 2, 5, 7	T-13-3_Laterality_10cde_OvarianTumour
male - Xc, Xd, Xe.	Testicular tumours	13	13.4	Eligible datasets; if more than 20 cases in males classified in male - Xc, Xd, Xe and laterality known for at least 95% of these cases[o]	1, 2, 5, 7	T-13-4_Laterality_10cde_TesticularTumour

Disclosures of interests

Brian Rous reports receiving personal consultancy fees in a clinical advisory role from GRAIL Bio UK Limited, a biotechnology company focused on multicancer early detection.