Austria, Tyrol

Registration area

Tyrol is one of nine provinces in Austria, and is situated in the west. The area covers 12 648 km², only some 12.5% habitable. The average altitude of the habitable regions is about 740 m. Nearly 20% of the population lives in one town with more than 100 000 inhabitants (the capital Innsbruck), the rest in smaller towns (less than 13 000) and in some 260 villages. 9% of the people are from foreign countries, mainly from former Yugoslavia and Turkey. About 90% are Roman Catholics. The main occupational groups are personal services (32%), commerce and traffic (22.2%), industry and trade (21.6%) and tourism (10.4%), with some 6% unemployed.

Cancer care facilities

Medical facilities are provided by the University Hospital in Innsbruck (offering both basic facilities for Innsbruck and special facilities for the whole province), nine local hospitals in the rural districts and two semi-private hospitals in Innsbruck. Most pathology diagnoses are done by one main institute in Innsbruck, and there are two pathology laboratories in Innsbruck which diagnose melanoma and female cancers.

Registry structure and methods

The Cancer Registry of Tyrol commenced operations at the end of 1986, and has been population-based since 1988. Since 1969 there has been a law obliging hospitals to report every cancer case to the Austrian Federal Bureau of Statistics. In addition to this national system, local registries are responsible for cancer registration in some provinces.

The Cancer Registry of Tyrol is a department within the TILAK, an organization managing the university hospital of Innsbruck and some smaller hospitals in the Tyrol and is funded directly by this organization. The registry is staffed by a part-time epidemiologist, a full time registrar and three part-time registrars, and data entry clerks.

All hospitals are obliged to report cancer cases. Most departments fill in a form consisting of personal data, incidence date, most valid basis of diagnosis, topography, histology, behaviour, staging and summary of first treatment. All pathology diagnoses concerning cancer and all death certificates are sent to the registry.

Multiple cancers are recorded separately at the request of the physicians, but the IARC rules are used for reporting.

Follow up information is based on probabilistic record linkage between the incidence data and all-cause mortality data for the province of Tyrol.

Coding is done by one trained person in cooperation with a pathologist.

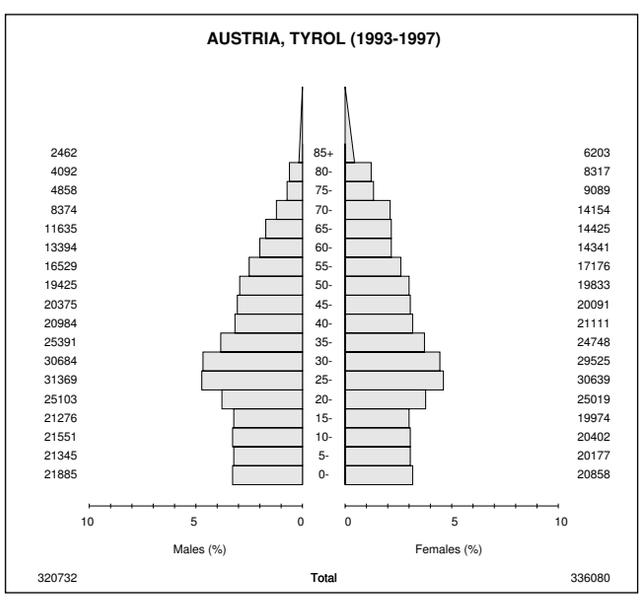
Programs for checking personal data (for example rare ages, combination of sex and first name, ordering of date-values) were developed within the registry. Lists generated are checked manually and, if there are queries, the local communities are contacted.
The cancer data are checked using IARC CHECK.

Interpreting the results

The population in the province is stable, and there have not been changes in the structure of the medical services. The organization of the registry has not changed in the last ten years. Since 1993, a PSA screening programme has covered approximately 2/3 of all men in the Tyrol aged 45-75 and has had a heavy influence on prostate cancer incidence rates. There is also a spontaneous mammography programme which has had some influence on breast cancer rates.

Use of the data

Annual reports have been produced since 1988. The data are widely used by physicians (especially from the university hospital in Innsbruck). For departments sending regular follow up information, a report is generated for the general practitioner.



Source of population

Annual estimates produced by the Federal Bureau of Statistics

AUSTRIA, TYROL (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	15	0.2	0.9	**0.7**	0.06	0.08	6	0.1	0.4	**0.2**	0.01	0.02	*C00*
Tongue	31	0.4	1.9	**1.7**	0.15	0.18	18	0.3	1.1	**0.7**	0.06	0.08	*C01-02*
Mouth	73	1.0	4.6	**3.7**	0.27	0.46	25	0.4	1.5	**1.1**	0.09	0.11	*C03-06*
Salivary glands	24	0.3	1.5	**1.1**	0.08	0.09	16	0.2	1.0	**0.6**	0.05	0.06	*C07-08*
Tonsil	20	0.3	1.2	**1.0**	0.10	0.11	12	0.2	0.7	**0.6**	0.06	0.07	*C09*
Other oropharynx	13	0.2	0.8	**0.7**	0.06	0.08	2	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	13	0.2	0.8	**0.7**	0.05	0.08	1	0.0	0.1	**0.1**	0.00	0.00	*C11*
Hypopharynx	27	0.4	1.7	**1.5**	0.14	0.18	4	0.1	0.2	**0.2**	0.02	0.02	*C12-13*
Pharynx unspecified	10	0.1	0.6	**0.5**	0.04	0.04	2	0.0	0.1	**0.2**	0.01	0.01	*C14*
Oesophagus	89	1.2	5.5	**4.3**	0.28	0.50	22	0.3	1.3	**0.6**	0.02	0.07	*C15*
Stomach	490	6.7	30.6	**22.3**	0.84	2.58	387	6.0	23.0	**10.7**	0.42	1.09	*C16*
Small intestine	16	0.2	1.0	**0.8**	0.04	0.10	11	0.2	0.7	**0.3**	0.02	0.05	*C17*
Colon	481	6.6	30.0	**22.5**	1.00	2.77	534	8.2	31.8	**16.2**	0.76	1.82	*C18*
Rectum	256	3.5	16.0	**12.4**	0.77	1.46	219	3.4	13.0	**6.8**	0.36	0.78	*C19-20*
Anus	16	0.2	1.0	**0.8**	0.05	0.06	43	0.7	2.6	**1.2**	0.04	0.13	*C21*
Liver	118	1.6	7.4	**5.5**	0.22	0.76	68	1.0	4.0	**1.9**	0.07	0.20	*C22*
Gallbladder etc.	55	0.8	3.4	**2.6**	0.11	0.26	110	1.7	6.5	**3.1**	0.11	0.35	*C23-24*
Pancreas	164	2.2	10.2	**7.5**	0.34	0.85	178	2.7	10.6	**5.3**	0.26	0.58	*C25*
Nose, sinuses etc.	13	0.2	0.8	**0.6**	0.04	0.05	5	0.1	0.3	**0.2**	0.02	0.02	*C30-31*
Larynx	110	1.5	6.9	**5.7**	0.41	0.66	18	0.3	1.1	**0.7**	0.06	0.09	*C32*
Trachea, bronchus and lung	1017	13.9	63.4	**49.5**	2.70	6.11	357	5.5	21.2	**12.9**	0.78	1.53	*C33-34*
Other thoracic organs	4	0.1	0.2	**0.2**	0.01	0.02	9	0.1	0.5	**0.4**	0.02	0.03	*C37-38*
Bone	24	0.3	1.5	**1.5**	0.09	0.10	14	0.2	0.8	**0.9**	0.06	0.07	*C40-41*
Melanoma of skin	224	3.1	14.0	**11.2**	0.75	1.17	260	4.0	15.5	**10.9**	0.77	1.11	*C43*
Other skin	491		30.6	**22.1**	0.89	2.44	587		34.9	**17.1**	0.79	1.75	*C44*
Mesothelioma	13	0.2	0.8	**0.6**	0.04	0.09	5	0.1	0.3	**0.2**	0.01	0.03	*C45*
Kaposi sarcoma	1	0.0	0.1	**0.1**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	45	0.6	2.8	**2.5**	0.13	0.22	43	0.7	2.6	**1.8**	0.12	0.21	*C47+C49*
Breast	10	0.1	0.6	**0.4**	0.02	0.03	1722	26.5	102.5	**68.9**	4.91	7.88	*C50*
Vulva							42	0.6	2.5	**1.3**	0.05	0.16	*C51*
Vagina							15	0.2	0.9	**0.4**	0.02	0.05	*C52*
Cervix uteri							281	4.3	16.7	**12.9**	1.00	1.30	*C53*
Corpus uteri							377	5.8	22.4	**13.8**	0.83	1.72	*C54*
Uterus unspecified							10	0.2	0.6	**0.2**	0.00	0.01	*C55*
Ovary							337	5.2	20.1	**13.6**	0.95	1.57	*C56*
Other female genital organs							47	0.7	2.8	**1.6**	0.09	0.19	*C57*
Placenta							2	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	19	0.3	1.2	**0.9**	0.06	0.11							*C60*
Prostate	2146	29.4	133.8	**100.1**	3.95	13.03							*C61*
Testis	148	2.0	9.2	**7.5**	0.56	0.57							*C62*
Other male genital organs	3	0.0	0.2	**0.1**	0.01	0.01							*C63*
Kidney	206	2.8	12.8	**10.5**	0.66	1.24	149	2.3	8.9	**5.5**	0.34	0.65	*C64*
Renal pelvis	24	0.3	1.5	**1.2**	0.10	0.14	18	0.3	1.1	**0.6**	0.02	0.08	*C65*
Ureter	14	0.2	0.9	**0.7**	0.02	0.09	9	0.1	0.5	**0.3**	0.01	0.02	*C66*
Bladder	655	9.0	40.8	**30.8**	1.37	3.66	226	3.5	13.4	**7.3**	0.38	0.89	*C67*
Other urinary organs	15	0.2	0.9	**0.7**	0.04	0.10	11	0.2	0.7	**0.2**	0.00	0.01	*C68*
Eye	8	0.1	0.5	**0.4**	0.01	0.05	15	0.2	0.9	**0.6**	0.04	0.05	*C69*
Brain, nervous system	79	1.1	4.9	**4.3**	0.29	0.44	83	1.3	4.9	**3.9**	0.23	0.39	*C70-72*
Thyroid	85	1.2	5.3	**4.4**	0.29	0.48	185	2.9	11.0	**8.5**	0.65	0.86	*C73*
Adrenal gland	5	0.1	0.3	**0.3**	0.02	0.03	14	0.2	0.8	**1.0**	0.05	0.06	*C74*
Other endocrine	3	0.0	0.2	**0.2**	0.01	0.01	2	0.0	0.1	**0.1**	0.00	0.01	*C75*
Hodgkin disease	31	0.4	1.9	**1.8**	0.12	0.16	27	0.4	1.6	**1.5**	0.10	0.12	*C81*
Non-Hodgkin lymphoma	125	1.7	7.8	**6.2**	0.37	0.64	104	1.6	6.2	**3.8**	0.24	0.46	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	53	0.7	3.3	**2.4**	0.11	0.33	73	1.1	4.3	**2.3**	0.11	0.28	*C90*
Lymphoid leukaemia	106	1.4	6.6	**5.4**	0.28	0.69	84	1.3	5.0	**3.4**	0.17	0.28	*C91*
Myeloid leukaemia	100	1.4	6.2	**5.1**	0.27	0.52	109	1.7	6.5	**3.7**	0.19	0.41	*C92-94*
Leukaemia unspecified	9	0.1	0.6	**0.4**	0.01	0.04	7	0.1	0.4	**0.1**	0.00	0.01	*C95*
Other and unspecified	105	1.4	6.5	**4.5**	0.15	0.41	170	2.6	10.1	**4.3**	0.15	0.42	*O&U*
All sites	7802		486.5	**372.5**	18.39	44.30	7075		421.0	**255.0**	15.54	28.19	*ALL*
All sites but C44	7311	100.0	455.9	**350.4**	17.51	41.86	6488	100.0	386.1	**237.8**	14.75	26.44	*ALLbC44*

Austria, Vorarlberg

Registration area

Vorarlberg is the westernmost of the nine federal states of Austria. It borders on Switzerland, Germany, Liechtenstein and the Austrian federal state of Tyrol (only 19% of the border). 8% of the border between Austria and Germany and Austria and Switzerland is in the waters of Lake Constance. Vorarlberg covers 2601 km^2, of which only 21% are habitable. 90% of the area is mountainous. Vorarlberg lies between 9° and 10° E and 46° and 47° N.

The total population of 332 104 (census 1991) lives in 96 communities, five of which are cities. 51% live in communities with more than 10 000 inhabitants, 43% in communities with 1000 to 10 000 inhabitants and 6% in communities of less than 1000 inhabitants. 80% of the whole population are concentrated in two areas, Rheintal (Rhine River valley) and Walgau. The population density in the Rheintal (referring to the permanently settled area) is 1125 inhabitants per km^2, whereas the population density for the whole federal state (referring to the permanently settled areas) is 620 per km^2. 14.3% of the inhabitants are from foreign countries: 6.3% from Turkey, 5.1% from former Yugoslavia, 1.3% from Germany, 0.3% from Switzerland. 87.2% are Roman Catholics, 2.8% Protestants, 4.7% Muslims, 3.3% other denominations. The main occupational groups are: services (55.4%) and industry and trade (42.7%). In January 1996 the unemployment rate was 6%. The GNP per inhabitant is approximately 72 000 Euro. For further information see http://www.vorarlberg.at

Cancer care faciliities

Five public hospitals and one private hospital cover most of the medical needs. In special cases patients are sent to the University hospital in Innsbruck, Tyrol.

Registry structure and methods

The Cancer Registry of Vorarlberg, one of the nine federal states of Austria, was founded in 1978 by Prof. Dr G. Breitfellner, head physician of the only Pathology Department in Vorarlberg. Electronic data processing was introduced in 1981.

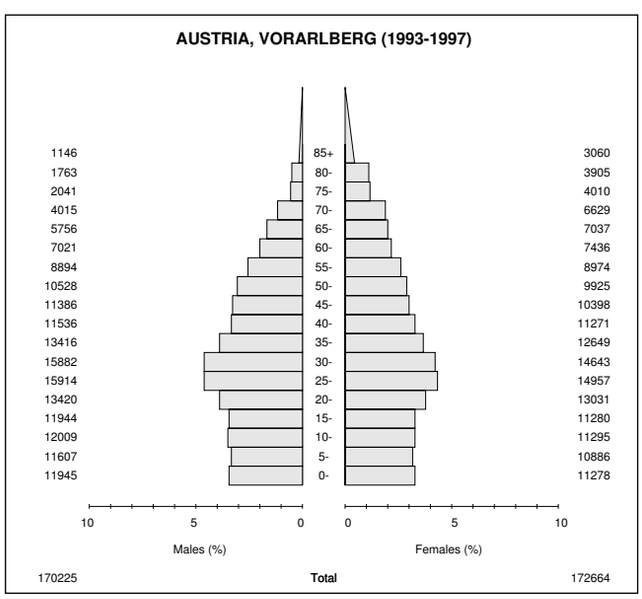
In 1968 a law for cancer registration was passed in Austria, obliging hospitals to report every cancer case to the Austrian Federal Bureau of Statistics. In addition to this federal cancer registry, local cancer registries exist in some federal states. In Vorarlberg the cancer registry is part of the 'Arbeitskreis für Vorsorge und Sozialmedizin (AKS)', a non-profit-organization founded in 1964, working on behalf of the local government in the field of health promotion, preventive medicine and social medicine. The Cancer Registry of Vorarlberg works in close cooperation with the Cancer Registry of Tyrol. As decreed by the government of Vorarlberg hospitals are required to send their records to the local cancer registry; from where they are forwarded to the Austrian Federal Bureau of Statistics.

The main source of data is the Institute of Pathology (histological, cytological and necropsy diagnoses). The data are transferred to the cancer registry and compared to data already registered. From there a registration sheet (including the pathology diagnosis) is sent to the hospital for further information. In cases with no pathology diagnosis the hospitals report the cases directly to the cancer registry. The registry also uses hospital information systems to complete the data. The radiooncology department, which keeps track of each patient, also sends data to the registry. In general, multiple notifications are received for one cancer case. Persons are identified by name, date of birth, sex and address and – starting in 1995 – social security number. A sophisticated program, developed by the Cancer Registry of Tyrol, is used to establish links between various records. Multiple cancers for a person are recorded separately. Follow-up is confined to date of death.

Topography and histology are classified according to ICD-O-DA (German edition). Coding is done by a trained person in cooperation with a pathologist of the Institute of Pathology and a medical doctor working for the registry. The personal data are checked with programs developed by the Cancer Registry of Tyrol.

Use of the data

Annual reports are made to the government health department. The data are used for evaluating local cancer screening programmes, such as early detection of breast cancer, cervical cytology, and colon adenoma. In Vorarlberg health checks, so-called 'Gesundenuntersuchungen' are very common so the cancer registry also documents cervical dysplasia and adenoma of the colon as cancer risks.



Source of population

The data are estimated by Statistics Austria (Vienna), based on census data from 1991.

AUSTRIA, VORARLBERG (1993-1997)

	MALE						FEMALE						
SITE	No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	2	0.1	0.2	**0.2**	0.01	0.03	2	0.1	0.2	**0.1**	0.00	0.03	*C00*
Tongue	27	0.9	3.2	**2.6**	0.23	0.29	11	0.4	1.3	**0.7**	0.03	0.09	*C01-02*
Mouth	23	0.7	2.7	**2.3**	0.14	0.25	10	0.3	1.2	**0.7**	0.06	0.08	*C03-06*
Salivary glands	9	0.3	1.1	**0.9**	0.08	0.10	1	0.0	0.1	**0.1**	0.00	0.01	*C07-08*
Tonsil	21	0.7	2.5	**2.0**	0.13	0.19	6	0.2	0.7	**0.6**	0.04	0.05	*C09*
Other oropharynx	19	0.6	2.2	**1.8**	0.14	0.17	3	0.1	0.3	**0.3**	0.04	0.04	*C10*
Nasopharynx	8	0.3	0.9	**0.8**	0.04	0.10	4	0.1	0.5	**0.3**	0.02	0.05	*C11*
Hypopharynx	20	0.6	2.3	**1.9**	0.11	0.24	3	0.1	0.3	**0.2**	0.01	0.04	*C12-13*
Pharynx unspecified	6	0.2	0.7	**0.6**	0.05	0.07	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	56	1.8	6.6	**5.5**	0.28	0.65	6	0.2	0.7	**0.4**	0.02	0.05	*C15*
Stomach	177	5.6	20.8	**17.1**	0.71	2.02	153	5.1	17.7	**9.1**	0.37	0.96	*C16*
Small intestine	9	0.3	1.1	**0.9**	0.07	0.14	5	0.2	0.6	**0.5**	0.03	0.05	*C17*
Colon	243	7.7	28.6	**23.8**	1.04	2.98	298	9.9	34.5	**19.1**	0.89	2.27	*C18*
Rectum	123	3.9	14.5	**12.2**	0.72	1.53	108	3.6	12.5	**8.0**	0.51	0.97	*C19-20*
‡Anus	5	0.2	0.6	**0.5**	0.03	0.05	17	0.6	2.0	**1.0**	0.03	0.11	*C21*
Liver	59	1.9	6.9	**5.9**	0.29	0.73	24	0.8	2.8	**1.8**	0.09	0.26	*C22*
Gallbladder etc.	20	0.6	2.3	**1.9**	0.11	0.28	50	1.7	5.8	**2.8**	0.12	0.29	*C23-24*
Pancreas	96	3.0	11.3	**9.0**	0.36	1.07	91	3.0	10.5	**5.2**	0.23	0.53	*C25*
Nose, sinuses etc.	6	0.2	0.7	**0.6**	0.04	0.08	5	0.2	0.6	**0.5**	0.02	0.06	*C30-31*
Larynx	63	2.0	7.4	**6.3**	0.43	0.75	8	0.3	0.9	**0.6**	0.03	0.09	*C32*
Trachea, bronchus and lung	547	17.3	64.3	**54.3**	2.88	7.02	153	5.1	17.7	**11.3**	0.70	1.36	*C33-34*
Other thoracic organs	5	0.2	0.6	**0.5**	0.02	0.08	1	0.0	0.1	**0.1**	0.01	0.01	*C37-38*
Bone	12	0.4	1.4	**1.5**	0.09	0.09	2	0.1	0.2	**0.2**	0.02	0.02	*C40-41*
Melanoma of skin	118	3.7	13.9	**11.6**	0.84	1.15	117	3.9	13.6	**9.9**	0.69	0.94	*C43*
Other skin	633		74.4	**59.7**	2.72	6.88	669		77.5	**44.7**	2.36	5.18	*C44*
Mesothelioma	3	0.1	0.4	**0.3**	0.00	0.07	4	0.1	0.5	**0.2**	0.01	0.03	*C45*
Kaposi sarcoma	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	24	0.8	2.8	**2.6**	0.14	0.25	22	0.7	2.5	**1.5**	0.09	0.15	*C47+C49*
Breast	8	0.3	0.9	**0.7**	0.05	0.07	893	29.6	103.4	**71.1**	4.88	7.92	*C50*
Vulva							22	0.7	2.5	**1.5**	0.08	0.15	*C51*
Vagina							9	0.3	1.0	**0.6**	0.03	0.06	*C52*
Cervix uteri							86	2.9	10.0	**7.8**	0.62	0.77	*C53*
Corpus uteri							171	5.7	19.8	**14.2**	1.07	1.72	*C54*
Uterus unspecified							5	0.2	0.6	**0.2**	0.00	0.00	*C55*
Ovary							121	4.0	14.0	**9.8**	0.65	1.15	*C56*
Other female genital organs							20	0.7	2.3	**1.3**	0.08	0.14	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	9	0.3	1.1	**0.8**	0.01	0.02							*C60*
Prostate	697	22.0	81.9	**66.4**	2.19	7.84							*C61*
Testis	59	1.9	6.9	**5.8**	0.42	0.44							*C62*
Other male genital organs	2	0.1	0.2	**0.2**	0.00	0.02							*C63*
Kidney	111	3.5	13.0	**11.2**	0.68	1.44	76	2.5	8.8	**6.4**	0.43	0.80	*C64*
Renal pelvis	7	0.2	0.8	**0.8**	0.07	0.11	6	0.2	0.7	**0.5**	0.01	0.08	*C65*
Ureter	6	0.2	0.7	**0.6**	0.02	0.10	2	0.1	0.2	**0.1**	0.00	0.00	*C66*
Bladder	191	6.0	22.4	**18.3**	0.74	2.35	75	2.5	8.7	**4.5**	0.15	0.47	*C67*
Other urinary organs	14	0.4	1.6	**1.4**	0.07	0.11	5	0.2	0.6	**0.2**	0.00	0.00	*C68*
Eye	2	0.1	0.2	**0.1**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C69*
Brain, nervous system	61	1.9	7.2	**6.7**	0.46	0.68	58	1.9	6.7	**5.7**	0.43	0.56	*C70-72*
Thyroid	26	0.8	3.1	**2.5**	0.16	0.32	50	1.7	5.8	**4.0**	0.30	0.37	*C73*
Adrenal gland	4	0.1	0.5	**0.4**	0.04	0.04	1	0.0	0.1	**0.2**	0.01	0.01	*C74*
Other endocrine	1	0.0	0.1	**0.1**	0.01	0.01	2	0.1	0.2	**0.2**	0.01	0.01	*C75*
Hodgkin disease	17	0.5	2.0	**1.5**	0.12	0.16	22	0.7	2.5	**2.3**	0.15	0.18	*C81*
Non-Hodgkin lymphoma	91	2.9	10.7	**8.9**	0.47	0.96	87	2.9	10.1	**6.2**	0.32	0.69	*C82-85,C96*
Immunoproliferative diseases	1	0.0	0.1	**0.1**	0.00	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	28	0.9	3.3	**2.7**	0.14	0.38	42	1.4	4.9	**2.9**	0.14	0.34	*C90*
Lymphoid leukaemia	42	1.3	4.9	**4.4**	0.25	0.39	29	1.0	3.4	**2.5**	0.14	0.19	*C91*
Myeloid leukaemia	22	0.7	2.6	**2.2**	0.10	0.23	40	1.3	4.6	**3.1**	0.18	0.30	*C92-94*
Leukaemia unspecified	2	0.1	0.2	**0.2**	0.02	0.02	4	0.1	0.5	**0.2**	0.00	0.02	*C95*
Other and unspecified	69	2.2	8.1	**6.4**	0.35	0.65	87	2.9	10.1	**4.6**	0.19	0.39	*O&U*
All sites	3804		446.9	**369.7**	18.08	43.62	3686		427.0	**269.8**	16.27	30.03	*ALL*
All sites but C44	3171	100.0	372.6	**310.0**	15.36	36.74	3017	100.0	349.5	**225.1**	13.91	24.85	*ALLbC44*
	‡40.0% of cases are anorectal tumours						‡52.9% of cases are anorectal tumours						

Belarus

Registration area

The Belarusian Cancer Registry covers the population of Belarus, which occupies 207 600 km². The population in 1994 was 10 345 100 (males 46.8%, females 53.2%, urban 68,6%). The main industries are machine-building and metal-processing, including automobile and tractor manufacture, radio-electronics, oil refinery and chemical.

Cancer care facilities

The main treatment facilities are the 12 oncological dispensaries and an Institute for Oncology and Medical Radiology.

Registry structure and methods

Cancer registration is mandatory and has been carried out according to the directive of the Ministry of Public Health of the USSR since 1953. However until the beginning of the 1970s it was performed on the basis of obligatory official statistical reports, and there was no computer database with individual information on cancer cases.

The Belarusian Cancer Registry includes complete individual information on cancer cases since 1978, but for the period 1978–85 there are no personal identifiers such as name and address. In 1985–88 a computer system was gradually set up in the oncological dispensaries, which allowed long-term continuous data collection for each patient and easier follow-up. Since 1991 this system has functioned on personal computers in all Belarusian oncological dispensaries.

The Belarusian Cancer Registry has been located in the Belarusian Centre for Medical Technologies, Computer Systems, Administration, and Economics of Public Health in Minsk since 1992.

In Belarus, the majority (about 80–85%) of cancer patients are diagnosed and treated in the oncological dispensaries and the Institute for Oncology and Medical Radiology, which is responsible for the registration of cancer cases for Minsk oblast (region). This makes data collection significantly easier. The 12 oncological dispensaries and the Institute for Oncology and Medical Radiology are responsible for registration of all cancer patients permanently residing in their service area, and regional sub-registries of the Belarusian Cancer Registry are maintained in the oncological dispensaries.

Most information is entered onto personal computers directly from patients' medical records (outpatient medical card and history of disease) stored in the dispensaries.

Extracts of medical documents and special notification forms are also obtained from the Institute for Oncology and Medical Radiology, the Children's Oncological and Haematological Centre, Centre for Thyroid Tumours Pathology, Institute for Neurology, haematological hospitals, hospitals with cancer beds, and outpatient clinics, where cancer is diagnosed and treated. Pathologists must also fill in and send a notification if they incidentally diagnose cancer as a result of an autopsy.

Death certificates are checked monthly by the personnel of the oncological dispensaries in regional state statistics departments for any mention of cancer. Information found is checked against the database in the dispensary. For each cancer case not found in the database, additional information is requested from the institution which issued the certificate.

In situ cancers are registered but are not included in the cancer statistics.

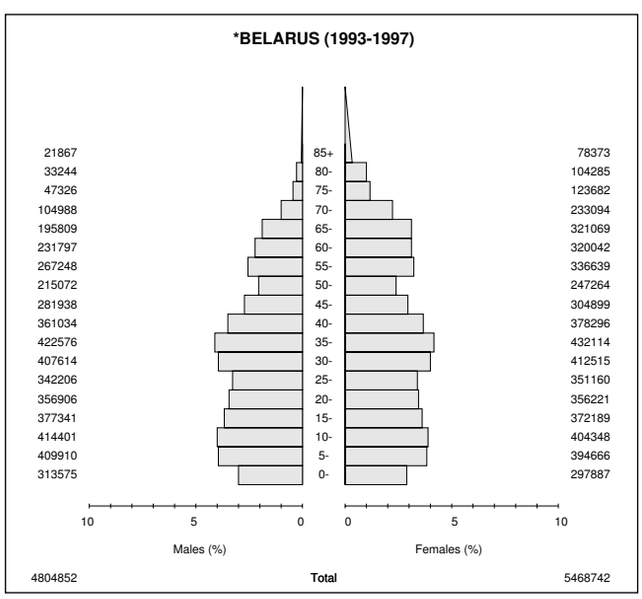
Primary multiple tumours are registered as separate cancer cases if they appear (simultaneously or at a later time) in different organs or different parts of the same organ (including skin); each tumour is entered into the database separately according to the four-digit ICD-9 code. The records have the same unique key and may be analysed together if desired.

Interpreting the results

In 1986 the Chernobyl accident resulted in radiation exposure to about 20% of the Belarusian population. After 1991, a high increase in the number of thyroid cancers in children, related to iodine-131 irradiation of the thyroid gland, was observed.

Use of the data

The Belarusian Cancer Registry submits official statistical reports to the Ministry of Health annually, including data on cancer incidence, mortality and treatment in Belarus, as well as the statistical collection *Malignant Neoplasms in Belarus for a Decade*, highlighting trends and changes.



Source of population

Annual populations are estimates, calculated by the State Statistical Department on the basis of the 1989 census, making allowance for births and deaths and migration into and out of the registration area.

Notes on the data

* The lack of diagnoses based on a death certificate alone, availability of mortality data for a minority of sites and use of local histology classification make it difficult to fully evaluate the quality of the data.

+ The editors were unable to verify these data.

+*BELARUS (1993-1997)

SITE	§No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	§No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
	MALE						FEMALE						
Lip	1418	1.9	5.9	**5.0**	0.26	0.63	442	0.7	1.6	**0.8**	0.03	0.08	*C00*
Tongue	800	1.1	3.3	**2.9**	0.23	0.35	83	0.1	0.3	**0.2**	0.01	0.02	*C01-02*
Mouth	1005	1.3	4.2	**3.6**	0.31	0.43	133	0.2	0.5	**0.3**	0.02	0.03	*C03-06*
Salivary glands	219	0.3	0.9	**0.8**	0.05	0.09	160	0.2	0.6	**0.4**	0.02	0.04	*C07-08*
Tonsil	118	0.2	0.5	**0.4**	0.04	0.05	19	0.0	0.1	**0.1**	0.00	0.01	*C09*
Other oropharynx	700	0.9	2.9	**2.5**	0.21	0.30	61	0.1	0.2	**0.1**	0.01	0.02	*C10*
Nasopharynx	134	0.2	0.6	**0.5**	0.04	0.06	68	0.1	0.2	**0.2**	0.01	0.02	*C11*
Hypopharynx	649	0.9	2.7	**2.3**	0.20	0.28	12	0.0	0.0	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	40	0.1	0.2	**0.1**	0.01	0.02	8	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	1638	2.2	6.8	**5.8**	0.40	0.72	234	0.4	0.9	**0.4**	0.02	0.05	*C15*
Stomach	11490	15.4	47.8	**40.5**	2.34	5.10	8198	12.5	30.0	**17.4**	0.96	2.19	*C16*
Small intestine	89	0.1	0.4	**0.3**	0.02	0.04	102	0.2	0.4	**0.2**	0.01	0.03	*C17*
Colon	3144	4.2	13.1	**11.1**	0.59	1.39	3933	6.0	14.4	**8.4**	0.49	1.06	*C18*
Rectum	3037	4.1	12.6	**10.7**	0.55	1.41	3040	4.6	11.1	**6.6**	0.40	0.83	*C19-20*
‡Anus	803	1.1	3.3	**2.9**	0.15	0.35	893	1.4	3.3	**1.8**	0.10	0.23	*C21*
Liver	1180	1.6	4.9	**4.2**	0.22	0.52	824	1.3	3.0	**1.8**	0.10	0.22	*C22*
Gallbladder etc.	346	0.5	1.4	**1.2**	0.07	0.15	647	1.0	2.4	**1.3**	0.07	0.18	*C23-24*
Pancreas	2299	3.1	9.6	**8.1**	0.48	1.03	1848	2.8	6.8	**3.7**	0.18	0.46	*C25*
Nose, sinuses etc.	191	0.3	0.8	**0.7**	0.05	0.08	131	0.2	0.5	**0.3**	0.02	0.03	*C30-31*
Larynx	3043	4.1	12.7	**10.8**	0.82	1.34	77	0.1	0.3	**0.2**	0.02	0.02	*C32*
Trachea, bronchus and lung	19886	26.6	82.8	**69.5**	4.46	9.26	2433	3.7	8.9	**4.9**	0.25	0.61	*C33-34*
Other thoracic organs	205	0.3	0.9	**0.7**	0.05	0.08	130	0.2	0.5	**0.4**	0.02	0.04	*C37-38*
Bone	393	0.5	1.6	**1.5**	0.10	0.15	320	0.5	1.2	**1.0**	0.06	0.09	*C40-41*
Melanoma of skin	583	0.8	2.4	**2.1**	0.14	0.22	1131	1.7	4.1	**2.9**	0.21	0.32	*C43*
Other skin	5279		22.0	**18.9**	0.88	2.23	8078		29.5	**16.7**	0.89	2.00	*C44*
Mesothelioma	98	0.1	0.4	**0.3**	0.02	0.05	101	0.2	0.4	**0.3**	0.02	0.03	*C45*
Kaposi sarcoma	0	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	552	0.7	2.3	**2.1**	0.14	0.21	610	0.9	2.2	**1.7**	0.11	0.17	*C47+C49*
Breast	108	0.1	0.4	**0.4**	0.02	0.04	12383	18.8	45.3	**33.0**	2.60	3.67	*C50*
Vulva							288	0.4	1.1	**0.6**	0.02	0.07	*C51*
Vagina							63	0.1	0.2	**0.1**	0.01	0.02	*C52*
Cervix uteri							4857	7.4	17.8	**13.4**	1.03	1.39	*C53*
Corpus uteri							5156	7.8	18.9	**13.1**	1.06	1.59	*C54*
Uterus unspecified							149	0.2	0.5	**0.4**	0.03	0.04	*C55*
Ovary							4030	6.1	14.7	**10.4**	0.80	1.21	*C56*
Other female genital organs							628	1.0	2.3	**1.3**	0.07	0.16	*C57*
Placenta							29	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	194	0.3	0.8	**0.7**	0.05	0.08							*C60*
Prostate	4532	6.1	18.9	**16.0**	0.48	2.07							*C61*
Testis	395	0.5	1.6	**1.5**	0.10	0.12							*C62*
Other male genital organs	10	0.0	0.0	**0.0**	0.00	0.01							*C63*
Kidney	2932	3.9	12.2	**10.5**	0.71	1.27	1970	3.0	7.2	**5.0**	0.35	0.59	*C64*
Renal pelvis	29	0.0	0.1	**0.1**	0.01	0.01	13	0.0	0.0	**0.0**	0.00	0.00	*C65*
Ureter	13	0.0	0.1	**0.0**	0.00	0.01	6	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	3873	5.2	16.1	**13.6**	0.63	1.76	803	1.2	2.9	**1.6**	0.07	0.19	*C67*
Other urinary organs	5	0.0	0.0	**0.0**	0.00	0.00	18	0.0	0.1	**0.0**	0.00	0.01	*C68*
Eye	209	0.3	0.9	**0.8**	0.05	0.08	223	0.3	0.8	**0.6**	0.04	0.07	*C69*
Brain, nervous system	1247	1.7	5.2	**4.8**	0.35	0.46	1114	1.7	4.1	**3.7**	0.27	0.33	*C70-72*
Thyroid	586	0.8	2.4	**2.3**	0.15	0.20	2636	4.0	9.6	**8.5**	0.65	0.75	*C73*
Adrenal gland	128	0.2	0.5	**0.5**	0.03	0.05	76	0.1	0.3	**0.2**	0.02	0.02	*C74*
Other endocrine	11	0.0	0.0	**0.0**	0.00	0.00	22	0.0	0.1	**0.1**	0.00	0.01	*C75*
Hodgkin disease	669	0.9	2.8	**2.6**	0.18	0.22	681	1.0	2.5	**2.5**	0.16	0.19	*C81*
Non-Hodgkin lymphoma	1120	1.5	4.7	**4.2**	0.26	0.45	940	1.4	3.4	**2.5**	0.16	0.27	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	386	0.5	1.6	**1.4**	0.09	0.18	481	0.7	1.8	**1.1**	0.08	0.14	*C90*
Lymphoid leukaemia	1450	1.9	6.0	**5.5**	0.29	0.63	1163	1.8	4.3	**3.1**	0.17	0.33	*C91*
Myeloid leukaemia	916	1.2	3.8	**3.3**	0.20	0.38	935	1.4	3.4	**2.4**	0.17	0.27	*C92-94*
Leukaemia unspecified	121	0.2	0.5	**0.5**	0.03	0.05	139	0.2	0.5	**0.4**	0.03	0.04	*C95*
Other and unspecified	1809	2.4	7.5	**6.4**	0.38	0.80	1387	2.1	5.1	**3.2**	0.19	0.38	*O&U*
All sites	80082		333.3	**284.7**	16.81	35.44	73907		270.3	**179.2**	12.03	20.51	*ALL*
All sites but C44	74803	100.0	311.4	**265.8**	15.94	33.21	65829	100.0	240.7	**162.5**	11.14	18.51	*ALLbC44*

§Includes 1 case of unknown age
‡94.8% of cases are anorectal tumours

§Includes 2 cases of unknown age
‡92.0% of cases are anorectal tumours

Belgium, Flanders (excluding Limburg)

Registration area

Flanders is situated in the north of Belgium and includes five provinces. The estimated mid-year population for 1996 is 5 889 590, of which 5% are foreigners. The mean population density is 436 inhabitants per km^2. In 1996 the number of over-60s made up 21.5% of the total population with 10.7% over 70 years of age. In 1994–97 the life expectancy at birth was 75.6 years for men and 81.7 for women. At 60 years of age, life expectancy is estimated at 19.7 years for men and 24.4 for women.

More than 99% of the population living in Flanders subscribes to one of the Sickness Funds for mandatory sickness insurance. These Sickness Funds are grouped in a national health insurance system.

In 1996 there were 3.1 physicians per 1000 inhabitants and 5.4 general hospital beds per 1000 inhabitants.

The medical care institutions are easily accessible and medical care is provided in one of the 116 general hospitals of which nine counted more than 500 beds in 1996.

Cancer care facilities

There are no cancer hospitals or regional cancer centres; oncology and radiotherapy are provided by general and university hospitals. For the whole country in 1996, 265 radiotherapists and almost 250 pathologists were registered at the Ministry of Social Affairs. In 1994 there were 42 radiotherapy services in Belgium of which 14 are located in university hospitals.

Registry structure

The National Cancer Registry is subsidized by the National Ministry of Social Affairs and Public Health. The National Cancer Registry is a department of the Belgisch Werk tegen Kanker – Oeuvre Belge du Cancer.

Since 1983 the Sickness Funds have been collecting data on newly diagnosed malignant tumours among their contributing members and families. In Flanders other cancer registration systems have been integrated into a cancer registration network since 1996: the provincial cancer registry in Antwerp (AKR), the provincial cancer registry in Limburg (LIKAR), the bronchus carcinoma registry for Flanders (VRGT), some hospital cancer registries and three pathology laboratories. This network is funded by the Flemish Community.

Both active and passive data collection methods are used in the network but all data are provided electronically to the National Cancer Registry in a predefined structure.

Due to privacy regulations it is only permitted to transmit coded medical data. Personal identifiers are encrypted using the same procedure in the hospitals, Sickness Funds, and pathology laboratories.

All invasive and *in situ* tumours are registered. Topography, morphology, behaviour and differentiation are coded to ICD-O-2. In Flanders the majority of the pathologists works with CODAP codes which are translated to ICD-O-2 by a computer program. For staging of tumours the TNM classification (4th edition) is used. The rules of IARC/IACR for classifying multiple primaries have been slightly adapted.

All incoming data are checked at the National Cancer Registry with a control program based on the rules of the IARC CHECK program and supplemented with other control programs developed at the registry.

Multiple notifications for the same tumour are linked according to the encrypted personal identifier at the National Cancer Registry and summarized by automated decision rules. A minority of cases is resolved manually.

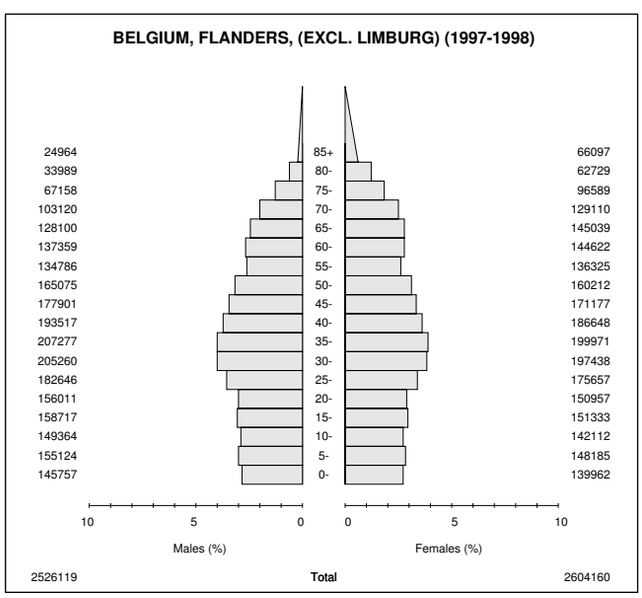
Death certificates are anonymous and cannot be used.

Interpreting the results

Although there are no organized screening programmes for cervical and breast cancer, many women do have a Pap smear and mammography taken regularly. There are some local initiatives for mammographic breast cancer screening, cervical cancer and prostate cancer screening.

Use of the data

Annual incidence data by sex, age, site and geographical units (Belgium, Flanders, Wallonia and Brussels) are routinely produced. Detailed data for the major cancer sites are presented in separate leaflets that are published and distributed. Data are also displayed on the website of the National Cancer Registry. Numerous requests for data are received from research workers, clinicians, health care planners, paramedics and the general public.



Source of population

The 1996 population is a mid-year estimate, based on the population calculated for 1.1.96 and 1.1.97, and provided by the National Institute for Statistics.

Notes on the data

* The high proportion of morphological verification, rather high mortality/incidence ratios for some sites and some rather low rates may reflect missing cases.

† C44 does not include basal cell carcinomas.

*BELGIUM, FLANDERS, (EXCL. LIMBURG) (1997-1998)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	64	0.3	1.3	**0.7**	0.03	0.08	17	0.1	0.3	**0.1**	0.00	0.02	*C00*
Tongue	170	0.7	3.4	**2.3**	0.18	0.27	61	0.3	1.2	**0.7**	0.05	0.08	*C01-02*
Mouth	259	1.0	5.1	**3.5**	0.27	0.40	102	0.5	2.0	**1.2**	0.08	0.14	*C03-06*
Salivary glands	68	0.3	1.3	**0.9**	0.06	0.11	34	0.2	0.7	**0.4**	0.02	0.04	*C07-08*
Tonsil	113	0.5	2.2	**1.5**	0.13	0.18	37	0.2	0.7	**0.4**	0.03	0.05	*C09*
Other oropharynx	52	0.2	1.0	**0.7**	0.06	0.08	9	0.0	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	19	0.1	0.4	**0.3**	0.02	0.03	10	0.0	0.2	**0.2**	0.01	0.01	*C11*
Hypopharynx	124	0.5	2.5	**1.7**	0.13	0.21	15	0.1	0.3	**0.2**	0.02	0.03	*C12-13*
Pharynx unspecified	28	0.1	0.6	**0.3**	0.02	0.04	7	0.0	0.1	**0.1**	0.00	0.01	*C14*
Oesophagus	513	2.1	10.2	**6.3**	0.39	0.76	133	0.6	2.6	**1.2**	0.07	0.14	*C15*
Stomach	767	3.1	15.2	**8.2**	0.30	0.90	560	2.7	10.8	**3.9**	0.14	0.38	*C16*
Small intestine	67	0.3	1.3	**0.8**	0.05	0.10	53	0.3	1.0	**0.5**	0.03	0.06	*C17*
Colon	1759	7.1	34.8	**19.1**	0.78	2.26	1869	8.9	35.9	**15.0**	0.69	1.65	*C18*
Rectum	1373	5.5	27.2	**15.5**	0.76	1.89	944	4.5	18.1	**8.2**	0.44	0.97	*C19-20*
Anus	32	0.1	0.6	**0.4**	0.04	0.05	38	0.2	0.7	**0.3**	0.02	0.04	*C21*
Liver	267	1.1	5.3	**3.1**	0.15	0.36	203	1.0	3.9	**1.7**	0.08	0.15	*C22*
Gallbladder etc.	71	0.3	1.4	**0.7**	0.02	0.09	137	0.6	2.6	**1.0**	0.04	0.11	*C23-24*
Pancreas	417	1.7	8.3	**4.7**	0.23	0.58	470	2.2	9.0	**4.0**	0.19	0.47	*C25*
Nose, sinuses etc.	96	0.4	1.9	**1.2**	0.07	0.16	33	0.2	0.6	**0.4**	0.02	0.03	*C30-31*
Larynx	568	2.3	11.2	**7.0**	0.48	0.88	50	0.2	1.0	**0.6**	0.05	0.07	*C32*
Trachea, bronchus and lung	5103	20.6	101.0	**57.5**	2.78	7.29	942	4.5	18.1	**9.8**	0.63	1.16	*C33-34*
Other thoracic organs	73	0.3	1.4	**0.9**	0.06	0.10	52	0.2	1.0	**0.6**	0.03	0.06	*C37-38*
Bone	90	0.4	1.8	**1.4**	0.08	0.12	80	0.4	1.5	**1.1**	0.08	0.09	*C40-41*
Melanoma of skin	293	1.2	5.8	**3.8**	0.26	0.43	476	2.3	9.1	**5.9**	0.41	0.59	*C43*
†Other skin	1343		26.6	**14.5**	0.58	1.58	1329		25.5	**11.3**	0.62	1.21	*C44*
Mesothelioma	150	0.6	3.0	**1.8**	0.12	0.22	39	0.2	0.7	**0.4**	0.03	0.05	*C45*
Kaposi sarcoma	21	0.1	0.4	**0.3**	0.02	0.03	12	0.1	0.2	**0.1**	0.01	0.01	*C46*
Connective and soft tissue	174	0.7	3.4	**2.6**	0.17	0.25	164	0.8	3.1	**2.1**	0.13	0.21	*C47+C49*
Breast	70	0.3	1.4	**0.8**	0.04	0.10	7274	34.5	139.7	**88.1**	6.88	9.75	*C50*
Vulva							115	0.5	2.2	**1.0**	0.05	0.10	*C51*
Vagina							38	0.2	0.7	**0.4**	0.03	0.05	*C52*
Cervix uteri							623	3.0	12.0	**8.4**	0.65	0.83	*C53*
Corpus uteri							1048	5.0	20.1	**10.6**	0.68	1.33	*C54*
Uterus unspecified							107	0.5	2.1	**1.0**	0.07	0.12	*C55*
Ovary							988	4.7	19.0	**11.1**	0.77	1.21	*C56*
Other female genital organs							29	0.1	0.6	**0.4**	0.02	0.04	*C57*
Placenta							2	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	61	0.2	1.2	**0.7**	0.03	0.07							*C60*
Prostate	5636	22.8	111.6	**59.6**	2.11	7.36							*C61*
Testis	173	0.7	3.4	**3.2**	0.22	0.24							*C62*
Other male genital organs	10	0.0	0.2	**0.1**	0.00	0.01							*C63*
Kidney	596	2.4	11.8	**7.2**	0.37	0.89	470	2.2	9.0	**4.8**	0.27	0.52	*C64*
Renal pelvis	22	0.1	0.4	**0.3**	0.01	0.03	24	0.1	0.5	**0.2**	0.01	0.03	*C65*
Ureter	40	0.2	0.8	**0.4**	0.01	0.05	25	0.1	0.5	**0.2**	0.01	0.03	*C66*
Bladder	1799	7.3	35.6	**19.5**	0.80	2.29	519	2.5	10.0	**4.2**	0.18	0.47	*C67*
Other urinary organs	36	0.1	0.7	**0.4**	0.03	0.05	15	0.1	0.3	**0.1**	0.00	0.02	*C68*
Eye	39	0.2	0.8	**0.5**	0.04	0.06	67	0.3	1.3	**0.8**	0.04	0.07	*C69*
Brain, nervous system	457	1.8	9.0	**6.8**	0.44	0.68	356	1.7	6.8	**5.0**	0.33	0.48	*C70-72*
Thyroid	77	0.3	1.5	**1.2**	0.09	0.11	172	0.8	3.3	**2.2**	0.14	0.21	*C73*
Adrenal gland	23	0.1	0.5	**0.5**	0.03	0.04	33	0.2	0.6	**0.6**	0.04	0.05	*C74*
Other endocrine	17	0.1	0.3	**0.2**	0.01	0.02	8	0.0	0.2	**0.1**	0.00	0.01	*C75*
Hodgkin disease	140	0.6	2.8	**2.4**	0.17	0.20	107	0.5	2.1	**1.9**	0.12	0.15	*C81*
Non-Hodgkin lymphoma	887	3.6	17.6	**11.8**	0.70	1.26	726	3.4	13.9	**7.6**	0.45	0.85	*C82-85,C96*
Immunoproliferative diseases	19	0.1	0.4	**0.2**	0.01	0.01	12	0.1	0.2	**0.1**	0.01	0.01	*C88*
Multiple myeloma	307	1.2	6.1	**3.4**	0.17	0.41	312	1.5	6.0	**2.8**	0.15	0.33	*C90*
Lymphoid leukaemia	337	1.4	6.7	**4.7**	0.25	0.48	226	1.1	4.3	**2.7**	0.14	0.26	*C91*
Myeloid leukaemia	291	1.2	5.8	**3.7**	0.18	0.40	239	1.1	4.6	**2.8**	0.17	0.29	*C92-94*
Leukaemia unspecified	38	0.2	0.8	**0.5**	0.02	0.05	41	0.2	0.8	**0.3**	0.02	0.03	*C95*
Other and unspecified	946	3.8	18.7	**10.9**	0.54	1.25	966	4.6	18.5	**9.2**	0.53	1.00	*O&U*
All sites	26095		516.5	**301.1**	14.50	35.46	22418		430.4	**238.2**	15.71	26.09	*ALL*
All sites but C44	24752	100.0	489.9	**286.6**	13.92	33.89	21089	100.0	404.9	**226.9**	15.09	24.88	*ALLbC44*

†See note following population pyramid

Belgium, Limburg

Registration area

The area of the Limburg Cancer Registry consists of the province Limburg, situated in the North East of Belgium. The territory covers 2 422 km² or 7.9% of the Belgian territory.

The only two major cities, Hasselt (67 777 inhabitants in 1998) and Genk (62 654 in 1998) constitute 17% of the population . Both are situated in the area of Middle Limburg. North and Middle Limburg have developed activities especially related to the petrochemical, electronic and automobile industries. The industrial zone is gradually spreading into West Limburg and the Maasland. The South of Limburg has remained a rural area with fruit farming as its major activity.

Cancer care facilities

In the province of Limburg, about 3290 hospital beds are available in eight hospitals. The ZOL (Ziekenhuis Oost Limburg) with 810 beds, the Virga Jesse with 567 beds and the Salvator-St Ursula Ziekenhuis with 434 beds are the largest and have a partnership for the treatment of cancer patients, the LOC (Limburgs Oncologisch Centrum). The other hospitals in the region have a free operational linkage with the LOC. Moreover, the Virga Jesse Hospital has a well-equipped radiotherapy department. In spite of these facilities in the region itself, a significant number of patients visit the university hospitals of Leuven (located at 30 to 80 km) for their treatment.

Limburg counts some 1200 general practitioners. There are 15 regional platforms, the SamenwerkingsInitiatief Thuiszorg, which cover the whole region, to coordinate general practitioners, nursing and social services for home-care, There are also four regional initiatives (VZWs) for palliative care.

Registry structure and methods

Data are provided by all pathological laboratories located in the province and all pathological departments outside the province which regularly examine samples from Limburg inhabitants. Data on patients without histology are sought in the hospitals. Patient information, details on treating physicians and diagnostic results are centrally registered and stored at the Expertisecentrum Digitale Media (EDM) of the University of Diepenbeek.

Collaboration with the National Cancer Registry (NKR) and the Antwerp Cancer Registry (AKR) includes the use of a common encryption procedure for the identity of the patient and allows exchange of data. Information on cancers in inhabitants diagnosed in the neighbouring Dutch hospitals is provided by the IKL and IKZ registries.

Interpreting the results

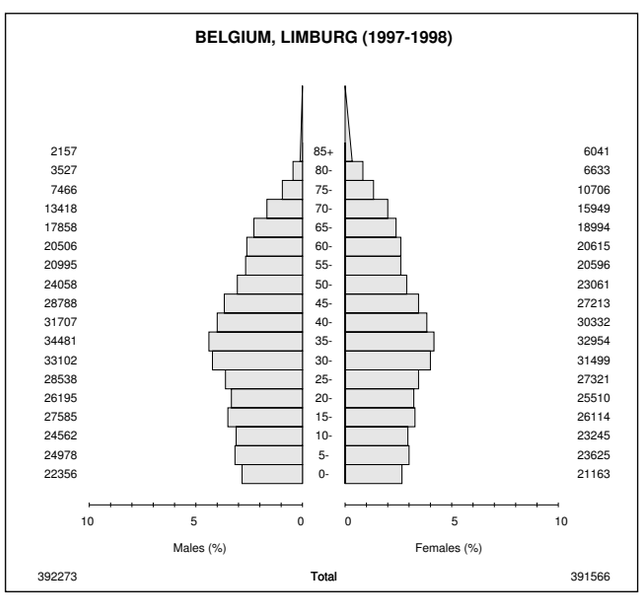
Incoming data are checked for completeness of demographic and clinical information. Missing data are completed by a feedback system, elaborated at EDM.

The registry functioned initially as a pathology-based registry, and a major effort was made to find and include cases diagnosed by other means. Very old patients, where biopsies are rarely performed or impossible because of a poor general condition or tumour site, may be under-enumerated.

Use of the data

The data collected permit continuous monitoring of incidence in relation to determinants such as age, sex, area of residence. The data are analysed and published regularly in order to promote a continuing improvement in prevention, diagnosis and follow-up of cancer.

Interval cancers are identified for the regional breast screening programme.



Source of population

The annual populations are estimates of the average population at the beginning and end of each year, provided by the National Institute for Statistics.

Notes on the data

* The high proportion of morphological verification, rather high mortality/incidence ratios for some sites and some rather low rates may reflect missing cases.

*BELGIUM, LIMBURG (1997-1998)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	16	0.4	2.0	**1.4**	0.08	0.15	3	0.1	0.4	**0.2**	0.01	0.02	*C00*
Tongue	12	0.3	1.5	**1.1**	0.09	0.14	7	0.2	0.9	**0.6**	0.04	0.05	*C01-02*
Mouth	29	0.7	3.7	**2.6**	0.17	0.28	9	0.3	1.1	**0.7**	0.04	0.07	*C03-06*
Salivary glands	9	0.2	1.1	**0.7**	0.03	0.08	6	0.2	0.8	**0.7**	0.04	0.07	*C07-08*
Tonsil	12	0.3	1.5	**1.1**	0.07	0.09	2	0.1	0.3	**0.2**	0.00	0.03	*C09*
Other oropharynx	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	1	0.0	0.1	**0.1**	0.01	0.01	2	0.1	0.3	**0.2**	0.01	0.02	*C11*
Hypopharynx	7	0.2	0.9	**0.7**	0.04	0.06	1	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	17	0.4	2.2	**1.5**	0.13	0.17	4	0.1	0.5	**0.5**	0.03	0.05	*C14*
Oesophagus	70	1.7	8.9	**6.2**	0.44	0.76	16	0.5	2.0	**1.1**	0.06	0.14	*C15*
Stomach	133	3.2	17.0	**11.4**	0.44	1.31	99	3.3	12.6	**6.1**	0.20	0.64	*C16*
Small intestine	13	0.3	1.7	**1.1**	0.07	0.15	9	0.3	1.1	**0.7**	0.05	0.08	*C17*
Colon	301	7.3	38.4	**25.5**	1.01	3.33	275	9.1	35.1	**18.8**	0.85	2.23	*C18*
Rectum	143	3.4	18.2	**12.5**	0.82	1.50	131	4.3	16.7	**8.9**	0.39	1.05	*C19-20*
‡Anus	7	0.2	0.9	**0.7**	0.08	0.08	2	0.1	0.3	**0.1**	0.01	0.01	*C21*
Liver	30	0.7	3.8	**3.0**	0.14	0.32	21	0.7	2.7	**1.6**	0.07	0.23	*C22*
Gallbladder etc.	16	0.4	2.0	**1.3**	0.06	0.20	11	0.4	1.4	**0.6**	0.02	0.05	*C23-24*
Pancreas	24	0.6	3.1	**2.1**	0.14	0.28	33	1.1	4.2	**2.5**	0.13	0.34	*C25*
Nose, sinuses etc.	3	0.1	0.4	**0.4**	0.03	0.03	2	0.1	0.3	**0.1**	0.00	0.03	*C30-31*
Larynx	73	1.8	9.3	**6.5**	0.41	0.86	8	0.3	1.0	**0.7**	0.06	0.10	*C32*
Trachea, bronchus and lung	756	18.2	96.4	**63.8**	2.97	8.62	142	4.7	18.1	**11.7**	0.84	1.52	*C33-34*
Other thoracic organs	2	0.0	0.3	**0.2**	0.01	0.01	3	0.1	0.4	**0.5**	0.03	0.03	*C37-38*
Bone	7	0.2	0.9	**0.8**	0.06	0.07	11	0.4	1.4	**1.0**	0.06	0.09	*C40-41*
Melanoma of skin	34	0.8	4.3	**3.2**	0.26	0.36	86	2.8	11.0	**8.0**	0.60	0.86	*C43*
Other skin	817		104.1	**70.6**	3.31	7.99	694		88.6	**50.5**	2.78	5.01	*C44*
Mesothelioma	13	0.3	1.7	**1.1**	0.06	0.13	8	0.3	1.0	**0.5**	0.02	0.05	*C45*
Kaposi sarcoma	4	0.1	0.5	**0.3**	0.00	0.01	2	0.1	0.3	**0.2**	0.01	0.02	*C46*
Connective and soft tissue	22	0.5	2.8	**2.1**	0.10	0.21	13	0.4	1.7	**1.2**	0.09	0.12	*C47+C49*
Breast	13	0.3	1.7	**1.1**	0.06	0.13	811	26.8	103.6	**71.8**	5.56	7.97	*C50*
Vulva							16	0.5	2.0	**0.9**	0.02	0.07	*C51*
Vagina							10	0.3	1.3	**0.7**	0.05	0.11	*C52*
Cervix uteri							87	2.9	11.1	**7.6**	0.56	0.79	*C53*
Corpus uteri							114	3.8	14.6	**9.4**	0.70	1.23	*C54*
Uterus unspecified							57	1.9	7.3	**5.1**	0.40	0.62	*C55*
Ovary							91	3.0	11.6	**8.2**	0.67	0.92	*C56*
Other female genital organs							4	0.1	0.5	**0.4**	0.03	0.05	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	8	0.2	1.0	**0.7**	0.04	0.07							*C60*
Prostate	1008	24.3	128.5	**84.4**	3.38	11.11							*C61*
Testis	25	0.6	3.2	**3.0**	0.21	0.21							*C62*
Other male genital organs	3	0.1	0.4	**0.3**	0.01	0.02							*C63*
Kidney	108	2.6	13.8	**9.6**	0.59	1.16	76	2.5	9.7	**6.1**	0.36	0.79	*C64*
Renal pelvis	3	0.1	0.4	**0.3**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C65*
Ureter	12	0.3	1.5	**1.0**	0.02	0.14	2	0.1	0.3	**0.1**	0.00	0.00	*C66*
Bladder	497	12.0	63.3	**42.5**	1.98	5.00	111	3.7	14.2	**7.9**	0.41	1.01	*C67*
Other urinary organs	1	0.0	0.1	**0.1**	0.00	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	6	0.1	0.8	**0.7**	0.03	0.07	4	0.1	0.5	**0.3**	0.00	0.05	*C69*
Brain, nervous system	63	1.5	8.0	**6.6**	0.45	0.68	52	1.7	6.6	**5.4**	0.39	0.54	*C70-72*
Thyroid	6	0.1	0.8	**0.6**	0.06	0.06	27	0.9	3.4	**2.7**	0.23	0.28	*C73*
Adrenal gland	2	0.0	0.3	**0.3**	0.01	0.03	3	0.1	0.4	**0.3**	0.02	0.04	*C74*
Other endocrine	1	0.0	0.1	**0.3**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	21	0.5	2.7	**2.2**	0.13	0.25	20	0.7	2.6	**2.6**	0.17	0.20	*C81*
Non-Hodgkin lymphoma	152	3.7	19.4	**14.2**	0.82	1.52	163	5.4	20.8	**13.1**	0.82	1.54	*C82-85,C96*
Immunoproliferative diseases	2	0.0	0.3	**0.2**	0.01	0.03	5	0.2	0.6	**0.3**	0.01	0.01	*C88*
Multiple myeloma	49	1.2	6.2	**4.3**	0.28	0.46	39	1.3	5.0	**2.9**	0.15	0.36	*C90*
Lymphoid leukaemia	59	1.4	7.5	**5.3**	0.24	0.64	33	1.1	4.2	**2.4**	0.09	0.22	*C91*
Myeloid leukaemia	41	1.0	5.2	**3.8**	0.19	0.41	24	0.8	3.1	**1.7**	0.10	0.21	*C92-94*
Leukaemia unspecified	3	0.1	0.4	**0.3**	0.02	0.02	3	0.1	0.4	**0.3**	0.02	0.03	*C95*
Other and unspecified	310	7.5	39.5	**27.8**	1.74	3.50	366	12.1	46.7	**30.3**	2.14	3.60	*O&U*
All sites	4964		632.7	**431.4**	21.32	52.74	3718		474.8	**298.5**	19.39	33.55	*ALL*
All sites but C44	4147	100.0	528.6	**360.8**	18.01	44.76	3024	100.0	386.1	**248.0**	16.61	28.54	*ALLbC44*

‡50.0% of cases are anorectal tumours

Croatia

Registration area

The Croatian Cancer Registry covers the whole country of Croatia. The Republic of Croatia is situated along the eastern coast of the Adriatic sea and covers an area stretching up to the last slopes of the Alps and deep into the Panonian Valley to the banks of the Drava and Danube Rivers. Croatia is divided into three geographical regions: the Mediterranean, the Mountainous, and the Pannonian. Roman Catholics account for 87.8% of the population. Administratively, the country is divided into 20 counties and the city of Zagreb.

Cancer care facilities

New health legislation was passed in 1993 which has permitted the opening of private practices and establishment of private institutions.

In 1997, the health service had a workforce of 11 000 physicians (1 per 431 population), the health worker total being 51 086. The health service entry points were primary care physicians, i.e. general practitioners, gynaecologists, paediatricians and medical stomatologists in 120 health centres. When necessary, the primary health service referred patients to a polyclinic-consultant service or to a hospital. There were 23 general hospitals with 27 472 beds (5.7 per 1000 population). In addition there were 12 clinical and two clinical teaching hospitals, and some specialized hospitals, of which one was dedicated to oncology. Most health institutions admitted oncology cases; special oncology units (with a full range of services) operated in bigger centres, mainly in the clinical hospitals.

Registry structure and methods

The registry is part of the Epidemiology Service at the Croatian National Institute of Public Health in Zagreb, the capital of Croatia, and is funded by the Ministry of Health. The registry is staffed full-time by a medical doctor, a senior statistician, a technician and two data entry clerks.

The basic notifications are from hospital discharge, outpatients, pathology reports and primary care. Additional information is derived from every official death certificate that mentions cancer. Notifications include the name of the health providers (hospital or physician) so that they can be contacted for further information.

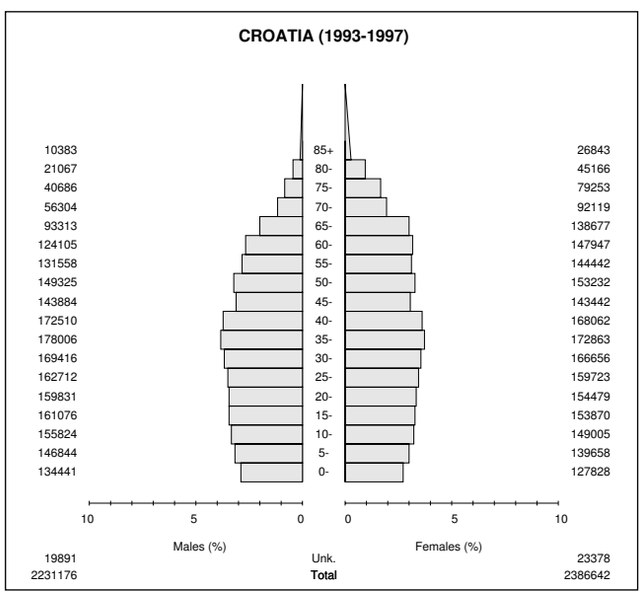
Interpreting the results

The Croatian war of independence and occupation in part of the country from 1991 to 1995 had an impact on the incidence data.

Use of the data

Cancer incidence data have appeared each year in a special bulletin and in the Institute's joint annual report since 1976. Analyses and observed trends are published in medical journals. Some special studies on survival of registered cancer cases have been carried out.

The registry was created in response to the growing public health problem posed by cancer. Data on cancer incidence are used for planning and evaluation of preventive measures and health-care services.



Source of population

Census of population, 31 March 1991, Documentation 882, Republic of Croatia, Central Bureau of Statistics, Zagreb, 1994.

Census of population, 2001, Republic of Croatia, Central Bureau of Statistics, Zagreb, 2002.

Intercensal estimates, making allowance for births, deaths and migration, provided by the Central Bureau of Statistics.

Notes on the data

* The high proportion of cases based on a death certificate alone and some unexpected mortality/incidence ratios indicate under-ascertainment.

† C44 is not available.

*CROATIA (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	338	0.8	3.0	**2.2**	0.12	0.28	131	0.4	1.1	**0.5**	0.02	0.05	*C00*
Tongue	618	1.4	5.5	**4.1**	0.32	0.50	69	0.2	0.6	**0.4**	0.03	0.04	*C01-02*
Mouth	456	1.1	4.1	**3.0**	0.24	0.37	87	0.2	0.7	**0.5**	0.03	0.06	*C03-06*
Salivary glands	277	0.6	2.5	**1.9**	0.13	0.21	113	0.3	0.9	**0.6**	0.04	0.06	*C07-08*
Tonsil	235	0.5	2.1	**1.6**	0.12	0.20	26	0.1	0.2	**0.1**	0.01	0.02	*C09*
Other oropharynx	193	0.4	1.7	**1.3**	0.10	0.16	18	0.0	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	122	0.3	1.1	**0.8**	0.06	0.10	39	0.1	0.3	**0.2**	0.02	0.03	*C11*
Hypopharynx	607	1.4	5.4	**4.0**	0.31	0.50	41	0.1	0.3	**0.2**	0.02	0.02	*C12-13*
Pharynx unspecified	82	0.2	0.7	**0.5**	0.04	0.07	10	0.0	0.1	**0.0**	0.00	0.01	*C14*
Oesophagus	982	2.3	8.8	**6.4**	0.45	0.80	208	0.6	1.7	**0.9**	0.05	0.12	*C15*
Stomach	3767	8.7	33.8	**24.4**	1.16	3.12	2403	6.5	20.1	**10.3**	0.47	1.26	*C16*
Small intestine	94	0.2	0.8	**0.6**	0.03	0.08	69	0.2	0.6	**0.3**	0.02	0.04	*C17*
Colon	2579	6.0	23.1	**16.7**	0.76	2.16	2274	6.2	19.1	**10.1**	0.51	1.23	*C18*
Rectum	2657	6.2	23.8	**17.1**	0.87	2.18	1991	5.4	16.7	**9.1**	0.50	1.14	*C19-20*
Anus	28	0.1	0.3	**0.2**	0.01	0.03	40	0.1	0.3	**0.2**	0.01	0.03	*C21*
Liver	1040	2.4	9.3	**6.7**	0.34	0.83	751	2.0	6.3	**3.2**	0.14	0.39	*C22*
Gallbladder etc.	398	0.9	3.6	**2.6**	0.11	0.33	827	2.2	6.9	**3.4**	0.14	0.45	*C23-24*
Pancreas	1319	3.1	11.8	**8.6**	0.45	1.06	1108	3.0	9.3	**4.7**	0.21	0.58	*C25*
Nose, sinuses etc.	76	0.2	0.7	**0.5**	0.02	0.07	72	0.2	0.6	**0.3**	0.02	0.04	*C30-31*
Larynx	1918	4.4	17.2	**12.7**	0.94	1.62	143	0.4	1.2	**0.7**	0.05	0.09	*C32*
Trachea, bronchus and lung	11402	26.4	102.2	**74.3**	4.43	10.05	2298	6.2	19.3	**10.8**	0.62	1.38	*C33-34*
Other thoracic organs	106	0.2	1.0	**0.7**	0.04	0.08	71	0.2	0.6	**0.4**	0.02	0.04	*C37-38*
Bone	259	0.6	2.3	**2.0**	0.12	0.21	195	0.5	1.6	**1.2**	0.07	0.11	*C40-41*
Melanoma of skin	642	1.5	5.8	**4.3**	0.28	0.50	639	1.7	5.4	**3.7**	0.27	0.39	*C43*
†Other skin	94		0.8	**0.7**	0.01	0.06	135		1.1	**0.5**	0.00	0.02	*C44*
Mesothelioma	168	0.4	1.5	**1.1**	0.08	0.14	54	0.1	0.5	**0.3**	0.02	0.03	*C45*
Kaposi sarcoma	1	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	177	0.4	1.6	**1.3**	0.08	0.14	184	0.5	1.5	**1.0**	0.06	0.10	*C47+C49*
Breast	136	0.3	1.2	**0.9**	0.04	0.11	8781	23.8	73.6	**47.3**	3.45	5.48	*C50*
Vulva							279	0.8	2.3	**1.2**	0.05	0.15	*C51*
Vagina							86	0.2	0.7	**0.4**	0.02	0.05	*C52*
Cervix uteri							2063	5.6	17.3	**12.5**	0.95	1.28	*C53*
Corpus uteri							2375	6.4	19.9	**11.9**	0.83	1.54	*C54*
Uterus unspecified							151	0.4	1.3	**0.6**	0.03	0.07	*C55*
Ovary							2075	5.6	17.4	**11.5**	0.82	1.31	*C56*
Other female genital organs							52	0.1	0.4	**0.3**	0.02	0.03	*C57*
Placenta							19	0.1	0.2	**0.2**	0.01	0.01	*C58*
Penis	64	0.1	0.6	**0.4**	0.02	0.05							*C60*
Prostate	3149	7.3	28.2	**20.0**	0.45	2.27							*C61*
Testis	341	0.8	3.1	**2.9**	0.20	0.21							*C62*
Other male genital organs	28	0.1	0.3	**0.2**	0.01	0.02							*C63*
Kidney	1063	2.5	9.5	**7.2**	0.44	0.91	724	2.0	6.1	**3.7**	0.22	0.44	*C64*
Renal pelvis	10	0.0	0.1	**0.1**	0.00	0.01	12	0.0	0.1	**0.0**	0.00	0.01	*C65*
Ureter	24	0.1	0.2	**0.2**	0.01	0.02	27	0.1	0.2	**0.1**	0.00	0.02	*C66*
Bladder	2099	4.9	18.8	**13.7**	0.56	1.72	662	1.8	5.5	**2.8**	0.13	0.36	*C67*
Other urinary organs	6	0.0	0.1	**0.0**	0.00	0.01	11	0.0	0.1	**0.0**	0.00	0.01	*C68*
Eye	47	0.1	0.4	**0.3**	0.02	0.03	57	0.2	0.5	**0.3**	0.02	0.03	*C69*
Brain, nervous system	1270	2.9	11.4	**9.3**	0.61	1.05	1088	2.9	9.1	**6.5**	0.44	0.72	*C70-72*
Thyroid	228	0.5	2.0	**1.6**	0.12	0.17	819	2.2	6.9	**5.3**	0.40	0.51	*C73*
Adrenal gland	31	0.1	0.3	**0.2**	0.01	0.03	43	0.1	0.4	**0.3**	0.02	0.03	*C74*
Other endocrine	29	0.1	0.3	**0.2**	0.01	0.02	20	0.1	0.2	**0.1**	0.01	0.01	*C75*
Hodgkin disease	166	0.4	1.5	**1.3**	0.09	0.11	165	0.4	1.4	**1.2**	0.08	0.10	*C81*
Non-Hodgkin lymphoma	704	1.6	6.3	**4.9**	0.29	0.57	686	1.9	5.7	**3.8**	0.22	0.41	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	331	0.8	3.0	**2.1**	0.10	0.27	347	0.9	2.9	**1.6**	0.08	0.21	*C90*
Lymphoid leukaemia	587	1.4	5.3	**4.7**	0.22	0.46	471	1.3	3.9	**2.8**	0.13	0.27	*C91*
Myeloid leukaemia	477	1.1	4.3	**3.3**	0.16	0.37	464	1.3	3.9	**2.4**	0.14	0.28	*C92-94*
Leukaemia unspecified	93	0.2	0.8	**0.6**	0.02	0.05	69	0.2	0.6	**0.3**	0.01	0.03	*C95*
Other and unspecified	1778	4.1	15.9	**11.7**	0.62	1.41	1553	4.2	13.0	**6.7**	0.30	0.72	*O&U*
All sites	43296		388.1	**286.3**	15.65	35.70	37095		310.9	**187.5**	11.74	21.79	*ALL*
All sites but C44	43202	100.0	387.3	**285.7**	15.63	35.65	36960	100.0	309.7	**187.0**	11.74	21.77	*ALLbC44*
	§Includes 336 cases of unknown age						§Includes 337 cases of unknown age						

†See note following population pyramid

Czech Republic

Registration area

The Czech Republic Cancer Registry is a territorial registry covering all residents of the Czech Republic, which lies in the middle of Europe. Climatic conditions do not vary markedly with geographical latitude over the territory, but are influenced by altitude. According to the 1991 census about 75% of the population live in cities. Since 1994 the total population has diminished slightly, mainly due to decreasing natality. Although ageing of the population is a long-term trend, the recent low numbers of newborns made it more visible. The proportion of children (aged 0–14) dropped below 19% in 1994.

Cancer care facilities

The Czech Republic has an extended network of health services. Oncological diseases are treated in specialized establishments in accordance with the kind of cancer. There are 88 outpatient establishments for clinical oncology, employing 105 physicians and 189 paramedical personnel. There are 42 outpatient radiotherapy departments with 104 physicians and 329 paramedical personnel. In the bed-care establishments (hospitals) there are 16 departments of clinical oncology with 475 beds, 71 physicians and 228 paramedicals, and 24 radiotherapy departments with 1185 beds, staffed by 111 physicians and 464 paramedicals.

Registry structure and methods

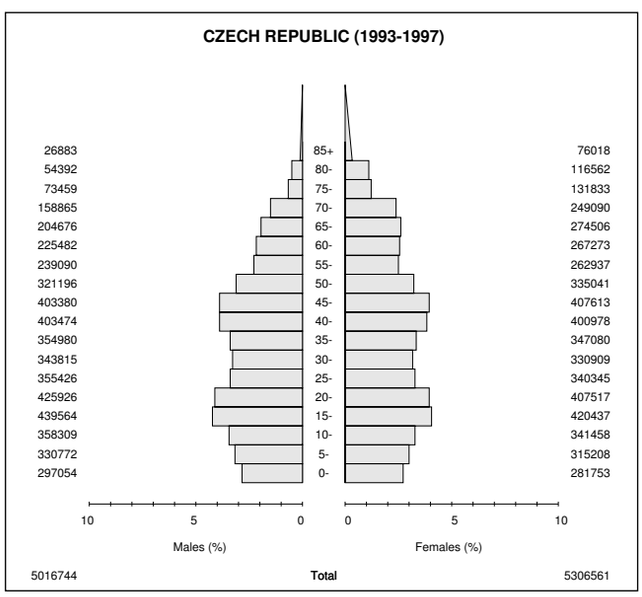
The Czech Cancer Registry (CCR) was founded in 1976 and connected with data collection on mortality from oncological diseases and their incidence which had been performed in the Republic since 1956. The CCR receives financial support from the Ministry of Health.

In the Czech Republic it is obligatory to report malignant and *in situ* neoplasms and neoplasms of uncertain or unspecified behaviour. The mandatory report is returned by the physician who diagnoses the neoplasm. Data collection is performed with the aid of District Units of CCR, which collect the mandatory reports, histopathological reports, discharge reports, protocols on surgery, etc.; these data are collated by the workers of the CCR Units. Collated data are transferred annually to the eight Regional CCR Units. Since 1994 all data (except for one region) have been collected and processed using a unified software with built-in online controls. The data from the Regional Registries are transferred annually to the central registry where, after checking and eliminating duplicates, the registry is updated. This process is supplemented by annual comparison with the database of deaths run by the Czech Statistical Office; CCR also has access to the death certificate database which is used for additional case-finding.

Apart from this statistical activity, the state of health of the patients is followed up continuously (except for non-melanoma skin cancer patients). Specialized follow-up (dispensary) health establishments return mandatory check-up reports for each case after 1, 2, 3, 4, 5, 7 and 10 years, then every five years, and on the death of a patient. The District and Regional CCR Units employ physicians – cancer specialists and nurses on part-time contracts, mostly in addition to their practice in the field. The centre in IHIS has three specialists working directly in OCR activities.

Use of the data

IHIS publishes a yearbook entitled *Neoplasms in the Czech Republic*, containing detailed data on incidence of neoplasms and mortality from cancer. Additional details are analysed for ten selected diagnoses (stage of disease, therapy). The Central Unit in IHIS processes in addition data for about 50 special requests a year, from specialists as well as the lay public (media), and compiles additional special publications. Other publications using registry data are prepared by other specialists or organizations.



Source of population

The annual populations are estimates provided by the Czech Statistical Office, based on the census of 3 March 1991, and taking into account births, deaths and migration.

CZECH REPUBLIC (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	371	0.3	1.5	**1.1**	0.05	0.13	143	0.1	0.5	**0.2**	0.01	0.02	*C00*
Tongue	764	0.7	3.0	**2.4**	0.19	0.26	149	0.1	0.6	**0.3**	0.02	0.04	*C01-02*
Mouth	790	0.7	3.1	**2.4**	0.20	0.27	225	0.2	0.8	**0.5**	0.04	0.06	*C03-06*
Salivary glands	315	0.3	1.3	**1.0**	0.06	0.10	243	0.2	0.9	**0.5**	0.03	0.06	*C07-08*
Tonsil	632	0.6	2.5	**1.9**	0.16	0.22	143	0.1	0.5	**0.3**	0.02	0.04	*C09*
Other oropharynx	195	0.2	0.8	**0.6**	0.05	0.07	21	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	204	0.2	0.8	**0.6**	0.05	0.07	95	0.1	0.4	**0.2**	0.01	0.02	*C11*
Hypopharynx	392	0.4	1.6	**1.2**	0.10	0.14	37	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	38	0.0	0.2	**0.1**	0.01	0.01	12	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	1684	1.5	6.7	**5.1**	0.36	0.58	301	0.3	1.1	**0.6**	0.03	0.06	*C15*
Stomach	6032	5.5	24.0	**17.3**	0.73	1.97	4711	4.5	17.8	**8.7**	0.37	0.93	*C16*
Small intestine	225	0.2	0.9	**0.7**	0.03	0.07	192	0.2	0.7	**0.4**	0.02	0.04	*C17*
Colon	9699	8.8	38.7	**28.1**	1.28	3.42	8965	8.6	33.8	**17.5**	0.85	2.04	*C18*
Rectum	8907	8.1	35.5	**26.2**	1.39	3.24	5805	5.6	21.9	**11.7**	0.61	1.40	*C19-20*
Anus	235	0.2	0.9	**0.7**	0.03	0.07	270	0.3	1.0	**0.6**	0.03	0.06	*C21*
Liver	2510	2.3	10.0	**7.3**	0.36	0.90	1586	1.5	6.0	**3.0**	0.13	0.35	*C22*
Gallbladder etc.	1594	1.5	6.4	**4.6**	0.18	0.54	3671	3.5	13.8	**6.7**	0.28	0.77	*C23-24*
Pancreas	3860	3.5	15.4	**11.3**	0.60	1.40	3699	3.6	13.9	**7.0**	0.31	0.83	*C25*
Nose, sinuses etc.	175	0.2	0.7	**0.5**	0.03	0.06	119	0.1	0.4	**0.3**	0.01	0.03	*C30-31*
Larynx	2414	2.2	9.6	**7.4**	0.57	0.89	192	0.2	0.7	**0.5**	0.04	0.06	*C32*
Trachea, bronchus and lung	24430	22.2	97.4	**73.0**	4.45	9.45	5685	5.5	21.4	**12.3**	0.75	1.49	*C33-34*
Other thoracic organs	313	0.3	1.2	**1.0**	0.06	0.11	253	0.2	1.0	**0.6**	0.04	0.06	*C37-38*
Bone	326	0.3	1.3	**1.1**	0.07	0.11	241	0.2	0.9	**0.7**	0.04	0.06	*C40-41*
Melanoma of skin	2658	2.4	10.6	**8.1**	0.52	0.93	3012	2.9	11.4	**7.9**	0.56	0.83	*C43*
Other skin	23983		95.6	**69.2**	3.03	8.05	24083		90.8	**48.7**	2.56	5.45	*C44*
Mesothelioma	150	0.1	0.6	**0.5**	0.03	0.06	112	0.1	0.4	**0.3**	0.02	0.03	*C45*
Kaposi sarcoma	42	0.0	0.2	**0.1**	0.00	0.01	20	0.0	0.1	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	625	0.6	2.5	**2.0**	0.12	0.21	586	0.6	2.2	**1.6**	0.10	0.16	*C47+C49*
Breast	172	0.2	0.7	**0.5**	0.03	0.06	22175	21.3	83.6	**52.9**	3.72	6.07	*C50*
Vulva							829	0.8	3.1	**1.7**	0.08	0.19	*C51*
Vagina							212	0.2	0.8	**0.5**	0.03	0.05	*C52*
Cervix uteri							5708	5.5	21.5	**16.1**	1.26	1.61	*C53*
Corpus uteri							7748	7.4	29.2	**18.2**	1.27	2.29	*C54*
Uterus unspecified							257	0.2	1.0	**0.5**	0.03	0.06	*C55*
Ovary							5713	5.5	21.5	**14.2**	1.04	1.60	*C56*
Other female genital organs							380	0.4	1.4	**0.8**	0.04	0.09	*C57*
Placenta							27	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	286	0.3	1.1	**0.8**	0.04	0.10							*C60*
Prostate	11618	10.6	46.3	**32.0**	0.76	3.66							*C61*
Testis	1729	1.6	6.9	**6.2**	0.46	0.47							*C62*
Other male genital organs	54	0.0	0.2	**0.2**	0.01	0.02							*C63*
Kidney	6687	6.1	26.7	**20.0**	1.23	2.47	4526	4.3	17.1	**10.2**	0.64	1.25	*C64*
Renal pelvis	276	0.3	1.1	**0.8**	0.04	0.10	263	0.3	1.0	**0.6**	0.04	0.07	*C65*
Ureter	100	0.1	0.4	**0.3**	0.01	0.04	75	0.1	0.3	**0.2**	0.01	0.02	*C66*
Bladder	6427	5.8	25.6	**18.7**	0.88	2.35	2296	2.2	8.7	**4.6**	0.23	0.55	*C67*
Other urinary organs	117	0.1	0.5	**0.3**	0.01	0.04	92	0.1	0.3	**0.2**	0.01	0.02	*C68*
Eye	216	0.2	0.9	**0.7**	0.05	0.07	238	0.2	0.9	**0.6**	0.04	0.07	*C69*
Brain, nervous system	1798	1.6	7.2	**6.1**	0.42	0.63	1462	1.4	5.5	**4.2**	0.28	0.43	*C70-72*
Thyroid	455	0.4	1.8	**1.4**	0.10	0.16	1568	1.5	5.9	**4.3**	0.31	0.43	*C73*
Adrenal gland	101	0.1	0.4	**0.3**	0.02	0.04	87	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	34	0.0	0.1	**0.1**	0.01	0.01	33	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	751	0.7	3.0	**2.7**	0.18	0.23	711	0.7	2.7	**2.3**	0.15	0.19	*C81*
Non-Hodgkin lymphoma	2267	2.1	9.0	**7.1**	0.43	0.79	2079	2.0	7.8	**4.8**	0.28	0.52	*C82-85,C96*
Immunoproliferative diseases	28	0.0	0.1	**0.1**	0.00	0.01	18	0.0	0.1	**0.0**	0.00	0.01	*C88*
Multiple myeloma	684	0.6	2.7	**2.0**	0.11	0.25	617	0.6	2.3	**1.3**	0.06	0.16	*C90*
Lymphoid leukaemia	1173	1.1	4.7	**4.0**	0.20	0.41	847	0.8	3.2	**2.4**	0.12	0.21	*C91*
Myeloid leukaemia	745	0.7	3.0	**2.4**	0.14	0.26	708	0.7	2.7	**1.8**	0.11	0.17	*C92-94*
Leukaemia unspecified	1034	0.9	4.1	**3.1**	0.14	0.32	1002	1.0	3.8	**1.9**	0.08	0.20	*C95*
Other and unspecified	3548	3.2	14.1	**10.6**	0.54	1.17	3939	3.8	14.8	**7.5**	0.34	0.80	*O&U*
All sites	133863		533.7	**396.1**	20.53	46.99	128181		483.1	**283.4**	17.09	32.01	*ALL*
All sites but C44	109880	100.0	438.1	**326.9**	17.50	38.94	104098	100.0	392.3	**234.6**	14.53	26.56	*ALLbC44*

Denmark

Registration area

The Kingdom of Denmark, excluding Greenland and the Faroe Islands covers 43 080 km² between latitudes 55° and 58° N, and longitudes 8° and 12° E. The mean population is 5 200 000; it is of Caucasian stock and fairly homogeneous. Approximately one-third of the population lives in the greater Copenhagen area, 40% in provincial towns of 10 000 to about 200 000 inhabitants, and the rest in rural areas. Since 1968 all inhabitants have been given a unique personal identifying number, used in most registration systems, including the cancer registry. A central computerized population register keeps a continuously updated file of personal information on all inhabitants.

Cancer care facilities

The medical care system is organized into a private sector of general practitioners and specialists under contract with the National Health insurance, and a public sector operating hospitals under the authority of the counties and communities or the Danish State. Health care is provided free to all inhabitants. Cancer surgery is carried out both at general hospitals and at oncological centres. 23 institutes of pathology service the hospital departments. Non-surgical cancer treatment is partially centralized at five regional radiotherapy and oncological centres. Almost the entire population is capable of reaching a regional cancer centre within a few hours by ground transport.

Registry structure and methods

The Danish Cancer Registry was founded in May 1942 as a nationwide programme to register all cancer cases in the population. Incidence figures are available from 1 January 1943. Registration is compulsory by administrative order as of 1 March 1987. This order also covers Greenland, and a similar order was issued for the Faroe Islands by the Faroe authorities. Data from Greenland are not included in the Danish incidence figures, but published separately. Data from the Faroe Islands are not included in the Danish Cancer Registry. The registry was, until January 1997, administratively part of the Danish Cancer Society, but has since January 1997 been the responsibility of the National Board of Health. A close collaboration between the Cancer Registry and the Danish Cancer Society that holds the full and regularly updated copy of the cancer registry for research purposes has been established. The Cancer Registry operates under the law on public authority registries with instructions established by the Ministry of Health and supervised by the National Data Protection Agency. The Danish Cancer Society copy of the Danish Cancer Registry operates under the law on private registries also supervised by the National Data Protection Agency. Data extraction and requests for data for research projects external to the Danish Cancer Society must be forwarded to the Cancer Registry at the National Board of Health.

Upon receipt at the cancer registry, notifications are checked and coded. Medical coding is carried out by physicians and trained medical coding staff. Duplicate registrations are identified with the help of the personal ID number. The coding process is supported by computer checks of consistency between variables (sex, codes, procedures, etc.), warning programmes and manual check procedures. New tumour cases are then included in the registry's computerized database and additions or corrections are made to previously notified cases. If the information received is incomplete or contradictory, an inquiry is made to the notifying clinician. All data up to 1977 were classified according to a modified version of ICD-7 expanded to include certain information on histology and tumour behaviour. All cases diagnosed since 1978 have been classified according to the ICD-O as well as the modified ICD-7.

Reported cases of cancer are linked to the Central Population Registry using the personal identification number, the identity is checked and information corresponding to the date of diagnosis is transferred to the registry file.

The entire registry database is cross-checked annually by computerized record linkage with all deaths that occur in the country. Medical certification of death by medical doctors is compulsory. Follow-back on death certified cancer cases unreported to the cancer registry is accomplished by mailed enquiries to the certifying physician or hospital. Less than 2% remain as DCO cases.

Computerized medical information systems on hospital discharges have been operating nationally since 1977. Since 1987, cases are also captured from this registry but only included if confirmed.

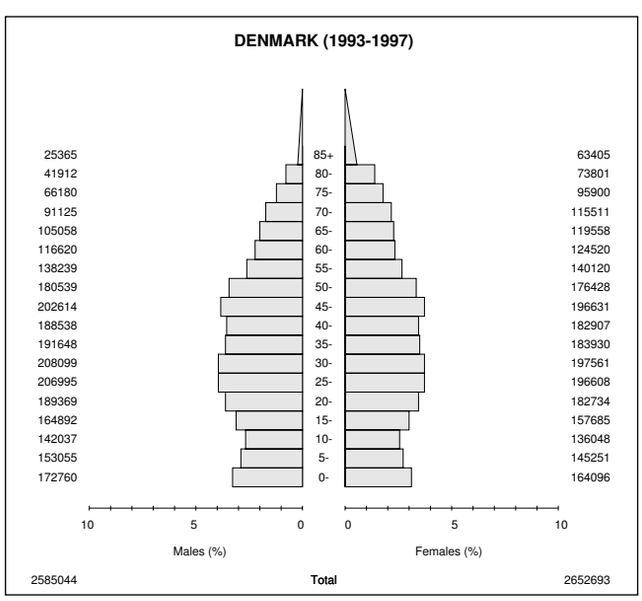
Interpreting the results

Assessments by linkage to patient discharge registers, pathology registers and patient series registry have shown that the completeness of the registry is 95–97%.

Use of the data

The registry produces morbidity statistics in relation to variation over time, age and geographical location. Since 1978, incidence data have been published for each year separately. These annually published data inlude non-invasive brain tumours.

The cancer registry is used extensively as an end-point in cohort studies of environmental factors and medical procedures in relation to cancer risk. The Cancer Society remains the prime research organization for the cancer registry in causes of cancer, prevention and cancer control.



Source of population

A continuous count of the population is maintained. The mid-year point has been taken for each year.

DENMARK (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	424	0.7	3.3	**2.0**	0.09	0.24	115	0.2	0.9	**0.4**	0.02	0.05	*C00*
Tongue	280	0.5	2.2	**1.5**	0.11	0.19	143	0.2	1.1	**0.6**	0.04	0.07	*C01-02*
Mouth	548	1.0	4.2	**3.0**	0.22	0.35	343	0.5	2.6	**1.4**	0.09	0.16	*C03-06*
Salivary glands	145	0.3	1.1	**0.7**	0.04	0.08	112	0.2	0.8	**0.5**	0.03	0.05	*C07-08*
Tonsil	285	0.5	2.2	**1.6**	0.13	0.19	81	0.1	0.6	**0.4**	0.03	0.05	*C09*
Other oropharynx	126	0.2	1.0	**0.7**	0.06	0.08	55	0.1	0.4	**0.3**	0.02	0.03	*C10*
Nasopharynx	66	0.1	0.5	**0.4**	0.03	0.04	35	0.1	0.3	**0.2**	0.01	0.02	*C11*
Hypopharynx	168	0.3	1.3	**0.9**	0.07	0.11	49	0.1	0.4	**0.2**	0.02	0.03	*C12-13*
Pharynx unspecified	34	0.1	0.3	**0.2**	0.02	0.02	3	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	1170	2.1	9.1	**5.8**	0.32	0.74	476	0.8	3.6	**1.7**	0.10	0.21	*C15*
Stomach	1755	3.1	13.6	**8.2**	0.40	0.97	1052	1.7	7.9	**3.6**	0.18	0.40	*C16*
Small intestine	129	0.2	1.0	**0.6**	0.03	0.07	133	0.2	1.0	**0.5**	0.03	0.06	*C17*
Colon	4551	8.0	35.2	**20.7**	0.91	2.44	5511	8.8	41.6	**18.6**	0.82	2.21	*C18*
Rectum	3598	6.3	27.8	**16.9**	0.81	2.08	2766	4.4	20.9	**10.1**	0.54	1.22	*C19-20*
Anus	133	0.2	1.0	**0.6**	0.04	0.07	258	0.4	1.9	**1.1**	0.07	0.12	*C21*
Liver	757	1.3	5.9	**3.7**	0.16	0.46	489	0.8	3.7	**1.8**	0.09	0.21	*C22*
Gallbladder etc.	328	0.6	2.5	**1.5**	0.07	0.16	545	0.9	4.1	**1.8**	0.07	0.21	*C23-24*
Pancreas	1525	2.7	11.8	**7.2**	0.37	0.89	1666	2.7	12.6	**5.8**	0.28	0.70	*C25*
Nose, sinuses etc.	184	0.3	1.4	**0.9**	0.05	0.10	118	0.2	0.9	**0.5**	0.02	0.06	*C30-31*
Larynx	1071	1.9	8.3	**5.7**	0.37	0.75	224	0.4	1.7	**1.1**	0.08	0.14	*C32*
Trachea, bronchus and lung	10128	17.8	78.4	**49.0**	2.42	6.49	6669	10.7	50.3	**29.7**	1.87	3.94	*C33-34*
Other thoracic organs	105	0.2	0.8	**0.6**	0.03	0.06	76	0.1	0.6	**0.3**	0.02	0.04	*C37-38*
Bone	141	0.2	1.1	**1.0**	0.06	0.08	111	0.2	0.8	**0.8**	0.05	0.06	*C40-41*
Melanoma of skin	1931	3.4	14.9	**10.5**	0.74	1.16	2498	4.0	18.8	**13.4**	1.00	1.33	*C43*
Other skin	12385		95.8	**58.9**	3.06	6.70	12751		96.1	**51.5**	3.20	5.80	*C44*
Mesothelioma	322	0.6	2.5	**1.6**	0.09	0.21	71	0.1	0.5	**0.3**	0.02	0.04	*C45*
Kaposi sarcoma	130	0.2	1.0	**0.8**	0.07	0.07	5	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	364	0.6	2.8	**2.0**	0.12	0.20	312	0.5	2.4	**1.6**	0.10	0.16	*C47+C49*
Breast	110	0.2	0.9	**0.5**	0.02	0.07	17082	27.3	128.8	**81.3**	6.12	9.31	*C50*
Vulva							419	0.7	3.2	**1.5**	0.09	0.16	*C51*
Vagina							150	0.2	1.1	**0.6**	0.03	0.07	*C52*
Cervix uteri							2351	3.8	17.7	**12.7**	0.94	1.27	*C53*
Corpus uteri							3063	4.9	23.1	**13.3**	0.82	1.76	*C54*
Uterus unspecified							204	0.3	1.5	**0.8**	0.05	0.09	*C55*
Ovary							2841	4.5	21.4	**13.3**	0.93	1.59	*C56*
Other female genital organs							155	0.2	1.2	**0.6**	0.04	0.07	*C57*
Placenta							6	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	201	0.4	1.6	**0.9**	0.05	0.11							*C60*
Prostate	7209	12.7	55.8	**29.9**	0.75	3.41							*C61*
Testis	1481	2.6	11.5	**9.9**	0.74	0.77							*C62*
Other male genital organs	28	0.0	0.2	**0.1**	0.01	0.02							*C63*
Kidney	1442	2.5	11.2	**7.4**	0.43	0.89	986	1.6	7.4	**4.1**	0.22	0.48	*C64*
Renal pelvis	336	0.6	2.6	**1.7**	0.08	0.23	241	0.4	1.8	**0.9**	0.05	0.12	*C65*
Ureter	153	0.3	1.2	**0.7**	0.03	0.10	90	0.1	0.7	**0.3**	0.02	0.05	*C66*
Bladder	6090	10.7	47.1	**28.3**	1.23	3.47	2069	3.3	15.6	**7.9**	0.43	0.97	*C67*
Other urinary organs	41	0.1	0.3	**0.2**	0.01	0.02	21	0.0	0.2	**0.1**	0.01	0.01	*C68*
Eye	177	0.3	1.4	**1.0**	0.06	0.10	178	0.3	1.3	**1.0**	0.06	0.10	*C69*
Brain, nervous system	1145	2.0	8.9	**7.3**	0.48	0.71	856	1.4	6.5	**5.0**	0.32	0.48	*C70-72*
Thyroid	173	0.3	1.3	**1.0**	0.07	0.10	428	0.7	3.2	**2.3**	0.16	0.21	*C73*
Adrenal gland	30	0.1	0.2	**0.2**	0.01	0.02	26	0.0	0.2	**0.2**	0.01	0.01	*C74*
Other endocrine	17	0.0	0.1	**0.2**	0.01	0.01	10	0.0	0.1	**0.1**	0.00	0.01	*C75*
Hodgkin disease	357	0.6	2.8	**2.4**	0.16	0.20	240	0.4	1.8	**1.6**	0.10	0.12	*C81*
Non-Hodgkin lymphoma	1928	3.4	14.9	**10.2**	0.61	1.11	1690	2.7	12.7	**7.3**	0.46	0.81	*C82-85,C96*
Immunoproliferative diseases	123	0.2	1.0	**0.5**	0.02	0.07	71	0.1	0.5	**0.2**	0.01	0.03	*C88*
Multiple myeloma	693	1.2	5.4	**3.3**	0.16	0.41	587	0.9	4.4	**2.1**	0.11	0.26	*C90*
Lymphoid leukaemia	990	1.7	7.7	**5.5**	0.27	0.54	731	1.2	5.5	**3.4**	0.17	0.31	*C91*
Myeloid leukaemia	745	1.3	5.8	**3.9**	0.20	0.41	661	1.1	5.0	**2.9**	0.16	0.30	*C92-94*
Leukaemia unspecified	51	0.1	0.4	**0.3**	0.01	0.02	44	0.1	0.3	**0.2**	0.01	0.01	*C95*
Other and unspecified	2861	5.0	22.1	**13.2**	0.57	1.57	3380	5.4	25.5	**11.9**	0.57	1.41	*O&U*
All sites	69164		535.1	**335.8**	16.88	39.36	75247		567.3	**323.7**	20.69	37.41	*ALL*
All sites but C44	56779	100.0	439.3	**277.0**	13.82	32.66	62496	100.0	471.2	**272.2**	17.49	31.61	*ALLbC44*

Estonia

Registration area

The Estonian Cancer Registry covers the whole Republic of Estonia. Of the total population at the 1989 census, 64% were Estonians, 29% Russians, 3% Ukrainians, 2% Belarusians and 2% other ethnic minorities; 71% of the population were living in urban areas. The life expectancy at birth was 61.7 years for men and 74.3 years for women.

Cancer care facilities

After Estonia's re-establishment of complete independence in 1991, the national health care system was reorganized from a state-controlled system to a decentralized health-insurance-based system. During this period, patients suspected of having cancer by the primary and secondary health care facilities were mostly referred to two specialized cancer hospitals (The Estonian Cancer Centre and Tartu University Clinic of Haematology and Oncology), which provided radiotherapy, cancer surgery and chemotherapy. Some cancer treatment was performed in general hospitals (surgery) or other specialized hospitals/departments (neurosurgery, haematology, paediatric oncology).

Registry structure and methods

Cancer registration in Estonia dates back to 1953 when compulsory registration of incident cancer cases started in the former USSR. The Estonian Cancer Registry was founded in 1978, while reliable incidence data have been available since 1968. Until 1991, the registry consisted of two subdivisions: (a) Department of Statistics of the Estonian Cancer Centre (ECC), and (b) Department of Epidemiology and Biostatistics of the Institute of Experimental and Clinical Medicine. In 1991, the former of these subunits, responsible for the data collection, was renamed the Estonian Cancer Registry; the scientific analyses based on the registry's data continued to be a task of the latter subunit. The year 1994 was a landmark of major reorganizations in the registry, particularly concerning data collection procedures and the structure of the database. The registry is funded from the state budget and employs a staff of five persons.

Reporting of cancer cases is compulsory by decree from the Minister of Social Affairs of Estonia. The registry receives notifications from treating physicians, and pathology and haematology laboratories. Coding and input is carried out in the registry. Cancer patients are followed up to death or emigration. The data file for all death certificates issued in Estonia is provided annually by the Statistical Office of Estonia, and the registry performs a trace-back procedure for cancer cases first notified by a death certificate. In order to update the migration data and other personal data, in 2000 the registry stated regular linkage with the Population Registry (founded in 1992 when the national identification code was introduced in Estonia). In 1998, the data confidentiality issue was drastically focused in the public media. To solve the conflict between the Ministries and specify the legal aspects of personal data protection, the forwarding of notifications to the registry was suspended for a month by administrative order. In February 2001, the Minister of Social Affairs issued a revised decree (No. 21) on cancer registration and the running of the Estonian Cancer Registry. This legislation regulated access to the registry's data in accordance with the Personal Data Protection Act.

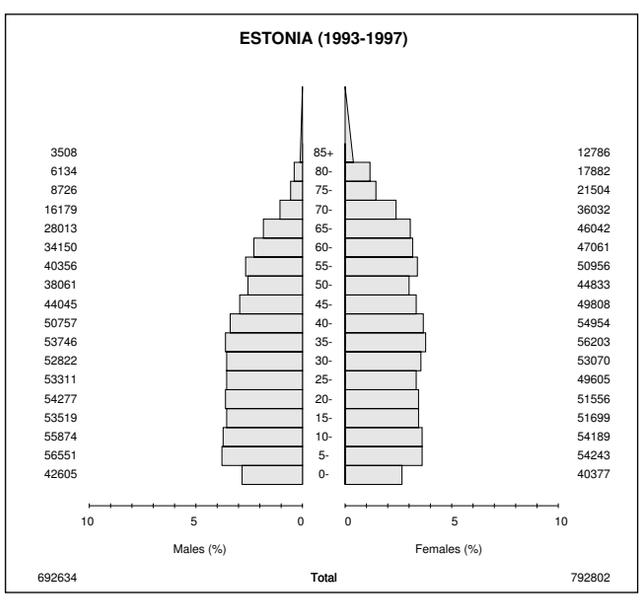
The quality of the data has not been formally evaluated; the first study on this subject is being carried out.

Interpreting the results

No nationwide organized mass screening programmes for the early detection of cancer have yet been introduced in Estonia. However, the wide use of PSA testing since 1993 may have caused the rapid increase in incidence of prostatic cancer. Opportunistic mammographic screening was introduced in some Estonian regions in the 1990s.

Use of the data

The registry publishes annual reports of cancer incidence which also highlight time trends in incidence (the first report available is for 1996). The data of the registry have been used for a number of descriptive and analytical epidemiological studies, including international comparisons. In 1996, a statistical compendium *Cancer in Estonia 1968–1992: Incidence, Mortality, Prevalence, Survival* was published. A considerable upswing in the use of the registry's data was expected within the context of the National Cancer Control Programme, developed by the Working Group and presented to the Government in spring 2000. However, as yet the programme has neither been approved nor received funding.



Source of population

Annual estimates based on the 1989 census, making allowance for births, deaths and migration.

ESTONIA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	65	0.5	1.9	**1.5**	0.06	0.20	26	0.2	0.7	**0.3**	0.01	0.03	*C00*
Tongue	128	1.0	3.7	**2.9**	0.24	0.36	24	0.2	0.6	**0.3**	0.02	0.04	*C01-02*
Mouth	144	1.1	4.2	**3.3**	0.27	0.40	36	0.3	0.9	**0.5**	0.03	0.06	*C03-06*
Salivary glands	42	0.3	1.2	**0.9**	0.05	0.10	28	0.2	0.7	**0.4**	0.03	0.04	*C07-08*
Tonsil	49	0.4	1.4	**1.2**	0.08	0.14	10	0.1	0.3	**0.2**	0.01	0.02	*C09*
Other oropharynx	81	0.6	2.3	**1.9**	0.18	0.22	11	0.1	0.3	**0.2**	0.01	0.03	*C10*
Nasopharynx	23	0.2	0.7	**0.6**	0.04	0.07	12	0.1	0.3	**0.2**	0.02	0.02	*C11*
Hypopharynx	102	0.8	2.9	**2.4**	0.20	0.31	7	0.1	0.2	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	9	0.1	0.3	**0.2**	0.02	0.03	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	261	2.1	7.5	**6.0**	0.40	0.75	55	0.4	1.4	**0.6**	0.02	0.06	*C15*
Stomach	1395	11.0	40.3	**31.9**	1.72	3.99	1127	9.1	28.4	**14.8**	0.81	1.79	*C16*
Small intestine	20	0.2	0.6	**0.5**	0.02	0.06	26	0.2	0.7	**0.4**	0.02	0.05	*C17*
Colon	717	5.7	20.7	**16.1**	0.76	2.05	1017	8.2	25.7	**13.0**	0.66	1.60	*C18*
Rectum	584	4.6	16.9	**13.4**	0.63	1.64	542	4.4	13.7	**6.8**	0.36	0.84	*C19-20*
Anus	21	0.2	0.6	**0.5**	0.03	0.05	35	0.3	0.9	**0.5**	0.02	0.06	*C21*
Liver	194	1.5	5.6	**4.4**	0.27	0.54	139	1.1	3.5	**1.9**	0.10	0.21	*C22*
Gallbladder etc.	69	0.5	2.0	**1.6**	0.07	0.20	134	1.1	3.4	**1.7**	0.09	0.21	*C23-24*
Pancreas	499	3.9	14.4	**11.4**	0.60	1.42	439	3.5	11.1	**5.3**	0.22	0.66	*C25*
Nose, sinuses etc.	37	0.3	1.1	**0.8**	0.06	0.09	20	0.2	0.5	**0.3**	0.02	0.03	*C30-31*
Larynx	351	2.8	10.1	**8.1**	0.60	1.05	26	0.2	0.7	**0.4**	0.03	0.05	*C32*
Trachea, bronchus and lung	3209	25.3	92.7	**73.0**	4.42	9.89	665	5.3	16.8	**8.7**	0.43	1.14	*C33-34*
Other thoracic organs	17	0.1	0.5	**0.4**	0.02	0.06	16	0.1	0.4	**0.2**	0.01	0.02	*C37-38*
Bone	45	0.4	1.3	**1.2**	0.08	0.12	44	0.4	1.1	**0.9**	0.06	0.07	*C40-41*
Melanoma of skin	158	1.2	4.6	**3.7**	0.23	0.40	329	2.6	8.3	**5.4**	0.38	0.58	*C43*
Other skin	1005		29.0	**22.9**	0.86	2.63	1755		44.3	**22.5**	1.18	2.67	*C44*
Mesothelioma	13	0.1	0.4	**0.3**	0.02	0.04	14	0.1	0.4	**0.2**	0.02	0.03	*C45*
Kaposi sarcoma	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	71	0.6	2.1	**2.0**	0.12	0.17	70	0.6	1.8	**1.2**	0.07	0.12	*C47+C49*
Breast	22	0.2	0.6	**0.5**	0.01	0.07	2527	20.3	63.7	**41.5**	3.18	4.65	*C50*
Vulva							134	1.1	3.4	**1.6**	0.08	0.20	*C51*
Vagina							38	0.3	1.0	**0.6**	0.04	0.06	*C52*
Cervix uteri							860	6.9	21.7	**15.1**	1.15	1.60	*C53*
Corpus uteri							913	7.3	23.0	**13.8**	1.01	1.73	*C54*
Uterus unspecified							14	0.1	0.4	**0.2**	0.01	0.03	*C55*
Ovary							769	6.2	19.4	**12.0**	0.85	1.42	*C56*
Other female genital organs							28	0.2	0.7	**0.4**	0.02	0.05	*C57*
Placenta							4	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	33	0.3	1.0	**0.8**	0.05	0.09							*C60*
Prostate	1597	12.6	46.1	**35.8**	1.04	4.29							*C61*
Testis	86	0.7	2.5	**2.2**	0.15	0.19							*C62*
Other male genital organs	6	0.0	0.2	**0.1**	0.01	0.01							*C63*
Kidney	603	4.8	17.4	**14.1**	0.87	1.74	545	4.4	13.7	**7.9**	0.49	0.99	*C64*
Renal pelvis	18	0.1	0.5	**0.4**	0.01	0.05	7	0.1	0.2	**0.1**	0.00	0.01	*C65*
Ureter	7	0.1	0.2	**0.2**	0.01	0.02	7	0.1	0.2	**0.1**	0.00	0.01	*C66*
Bladder	577	4.5	16.7	**13.1**	0.53	1.50	254	2.0	6.4	**2.9**	0.09	0.33	*C67*
Other urinary organs	11	0.1	0.3	**0.3**	0.02	0.02	6	0.0	0.2	**0.1**	0.00	0.01	*C68*
Eye	28	0.2	0.8	**0.7**	0.06	0.08	43	0.3	1.1	**0.8**	0.05	0.08	*C69*
Brain, nervous system	227	1.8	6.6	**5.9**	0.42	0.60	221	1.8	5.6	**4.6**	0.33	0.43	*C70-72*
Thyroid	44	0.3	1.3	**1.1**	0.06	0.12	200	1.6	5.0	**3.5**	0.24	0.37	*C73*
Adrenal gland	13	0.1	0.4	**0.3**	0.02	0.04	24	0.2	0.6	**0.5**	0.03	0.05	*C74*
Other endocrine	9	0.1	0.3	**0.3**	0.02	0.02	7	0.1	0.2	**0.2**	0.01	0.01	*C75*
Hodgkin disease	94	0.7	2.7	**2.5**	0.17	0.22	84	0.7	2.1	**2.0**	0.13	0.15	*C81*
Non-Hodgkin lymphoma	258	2.0	7.4	**6.2**	0.35	0.71	216	1.7	5.4	**3.3**	0.21	0.39	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	73	0.6	2.1	**1.7**	0.08	0.22	84	0.7	2.1	**1.1**	0.06	0.16	*C90*
Lymphoid leukaemia	194	1.5	5.6	**4.8**	0.21	0.58	191	1.5	4.8	**3.4**	0.16	0.31	*C91*
Myeloid leukaemia	120	0.9	3.5	**2.9**	0.14	0.36	145	1.2	3.7	**2.3**	0.14	0.26	*C92-94*
Leukaemia unspecified	38	0.3	1.1	**1.0**	0.05	0.10	39	0.3	1.0	**0.6**	0.04	0.06	*C95*
Other and unspecified	323	2.5	9.3	**7.3**	0.43	0.91	241	1.9	6.1	**3.1**	0.16	0.37	*O&U*
All sites	13690		395.3	**315.2**	16.72	38.93	14208		358.4	**208.7**	13.14	24.18	*ALL*
All sites but C44	12685	100.0	366.3	**292.4**	15.86	36.30	12453	100.0	314.2	**186.2**	11.96	21.51	*ALLbC44*

Finland

Registration area

The registry covers the whole of Finland (area 338 145 km^2), which is bordered to the north by Norway, to the east by Russia, to the west by Sweden and the Gulf of Bothnia, and to the south by the Gulf of Finland. The average altitude is 150 m. Finland has 33 615 km^2 of inland water and belongs to the coniferous forest zone. The population of Finland is 5 171 000 (1999). Ethnically, the Finns are Caucasian, and of mixed origin, including Baltic, Scandinavian and probably eastern elements; 85% are Lutherans. The official languages of the country are Finnish and Swedish; 5.6% of the population speak Swedish as their mother tongue. The main occupational groups are: industry 26.8%, services 65.5%, and agriculture and forestry 6.1%. Some 60% of the population live in urban municipalities. The population of Helsinki with its suburbs accounts for 18% of the total. The life expectancy at birth is 73.7 years for males and 81.0 years for females.

Cancer care facilities

In 1999 Finland had 15 800 physicians (3 per 1000 inhabitants) and 39 700 hospital beds (excluding psychiatric hospitals). The country is divided into 22 health care districts of which five (Helsinki, Turku, Oulu, Kuopio and Tampere) have a university teaching hospital. Diagnosis and treatment of cancer is only partly centralized; cancer surgery is practised in all major hospital and also in many smaller clinics. There is a radiotherapy unit in nine hospitals. Specialized paediatric oncological services are available in five university hospitals.

Registry structure and methods

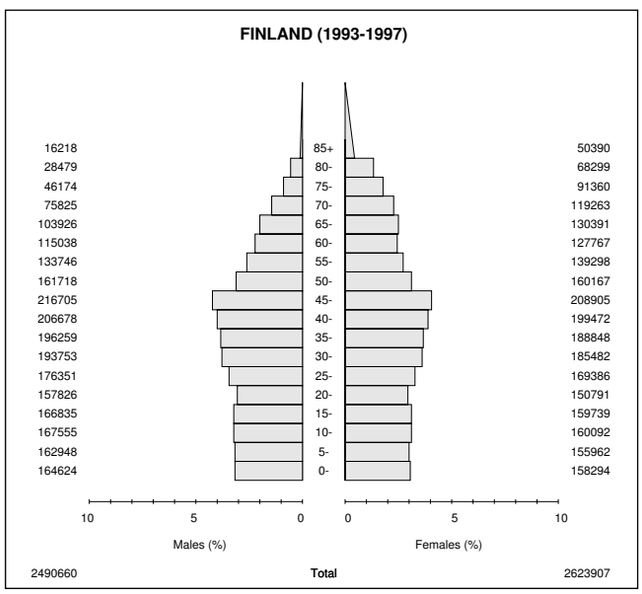
The Finnish Cancer Registry (Institute for Statistical and Epidemiological Cancer Research) was established in 1952 on the initiative of the Cancer Society of Finland. Data on newly diagnosed cancer cases have been collected since 1953. Finland has been included in all the previous seven volumes of Cancer Incidence in Five Continents.

Reporting of cancer cases has been compulsory since 1961. If needed, requests are sent to notifiers in order to ensure accurate information of the identity of the individual in question, and primary site and date of diagnosis of the tumour. Coding of information at the cancer registry has always been done or supervised by a physician. Case identification is based on the personal identification number used in Finland since 1967. This also enables accurate follow-up of cancer patients for death through official sources.

Nationwide screening programmes for breast and cervical cancer are co-ordinated, monitored and evaluated by the Mass Screening Registry which is a part of the cancer registry.

Use of the data

Apart from producing routine statistics (annual incidence rates by sex, age, primary site, and health care district) and data for planning and health education purposes, the registry is actively engaged in research on cancer epidemiology, biometrics, and cancer patient survival, and provides material for clinical and pathological studies, and follow-up data on cancer patients. The registry also acts as a consultant body in Finland on cancer epidemiology problems.



Source of population

A census count of the population is performed on a continuous basis by the Population Register.

Notes on the data

† C44 does not include basal cell carcinoma.

FINLAND (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	490	1.0	3.9	**2.7**	0.10	0.35	184	0.4	1.4	**0.6**	0.02	0.06	*C00*
Tongue	199	0.4	1.6	**1.2**	0.08	0.13	198	0.4	1.5	**0.8**	0.05	0.09	*C01-02*
Mouth	217	0.5	1.7	**1.3**	0.08	0.14	210	0.4	1.6	**0.8**	0.05	0.09	*C03-06*
Salivary glands	136	0.3	1.1	**0.8**	0.05	0.09	115	0.2	0.9	**0.6**	0.04	0.05	*C07-08*
Tonsil	85	0.2	0.7	**0.5**	0.04	0.06	33	0.1	0.3	**0.2**	0.01	0.02	*C09*
Other oropharynx	9	0.0	0.1	**0.1**	0.00	0.01	2	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	52	0.1	0.4	**0.3**	0.02	0.04	29	0.1	0.2	**0.1**	0.01	0.02	*C11*
Hypopharynx	82	0.2	0.7	**0.5**	0.03	0.06	28	0.1	0.2	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	9	0.0	0.1	**0.1**	0.00	0.01	3	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	567	1.2	4.6	**3.2**	0.16	0.37	452	0.9	3.4	**1.4**	0.05	0.15	*C15*
Stomach	2342	5.0	18.8	**12.6**	0.55	1.39	2046	4.1	15.6	**7.0**	0.31	0.77	*C16*
Small intestine	155	0.3	1.2	**0.9**	0.05	0.11	171	0.3	1.3	**0.7**	0.04	0.08	*C17*
Colon	2647	5.6	21.3	**14.5**	0.63	1.65	3384	6.8	25.8	**12.1**	0.58	1.34	*C18*
Rectum	1950	4.1	15.7	**10.7**	0.49	1.30	1845	3.7	14.1	**6.7**	0.34	0.80	*C19-20*
Anus	43	0.1	0.3	**0.2**	0.01	0.03	91	0.2	0.7	**0.3**	0.02	0.04	*C21*
Liver	716	1.5	5.7	**3.9**	0.16	0.46	520	1.0	4.0	**1.7**	0.06	0.19	*C22*
Gallbladder etc.	373	0.8	3.0	**2.0**	0.07	0.21	924	1.9	7.0	**3.1**	0.14	0.36	*C23-24*
Pancreas	1604	3.4	12.9	**8.8**	0.43	1.03	1914	3.9	14.6	**6.3**	0.25	0.70	*C25*
Nose, sinuses etc.	86	0.2	0.7	**0.5**	0.03	0.06	78	0.2	0.6	**0.3**	0.02	0.04	*C30-31*
Larynx	527	1.1	4.2	**3.0**	0.16	0.38	55	0.1	0.4	**0.2**	0.01	0.03	*C32*
Trachea, bronchus and lung	8197	17.3	65.8	**44.9**	1.88	5.85	2281	4.6	17.4	**8.8**	0.47	1.06	*C33-34*
Other thoracic organs	69	0.1	0.6	**0.4**	0.02	0.04	40	0.1	0.3	**0.2**	0.01	0.02	*C37-38*
Bone	124	0.3	1.0	**1.0**	0.06	0.08	101	0.2	0.8	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	1363	2.9	10.9	**8.0**	0.54	0.86	1370	2.8	10.4	**6.7**	0.47	0.70	*C43*
†Other skin	10864		87.2	**58.8**	2.52	6.53	14498		110.5	**52.2**	2.65	5.69	*C44*
Mesothelioma	196	0.4	1.6	**1.1**	0.06	0.15	62	0.1	0.5	**0.2**	0.01	0.03	*C45*
Kaposi sarcoma	63	0.1	0.5	**0.3**	0.01	0.03	41	0.1	0.3	**0.1**	0.00	0.01	*C46*
Connective and soft tissue	385	0.8	3.1	**2.6**	0.15	0.24	440	0.9	3.4	**2.5**	0.15	0.23	*C47+C49*
Breast	66	0.1	0.5	**0.4**	0.02	0.04	14974	30.2	114.1	**72.4**	5.57	7.99	*C50*
Vulva							340	0.7	2.6	**1.3**	0.07	0.14	*C51*
Vagina							93	0.2	0.7	**0.4**	0.03	0.04	*C52*
Cervix uteri							811	1.6	6.2	**4.0**	0.28	0.41	*C53*
Corpus uteri							3176	6.4	24.2	**14.2**	0.98	1.82	*C54*
Uterus unspecified							55	0.1	0.4	**0.2**	0.01	0.01	*C55*
Ovary							2310	4.7	17.6	**10.8**	0.75	1.23	*C56*
Other female genital organs							158	0.3	1.2	**0.7**	0.05	0.08	*C57*
Placenta							8	0.0	0.1	**0.1**	0.00	0.00	*C58*
Penis	80	0.2	0.6	**0.4**	0.02	0.05							*C60*
Prostate	12000	25.4	96.4	**62.8**	1.64	7.23							*C61*
Testis	363	0.8	2.9	**2.7**	0.19	0.21							*C62*
Other male genital organs	19	0.0	0.2	**0.1**	0.01	0.01							*C63*
Kidney	1910	4.0	15.3	**11.0**	0.68	1.31	1505	3.0	11.5	**6.2**	0.34	0.71	*C64*
Renal pelvis	111	0.2	0.9	**0.6**	0.03	0.07	83	0.2	0.6	**0.3**	0.01	0.04	*C65*
Ureter	53	0.1	0.4	**0.3**	0.02	0.04	44	0.1	0.3	**0.1**	0.00	0.02	*C66*
Bladder	2947	6.2	23.7	**15.8**	0.59	1.83	932	1.9	7.1	**3.2**	0.14	0.37	*C67*
Other urinary organs	32	0.1	0.3	**0.2**	0.00	0.01	24	0.0	0.2	**0.1**	0.00	0.00	*C68*
Eye	146	0.3	1.2	**0.9**	0.05	0.09	142	0.3	1.1	**0.8**	0.05	0.08	*C69*
Brain, nervous system	970	2.1	7.8	**6.7**	0.44	0.63	803	1.6	6.1	**5.0**	0.32	0.45	*C70-72*
Thyroid	377	0.8	3.0	**2.3**	0.17	0.22	1355	2.7	10.3	**7.8**	0.59	0.75	*C73*
Adrenal gland	53	0.1	0.4	**0.3**	0.02	0.04	63	0.1	0.5	**0.3**	0.02	0.03	*C74*
Other endocrine	17	0.0	0.1	**0.1**	0.01	0.01	11	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	370	0.8	3.0	**2.7**	0.18	0.22	290	0.6	2.2	**2.1**	0.14	0.16	*C81*
Non-Hodgkin lymphoma	2065	4.4	16.6	**12.1**	0.70	1.32	2120	4.3	16.2	**8.8**	0.51	0.97	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	536	1.1	4.3	**2.9**	0.14	0.31	707	1.4	5.4	**2.5**	0.13	0.31	*C90*
Lymphoid leukaemia	627	1.3	5.0	**4.4**	0.20	0.39	496	1.0	3.8	**3.0**	0.15	0.22	*C91*
Myeloid leukaemia	475	1.0	3.8	**2.8**	0.13	0.26	489	1.0	3.7	**2.2**	0.12	0.22	*C92-94*
Leukaemia unspecified	49	0.1	0.4	**0.3**	0.01	0.03	51	0.1	0.4	**0.2**	0.01	0.02	*C95*
Other and unspecified	1305	2.8	10.5	**7.0**	0.27	0.73	1914	3.9	14.6	**5.9**	0.22	0.61	*O&U*
All sites	58121		466.7	**321.7**	13.90	36.67	64069		488.3	**267.3**	16.32	29.31	*ALL*
All sites but C44	47257	100.0	379.5	**262.9**	11.38	30.14	49571	100.0	377.8	**215.1**	13.67	23.62	*ALLbC44*

†See note following population pyramid

France, Bas-Rhin

Registration area

The 'département' of Bas-Rhin (French administrative district) constitutes the northern half of the Alsace region, occupying the west side of the plain drained by the Rhine which represents a natural border with Germany. On the opposite side the Bas-Rhin reaches the massif of the Vosges on the west, with a total area of 4758 km^2. The town of Strasbourg is its regional centre. Forest covers 30% of the land area. The maximum altitude (1100 m) is reached in the Vosges, and the minimum (32 m) on the Rhine plain. The climate is temperate to semi-continental.

The population consisted of 1 026 120 inhabitants in 1999 (density: 216 inhabitants per km^2). 54.4% of the population live in an urban environment in agglomerations with over 5000 inhabitants, 27.6% in villages with less than 2000 and 40.8% in the urban agglomeration of Strasbourg. The population is slightly younger than the general French population.

The active population amounts to 53.1% of the total population: 67.0% of this population works in the services sector, 30.8% in industry, and 2.2% in agriculture.

The département is without mineral resources and does not produce any raw materials, but has a major energy-production industry (petrol refineries and hydroelectric stations). The mechanical and electrical construction industry and the food industry (including breweries and wine production) are the most important. Agriculture plays an important role in spite of the low percentage of the population employed in this sector.

Bas-Rhin is a relatively rich département: incomes are high, and the level of consumption is also high, notably for food. Life expectancy in 1990 was 71.6 years for males, and 79.7 years for females.

Cancer care facilities

Bas-Rhin has a high level of medico-social equipment, with 8457 hospital beds in 1999 (1 bed per 121 inhabitants), 1636 general practitioners and 1802 specialists. Hospitals employ 37.2% of all doctors. A number of scattered rural small hospitals permit hospitalization close to the place of residence. More than 70% of cancer patients die in hospital.

Registry structure and methods

The activity of the Cancer Registry of Bas-Rhin began in 1974. The registration of cases covers the resident population of the département of Bas-Rhin.

Cancer registration is active, the doctors from the registry visiting each of many sources regularly to establish lists of new cases, and to fill out an epidemiological questionnaire. The lists from each of these sources are compared to ensure complete registration and eliminate errors, in particular duplicate registrations. Cancers discovered at autopsy are registered. Death certificates are not used as a source, but serve only to verify the completeness of registration.

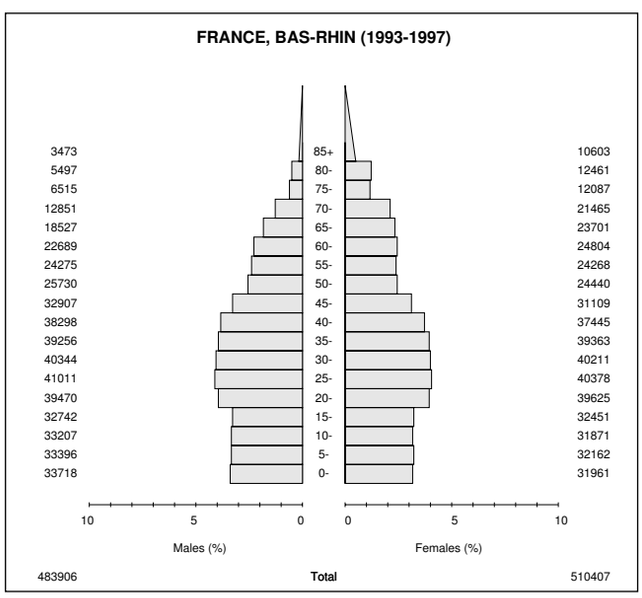
For each case of cancer registered, the identity and address of the patient are noted, and in a different file, the date of diagnosis, the method of diagnosis, the pathology laboratory, the number of the pathological examination, the topography and morphology coded to ICD-O, and the behaviour. The two sources where the most complete information was found are also noted, as well as the number of the medical file, the date of death, or that of the last information concerning vital status of the patient, and the cause of death.

The identity of the patients is used only to avoid duplicate registration. An identification number common to the identity file and the file of medical data is used, which permits the two files to be linked. The data are coded by the doctors who have visited the information sources.

Lesions or cancers diagnosed or discovered at the *in situ* stage and with histological verification are registered, but are not included in calculations of incidence.

Interpreting the results

Organized screening of the population aged 50–65 for breast cancer has been carried out since 1989 (20 000 examinations annually). Organized screening for cervical cancer was introduced in 1994 for women aged 25–65. Screening for cancer of other sites is opportunistic.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques (INSEE).

Estimate: Population estimates provided by the National Institute of Statistics and Economic Studies (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

Notes on the data

† C44 does not include basal cell carcinoma.

FRANCE, BAS-RHIN (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	14	0.1	0.6	**0.4**	0.02	0.05	3	0.0	0.1	**0.0**	0.00	0.00	*C00*
Tongue	190	1.5	7.9	**6.5**	0.53	0.79	30	0.3	1.2	**0.8**	0.07	0.10	*C01-02*
Mouth	268	2.1	11.1	**9.1**	0.74	1.10	49	0.5	1.9	**1.3**	0.10	0.15	*C03-06*
Salivary glands	26	0.2	1.1	**0.8**	0.05	0.09	25	0.3	1.0	**0.7**	0.05	0.07	*C07-08*
Tonsil	140	1.1	5.8	**4.7**	0.40	0.56	18	0.2	0.7	**0.5**	0.05	0.05	*C09*
Other oropharynx	157	1.3	6.5	**5.4**	0.45	0.67	6	0.1	0.2	**0.2**	0.01	0.02	*C10*
Nasopharynx	11	0.1	0.5	**0.4**	0.03	0.03	3	0.0	0.1	**0.1**	0.01	0.01	*C11*
Hypopharynx	380	3.0	15.7	**12.9**	1.08	1.51	22	0.2	0.9	**0.7**	0.06	0.08	*C12-13*
Pharynx unspecified	74	0.6	3.1	**2.5**	0.21	0.29	6	0.1	0.2	**0.1**	0.00	0.03	*C14*
Oesophagus	407	3.2	16.8	**13.6**	0.95	1.67	51	0.6	2.0	**1.1**	0.05	0.15	*C15*
Stomach	412	3.3	17.0	**13.0**	0.65	1.57	223	2.4	8.7	**4.4**	0.19	0.47	*C16*
Small intestine	32	0.3	1.3	**1.0**	0.06	0.11	20	0.2	0.8	**0.4**	0.03	0.06	*C17*
Colon	1002	8.0	41.4	**31.3**	1.39	3.87	816	8.9	32.0	**16.9**	0.85	1.93	*C18*
Rectum	637	5.1	26.3	**20.2**	1.06	2.41	397	4.3	15.6	**8.7**	0.50	1.02	*C19-20*
Anus	15	0.1	0.6	**0.5**	0.02	0.06	31	0.3	1.2	**0.7**	0.05	0.09	*C21*
Liver	371	3.0	15.3	**12.0**	0.59	1.60	89	1.0	3.5	**1.9**	0.10	0.23	*C22*
Gallbladder etc.	60	0.5	2.5	**1.9**	0.09	0.26	143	1.6	5.6	**2.8**	0.11	0.34	*C23-24*
Pancreas	212	1.7	8.8	**6.9**	0.43	0.89	157	1.7	6.2	**3.2**	0.13	0.38	*C25*
Nose, sinuses etc.	43	0.3	1.8	**1.4**	0.12	0.18	9	0.1	0.4	**0.2**	0.01	0.02	*C30-31*
Larynx	263	2.1	10.9	**8.7**	0.61	1.08	20	0.2	0.8	**0.5**	0.04	0.07	*C32*
Trachea, bronchus and lung	1921	15.3	79.4	**62.7**	3.84	8.15	346	3.8	13.6	**8.8**	0.56	1.11	*C33-34*
Other thoracic organs	12	0.1	0.5	**0.4**	0.02	0.03	13	0.1	0.5	**0.4**	0.02	0.03	*C37-38*
Bone	28	0.2	1.2	**1.1**	0.06	0.10	16	0.2	0.6	**0.6**	0.04	0.05	*C40-41*
Melanoma of skin	280	2.2	11.6	**9.4**	0.65	1.00	379	4.1	14.9	**11.0**	0.80	1.06	*C43*
†Other skin	545		22.5	**16.1**	0.54	1.56	429		16.8	**6.7**	0.17	0.62	*C44*
Mesothelioma	38	0.3	1.6	**1.2**	0.06	0.16	9	0.1	0.4	**0.2**	0.01	0.04	*C45*
Kaposi sarcoma	39	0.3	1.6	**1.2**	0.08	0.09	4	0.0	0.2	**0.1**	0.01	0.01	*C46*
Connective and soft tissue	76	0.6	3.1	**2.7**	0.16	0.25	46	0.5	1.8	**1.4**	0.09	0.13	*C47+C49*
Breast	35	0.3	1.4	**1.1**	0.07	0.15	2994	32.6	117.3	**83.4**	6.31	9.20	*C50*
Vulva							49	0.5	1.9	**0.9**	0.04	0.09	*C51*
Vagina							25	0.3	1.0	**0.5**	0.02	0.04	*C52*
Cervix uteri							302	3.3	11.8	**8.6**	0.66	0.89	*C53*
Corpus uteri							531	5.8	20.8	**13.4**	0.90	1.74	*C54*
Uterus unspecified							18	0.2	0.7	**0.5**	0.03	0.05	*C55*
Ovary							413	4.5	16.2	**11.0**	0.76	1.30	*C56*
Other female genital organs							24	0.3	0.9	**0.6**	0.04	0.09	*C57*
Placenta							1	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	28	0.2	1.2	**0.9**	0.04	0.10							*C60*
Prostate	2088	16.6	86.3	**63.4**	1.93	7.90							*C61*
Testis	228	1.8	9.4	**7.9**	0.60	0.61							*C62*
Other male genital organs	1	0.0	0.0	**0.0**	0.00	0.00							*C63*
Kidney	468	3.7	19.3	**15.6**	0.97	1.93	292	3.2	11.4	**7.3**	0.43	0.88	*C64*
Renal pelvis	17	0.1	0.7	**0.5**	0.03	0.07	10	0.1	0.4	**0.2**	0.01	0.03	*C65*
Ureter	18	0.1	0.7	**0.6**	0.02	0.08	6	0.1	0.2	**0.1**	0.01	0.02	*C66*
Bladder	989	7.9	40.9	**31.0**	1.43	3.78	252	2.7	9.9	**5.4**	0.28	0.63	*C67*
Other urinary organs	8	0.1	0.3	**0.2**	0.01	0.02	1	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	32	0.3	1.3	**1.2**	0.07	0.11	17	0.2	0.7	**0.4**	0.03	0.05	*C69*
Brain, nervous system	166	1.3	6.9	**6.0**	0.46	0.63	116	1.3	4.5	**3.3**	0.21	0.37	*C70-72*
Thyroid	59	0.5	2.4	**1.9**	0.14	0.18	153	1.7	6.0	**4.8**	0.40	0.45	*C73*
Adrenal gland	12	0.1	0.5	**0.6**	0.04	0.04	6	0.1	0.2	**0.3**	0.01	0.02	*C74*
Other endocrine	2	0.0	0.1	**0.1**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	87	0.7	3.6	**3.2**	0.22	0.27	69	0.8	2.7	**2.5**	0.16	0.20	*C81*
Non-Hodgkin lymphoma	394	3.1	16.3	**13.0**	0.75	1.45	349	3.8	13.7	**8.4**	0.51	0.93	*C82-85,C96*
Immunoproliferative diseases	20	0.2	0.8	**0.6**	0.02	0.06	9	0.1	0.4	**0.2**	0.01	0.02	*C88*
Multiple myeloma	101	0.8	4.2	**3.2**	0.16	0.43	76	0.8	3.0	**1.7**	0.09	0.21	*C90*
Lymphoid leukaemia	144	1.1	6.0	**5.3**	0.30	0.52	102	1.1	4.0	**2.8**	0.15	0.29	*C91*
Myeloid leukaemia	146	1.2	6.0	**4.7**	0.23	0.50	111	1.2	4.3	**2.9**	0.20	0.30	*C92-94*
Leukaemia unspecified	9	0.1	0.4	**0.3**	0.02	0.04	5	0.1	0.2	**0.1**	0.01	0.01	*C95*
Other and unspecified	388	3.1	16.0	**12.5**	0.73	1.58	312	3.4	12.2	**6.7**	0.34	0.77	*O&U*
All sites	13093		541.1	**421.8**	23.12	50.61	9603		376.3	**240.6**	15.70	26.90	*ALL*
All sites but C44	12548	100.0	518.6	**405.7**	22.58	49.05	9174	100.0	359.5	**233.9**	15.53	26.29	*ALLbC44*

†See note following population pyramid

France, Calvados

Registration area

The 'département' (French administrative district) of Calvados covers an area of 5548 km². Situated in Normandy, it includes parts of the Armorican Massif (Bocage) and the Paris Basin (Pays d'Auge, Plaine de Caen, Bessin). To the north is the coastline of the English Channel. The highest elevation is 365 m above sea level. The département of Calvados includes 621 rural communes (37.7% of the population) and 84 urban communes. There are 648 299 inhabitants. Foreigners account for 1.7% of the population. There is very little migration (0.8%). 7.2% of the population is aged 75 years and older. Among those employed (250 725 individuals), 5.2% are in agriculture, 19% in industry, 5.6% in building, 13.6% in commerce, and 56.6% is the service industries. In 1999, unemployment was 7.4%.

Registry structure and methods

Two cancer registries, both located in Caen, the county town, cover the département of Calvados. The general registry is located at the Comprehensive Cancer Centre François Baclesse, and the specialized digestive tumour registry at the University Hospital. These two registries are supported by the National Institute for Health and Medical Research (INSERM) and by the Health Watch Institute (InVS) of the Ministry of Health. They also receive contributions from the Conseil Régional de Basse-Normandie. They are affiliated to the French Association of Cancer Registries (FRANCIM), and to the EUROCARE network.

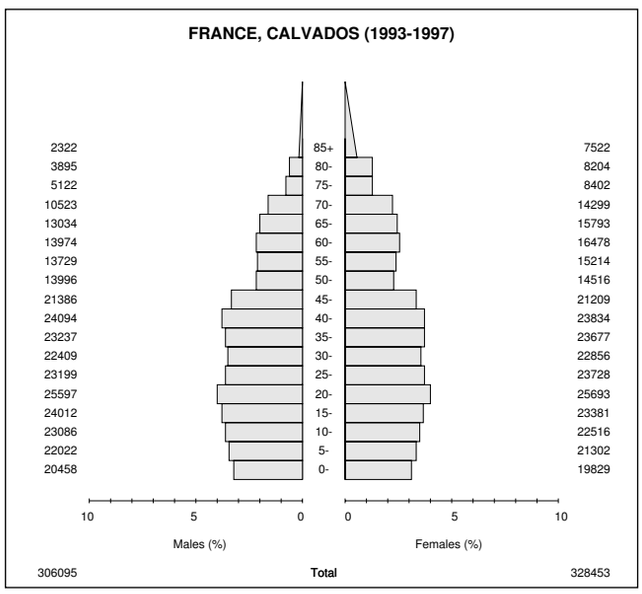
Registration has been carried out without interruption since 1978, using data from the private as well as public medical facilities. They include a University Hospital, one regional comprehensive cancer centre and one cancer hospital, 22 general hospitals, 1787 doctors including 862 specialists and five pathology laboratories.

Registration is active, and information is directly taken from the medical and pathology records. Death certificates are also referred to; however, cases for which information only originates in death certificates are not registered.

Completeness is ensured by linking the information collected from all sources. The index date is the date of first pathological diagnosis or, if not available, the date of first diagnosis (radiological or biological). TNM stage and treatment are routinely coded for digestive tumours. Follow-up information is collected at regular intervals from treating doctors as well as from public registry offices for all cases. Data from the two registries are linked periodically in order to exclude cases registered twice. Paper documented is kept for each case.

Use of the data

In addition to analysis of incidence and trends, many studies are conducted: change of disease stage at diagnosis, evaluation of mass screening, evaluation of treatment impact on survival, survival trends. Relationships between environmental factors and oesophageal cancer, colorectal cancer, peritoneal and pleural mesotheliomas are also studied, as well as occupational exposure to pesticides and cancer.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques.

Estimate: Population estimates provided by the official national department of demography (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

Notes on the data

* Incidence of childhood cancer is a little low. The leukaemias are under-registered.

† C44 does not include basal cell carcinoma.

† The data for leukaemia are incomplete and should not be used.

*FRANCE, CALVADOS (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	31	0.4	2.0	**1.3**	0.04	0.14	8	0.1	0.5	**0.2**	0.00	0.02	*C00*
Tongue	139	1.9	9.1	**7.5**	0.61	0.90	18	0.3	1.1	**0.7**	0.04	0.09	*C01-02*
Mouth	154	2.1	10.1	**8.1**	0.61	0.98	27	0.5	1.6	**1.1**	0.08	0.12	*C03-06*
Salivary glands	9	0.1	0.6	**0.4**	0.02	0.03	14	0.3	0.9	**0.5**	0.03	0.04	*C07-08*
Tonsil	123	1.7	8.0	**6.5**	0.49	0.77	17	0.3	1.0	**0.8**	0.07	0.08	*C09*
Other oropharynx	110	1.5	7.2	**5.9**	0.46	0.64	5	0.1	0.3	**0.2**	0.02	0.02	*C10*
Nasopharynx	3	0.0	0.2	**0.2**	0.01	0.02	6	0.1	0.4	**0.3**	0.02	0.02	*C11*
Hypopharynx	202	2.7	13.2	**10.5**	0.78	1.29	5	0.1	0.3	**0.3**	0.02	0.03	*C12-13*
Pharynx unspecified	13	0.2	0.8	**0.7**	0.06	0.08	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	346	4.6	22.6	**17.2**	1.12	2.15	49	0.9	3.0	**1.8**	0.13	0.17	*C15*
Stomach	272	3.7	17.8	**12.2**	0.56	1.45	177	3.2	10.8	**5.1**	0.21	0.54	*C16*
Small intestine	24	0.3	1.6	**1.3**	0.09	0.14	16	0.3	1.0	**0.5**	0.02	0.05	*C17*
Colon	507	6.8	33.1	**22.3**	0.89	2.73	479	8.8	29.2	**14.3**	0.71	1.63	*C18*
Rectum	383	5.1	25.0	**17.8**	0.94	2.10	296	5.4	18.0	**8.9**	0.40	1.03	*C19-20*
Anus	20	0.3	1.3	**0.9**	0.04	0.14	41	0.8	2.5	**1.4**	0.08	0.17	*C21*
Liver	212	2.8	13.9	**10.0**	0.59	1.33	50	0.9	3.0	**1.9**	0.11	0.25	*C22*
Gallbladder etc.	43	0.6	2.8	**2.0**	0.11	0.24	69	1.3	4.2	**2.0**	0.09	0.23	*C23-24*
Pancreas	124	1.7	8.1	**5.8**	0.32	0.71	117	2.1	7.1	**3.3**	0.15	0.39	*C25*
Nose, sinuses etc.	18	0.2	1.2	**0.8**	0.05	0.10	6	0.1	0.4	**0.2**	0.01	0.01	*C30-31*
Larynx	225	3.0	14.7	**11.7**	0.88	1.45	14	0.3	0.9	**0.5**	0.04	0.06	*C32*
Trachea, bronchus and lung	1068	14.3	69.8	**53.0**	3.44	6.58	146	2.7	8.9	**5.7**	0.35	0.66	*C33-34*
Other thoracic organs	25	0.3	1.6	**1.2**	0.07	0.11	10	0.2	0.6	**0.4**	0.04	0.04	*C37-38*
Bone	12	0.2	0.8	**0.8**	0.05	0.06	8	0.1	0.5	**0.5**	0.03	0.03	*C40-41*
Melanoma of skin	119	1.6	7.8	**6.0**	0.38	0.63	168	3.1	10.2	**7.3**	0.57	0.71	*C43*
†Other skin	523		34.2	**21.6**	0.57	2.08	362		22.0	**8.2**	0.26	0.69	*C44*
Mesothelioma	31	0.4	2.0	**1.4**	0.07	0.20	13	0.2	0.8	**0.5**	0.03	0.06	*C45*
Kaposi sarcoma	21	0.3	1.4	**1.1**	0.07	0.10	3	0.1	0.2	**0.1**	0.00	0.00	*C46*
Connective and soft tissue	44	0.6	2.9	**2.2**	0.12	0.22	41	0.8	2.5	**1.5**	0.06	0.13	*C47+C49*
Breast	20	0.3	1.3	**1.0**	0.05	0.11	1878	34.4	114.4	**81.6**	6.22	8.89	*C50*
Vulva							29	0.5	1.8	**0.9**	0.05	0.10	*C51*
Vagina							7	0.1	0.4	**0.2**	0.01	0.02	*C52*
Cervix uteri							188	3.4	11.4	**8.3**	0.63	0.85	*C53*
Corpus uteri							235	4.3	14.3	**8.9**	0.56	1.13	*C54*
Uterus unspecified							7	0.1	0.4	**0.2**	0.02	0.03	*C55*
Ovary							266	4.9	16.2	**10.7**	0.68	1.26	*C56*
Other female genital organs							10	0.2	0.6	**0.4**	0.03	0.04	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	9	0.1	0.6	**0.4**	0.02	0.05							*C60*
Prostate	1441	19.4	94.2	**60.7**	1.67	7.79							*C61*
Testis	58	0.8	3.8	**3.5**	0.26	0.26							*C62*
Other male genital organs	1	0.0	0.1	**0.1**	0.01	0.01							*C63*
Kidney	198	2.7	12.9	**9.7**	0.56	1.18	133	2.4	8.1	**5.0**	0.29	0.64	*C64*
Renal pelvis	5	0.1	0.3	**0.2**	0.01	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C65*
Ureter	10	0.1	0.7	**0.5**	0.02	0.06	4	0.1	0.2	**0.1**	0.01	0.02	*C66*
Bladder	669	9.0	43.7	**30.7**	1.43	3.56	145	2.7	8.8	**4.1**	0.19	0.46	*C67*
Other urinary organs	5	0.1	0.3	**0.2**	0.01	0.02	2	0.0	0.1	**0.1**	0.00	0.01	*C68*
Eye	9	0.1	0.6	**0.4**	0.01	0.07	10	0.2	0.6	**0.4**	0.03	0.04	*C69*
Brain, nervous system	89	1.2	5.8	**5.0**	0.35	0.54	56	1.0	3.4	**2.7**	0.19	0.31	*C70-72*
Thyroid	31	0.4	2.0	**1.8**	0.15	0.18	193	3.5	11.8	**10.1**	0.86	0.97	*C73*
Adrenal gland	3	0.0	0.2	**0.2**	0.00	0.02	4	0.1	0.2	**0.2**	0.01	0.01	*C74*
Other endocrine	2	0.0	0.1	**0.2**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	47	0.6	3.1	**2.7**	0.17	0.25	28	0.5	1.7	**1.6**	0.11	0.12	*C81*
Non-Hodgkin lymphoma	206	2.8	13.5	**10.2**	0.59	1.16	193	3.5	11.8	**7.2**	0.45	0.82	*C82-85,C96*
Immunoproliferative diseases	7	0.1	0.5	**0.3**	0.01	0.02	7	0.1	0.4	**0.2**	0.00	0.01	*C88*
Multiple myeloma	60	0.8	3.9	**2.8**	0.14	0.33	49	0.9	3.0	**1.7**	0.09	0.23	*C90*
†Lymphoid leukaemia	57	0.8	3.7	**2.8**	0.19	0.32	53	1.0	3.2	**2.6**	0.17	0.25	*C91*
†Myeloid leukaemia	36	0.5	2.4	**1.7**	0.08	0.21	33	0.6	2.0	**1.5**	0.08	0.14	*C92-94*
†Leukaemia unspecified	5	0.1	0.3	**0.2**	0.00	0.02	1	0.0	0.1	**0.1**	0.01	0.01	*C95*
Other and unspecified	200	2.7	13.1	**9.5**	0.55	1.19	132	2.4	8.0	**4.5**	0.28	0.55	*O&U*
All sites	7969		520.7	**375.2**	19.72	44.77	5828		354.9	**221.4**	14.53	24.22	*ALL*
All sites but C44	7446	100.0	486.5	**353.6**	19.15	42.69	5466	100.0	332.8	**213.2**	14.27	23.53	*ALLbC44*

†See note following population pyramid

France, Côte d'Or

Registration area

The Côte-d'Or département (French administrative district) is situated in the centre-east of France and covers an area of 8733 km². The capital is Dijon. The population is relatively stable, with a mean growth rate of + 0.5% between the 1975 and 1982 censuses, + 0.4% between the 1982 and 1990 censuses and ± 0.3% between 1990 and 1999.

According to the 1990 census, 46% of the population live in the urban centre of Dijon, 19% in smaller towns (2000–100 000 inhabitants) and 35% in rural areas (under 2000 inhabitants). In 1999, 68% of the population lived in the urban area of Dijon, and overall population density was 58 inhabitants per km².

Cancer care facilities

There are 11 hospitals in the département, including one university hospital, one anticancer centre and five private hospitals. Except for district hospitals, all cancer care facilities (public and private surgery, radiotherapy and chemotherapy services) are located in the main urban centre.

There are two radiotherapeutic facilities located in Dijon. There were 282 physicians per 100 000 inhabitants. The French National Health System (Sécurité Sociale) is funded by citizens' and employers' contributions, representing 21% and 42% respectively of the gross income. It provides health assistance for all citizens, even those without resources.

Site-specific registries

There are three site-specific registries located in the area and their data are presented separately here. Each registry covers the population of the French administrative region of Côte-d'Or.

Digestive Cancer Registry

Registry structure and methods

A population-based cancer registry, limited to digestive tract cancers, was established in the département of Côte-d'Or in January 1976.

The registry is mainly financed by the National Institute for Health and Medical Research (INSERM) and the Institute of Health Surveillance. It is also supported by the Burgundy Regional Council.

Sources of information on cancer patients have been the same since 1976. Registration is active and all cases of invasive digestive tract cancer are to be reported to the cancer registry. The data are collected with the collaboration of all physicians in the Côte-d'Or area on a voluntary basis. Information is obtained from pathology laboratories, public and private hospitals, general practitioners, Social Security offices and death certificates. No case was registered on the basis of a death certificate alone, but certificates were used to identify missing cases.

The cancer registry receives monthly a computerized list of all cases diagnosed with a digestive tract cancer, a hepatic metastasis or a peritoneal carcinosis from biopsy, surgical resection specimens or cytology. A copy of all pathology reports is made by the registry staff. There are three pathology laboratories covering the area. Staff also collect the material from small towns situated near the Côte-d'Or boundaries, allowing identification of cases treated in these places. Only 1.4% of Côte-d'Or inhabitants are treated outside the county. Cancers discovered at autopsy are registered but can be distinguished from the other cancers.

In addition the clerical offices of medical, or surgical radiotherapy hospitals are regularly visited as well as those of private gastroenterologists and surgeons. Information relevant for the cancer registry is copied onto the registration form from the patient files by trained registration personnel. Owing to the structure of cancer care in France, a cancer is rarely diagnosed and treated by a general practitioner. Sooner or later the patient will be admitted to a public or private hospital.

Completeness of records, data consistency and possibility of duplicate records are checked regularly using both manual and computerized controls. Duplicate entries are avoided by entering family name, with maiden name for women, together with the site of tumour and birth date.

Index date is the date of first histological diagnosis or, failing this, the date of the examination confirming the diagnosis. If the clinical report is lacking in a case known from pathology or cytology, the physician who delivered the specimen will be asked for this report and a missing pathology record is demanded in cases where the clinician has reported a case without a pathology report.

Interpreting the results

The system of multiple reporting from clinicians, pathologists (and their enthusiastic support) and administrative sources makes it unlikely that the registry is missing cases. Among the usual indices of data quality, it is worth noting the higher mortality/morbidity ratio for colon cancer than for rectum cancer. It is known that colon cancers are over-reported in death certificate and rectal cancer under-reported because they are often notified as colon or large bowel cancer and then coded as colon cancer.

Changes may occur due to changing diagnostic practice, in particular more aggressive investigation in the elderly.

Use of the data

The data are used for descriptive epidemiology, and to evaluate clinical practice, survival and prevention in the area. They are also used for a variety of analytical studies.

Breast and Gynaecological Cancer Registry

Registry structure and methods

Morbidity data are built up from files provided by pathology laboratories, hospitals, private clinics and radiotherapy centres (in- and outpatients). Residents who were diagnosed or treated by cancer institutes outside the region (e.g., Paris or Lyon) are included in the registry. Anonymous individual death certificates mentioning cancer are also used for registration after trace-back procedures. Quality of data is ensured by searching for a previous record for a patient both by name (and maiden name) and by date of birth, and by an automatic search for duplication in files.

Stage at diagnosis, detailed histological information and cancer treatments are collected and checked in medical records. The purpose is to describe trends in stage at diagnosis and related changes in treatment. Quality control assessment is carried out by special checks.

Follow-up is regularly done by checking all available files or by sending a questionnaire to specialist or general practitioners. All the procedures are active.

Use of the data

In addition to producing incidence data, the registry works in the

field of treatment assessment. Survival studies have been carried out. Inter-regional cooperative studies on evaluation of health services for breast cancer diagnosis and treatment are in progress.

The cancer registry only receives special grants to perform specific descriptive or analytical studies dealing with treatment.

Haematological Cancer Registry

Registry structure and methods

A population-based cancer registry, limited to haematological malignancies, was established in the département of Côte-d'Or in January 1980.

The registry is mainly financed by the National Institute of Health and Medical Research (INSERM) and the Institute of Health Surveillance. The registry is also supported by the Burgundy Regional Council.

The sources of information on cancer patients have remained unchanged since 1980. Registration is active and all cases of haematological malignancy are to be reported to the registry. The data are collected with the collaboration of all physicians in the Côte-d'Or area on a voluntary basis. Information is obtained from pathology and biology laboratories, public and private hospitals, general practitioners and death certificates. No case was registered through a death certificate alone, but death certificates were used to identify missing cases.

Every third month, the registry receives a computerized list of all cases with a haematological malignancy diagnosed from biopsies or cytology. There is one main Public Haematology laboratory in the university hospital and there are about 20 private biology laboratories and three pathology laboratories covering the area. Those three laboratories also collect the material from small towns situated near the Côte-d'Or boundaries, permitting identification of the 2% of cases treated outside the area. Nearly all Côte-d'Or inhabitants are treated in the département. A copy of all pathology reports is made by the registry staff. The information relevant for the registry is copied from the patients' files onto a notification form by trained registry personnel. Owing to the structure of cancer care in France, a haematological malignancy is rarely diagnosed and treated by a general practitioner. Sooner or later, the patient will be admitted to a public or private hospital and the case known to the registry.

Completeness of records, data consistency and possibility of duplicate records are checked regularly using both manual and computerized controls. Duplicate entries are avoided by entering family name, with maiden name for women, together with the site of the tumour and birth date.

Index date is the date of first cytological or histological diagnosis.

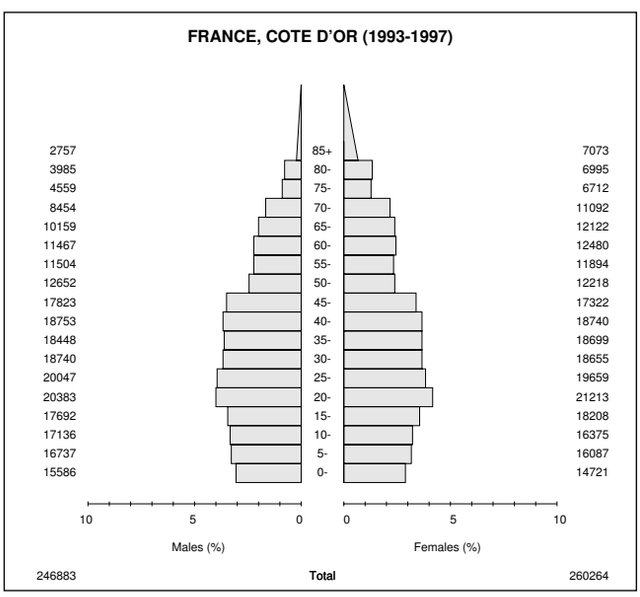
Interpreting the results

Because of enthusiastic participation of the medical profession in the département of Côte-d'Or, it is believed that all newly diagnosed haematological malignancies are registered. The system of multiple reporting from physicians, pathologists and administrative sources militates against large-scale failure to report. The relative stability of the number of cases from one year to the next is also in favour of data reliability.

It is not possible to include DCOs in France because of the poor quality of death certificates. When cross- checks with clinical data are made, a high proportion of the death certificates do not correspond to the cancers. The diagnosis obtained only from death certificates is therefore too uncertain to be included in the registry. However, they are traced in order to identify any missing case.

Use of the data

The registry was not only conceived for descriptive purposes, but also to evaluate clinical practices and survival, and to be used for analytical studies.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques.

Estimate: Population estimates provided by the official national department of demography (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

FRANCE, COTE D'OR (1993-1997)

SITE	MALE No. cases	MALE Crude rate (per 100,000)	MALE ASR world (per 100,000)	MALE Cum. rates 0-64 (percent)	MALE Cum. rates 0-74 (percent)	FEMALE No. cases	FEMALE Crude rate (per 100,000)	FEMALE ASR world (per 100,000)	FEMALE Cum. rates 0-64 (percent)	FEMALE Cum. rates 0-74 (percent)	ICD-10
Digestive Cancer Registry											
Oesophagus	192	15.6	**11.4**	0.77	1.42	33	2.5	**1.2**	0.04	0.16	*C15*
Stomach	188	15.2	**9.3**	0.42	1.09	100	7.7	**3.2**	0.10	0.35	*C16*
Small intestine	17	1.4	**1.0**	0.04	0.14	17	1.3	**0.8**	0.05	0.09	*C17*
Colon	440	35.6	**22.2**	0.91	2.59	393	30.2	**13.3**	0.60	1.45	*C18*
Rectum	286	23.2	**15.4**	0.81	1.83	203	15.6	**7.6**	0.40	0.89	*C19-20*
Anus	7	0.6	**0.4**	0.02	0.04	25	1.9	**0.9**	0.04	0.10	*C21*
Liver	187	15.1	**10.5**	0.58	1.37	45	3.5	**2.0**	0.10	0.26	*C22*
Gallbladder etc.	48	3.9	**2.5**	0.11	0.34	67	5.1	**2.0**	0.08	0.22	*C23-24*
Pancreas	114	9.2	**5.9**	0.24	0.76	90	6.9	**3.1**	0.13	0.39	*C25*
Other and unspecified	3	0.2	**0.1**	0.00	0.02	1	0.1	**0.0**	0.00	0.00	*C26*
Breast and Gynaecological Cancer Registry											
Breast						1432	110.0	**76.5**	5.74	8.53	*C50*
Vulva						20	1.5	**0.6**	0.03	0.05	*C51*
Vagina						9	0.7	**0.2**	0.00	0.02	*C52*
Cervix uteri						151	11.6	**7.7**	0.55	0.80	*C53*
Corpus uteri						240	18.4	**11.2**	0.77	1.40	*C54*
Uterus unspecified						1	0.1	**0.0**	0.00	0.00	*C55*
Ovary						224	17.2	**11.0**	0.77	1.26	*C56*
Other female genital organs						7	0.5	**0.3**	0.01	0.03	*C57*
Placenta						1	0.1	**0.1**	0.01	0.01	*C58*
Haematological Malignancies Registry											
Hodgkin disease	29	2.3	**1.9**	0.10	0.14	19	1.5	**1.4**	0.11	0.11	*C81*
Non-Hodgkin lymphoma	139	11.3	**8.2**	0.51	0.81	139	10.7	**6.4**	0.41	0.67	*C82-85,C96*
Immunoproliferative diseases	1	0.1	**0.1**	0.00	0.01	2	0.2	**0.1**	0.01	0.01	*C88*
Multiple myeloma	74	6.0	**3.9**	0.13	0.42	75	5.8	**2.9**	0.16	0.34	*C90*
Lymphoid leukaemia	92	7.5	**5.7**	0.32	0.66	66	5.1	**2.9**	0.15	0.30	*C91*
Myeloid leukaemia	80	6.5	**4.9**	0.24	0.43	86	6.6	**3.8**	0.22	0.35	*C92-94*
Leukaemia unspecified	0	0.0	**0.0**	0.00	0.00	2	0.2	**0.1**	0.00	0.02	*C95*

France, Doubs

Registration area

The registration area is the Doubs 'département' (French administrative district) which covers 5260 km² and has a total population of 484 770 (321 282 in urban areas and 163 488 in rural areas) according to the 1990 census, of whom 216 468 (123 877 men and 92 591 women) were economically active. 9000 work in agriculture, 81 000 are labourers and 105 000 are involved in business, administration, sales and transport sectors.

There are 11 776 residents who work across the border in Switzerland and 34 937 foreigners who work in the department, mostly from North Africa. The main religion is Roman Catholic.

There are two industrial areas: one in Sochaux–Montbeliard, with a large automobile factory, and the other in Besançon, the main city, which has several small industries that produce little or no pollution.

Cancer care facilities

There was one physician per 780 inhabitants in 1990. All the population have health insurance. Nearly all Doubs inhabitants are treated in the département, although a few go to Switzerland which is on its eastern frontier.

Registry structure and methods

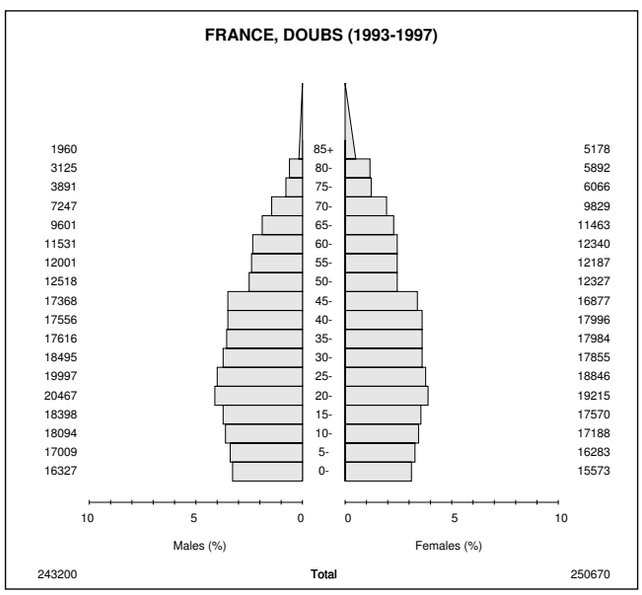
The Cancer Registry of Doubs began its activities in 1976. The registry is partly supported by INSERM (Institut National de la Santé et de la Recherche Médicale) and the Ministry of Health. The registry obtains morbidity data from pathology laboratories, hospitals and private clinic files and private specialist practitioners. However, it is difficult to convince some practitioners to submit data because of confidentiality and the absence of any specific law in France on this problem. Residents who are treated in a regional or a Parisian cancer institute are also registered.

Data collected on the report card include name, address, age, sex, source of information, basis of diagnosis (histological, if not available, diagnosis by X-ray or by clinical or endoscopic examination), primary tumour sites, tumour stage, details of histological diagnosis and name of the laboratory and the initial treatment. The index date is the date of diagnosis. Cards are returned monthly or annually to the cancer registry, but more frequently, the registry staff visit all wards of the three hospitals or enquire from private practitioners. Copies of death certificates are sent to the registry by the local Director of Health but they are anonymous and not used as sources of data. The autopsy rate is low and few data are obtained from autopsies. Information is stored using a binary code to ensure confidentiality. Access to information is controlled by passwords.

Checking for duplicates is done by hand and by computer on the basis of two index files: by name and by date of birth. Residence at index date is checked with the official registers of towns and villages to separate urban from rural areas. Follow-up of cases is done only for survival computation.

Use of the data

The main purpose of the registry is the collection of data on cancer incidence in the department, with special reference to urban and rural cancer distribution and analytical studies (case–control) using the data of the registry. The cancer registry has received special grants to perform specific descriptive or analytical studies.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques.

Estimate: Population estimates provided by the official national department of demography (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

FRANCE, DOUBS (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	4	0.1	0.3	**0.2**	0.00	0.02	1	0.0	0.1	**0.0**	0.00	0.01	*C00*
Tongue	69	1.2	5.7	**4.6**	0.35	0.54	11	0.3	0.9	**0.5**	0.04	0.06	*C01-02*
Mouth	92	1.6	7.6	**6.0**	0.48	0.69	19	0.5	1.5	**1.1**	0.07	0.14	*C03-06*
Salivary glands	12	0.2	1.0	**0.8**	0.05	0.09	3	0.1	0.2	**0.2**	0.01	0.01	*C07-08*
Tonsil	82	1.5	6.7	**5.3**	0.43	0.65	14	0.3	1.1	**0.7**	0.05	0.08	*C09*
Other oropharynx	40	0.7	3.3	**2.6**	0.17	0.33	2	0.0	0.2	**0.1**	0.00	0.01	*C10*
Nasopharynx	17	0.3	1.4	**1.1**	0.09	0.12	7	0.2	0.6	**0.3**	0.02	0.03	*C11*
Hypopharynx	120	2.1	9.9	**7.8**	0.56	0.96	6	0.1	0.5	**0.3**	0.02	0.05	*C12-13*
Pharynx unspecified	12	0.2	1.0	**0.8**	0.06	0.11	1	0.0	0.1	**0.1**	0.00	0.01	*C14*
Oesophagus	148	2.6	12.2	**9.5**	0.64	1.25	22	0.5	1.8	**1.1**	0.07	0.15	*C15*
Stomach	166	3.0	13.7	**9.5**	0.42	1.03	100	2.4	8.0	**3.7**	0.15	0.35	*C16*
Small intestine	23	0.4	1.9	**1.5**	0.10	0.20	16	0.4	1.3	**0.6**	0.03	0.08	*C17*
Colon	383	6.8	31.5	**22.2**	0.93	2.52	358	8.6	28.6	**14.8**	0.74	1.70	*C18*
Rectum	276	4.9	22.7	**16.0**	0.67	2.04	181	4.4	14.4	**8.0**	0.48	0.84	*C19-20*
Anus	10	0.2	0.8	**0.6**	0.03	0.06	21	0.5	1.7	**0.8**	0.03	0.10	*C21*
Liver	159	2.8	13.1	**9.3**	0.44	1.15	24	0.6	1.9	**1.1**	0.06	0.12	*C22*
Gallbladder etc.	25	0.4	2.1	**1.6**	0.11	0.22	45	1.1	3.6	**1.9**	0.10	0.18	*C23-24*
Pancreas	99	1.8	8.1	**6.0**	0.34	0.67	73	1.8	5.8	**2.7**	0.10	0.28	*C25*
Nose, sinuses etc.	12	0.2	1.0	**0.8**	0.06	0.08	8	0.2	0.6	**0.4**	0.04	0.04	*C30-31*
Larynx	181	3.2	14.9	**11.4**	0.79	1.44	13	0.3	1.0	**0.7**	0.05	0.10	*C32*
Trachea, bronchus and lung	895	15.9	73.6	**55.2**	3.17	7.01	159	3.8	12.7	**7.9**	0.49	0.92	*C33-34*
Other thoracic organs	19	0.3	1.6	**1.2**	0.07	0.16	12	0.3	1.0	**0.6**	0.03	0.08	*C37-38*
Bone	21	0.4	1.7	**1.6**	0.09	0.13	17	0.4	1.4	**1.1**	0.07	0.09	*C40-41*
Melanoma of skin	91	1.6	7.5	**6.0**	0.40	0.56	158	3.8	12.6	**9.9**	0.77	0.99	*C43*
Other skin	1402		115.3	**82.0**	3.76	9.03	1366		109.0	**61.1**	3.40	6.63	*C44*
Mesothelioma	25	0.4	2.1	**1.4**	0.07	0.17	6	0.1	0.5	**0.3**	0.01	0.02	*C45*
Kaposi sarcoma	13	0.2	1.1	**0.9**	0.07	0.08	4	0.1	0.3	**0.2**	0.02	0.03	*C46*
Connective and soft tissue	41	0.7	3.4	**2.7**	0.16	0.24	24	0.6	1.9	**1.6**	0.11	0.15	*C47+C49*
Breast	9	0.2	0.7	**0.6**	0.04	0.09	1332	32.1	106.3	**74.7**	5.68	8.30	*C50*
Vulva							32	0.8	2.6	**1.2**	0.06	0.11	*C51*
Vagina							15	0.4	1.2	**0.7**	0.03	0.07	*C52*
Cervix uteri							132	3.2	10.5	**7.8**	0.58	0.78	*C53*
Corpus uteri							188	4.5	15.0	**9.9**	0.73	1.19	*C54*
Uterus unspecified							20	0.5	1.6	**1.0**	0.06	0.11	*C55*
Ovary							186	4.5	14.8	**10.6**	0.78	1.18	*C56*
Other female genital organs							7	0.2	0.6	**0.4**	0.03	0.05	*C57*
Placenta							1	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	6	0.1	0.5	**0.4**	0.01	0.05							*C60*
Prostate	981	17.4	80.7	**53.6**	1.49	6.25							*C61*
Testis	66	1.2	5.4	**4.9**	0.36	0.38							*C62*
Other male genital organs	3	0.1	0.2	**0.2**	0.01	0.02							*C63*
Kidney	136	2.4	11.2	**8.7**	0.50	1.08	74	1.8	5.9	**3.7**	0.20	0.46	*C64*
Renal pelvis	5	0.1	0.4	**0.3**	0.02	0.03	4	0.1	0.3	**0.1**	0.01	0.01	*C65*
Ureter	6	0.1	0.5	**0.3**	0.01	0.02	5	0.1	0.4	**0.2**	0.01	0.02	*C66*
Bladder	523	9.3	43.0	**30.4**	1.41	3.64	113	2.7	9.0	**4.5**	0.23	0.49	*C67*
Other urinary organs	4	0.1	0.3	**0.2**	0.01	0.02	1	0.0	0.1	**0.1**	0.01	0.01	*C68*
Eye	12	0.2	1.0	**0.8**	0.04	0.10	8	0.2	0.6	**0.4**	0.02	0.04	*C69*
Brain, nervous system	82	1.5	6.7	**5.5**	0.38	0.55	49	1.2	3.9	**2.7**	0.20	0.33	*C70-72*
Thyroid	25	0.4	2.1	**1.7**	0.12	0.18	113	2.7	9.0	**7.3**	0.55	0.72	*C73*
Adrenal gland	3	0.1	0.2	**0.3**	0.02	0.02	3	0.1	0.2	**0.2**	0.01	0.01	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	35	0.6	2.9	**2.6**	0.18	0.19	33	0.8	2.6	**2.1**	0.14	0.17	*C81*
Non-Hodgkin lymphoma	219	3.9	18.0	**13.8**	0.87	1.53	198	4.8	15.8	**9.2**	0.49	1.03	*C82-85,C96*
Immunoproliferative diseases	10	0.2	0.8	**0.5**	0.01	0.02	7	0.2	0.6	**0.3**	0.01	0.02	*C88*
Multiple myeloma	69	1.2	5.7	**3.9**	0.17	0.46	79	1.9	6.3	**3.2**	0.16	0.38	*C90*
Lymphoid leukaemia	91	1.6	7.5	**6.3**	0.34	0.68	59	1.4	4.7	**3.1**	0.16	0.29	*C91*
Myeloid leukaemia	87	1.5	7.2	**5.2**	0.22	0.50	61	1.5	4.9	**2.9**	0.18	0.30	*C92-94*
Leukaemia unspecified	9	0.2	0.7	**0.6**	0.02	0.04	1	0.0	0.1	**0.0**	0.00	0.00	*C95*
Other and unspecified	208	3.7	17.1	**12.7**	0.77	1.50	129	3.1	10.3	**5.7**	0.30	0.65	*O&U*
All sites	7026		577.8	**422.1**	21.49	48.92	5522		440.6	**274.0**	17.58	29.98	*ALL*
All sites but C44	5624	100.0	462.5	**340.1**	17.73	39.88	4156	100.0	331.6	**212.8**	14.17	23.35	*ALLbC44*

§Includes 13 cases of unknown age

§Includes 11 cases of unknown age

France, Haut-Rhin

Registration area

The 'département' (French administrative district) of Haut-Rhin, an area of 3522 km², is situated in the north-east of France. It is adjacent to the département of Bas-Rhin in the north (the département with which it constitutes the Alsace region), the département of the Vosges to the west, and the Franche-Comté region and Switzerland to the south. To the east, the Rhine separates Haut-Rhin from Germany. The altitude varies from 195 m on the Rhine to 1424 m in the Vosges mountains. The climate is semi-continental, with fairly cold winters and hot, dry summers. The conditions favour the vineyards of the lower slopes of the Vosges. The area has four geographical regions: the Vosges mountains (crystalline massif), the lower hills of the Vosges (wine and fruit cultivation), the plain of the Rhine (land of loess and former marshland), and the Alsacian Jura (limestone).

The population of Haut-Rhin is divided into 377 communes, of which 269 are rural with less than 1000 inhabitants. Haut-Rhin has a higher proportion (47%) of economically active (aged 15–64) persons and a lower proportion aged over 65 years than France as a whole. 8.1% of the residents were foreign, of whom 69% were born outside metropolitan France. 21% of the population lives in rural communes and 52% in the 23 communes with more than 5000 inhabitants. The urban area of Mulhouse has 228 115 inhabitants. The average population density is 201 inhabitants per km², varying from 81 in the rural communes to 4975 in the commune of Mulhouse.

The unemployment rate is 7% among men and 11% among women. The industrial sector employs 25% of the active population (automobile, arms, chemical, textile, wood and paper, nuclear); the agricultural sector 2% (market gardening, wine production, forestry), the building sector 6%, and the tertiary sector 67% (commerce, administration, education, health, transport). A special feature, related to the geographical situation of Haut-Rhin, is that 12% of the employed population resident in the département works in Switzerland or Germany.

Cancer care facilities

With 136 general practitioners and 134 specialists per 100 000 inhabitants, the medical coverage of the Haut-Rhin population is below the national French average (respectively 156 and 155). The hospital infrastructure, public and private, comprises 1590 beds in medical wards, 1207 in surgery, and 329 in gynaecology and obstetrics. There are two radiotherapy wards, one in the south (Mulhouse), and the other in the north (Colmar). There is no specialized cancer centre in the département.

Registry structure and methods

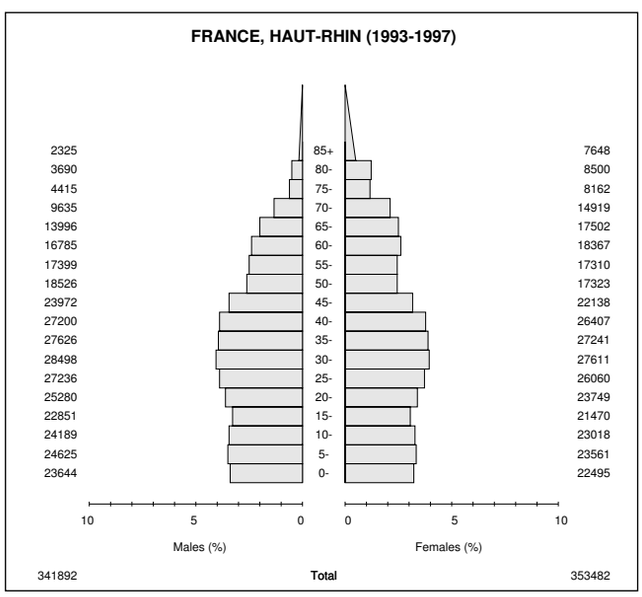
The Haut-Rhin Cancer Registry is a general population based registry. Created in 1989, it is administered by an association under a specially constituted law for the purpose. It is entirely financed by local funds (local and regional groups, health insurance funds, the Anti-Cancer League).

The registry collects information on all new cases of cancer occurring among the inhabitants of Haut-Rhin, including those diagnosed and treated elsewhere. Registration is active. The main sources of information are the pathology and cytology laboratories, and the services of radiotherapy, oncology, paediatrics and haematology. The medical information departments and medical records departments of the hospitals are also excellent sources of first notifications. Cases discovered at autopsy are registered, and identified as such. The data collected are systematically verified, completed or modified, using secondary sources (hospitalization services, treating physicians). The average number of sources per registered case is over three. Death certificates are not used.

Data are entered in the IARC/IACR CanReg software.

Use of the data

The registry was set up in order to obtain data on the burden of cancers in the area, so as to maintain an updated database for evaluation of public health measures in the prevention, screening and treatment of cancer.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques.

Estimate: Population estimates provided by the official national department of demography (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

FRANCE, HAUT-RHIN (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	8	0.1	0.5	**0.4**	0.02	0.05	1	0.0	0.1	**0.0**	0.00	0.00	*C00*
Tongue	131	1.6	7.7	**6.1**	0.47	0.75	39	0.6	2.2	**1.6**	0.11	0.17	*C01-02*
Mouth	166	2.0	9.7	**7.8**	0.60	0.94	26	0.4	1.5	**0.9**	0.06	0.10	*C03-06*
Salivary glands	28	0.3	1.6	**1.2**	0.07	0.15	10	0.1	0.6	**0.4**	0.03	0.04	*C07-08*
Tonsil	99	1.2	5.8	**4.7**	0.40	0.56	13	0.2	0.7	**0.5**	0.04	0.06	*C09*
Other oropharynx	95	1.1	5.6	**4.4**	0.33	0.56	10	0.1	0.6	**0.5**	0.04	0.05	*C10*
Nasopharynx	25	0.3	1.5	**1.2**	0.09	0.14	3	0.0	0.2	**0.1**	0.01	0.02	*C11*
Hypopharynx	176	2.1	10.3	**8.3**	0.72	0.98	5	0.1	0.3	**0.2**	0.01	0.02	*C12-13*
Pharynx unspecified	66	0.8	3.9	**3.0**	0.22	0.38	4	0.1	0.2	**0.2**	0.01	0.02	*C14*
Oesophagus	277	3.3	16.2	**12.6**	0.82	1.56	39	0.6	2.2	**1.2**	0.05	0.13	*C15*
Stomach	345	4.1	20.2	**14.8**	0.67	1.68	188	2.8	10.6	**5.2**	0.22	0.56	*C16*
Small intestine	34	0.4	2.0	**1.5**	0.09	0.16	37	0.6	2.1	**1.3**	0.08	0.14	*C17*
Colon	705	8.3	41.2	**30.5**	1.20	3.68	683	10.2	38.6	**19.7**	0.93	2.26	*C18*
Rectum	381	4.5	22.3	**16.7**	0.80	2.14	306	4.6	17.3	**9.4**	0.50	1.07	*C19-20*
Anus	13	0.2	0.8	**0.6**	0.05	0.09	38	0.6	2.2	**1.2**	0.05	0.12	*C21*
Liver	263	3.1	15.4	**11.6**	0.57	1.59	70	1.0	4.0	**2.3**	0.11	0.26	*C22*
Gallbladder etc.	36	0.4	2.1	**1.6**	0.08	0.19	79	1.2	4.5	**2.3**	0.09	0.26	*C23-24*
Pancreas	170	2.0	9.9	**7.5**	0.36	0.93	143	2.1	8.1	**4.5**	0.22	0.57	*C25*
Nose, sinuses etc.	23	0.3	1.3	**1.0**	0.07	0.12	11	0.2	0.6	**0.4**	0.03	0.03	*C30-31*
Larynx	162	1.9	9.5	**7.4**	0.48	0.92	15	0.2	0.8	**0.6**	0.05	0.08	*C32*
Trachea, bronchus and lung	1248	14.8	73.0	**56.0**	3.45	7.28	221	3.3	12.5	**8.1**	0.53	0.97	*C33-34*
Other thoracic organs	12	0.1	0.7	**0.5**	0.02	0.04	9	0.1	0.5	**0.3**	0.01	0.03	*C37-38*
Bone	25	0.3	1.5	**1.3**	0.09	0.12	13	0.2	0.7	**0.6**	0.04	0.04	*C40-41*
Melanoma of skin	185	2.2	10.8	**8.4**	0.55	0.89	224	3.3	12.7	**9.3**	0.65	0.90	*C43*
Other skin	2288		133.8	**99.2**	4.59	11.59	2301		130.2	**71.7**	4.16	7.94	*C44*
Mesothelioma	18	0.2	1.1	**0.8**	0.05	0.09	4	0.1	0.2	**0.1**	0.01	0.02	*C45*
Kaposi sarcoma	22	0.3	1.3	**1.0**	0.08	0.08	2	0.0	0.1	**0.1**	0.00	0.01	*C46*
Connective and soft tissue	42	0.5	2.5	**2.0**	0.14	0.18	32	0.5	1.8	**1.3**	0.07	0.13	*C47+C49*
Breast	18	0.2	1.1	**0.8**	0.03	0.08	2125	31.6	120.2	**83.3**	6.16	9.40	*C50*
Vulva							45	0.7	2.5	**1.2**	0.03	0.12	*C51*
Vagina							19	0.3	1.1	**0.5**	0.01	0.06	*C52*
Cervix uteri							270	4.0	15.3	**11.2**	0.86	1.12	*C53*
Corpus uteri							423	6.3	23.9	**14.8**	0.95	1.94	*C54*
Uterus unspecified							11	0.2	0.6	**0.4**	0.02	0.04	*C55*
Ovary							291	4.3	16.5	**11.0**	0.75	1.27	*C56*
Other female genital organs							9	0.1	0.5	**0.3**	0.02	0.04	*C57*
Placenta							2	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	28	0.3	1.6	**1.2**	0.06	0.14							*C60*
Prostate	1390	16.4	81.3	**57.6**	1.38	7.03							*C61*
Testis	141	1.7	8.2	**7.1**	0.53	0.57							*C62*
Other male genital organs	3	0.0	0.2	**0.1**	0.00	0.00							*C63*
Kidney	295	3.5	17.3	**13.6**	0.83	1.66	187	2.8	10.6	**6.3**	0.34	0.76	*C64*
Renal pelvis	2	0.0	0.1	**0.1**	0.00	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C65*
Ureter	11	0.1	0.6	**0.4**	0.01	0.06	2	0.0	0.1	**0.1**	0.00	0.01	*C66*
Bladder	745	8.8	43.6	**32.4**	1.51	3.94	181	2.7	10.2	**5.4**	0.25	0.64	*C67*
Other urinary organs	6	0.1	0.4	**0.3**	0.01	0.05	3	0.0	0.2	**0.1**	0.01	0.02	*C68*
Eye	16	0.2	0.9	**0.9**	0.06	0.07	20	0.3	1.1	**0.7**	0.04	0.09	*C69*
Brain, nervous system	121	1.4	7.1	**6.0**	0.35	0.69	106	1.6	6.0	**4.8**	0.32	0.52	*C70-72*
Thyroid	33	0.4	1.9	**1.5**	0.11	0.18	66	1.0	3.7	**3.0**	0.22	0.27	*C73*
Adrenal gland	5	0.1	0.3	**0.3**	0.02	0.03	5	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	1	0.0	0.1	**0.0**	0.00	0.01	2	0.0	0.1	**0.1**	0.00	0.00	*C75*
Hodgkin disease	61	0.7	3.6	**3.2**	0.22	0.29	34	0.5	1.9	**1.8**	0.13	0.13	*C81*
Non-Hodgkin lymphoma	268	3.2	15.7	**12.7**	0.71	1.36	241	3.6	13.6	**8.6**	0.56	0.94	*C82-85,C96*
Immunoproliferative diseases	26	0.3	1.5	**1.2**	0.06	0.18	14	0.2	0.8	**0.5**	0.04	0.06	*C88*
Multiple myeloma	90	1.1	5.3	**3.8**	0.16	0.42	103	1.5	5.8	**3.3**	0.18	0.37	*C90*
Lymphoid leukaemia	156	1.8	9.1	**7.4**	0.34	0.80	108	1.6	6.1	**3.8**	0.21	0.37	*C91*
Myeloid leukaemia	102	1.2	6.0	**4.8**	0.25	0.52	105	1.6	5.9	**3.7**	0.20	0.38	*C92-94*
Leukaemia unspecified	8	0.1	0.5	**0.4**	0.01	0.04	13	0.2	0.7	**0.4**	0.02	0.04	*C95*
Other and unspecified	170	2.0	9.9	**7.5**	0.39	0.95	108	1.6	6.1	**2.7**	0.11	0.24	*O&U*
All sites	10739		628.2	**475.5**	24.12	56.91	9019		510.3	**311.7**	19.59	34.86	*ALL*
All sites but C44	8451	100.0	494.4	**376.3**	19.52	45.32	6718	100.0	380.1	**240.0**	15.42	26.92	*ALLbC44*

France, Hérault

Registration area

The registry is located in Montpellier, the capital of the Hérault 'département' (French administrative district), which is part of the Languedoc Roussillon region and covers 6101 km² in the south of France near the Mediterranean.

In 1999 the population of Hérault comprised 890 000 inhabitants (48% males, 52% females) with a population density of 147 inhabitants per km². The département is highly urbanized (the urban population is 4.25 times the rural population).

Of the active population, 80.63% work in the services sector, 15.25% in the agricultural sector and 4.12% in industry. The unemployment rate is 17%, and 63.51% of the population is active.

The population is slightly older than the general French population (22.4% older than 60, vs 19.8% in France). Life expectancy is 75 years for males and 82.7 years for females (vs 73.8 and 81.9 in France, respectively).

The birth rate is 11.6 per 1000 and the mortality rate 9.4 per 1000 (annual variation being +1.49%).

The population of the département lives in 344 communes corresponding to 38 cantons.

Cancer care facilities

Hérault has a high level of medico-social equipment, with 9221 hospital beds in 1999 (1 bed per 97 inhabitants), 1566 general practitioners and 1825 specialists with 172 general practitioners and 205 specialists per 100 000 inhabitants. The medical coverage of the Hérault population is greater than the national French coverage.

Hospitals employ 26.3% of all doctors. In the town of Montpellier, there is a hospital specializing in cancer treatment and also a regional and university hospital. The département of Hérault has 13 public hospitals and 56 private clinics.

Registry structure and methods

The Hérault Cancer Registry is a general population based registry, created in 1983. Its basic objective was to determine the annual incidence of cancer in the Hérault department because registries were insufficient in the south of France. It is administered by an association according to the French association law of 1901 and financed by INSERM, the departmental committee of the League against Cancer, the 'Institut de Veille Sanitaire', the regional council and private laboratories.

The registry obtains morbidity data from pathology and cytology laboratories, hospitals and private clinic files, general and specialist practitioners, health insurance, and public and private radiotherapy units.

Registration is active: medical and pathology records are consulted directly by medical doctors of the registry who visit regularly each of many sources of data. Death certificates are not used as a source. Cases discovered at autopsy are registered and identified as such.

Data collected on the report card include name, address, date of birth, sex, source of information, basis of diagnosis, primary tumour site, stage, details of histological diagnosis and name of the laboratory, initial treatment and date of death. When the forms arrive in the registry, the secretaries first check the computer file to avoid duplicate registrations. The cases are then systematically verified and if the information is insufficient, a questionnaire is addressed to the treating physician.

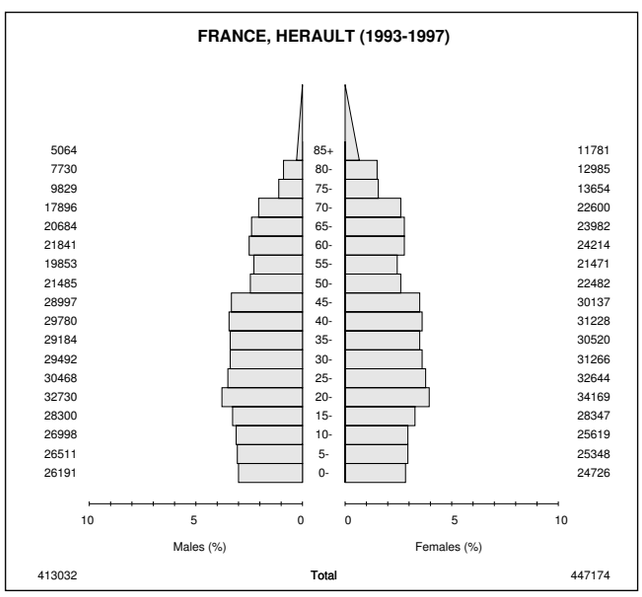
Cases which should not be registered are eliminated (metastasis or recurrence of a cancer diagnosed before, patient not resident in the area covered by the registry).

The administrative information is coded by the secretaries. The doctors who have visited the information sources code other data. Morphology and topography are coded to ICD-O. Data are then entered into the registry computers: all invasive and *in situ* cancers are registered, with the exception of basal cell carcinomas of the skin.

There is no active follow-up of the registered cases except from time to time for specific survival studies.

Use of the data

The Hérault Cancer Registry performs many studies (case–control studies, medical economic studies, evaluation of therapeutic practices), alone and in collaboration with other French or European registries.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques.

Estimate: Population estimates provided by the official national department of demography (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

Notes on the data

* The ratios of mortality to incidence are high for several sites, and the proportion of cases with morphological confirmation is very high, suggesting a degree of under-reporting.

† C44 does not include basal cell carcinoma.

*FRANCE, HERAULT (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	69	0.7	3.3	**1.9**	0.11	0.22	8	0.1	0.4	**0.2**	0.01	0.02	*C00*
Tongue	121	1.2	5.9	**4.1**	0.33	0.46	36	0.5	1.6	**1.0**	0.08	0.13	*C01-02*
Mouth	133	1.4	6.4	**4.5**	0.33	0.51	47	0.6	2.1	**1.3**	0.10	0.13	*C03-06*
Salivary glands	28	0.3	1.4	**0.8**	0.04	0.11	19	0.3	0.8	**0.5**	0.03	0.05	*C07-08*
Tonsil	110	1.1	5.3	**3.9**	0.31	0.46	30	0.4	1.3	**1.0**	0.08	0.11	*C09*
Other oropharynx	57	0.6	2.8	**2.1**	0.17	0.24	9	0.1	0.4	**0.3**	0.02	0.03	*C10*
Nasopharynx	15	0.2	0.7	**0.6**	0.04	0.06	8	0.1	0.4	**0.3**	0.01	0.03	*C11*
Hypopharynx	129	1.3	6.2	**4.6**	0.38	0.53	7	0.1	0.3	**0.2**	0.02	0.02	*C12-13*
Pharynx unspecified	14	0.1	0.7	**0.6**	0.05	0.06	1	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	203	2.1	9.8	**6.3**	0.45	0.76	67	0.9	3.0	**1.4**	0.08	0.16	*C15*
Stomach	315	3.2	15.3	**8.3**	0.41	0.96	189	2.5	8.5	**3.4**	0.15	0.34	*C16*
Small intestine	22	0.2	1.1	**0.6**	0.04	0.08	25	0.3	1.1	**0.5**	0.02	0.05	*C17*
Colon	738	7.6	35.7	**19.6**	0.92	2.27	770	10.2	34.4	**15.3**	0.74	1.69	*C18*
Rectum	483	5.0	23.4	**13.3**	0.73	1.58	320	4.2	14.3	**6.7**	0.38	0.78	*C19-20*
Anus	25	0.3	1.2	**0.7**	0.04	0.07	60	0.8	2.7	**1.3**	0.08	0.15	*C21*
Liver	153	1.6	7.4	**4.5**	0.24	0.62	32	0.4	1.4	**0.8**	0.05	0.10	*C22*
Gallbladder etc.	64	0.7	3.1	**1.8**	0.09	0.24	78	1.0	3.5	**1.5**	0.07	0.19	*C23-24*
Pancreas	156	1.6	7.6	**4.8**	0.30	0.61	100	1.3	4.5	**2.2**	0.12	0.27	*C25*
Nose, sinuses etc.	28	0.3	1.4	**0.8**	0.06	0.07	13	0.2	0.6	**0.3**	0.02	0.04	*C30-31*
Larynx	302	3.1	14.6	**9.8**	0.71	1.28	21	0.3	0.9	**0.6**	0.05	0.06	*C32*
Trachea, bronchus and lung	1470	15.2	71.2	**44.7**	2.78	5.60	263	3.5	11.8	**7.2**	0.49	0.86	*C33-34*
Other thoracic organs	19	0.2	0.9	**0.7**	0.05	0.08	6	0.1	0.3	**0.2**	0.01	0.01	*C37-38*
Bone	20	0.2	1.0	**0.9**	0.07	0.08	20	0.3	0.9	**0.9**	0.06	0.07	*C40-41*
Melanoma of skin	171	1.8	8.3	**5.7**	0.36	0.64	212	2.8	9.5	**7.0**	0.56	0.68	*C43*
†Other skin	725		35.1	**17.1**	0.53	1.74	405		18.1	**6.3**	0.23	0.58	*C44*
Mesothelioma	15	0.2	0.7	**0.4**	0.02	0.06	7	0.1	0.3	**0.2**	0.01	0.02	*C45*
Kaposi sarcoma	59	0.6	2.9	**2.3**	0.18	0.19	8	0.1	0.4	**0.2**	0.01	0.02	*C46*
Connective and soft tissue	72	0.7	3.5	**2.4**	0.13	0.21	72	1.0	3.2	**2.2**	0.17	0.23	*C47+C49*
Breast	28	0.3	1.4	**0.8**	0.05	0.09	2747	36.4	122.9	**81.5**	6.32	9.10	*C50*
Vulva							46	0.6	2.1	**1.0**	0.05	0.10	*C51*
Vagina							16	0.2	0.7	**0.3**	0.01	0.03	*C52*
Cervix uteri							338	4.5	15.1	**11.0**	0.83	1.13	*C53*
Corpus uteri							373	4.9	16.7	**9.3**	0.57	1.21	*C54*
Uterus unspecified							2	0.0	0.1	**0.1**	0.01	0.01	*C55*
Ovary							294	3.9	13.1	**8.5**	0.64	1.00	*C56*
Other female genital organs							7	0.1	0.3	**0.2**	0.01	0.01	*C57*
Placenta							3	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	24	0.2	1.2	**0.7**	0.05	0.07							*C60*
Prostate	2143	22.1	103.8	**51.2**	1.49	6.18							*C61*
Testis	72	0.7	3.5	**3.2**	0.24	0.25							*C62*
Other male genital organs	4	0.0	0.2	**0.1**	0.00	0.01							*C63*
Kidney	293	3.0	14.2	**9.2**	0.55	1.09	130	1.7	5.8	**3.6**	0.23	0.40	*C64*
Renal pelvis	30	0.3	1.5	**0.8**	0.03	0.09	22	0.3	1.0	**0.5**	0.02	0.05	*C65*
Ureter	14	0.1	0.7	**0.3**	0.01	0.04	9	0.1	0.4	**0.1**	0.00	0.01	*C66*
Bladder	776	8.0	37.6	**20.5**	0.92	2.45	127	1.7	5.7	**2.0**	0.08	0.19	*C67*
Other urinary organs	2	0.0	0.1	**0.1**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	11	0.1	0.5	**0.4**	0.03	0.03	8	0.1	0.4	**0.3**	0.02	0.03	*C69*
Brain, nervous system	143	1.5	6.9	**5.8**	0.39	0.56	116	1.5	5.2	**4.2**	0.30	0.41	*C70-72*
Thyroid	60	0.6	2.9	**2.3**	0.18	0.21	167	2.2	7.5	**6.2**	0.48	0.58	*C73*
Adrenal gland	14	0.1	0.7	**0.8**	0.04	0.06	9	0.1	0.4	**0.6**	0.03	0.04	*C74*
Other endocrine	4	0.0	0.2	**0.1**	0.01	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	51	0.5	2.5	**2.4**	0.17	0.17	37	0.5	1.7	**1.5**	0.11	0.11	*C81*
Non-Hodgkin lymphoma	344	3.5	16.7	**11.1**	0.68	1.18	258	3.4	11.5	**6.8**	0.41	0.72	*C82-85,C96*
Immunoproliferative diseases	25	0.3	1.2	**0.6**	0.02	0.08	12	0.2	0.5	**0.3**	0.02	0.04	*C88*
Multiple myeloma	87	0.9	4.2	**2.4**	0.13	0.30	68	0.9	3.0	**1.6**	0.10	0.20	*C90*
Lymphoid leukaemia	145	1.5	7.0	**5.7**	0.33	0.51	83	1.1	3.7	**2.9**	0.17	0.28	*C91*
Myeloid leukaemia	113	1.2	5.5	**3.9**	0.26	0.39	89	1.2	4.0	**2.9**	0.18	0.30	*C92-94*
Leukaemia unspecified	2	0.0	0.1	**0.0**	0.00	0.00	1	0.0	0.0	**0.0**	0.00	0.00	*C95*
Other and unspecified	320	3.3	15.5	**9.4**	0.55	1.14	164	2.2	7.3	**3.8**	0.24	0.47	*O&U*
All sites	10421		504.6	**300.0**	16.01	34.69	7959		356.0	**212.1**	14.49	23.22	*ALL*
All sites but C44	9696	100.0	469.5	**282.9**	15.48	32.95	7554	100.0	337.9	**205.8**	14.26	22.65	*ALLbC44*

†See note following population pyramid

France, Isère

Registration area

The Isère Cancer Registry covers the population of the 'département' of Isère, in southeastern France. Besides some recreational activities (ski resorts, lakes...), industrial activities are important (chemical production), and research and teaching (university). 25% of the population resides in rural areas. In 1997 the population was estimated to be 1 085 000, with 299 000 people under age 20, 599 000 aged 20–59 years and 187 000 over age 60.

Cancer care facilities

In 1997, the density of specialized and general practitioners was 198 per 100 000 inhabitants. In December 1999, 3586 physicians were in charge of the population's health in Isère. There are two specialist cancer hospitals and diagnosis and treatment are also undertaken in general hospitals and private clinics.

Registry structure and methods

50% of the registry's budget comes from the Isère General Council (Conseil Général) and some financial support is received from the National Health Department (Ministère de la Santé) through InVS (Institut de la Veille Sanitaire) and INSERM (Institut National de la Santé et de la Recherche Médicale). The bulk of the research work is funded from the French League against Cancer and from foundations or from contracts with industrial companies.

The registry staff, both for registration and research work, consists of two clerks (part-time), two registrars (part-time), 1.6 medical epidemiologists, one statistician and one secretary. For some studies, extra medical interviewers are hired.

Among the sources of information, in Isère and in three contiguous areas, there are 34 laboratories providing pathological reports. The registry also obtains information from two hospitals specialized in cancer, 13 general hospitals, the network of hospitals in the city of Lyon, six private clinics and the medical files of two Health Insurance Companies. Since 1997, abstracts of the medical files from the hospital patient-disease information systems are received for most patients treated for cancer, at least for hospitals in the public domain. All the information received is carefully checked and when judged insufficient, the registry staff visit the sources where they scrutinize the records kept in the medical records departments. Death certificates being anonymous, they are of no use for case-finding. There is no active follow-up of the registered cases, except for specific survival studies.

Interpreting the results

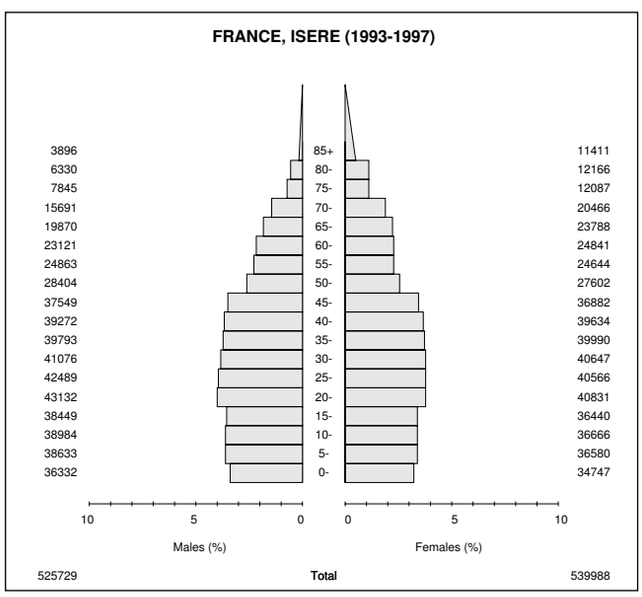
An active screening programme (breast, colon and cervix) and well implemented habits of PSA testing for prostate cancer may explain rather high incidence rates for these tumours, as compared with French standards. In operation since 1985 (PSA) and 1990 (screening), these activities probably no longer have an effect on trends, but some research has shown an increase in the proportion of localized compared to distant tumours, which supports a beneficial effect of those programmes for the population's health. Systematic sending of medical record abstracts by hospitals may improve coverage in coming years.

Use of the data

A report for researchers and people in charge of cancer in Isère is published annually. The prevalence of cancer has been estimated. Mapping of disease is carried out by the registry. The screening programmes for breast, colon and cervix cancers are evaluated. The registry also undertakes surveillance of occupational cohorts.

In co-operation with other French Cancer Registries (FRANCIM) and the Institut de la Veille Sanitaire, the registry contributes to the detection of new cancer risks in the French population.

Analysis of different methods of diagnosis and treatment for some cancer sites, including breast, prostate, bladder and colon cancer, has been carried out.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques.

Estimate: Population estimates provided by the official national department of demography (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

Notes on the data

† C44 does not include basal cell carcinoma.

FRANCE, ISERE (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	26	0.2	1.0	**0.7**	0.03	0.07	6	0.1	0.2	**0.1**	0.00	0.00	*C00*
Tongue	133	1.2	5.1	**4.1**	0.29	0.51	24	0.3	0.9	**0.6**	0.04	0.05	*C01-02*
Mouth	181	1.6	6.9	**5.7**	0.45	0.68	32	0.4	1.2	**0.8**	0.04	0.08	*C03-06*
Salivary glands	22	0.2	0.8	**0.7**	0.04	0.08	20	0.2	0.7	**0.5**	0.04	0.05	*C07-08*
Tonsil	122	1.1	4.6	**3.7**	0.25	0.45	13	0.1	0.5	**0.4**	0.04	0.04	*C09*
Other oropharynx	79	0.7	3.0	**2.5**	0.17	0.31	13	0.1	0.5	**0.4**	0.02	0.04	*C10*
Nasopharynx	31	0.3	1.2	**0.9**	0.07	0.10	7	0.1	0.3	**0.2**	0.01	0.02	*C11*
Hypopharynx	189	1.6	7.2	**5.9**	0.43	0.72	17	0.2	0.6	**0.5**	0.04	0.06	*C12-13*
Pharynx unspecified	28	0.2	1.1	**0.9**	0.06	0.11	6	0.1	0.2	**0.2**	0.02	0.02	*C14*
Oesophagus	263	2.3	10.0	**7.8**	0.49	0.97	61	0.7	2.3	**1.4**	0.09	0.17	*C15*
Stomach	387	3.4	14.7	**10.6**	0.44	1.24	268	3.0	9.9	**4.8**	0.16	0.51	*C16*
Small intestine	29	0.3	1.1	**0.8**	0.05	0.09	25	0.3	0.9	**0.6**	0.03	0.06	*C17*
Colon	893	7.7	34.0	**24.6**	0.99	2.90	847	9.4	31.4	**16.8**	0.87	1.86	*C18*
Rectum	585	5.1	22.3	**16.6**	0.74	2.02	395	4.4	14.6	**8.3**	0.45	0.95	*C19-20*
Anus	22	0.2	0.8	**0.6**	0.03	0.07	73	0.8	2.7	**1.6**	0.09	0.18	*C21*
Liver	415	3.6	15.8	**12.0**	0.56	1.57	99	1.1	3.7	**2.1**	0.09	0.26	*C22*
Gallbladder etc.	56	0.5	2.1	**1.6**	0.05	0.20	88	1.0	3.3	**1.8**	0.09	0.21	*C23-24*
Pancreas	232	2.0	8.8	**6.6**	0.35	0.84	221	2.4	8.2	**4.2**	0.21	0.47	*C25*
Nose, sinuses etc.	32	0.3	1.2	**1.0**	0.05	0.14	6	0.1	0.2	**0.1**	0.00	0.01	*C30-31*
Larynx	277	2.4	10.5	**8.4**	0.58	1.01	20	0.2	0.7	**0.5**	0.04	0.07	*C32*
Trachea, bronchus and lung	1757	15.2	66.8	**51.1**	2.81	6.39	321	3.5	11.9	**7.4**	0.44	0.89	*C33-34*
Other thoracic organs	24	0.2	0.9	**0.7**	0.03	0.06	20	0.2	0.7	**0.6**	0.04	0.07	*C37-38*
Bone	44	0.4	1.7	**1.6**	0.10	0.13	20	0.2	0.7	**0.8**	0.05	0.05	*C40-41*
Melanoma of skin	173	1.5	6.6	**5.2**	0.34	0.54	227	2.5	8.4	**6.4**	0.49	0.66	*C43*
†Other skin	385		14.6	**10.1**	0.32	0.96	291		10.8	**4.7**	0.19	0.43	*C44*
Mesothelioma	56	0.5	2.1	**1.6**	0.07	0.20	17	0.2	0.6	**0.3**	0.01	0.04	*C45*
Kaposi sarcoma	36	0.3	1.4	**1.1**	0.08	0.09	3	0.0	0.1	**0.1**	0.00	0.01	*C46*
Connective and soft tissue	74	0.6	2.8	**2.3**	0.12	0.24	67	0.7	2.5	**1.7**	0.09	0.14	*C47+C49*
Breast	27	0.2	1.0	**0.8**	0.03	0.09	3164	35.0	117.2	**84.9**	6.42	9.51	*C50*
Vulva							34	0.4	1.3	**0.6**	0.02	0.07	*C51*
Vagina							16	0.2	0.6	**0.2**	0.01	0.02	*C52*
Cervix uteri							280	3.1	10.4	**7.4**	0.54	0.76	*C53*
Corpus uteri							370	4.1	13.7	**8.8**	0.53	1.12	*C54*
Uterus unspecified							7	0.1	0.3	**0.2**	0.01	0.02	*C55*
Ovary							371	4.1	13.7	**9.4**	0.65	0.98	*C56*
Other female genital organs							18	0.2	0.7	**0.5**	0.04	0.06	*C57*
Placenta							2	0.0	0.1	**0.1**	0.00	0.00	*C58*
Penis	24	0.2	0.9	**0.7**	0.02	0.09							*C60*
Prostate	2189	19.0	83.3	**58.3**	1.66	7.04							*C61*
Testis	130	1.1	4.9	**4.3**	0.33	0.34							*C62*
Other male genital organs	8	0.1	0.3	**0.2**	0.01	0.04							*C63*
Kidney	278	2.4	10.6	**8.3**	0.48	0.95	147	1.6	5.4	**3.9**	0.22	0.39	*C64*
Renal pelvis	20	0.2	0.8	**0.6**	0.02	0.06	1	0.0	0.0	**0.0**	0.00	0.00	*C65*
Ureter	14	0.1	0.5	**0.4**	0.02	0.06	7	0.1	0.3	**0.2**	0.01	0.02	*C66*
Bladder	1017	8.8	38.7	**28.5**	1.29	3.31	224	2.5	8.3	**4.1**	0.17	0.47	*C67*
Other urinary organs	5	0.0	0.2	**0.1**	0.00	0.01	2	0.0	0.1	**0.1**	0.00	0.00	*C68*
Eye	35	0.3	1.3	**1.2**	0.06	0.11	27	0.3	1.0	**0.6**	0.02	0.08	*C69*
Brain, nervous system	213	1.8	8.1	**7.1**	0.45	0.69	170	1.9	6.3	**5.0**	0.32	0.45	*C70-72*
Thyroid	70	0.6	2.7	**2.2**	0.17	0.22	223	2.5	8.3	**6.8**	0.54	0.67	*C73*
Adrenal gland	13	0.1	0.5	**0.5**	0.02	0.04	10	0.1	0.4	**0.4**	0.02	0.03	*C74*
Other endocrine	3	0.0	0.1	**0.1**	0.00	0.01	5	0.1	0.2	**0.2**	0.02	0.02	*C75*
Hodgkin disease	63	0.5	2.4	**2.1**	0.14	0.18	51	0.6	1.9	**1.7**	0.11	0.14	*C81*
Non-Hodgkin lymphoma	417	3.6	15.9	**12.8**	0.78	1.34	333	3.7	12.3	**8.0**	0.49	0.84	*C82-85,C96*
Immunoproliferative diseases	34	0.3	1.3	**1.0**	0.04	0.10	22	0.2	0.8	**0.4**	0.01	0.06	*C88*
Multiple myeloma	124	1.1	4.7	**3.6**	0.18	0.40	113	1.2	4.2	**2.3**	0.08	0.27	*C90*
Lymphoid leukaemia	147	1.3	5.6	**4.9**	0.25	0.44	131	1.4	4.9	**3.9**	0.22	0.40	*C91*
Myeloid leukaemia	139	1.2	5.3	**4.1**	0.23	0.41	110	1.2	4.1	**2.6**	0.14	0.23	*C92-94*
Leukaemia unspecified	8	0.1	0.3	**0.2**	0.01	0.02	9	0.1	0.3	**0.2**	0.01	0.01	*C95*
Other and unspecified	404	3.5	15.4	**11.5**	0.55	1.27	286	3.2	10.6	**5.5**	0.22	0.57	*O&U*
All sites	11933		454.0	**342.8**	16.73	39.88	9340		345.9	**225.7**	14.51	24.61	*ALL*
All sites but C44	11548	100.0	439.3	**332.6**	16.42	38.92	9049	100.0	335.2	**220.9**	14.33	24.19	*ALLbC44*

†See note following population pyramid

France, Manche

Registration area

Situated in the area of Basse Normandie, the 'département' of the Manche covers 5938 km² and has 330 km of coastline. It is a part of the Armorican massif and consists of three different zones: in the north the peninsula of Cotentin, in the centre a formerly swampy zone, now meadows, in the south the hills of the Norman bocage, which reach 368 m. The climate is of the oceanic type. The department contains 602 communes, 86% of which have less than 1000 inhabitants. The population is slightly older than the national average. It is mainly rural, only 48% living in the five urban areas (of which half in the only urban zone of Cherbourg in the North) and density is low (81 inhabitants per km²).

The working population represents 43.2% of the total population. Among those employed 47.5% are in the service sector, 19.9% in industry (predominantly farm produce), 14.4% in agriculture, 10.4% in commerce and 7.8% in building and public works. In 1999 the unemployment rate was 11.5%. The département has a low proportion of foreigners (0.8 %). The economy is mainly agricultural, breeding representing 90% of this production. Fishing and tourism are developed in the coastal zones. There is an industrial area in the north, mainly the nuclear industry (nuclear waste reprocessing plant, surface storage facility for nuclear waste, power station), and shipyards.

Cancer care facilities

With 561 general practitioners and 431 specialists in 1995, the département has a low medical coverage. There are seven beds per 1000 inhabitants. The département possesses 11 public hospitals, general and local, and seven private care structures. There is no specialized cancer centre, but two radiotherapy units, one private in the south of the département, one public in the north which is a delocalized structure associated with the regional cancer care centre of the neighbouring département (Calvados).

Registry structure and methods

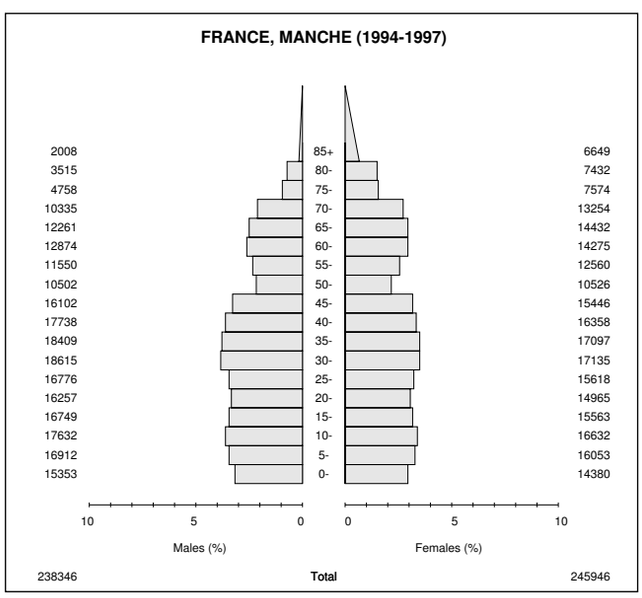
The Cancer Registry of Manche began its activities in 1994. The registry is implanted in Cherbourg, in the general hospital, and was created by an association of practitioners of the département. It is supported by the Ministry of Health, the Regional Council of Basse Normandie, the General Council of Manche, the local League against Cancer, communes, local associations, and industries. It is affiliated to the association of French Cancer Registries (FRANCIM).

For the years 1994–97, the registry was staffed by two technicians, a secretary and one medical epidemiologist. Data collection is active in Manche and the surrounding départements. The sources of information are regional, including 12 pathology and cytology laboratories, services of oncology, radiotherapy, paediatrics, haematology, and medical records departments of hospitals. After first notification of cases, every medical file is checked in regional, private and public, medical facilities, and then coded to ICD-O by the physician. All invasive and *in situ* cancers are registered except basal cell skin cancers. Death certificates are not used as a source of data. The registry carries out an active follow-up of all cases from the municipal registry office.

The industrial particularity of the north of the département resulted in the implementation of a specialized collection system for haematopoietic cancers. It consists in collection of reports from the medical biology laboratories of the département, validation by a haematologist, record of immunophenotypic, conventional cytogenetic and molecular data, and the tumour cells are cryopreserved.

Use of the data

The Manche Cancer Registry, in its six years of activity, has produced basic descriptive data, and participated in collaborative studies at a national and international level.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques.

Estimate: Population estimates provided by the official national department of demography (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

Notes on the data

* The ratios of mortality to incidence are high for several sites, and some rates are on the low side, suggesting a degree of under-reporting.

† C44 does not include basal cell carcinoma.

*FRANCE, MANCHE (1994-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	60	1.2	6.3	**3.9**	0.22	0.49	14	0.4	1.4	**0.5**	0.02	0.05	*C00*
Tongue	68	1.4	7.1	**5.3**	0.41	0.63	8	0.2	0.8	**0.4**	0.02	0.05	*C01-02*
Mouth	89	1.8	9.3	**6.8**	0.54	0.71	26	0.8	2.6	**1.6**	0.12	0.17	*C03-06*
Salivary glands	13	0.3	1.4	**0.9**	0.04	0.08	6	0.2	0.6	**0.2**	0.01	0.03	*C07-08*
Tonsil	44	0.9	4.6	**3.5**	0.28	0.39	4	0.1	0.4	**0.3**	0.02	0.04	*C09*
Other oropharynx	55	1.1	5.8	**4.3**	0.38	0.51	6	0.2	0.6	**0.5**	0.04	0.04	*C10*
Nasopharynx	2	0.0	0.2	**0.1**	0.01	0.02	1	0.0	0.1	**0.1**	0.01	0.01	*C11*
Hypopharynx	122	2.5	12.8	**8.8**	0.60	1.03	2	0.1	0.2	**0.2**	0.02	0.02	*C12-13*
Pharynx unspecified	39	0.8	4.1	**3.2**	0.28	0.36	3	0.1	0.3	**0.2**	0.02	0.02	*C14*
Oesophagus	275	5.7	28.8	**18.7**	1.11	2.30	21	0.6	2.1	**1.1**	0.06	0.12	*C15*
Stomach	247	5.1	25.9	**14.8**	0.58	1.61	163	4.8	16.6	**5.8**	0.20	0.56	*C16*
Small intestine	13	0.3	1.4	**0.9**	0.04	0.10	8	0.2	0.8	**0.3**	0.01	0.06	*C17*
Colon	312	6.4	32.7	**18.7**	0.73	2.23	295	8.7	30.0	**12.9**	0.57	1.44	*C18*
Rectum	251	5.2	26.3	**15.8**	0.74	1.85	167	4.9	17.0	**7.3**	0.40	0.80	*C19-20*
Anus	7	0.1	0.7	**0.4**	0.02	0.05	17	0.5	1.7	**0.9**	0.07	0.11	*C21*
Liver	92	1.9	9.6	**5.9**	0.31	0.74	11	0.3	1.1	**0.8**	0.06	0.09	*C22*
Gallbladder etc.	26	0.5	2.7	**1.6**	0.06	0.17	47	1.4	4.8	**2.1**	0.10	0.22	*C23-24*
Pancreas	62	1.3	6.5	**4.1**	0.22	0.53	45	1.3	4.6	**2.2**	0.09	0.24	*C25*
Nose, sinuses etc.	17	0.3	1.8	**1.1**	0.07	0.13	8	0.2	0.8	**0.3**	0.01	0.07	*C30-31*
Larynx	125	2.6	13.1	**9.2**	0.68	1.07	11	0.3	1.1	**0.8**	0.06	0.09	*C32*
Trachea, bronchus and lung	721	14.8	75.6	**49.6**	3.07	6.16	90	2.7	9.1	**5.4**	0.36	0.64	*C33-34*
Other thoracic organs	13	0.3	1.4	**1.0**	0.08	0.12	3	0.1	0.3	**0.2**	0.02	0.03	*C37-38*
Bone	12	0.2	1.3	**1.2**	0.07	0.09	12	0.4	1.2	**1.3**	0.07	0.09	*C40-41*
Melanoma of skin	103	2.1	10.8	**7.9**	0.57	0.80	156	4.6	15.9	**10.8**	0.77	1.04	*C43*
†Other skin	628		65.9	**37.0**	1.19	3.58	561		57.0	**17.8**	0.46	1.71	*C44*
Mesothelioma	19	0.4	2.0	**1.4**	0.12	0.15	5	0.1	0.5	**0.3**	0.03	0.04	*C45*
Kaposi sarcoma	3	0.1	0.3	**0.3**	0.02	0.02	1	0.0	0.1	**0.1**	0.01	0.01	*C46*
Connective and soft tissue	31	0.6	3.3	**2.2**	0.13	0.18	22	0.7	2.2	**1.3**	0.07	0.09	*C47+C49*
Breast	8	0.2	0.8	**0.5**	0.03	0.05	995	29.4	101.1	**66.5**	5.13	7.25	*C50*
Vulva							18	0.5	1.8	**0.7**	0.03	0.10	*C51*
Vagina							3	0.1	0.3	**0.1**	0.01	0.01	*C52*
Cervix uteri							92	2.7	9.4	**6.5**	0.50	0.67	*C53*
Corpus uteri							129	3.8	13.1	**6.7**	0.43	0.90	*C54*
Uterus unspecified							3	0.1	0.3	**0.2**	0.03	0.03	*C55*
Ovary							200	5.9	20.3	**12.2**	0.83	1.42	*C56*
Other female genital organs							15	0.4	1.5	**0.8**	0.05	0.09	*C57*
Placenta							1	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	7	0.1	0.7	**0.5**	0.03	0.07							*C60*
Prostate	907	18.6	95.1	**50.5**	1.31	6.18							*C61*
Testis	36	0.7	3.8	**3.7**	0.27	0.27							*C62*
Other male genital organs	5	0.1	0.5	**0.4**	0.02	0.05							*C63*
Kidney	130	2.7	13.6	**8.7**	0.49	1.02	96	2.8	9.8	**5.5**	0.35	0.61	*C64*
Renal pelvis	8	0.2	0.8	**0.4**	0.01	0.08	7	0.2	0.7	**0.3**	0.02	0.03	*C65*
Ureter	0	0.0	0.0	**0.0**	0.00	0.00	3	0.1	0.3	**0.1**	0.00	0.01	*C66*
Bladder	273	5.6	28.6	**17.0**	0.81	2.07	79	2.3	8.0	**2.8**	0.11	0.28	*C67*
Other urinary organs	2	0.0	0.2	**0.1**	0.01	0.01	5	0.1	0.5	**0.3**	0.03	0.03	*C68*
Eye	9	0.2	0.9	**0.9**	0.04	0.09	5	0.1	0.5	**0.5**	0.02	0.04	*C69*
Brain, nervous system	71	1.5	7.4	**6.2**	0.43	0.63	44	1.3	4.5	**3.6**	0.25	0.36	*C70-72*
Thyroid	21	0.4	2.2	**1.9**	0.15	0.16	103	3.0	10.5	**8.7**	0.68	0.83	*C73*
Adrenal gland	5	0.1	0.5	**0.6**	0.03	0.03	2	0.1	0.2	**0.3**	0.02	0.02	*C74*
Other endocrine	2	0.0	0.2	**0.3**	0.02	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	21	0.4	2.2	**2.0**	0.14	0.15	18	0.5	1.8	**1.8**	0.12	0.12	*C81*
Non-Hodgkin lymphoma	155	3.2	16.3	**10.6**	0.53	1.27	140	4.1	14.2	**7.1**	0.42	0.78	*C82-85,C96*
Immunoproliferative diseases	17	0.3	1.8	**1.0**	0.03	0.14	12	0.4	1.2	**0.4**	0.00	0.05	*C88*
Multiple myeloma	53	1.1	5.6	**3.3**	0.13	0.42	53	1.6	5.4	**2.0**	0.09	0.22	*C90*
Lymphoid leukaemia	72	1.5	7.6	**5.3**	0.28	0.54	39	1.2	4.0	**2.5**	0.15	0.24	*C91*
Myeloid leukaemia	59	1.2	6.2	**4.4**	0.23	0.41	52	1.5	5.3	**3.0**	0.20	0.30	*C92-94*
Leukaemia unspecified	4	0.1	0.4	**0.3**	0.01	0.03	2	0.1	0.2	**0.1**	0.00	0.02	*C95*
Other and unspecified	179	3.7	18.8	**11.8**	0.60	1.41	113	3.3	11.5	**5.1**	0.25	0.57	*O&U*
All sites	5493		576.2	**358.8**	18.17	41.16	3942		400.7	**213.8**	13.40	22.83	*ALL*
All sites but C44	4865	100.0	510.3	**321.8**	16.97	37.58	3381	100.0	343.7	**196.0**	12.94	21.12	*ALLbC44*

†See note following population pyramid

France, Somme

Registration area

The Somme Registry, situated 140 km from Paris towards the North of France, is the only general registry to the north of Paris. It covers the population of four districts: Abbeville, Amiens, Montdidier and Péronne. Amiens is the most populated area. The population census in 1999 counted 555 497 inhabitants, 58% living in urban communes (towns or grouping of communes amounting to at least 2000 inhabitants). The west of the county is traditionally both rural with an agriculture of 'bocage' and industrial, with factories producing taps and locks. The east is a major farming area. The Somme river is bordered by ponds and marshes which attract many anglers and hunters.

Cancer care facilities

There is no special cancer care centre in the département. Cancer care is shared by the regional teaching hospital, and the general hospitals and clinics situated in six towns in Somme. 10% of patients are treated outside the registration area in cancer care centres in Paris or Lille (to the north), or in a general hospital or clinic in Saint-Quentin. Chemotherapy is dispensed privately in the clinics, and publicly in the different hospitals. For the last few years, there has been an increasing move for groups of oncological physicians to coordinate treatment regimes for the different cancer sites. For example, there are groups which work well for digestive and breast cancers. Since 1997 the regional health authority has recognized cancer as a priority for the area, which has a very high death rate, some 10% higher than the national mean. The registry is acknowledged to be the best tool to monitor cancer in the community.

Registry structure and methods

The registry is located in the regional teaching hospital but is funded by other organizations, including the General Council of the département, the Departmental League Against Cancer, the Direction of State for General Health and the National Institute for Medical Research (INSERM). Six people work in the registry: a half-time epidemiologist (MD, PhD), a statistician (MSc), a medical investigator (MD), and three part-time registrars/secretaries.

Cancer cases are found by an active search in the medical records from 70 sources of data. The two main sources are pathologists and medical information systems in the hospitals and clinics. The registers of chemotherapy and radiotherapy are an independent source of data. The registrars go once a year to cancer care centres outside the département to collect cases and information on Somme patients. Cancer is not a notifiable disease in France, so it is important to look for cases in all the facilities where they may be diagnosed or treated.

Quality in the registry is monitored every four years by the National Committee of Registries. The registry is monitored by the National Commission of Data Processing and Freedom (CNIL) for confidentiality.

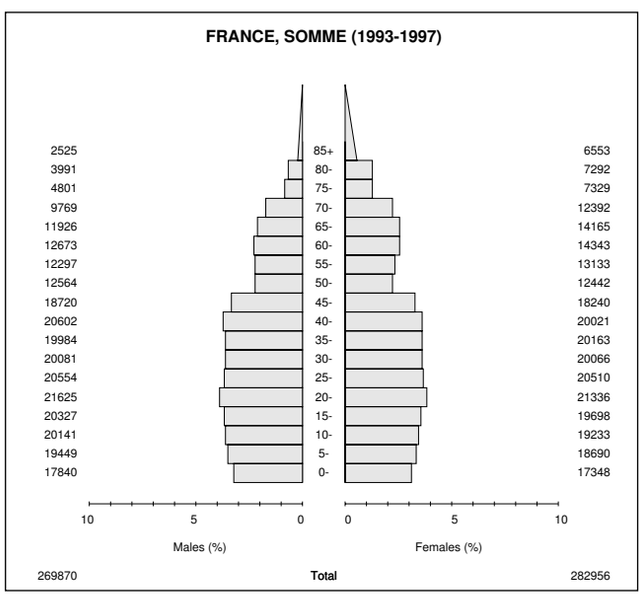
Interpreting the results

As in other French registries, Somme has a mortality:incidence ratio slightly over 1 for lung, liver and pancreas which are over-reported on death certificates; often there is only a radiological diagnosis of pancreatic cancer and it is not confirmed histologically. A cryotherapy and radiotherapy service was opened in 1992 at the teaching hospital, and since that time treatments for some sites have changed, e.g. for rectal cancer.

There has been a screening programme (ADEMA 80) using mammography to detect breast cancer in women aged 50–69 since 1991. Breast cancer continues to increase but there has been a downstaging effect.

Use of data

Several publications are produced annually about different cancers, describing incidence, trends, survival by sex, age and stage. Somme has participated in the EUROCARE project since 1990. Oncological specialists in the area receive the results of any special studies.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques.

Estimate: Population estimates provided by the official national department of demography (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

Notes on the data

* The ratios of mortality to incidence are high for several sites, and some rates are on the low side, suggesting a degree of under-reporting.

† C44 does not include basal cell carcinoma.

*FRANCE, SOMME (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	28	0.4	2.1	**1.4**	0.08	0.19	3	0.1	0.2	**0.1**	0.01	0.02	*C00*
Tongue	126	2.0	9.3	**7.6**	0.66	0.90	22	0.5	1.6	**1.0**	0.06	0.14	*C01-02*
Mouth	158	2.5	11.7	**9.3**	0.76	1.07	30	0.7	2.1	**1.3**	0.08	0.15	*C03-06*
Salivary glands	4	0.1	0.3	**0.2**	0.01	0.03	13	0.3	0.9	**0.5**	0.03	0.06	*C07-08*
Tonsil	105	1.7	7.8	**6.4**	0.57	0.73	15	0.3	1.1	**0.8**	0.06	0.08	*C09*
Other oropharynx	68	1.1	5.0	**4.2**	0.37	0.50	3	0.1	0.2	**0.2**	0.02	0.02	*C10*
Nasopharynx	2	0.0	0.1	**0.1**	0.00	0.01	2	0.0	0.1	**0.1**	0.01	0.02	*C11*
Hypopharynx	173	2.7	12.8	**10.2**	0.83	1.23	7	0.2	0.5	**0.5**	0.04	0.04	*C12-13*
Pharynx unspecified	57	0.9	4.2	**3.5**	0.30	0.41	3	0.1	0.2	**0.2**	0.01	0.01	*C14*
Oesophagus	320	5.1	23.7	**17.9**	1.29	2.11	40	0.9	2.8	**1.8**	0.15	0.19	*C15*
Stomach	211	3.3	15.6	**9.8**	0.39	1.14	127	2.8	9.0	**4.2**	0.19	0.48	*C16*
Small intestine	13	0.2	1.0	**0.7**	0.04	0.08	17	0.4	1.2	**0.8**	0.05	0.11	*C17*
Colon	406	6.4	30.1	**19.5**	0.85	2.25	350	7.8	24.7	**12.4**	0.63	1.37	*C18*
Rectum	327	5.2	24.2	**16.3**	0.81	1.95	197	4.4	13.9	**7.3**	0.37	0.80	*C19-20*
Anus	14	0.2	1.0	**0.7**	0.05	0.08	26	0.6	1.8	**1.0**	0.07	0.11	*C21*
Liver	166	2.6	12.3	**8.2**	0.36	1.15	38	0.8	2.7	**1.3**	0.05	0.15	*C22*
Gallbladder etc.	22	0.3	1.6	**1.0**	0.04	0.14	44	1.0	3.1	**1.6**	0.06	0.21	*C23-24*
Pancreas	100	1.6	7.4	**5.2**	0.33	0.65	66	1.5	4.7	**2.4**	0.11	0.28	*C25*
Nose, sinuses etc.	23	0.4	1.7	**1.2**	0.07	0.17	7	0.2	0.5	**0.2**	0.00	0.02	*C30-31*
Larynx	220	3.5	16.3	**13.0**	1.04	1.56	11	0.2	0.8	**0.6**	0.06	0.06	*C32*
Trachea, bronchus and lung	1044	16.5	77.4	**55.9**	3.58	7.11	125	2.8	8.8	**5.6**	0.38	0.70	*C33-34*
Other thoracic organs	10	0.2	0.7	**0.5**	0.01	0.07	4	0.1	0.3	**0.1**	0.00	0.02	*C37-38*
Bone	9	0.1	0.7	**0.6**	0.04	0.05	8	0.2	0.6	**0.5**	0.05	0.05	*C40-41*
Melanoma of skin	69	1.1	5.1	**3.9**	0.22	0.40	83	1.9	5.9	**4.3**	0.29	0.44	*C43*
†Other skin	270		20.0	**12.1**	0.42	1.26	184		13.0	**4.8**	0.14	0.39	*C44*
Mesothelioma	26	0.4	1.9	**1.4**	0.09	0.18	11	0.2	0.8	**0.5**	0.05	0.06	*C45*
Kaposi sarcoma	7	0.1	0.5	**0.4**	0.04	0.04	2	0.0	0.1	**0.1**	0.00	0.01	*C46*
Connective and soft tissue	19	0.3	1.4	**0.8**	0.03	0.05	18	0.4	1.3	**1.0**	0.06	0.08	*C47+C49*
Breast	19	0.3	1.4	**1.1**	0.07	0.13	1602	35.8	113.2	**82.1**	6.30	9.06	*C50*
Vulva							23	0.5	1.6	**0.9**	0.04	0.11	*C51*
Vagina							17	0.4	1.2	**0.6**	0.05	0.05	*C52*
Cervix uteri							180	4.0	12.7	**9.7**	0.78	1.01	*C53*
Corpus uteri							243	5.4	17.2	**11.3**	0.86	1.43	*C54*
Uterus unspecified							24	0.5	1.7	**1.3**	0.11	0.14	*C55*
Ovary							218	4.9	15.4	**10.7**	0.77	1.17	*C56*
Other female genital organs							15	0.3	1.1	**0.5**	0.03	0.07	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	14	0.2	1.0	**0.7**	0.03	0.08							*C60*
Prostate	950	15.1	70.4	**42.5**	1.23	5.09							*C61*
Testis	60	1.0	4.4	**3.9**	0.28	0.32							*C62*
Other male genital organs	3	0.0	0.2	**0.2**	0.02	0.02							*C63*
Kidney	162	2.6	12.0	**8.7**	0.45	1.11	93	2.1	6.6	**4.7**	0.34	0.48	*C64*
Renal pelvis	8	0.1	0.6	**0.4**	0.01	0.06	6	0.1	0.4	**0.3**	0.02	0.04	*C65*
Ureter	12	0.2	0.9	**0.6**	0.03	0.08	2	0.0	0.1	**0.1**	0.00	0.02	*C66*
Bladder	492	7.8	36.5	**24.3**	1.17	2.93	89	2.0	6.3	**3.0**	0.12	0.35	*C67*
Other urinary organs	4	0.1	0.3	**0.2**	0.00	0.03	2	0.0	0.1	**0.1**	0.01	0.01	*C68*
Eye	20	0.3	1.5	**1.4**	0.10	0.14	12	0.3	0.8	**0.6**	0.04	0.06	*C69*
Brain, nervous system	82	1.3	6.1	**5.2**	0.34	0.54	73	1.6	5.2	**4.3**	0.29	0.44	*C70-72*
Thyroid	21	0.3	1.6	**1.3**	0.11	0.15	66	1.5	4.7	**3.9**	0.30	0.41	*C73*
Adrenal gland	5	0.1	0.4	**0.4**	0.02	0.03	3	0.1	0.2	**0.1**	0.00	0.01	*C74*
Other endocrine	2	0.0	0.1	**0.2**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	46	0.7	3.4	**3.0**	0.20	0.25	27	0.6	1.9	**1.7**	0.11	0.14	*C81*
Non-Hodgkin lymphoma	182	2.9	13.5	**10.1**	0.62	1.10	136	3.0	9.6	**5.7**	0.33	0.64	*C82-85,C96*
Immunoproliferative diseases	8	0.1	0.6	**0.3**	0.00	0.05	5	0.1	0.4	**0.2**	0.01	0.02	*C88*
Multiple myeloma	46	0.7	3.4	**2.3**	0.14	0.27	52	1.2	3.7	**2.0**	0.12	0.21	*C90*
Lymphoid leukaemia	84	1.3	6.2	**4.9**	0.29	0.51	62	1.4	4.4	**3.1**	0.17	0.31	*C91*
Myeloid leukaemia	56	0.9	4.2	**3.3**	0.20	0.33	52	1.2	3.7	**2.5**	0.15	0.25	*C92-94*
Leukaemia unspecified	5	0.1	0.4	**0.2**	0.02	0.03	4	0.1	0.3	**0.2**	0.01	0.02	*C95*
Other and unspecified	303	4.8	22.5	**16.4**	1.13	1.92	194	4.3	13.7	**7.0**	0.38	0.79	*O&U*
All sites	6581		487.7	**343.9**	19.73	40.66	4656		329.1	**211.6**	14.37	23.29	*ALL*
All sites but C44	6311	100.0	467.7	**331.8**	19.31	39.39	4472	100.0	316.1	**206.8**	14.23	22.90	*ALLbC44*

†See note following population pyramid

France, Tarn

Registration area

The département of Tarn is part of the Midi Pyrénées region, situated in the southwest of France. In 1999, the population was composed of 343 402 inhabitants, with an urban/rural ratio of 1.65, and a ratio of French citizens to foreigners of 22.8

Cancer care facilities

The département of Tarn is relatively autonomous in its provision of cancer care facilities. These will soon be complemented by the setting-up of a cancer care network. However a few types of cancer (haematological, paediatric) are sent to the specialized services of the University Hospital in Toulouse, the capital of the region, or to the Regional Cancer Control Centre.

Medical coverage is high, with 136 general practitioners and 147 specialists per 100 000 inhabitants, including four pathologists, two medical oncologists and two radiotherapists. There are four public hospitals and five private clinics, providing 0.76 hospital beds per 100 inhabitants.

Registry structure and methods

The Tarn Cancer Registry operates as an association constituted by representatives of the medical and university sectors, and of the elected officials of the département and of the Midi Pyrénées region. Funding for registration activities comes from the Conseil Général (General Council) of Tarn, the departmental committee of the National League Against Cancer and the Ministry of Health (DGS). Research is funded through grants.

The personnel, who carry out both registration activities and research, comprise 13 people (8.9 full-time equivalents) of whom nine (6.6 full-time equivalents) have salaries paid by the registry.

Case-finding is active, and three of the registry staff (1.8 full-time equivalent) go out to visit the data sources. The different laboratories, private and public hospital departments, administrative services and medical specialists in Tarn are visited regularly, the frequency varying according to the case-load in the different sources. The staff also visit the Toulouse University Hospital and the Regional Cancer Control Centre.

In recent years, case-finding in the public hospitals and (even more recently) private clinics has been facilitated by the existence of Medical Information Departments which provide lists of cancer cases treated by these organizations in electronic format.

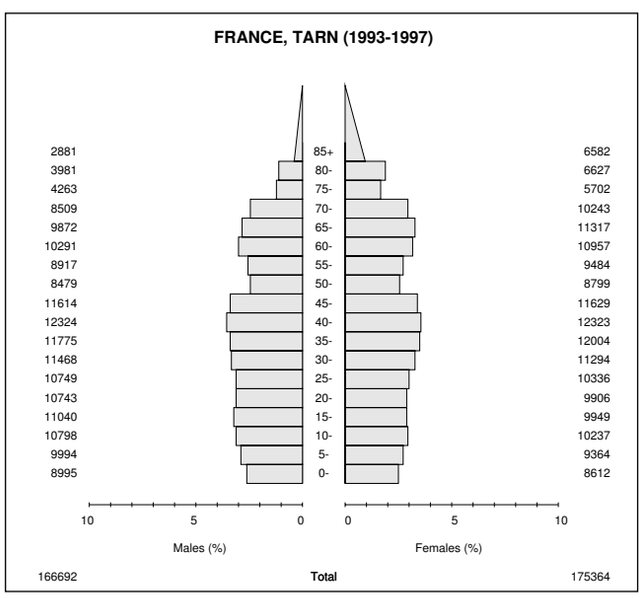
For each case, a notification form is completed with the medical and administrative information from the medical record. The names of the different physicians involved in the diagnosis and therapy of the patient, including the name of the general practitioner, are systematically recorded in order to be able to contact them if necessary.

When the notification forms arrive in the registry, a search of the computerized file is conducted to ensure the exclusion of duplicates. Then cases are systematically checked in a second source by the registry personnel. If, after this process, the basic data are incomplete, a questionnaire is sent to the treating physician. These procedures allow missing information to be completed and patients with metastases or a recurrence of a cancer diagnosed prior to 1982, or not resident in the area, to be excluded. The medical information on the remaining cases is coded by the Medical Director of the registry, assisted by a specially trained coder. The administrative data are coded by two secretaries. The data are then entered onto the registry computer, in a format permitting changes and the addition of further information. This file has been declared to the National Commission on Information and Liberty (CNIL).

Active follow-up is only carried out for cases which are the object of special studies. It is done by writing to the town halls where the cases were born and to the treating physicians.

Use of the data

In addition to providing descriptive data on cancer, the Tarn registry carries out a variety of studies, alone or in collaboration with other registries (the Association of French Cancer Registries FRANCIM and the European Network). These include estimates of the incidence and prevalence of cancer in France, the study of time-trends, case-control studies and evaluation of diagnostic and therapeutic regimes for selected sites.



Source of population

Census: Recensement de la Population 1990, Population de la France, Départements, arrondissements, cantons, communes. Direction Générale des Collectivités Locales, Institut National de la Statistique et des Etudes Economiques.

Estimate: Population estimates provided by the official national department of demography (INSEE) were used for each of the years 1993–97 (Estimations de la Population (modèle OMPHALE), INSEE, 1999).

Notes on the data

† C44 does not include basal cell carcinoma.

FRANCE, TARN (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	23	0.5	2.8	**1.0**	0.02	0.12	5	0.2	0.6	**0.2**	0.01	0.01	*C00*
Tongue	46	1.0	5.5	**3.8**	0.30	0.41	7	0.2	0.8	**0.3**	0.03	0.03	*C01-02*
Mouth	38	0.8	4.6	**2.9**	0.22	0.35	16	0.5	1.8	**0.8**	0.06	0.09	*C03-06*
Salivary glands	9	0.2	1.1	**0.6**	0.04	0.07	8	0.2	0.9	**0.5**	0.03	0.05	*C07-08*
Tonsil	29	0.6	3.5	**2.2**	0.15	0.28	6	0.2	0.7	**0.5**	0.04	0.06	*C09*
Other oropharynx	14	0.3	1.7	**1.3**	0.12	0.13	1	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	3	0.1	0.4	**0.2**	0.02	0.02	1	0.0	0.1	**0.0**	0.00	0.00	*C11*
Hypopharynx	59	1.3	7.1	**4.6**	0.39	0.54	3	0.1	0.3	**0.3**	0.03	0.03	*C12-13*
Pharynx unspecified	3	0.1	0.4	**0.3**	0.03	0.03	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	81	1.8	9.7	**5.1**	0.27	0.60	17	0.5	1.9	**0.9**	0.06	0.11	*C15*
Stomach	120	2.7	14.4	**6.7**	0.31	0.72	67	2.0	7.6	**2.4**	0.09	0.24	*C16*
Small intestine	10	0.2	1.2	**0.5**	0.02	0.04	3	0.1	0.3	**0.1**	0.00	0.01	*C17*
Colon	346	7.7	41.5	**19.3**	0.85	2.38	327	9.8	37.3	**13.0**	0.52	1.46	*C18*
Rectum	316	7.0	37.9	**17.5**	0.82	2.13	187	5.6	21.3	**8.7**	0.52	1.02	*C19-20*
Anus	13	0.3	1.6	**0.8**	0.05	0.08	16	0.5	1.8	**0.9**	0.05	0.10	*C21*
Liver	71	1.6	8.5	**3.9**	0.15	0.52	23	0.7	2.6	**1.4**	0.05	0.13	*C22*
Gallbladder etc.	22	0.5	2.6	**1.3**	0.05	0.14	25	0.8	2.9	**0.7**	0.02	0.07	*C23-24*
Pancreas	82	1.8	9.8	**4.9**	0.26	0.62	68	2.0	7.8	**2.6**	0.12	0.28	*C25*
Nose, sinuses etc.	19	0.4	2.3	**1.2**	0.06	0.13	0	0.0	0.0	**0.0**	0.00	0.00	*C30-31*
Larynx	80	1.8	9.6	**5.8**	0.39	0.69	12	0.4	1.4	**0.7**	0.03	0.09	*C32*
Trachea, bronchus and lung	677	15.1	81.2	**43.4**	2.52	5.32	100	3.0	11.4	**5.5**	0.35	0.66	*C33-34*
Other thoracic organs	15	0.3	1.8	**1.1**	0.06	0.11	5	0.2	0.6	**0.4**	0.02	0.04	*C37-38*
Bone	10	0.2	1.2	**1.1**	0.07	0.10	8	0.2	0.9	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	69	1.5	8.3	**5.6**	0.38	0.51	92	2.8	10.5	**6.0**	0.41	0.63	*C43*
†Other skin	293		35.2	**14.4**	0.43	1.39	214		24.4	**6.6**	0.26	0.53	*C44*
Mesothelioma	13	0.3	1.6	**0.9**	0.05	0.10	3	0.1	0.3	**0.1**	0.00	0.02	*C45*
Kaposi sarcoma	7	0.2	0.8	**0.6**	0.05	0.05	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	26	0.6	3.1	**2.5**	0.15	0.18	23	0.7	2.6	**1.6**	0.08	0.11	*C47+C49*
Breast	8	0.2	1.0	**0.5**	0.02	0.03	1028	30.9	117.2	**70.1**	5.59	7.77	*C50*
Vulva							18	0.5	2.1	**0.6**	0.03	0.08	*C51*
Vagina							2	0.1	0.2	**0.1**	0.00	0.02	*C52*
Cervix uteri							81	2.4	9.2	**5.7**	0.42	0.62	*C53*
Corpus uteri							178	5.4	20.3	**10.0**	0.66	1.28	*C54*
Uterus unspecified							6	0.2	0.7	**0.1**	0.00	0.01	*C55*
Ovary							148	4.4	16.9	**9.5**	0.66	1.07	*C56*
Other female genital organs							7	0.2	0.8	**0.4**	0.03	0.07	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	12	0.3	1.4	**0.6**	0.00	0.08							*C60*
Prostate	1092	24.3	131.0	**57.9**	2.02	7.54							*C61*
Testis	34	0.8	4.1	**3.9**	0.31	0.31							*C62*
Other male genital organs	0	0.0	0.0	**0.0**	0.00	0.00							*C63*
Kidney	91	2.0	10.9	**5.9**	0.33	0.72	80	2.4	9.1	**4.7**	0.29	0.55	*C64*
Renal pelvis	16	0.4	1.9	**0.9**	0.05	0.12	7	0.2	0.8	**0.3**	0.01	0.03	*C65*
Ureter	8	0.2	1.0	**0.4**	0.01	0.06	1	0.0	0.1	**0.0**	0.00	0.01	*C66*
Bladder	411	9.1	49.3	**23.4**	1.17	2.79	118	3.5	13.5	**4.2**	0.17	0.49	*C67*
Other urinary organs	5	0.1	0.6	**0.2**	0.00	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	6	0.1	0.7	**0.4**	0.02	0.05	6	0.2	0.7	**0.4**	0.03	0.05	*C69*
Brain, nervous system	57	1.3	6.8	**5.3**	0.33	0.51	53	1.6	6.0	**3.8**	0.24	0.41	*C70-72*
Thyroid	23	0.5	2.8	**2.1**	0.17	0.24	134	4.0	15.3	**12.0**	1.03	1.18	*C73*
Adrenal gland	3	0.1	0.4	**0.3**	0.03	0.03	2	0.1	0.2	**0.3**	0.01	0.01	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	2	0.1	0.2	**0.1**	0.01	0.01	*C75*
Hodgkin disease	22	0.5	2.6	**2.1**	0.14	0.18	14	0.4	1.6	**1.6**	0.12	0.12	*C81*
Non-Hodgkin lymphoma	135	3.0	16.2	**9.0**	0.48	1.05	104	3.1	11.9	**5.4**	0.33	0.53	*C82-85,C96*
Immunoproliferative diseases	13	0.3	1.6	**0.6**	0.02	0.04	6	0.2	0.7	**0.3**	0.01	0.04	*C88*
Multiple myeloma	50	1.1	6.0	**3.0**	0.16	0.38	51	1.5	5.8	**2.1**	0.08	0.27	*C90*
Lymphoid leukaemia	66	1.5	7.9	**5.1**	0.31	0.50	35	1.1	4.0	**2.0**	0.10	0.19	*C91*
Myeloid leukaemia	56	1.2	6.7	**3.5**	0.18	0.37	49	1.5	5.6	**3.0**	0.18	0.30	*C92-94*
Leukaemia unspecified	1	0.0	0.1	**0.0**	0.00	0.00	1	0.0	0.1	**0.1**	0.01	0.01	*C95*
Other and unspecified	186	4.1	22.3	**11.1**	0.63	1.25	172	5.2	19.6	**6.6**	0.31	0.69	*O&U*
All sites	4789		574.6	**289.6**	14.59	34.02	3540		403.7	**198.3**	13.14	21.63	*ALL*
All sites but C44	4496	100.0	539.4	**275.2**	14.16	32.63	3326	100.0	379.3	**191.7**	12.88	21.11	*ALLbC44*

†See note following population pyramid

Germany, Saarland

Registration area

The Saarland Cancer Registry covers the population of the Federal State of Saarland. Located in the south-west of Germany between latitudes 49° and 49° N and longitudes 6° and 7° E, bordering France and Luxembourg, Saarland is the second smallest state in Germany. The area amounts to 2567 km^2 of hilly country with altitudes ranging from 150 to 695 m above sea level. Saarland lies in the cooler part of the temperate zone, occupying an intermediate position between the oceanic climate of the west and the continental climate of the east. The average annual temperature is about 10° C. Average annual rainfall is about 850 L/m^2.

The administrative structure consists of five counties and one metropolitan area, making 52 communities altogether.

The population of the Saarland is 1 084 370 (in 1995), 48.5% males, 51.5% females with a density of 422 inhabitants per km^2. Some 53.5% live in 13 conurbations of more than 20 000 inhabitants. Life expectancy for males is 74.4 years and 80.6 years for females. The overwhelming majority (70.5%) are Roman Catholic, with 20.3% Protestants and 9.2% with other/no religious affiliation. 92.6 % of the total population is German and 7.4% possess foreign nationality. About 49.7% of Saarland residents are married, 36.1% unmarried and 14.2% widowed or divorced. The economically active population, 42.3% of the total, is employed in production industries (35.1%), distribution, transport and communications (23.6%), agriculture, forestry and fisheries (1.2%) and other sectors/services (40.1%).

Cancer care facilities

Cancer treatment is carried out by both hospitals and private physicians. Treatment at the hospital level in Germany has been coordinated under a governmental programme structured on several levels. The 'Tumorzentren' cover large regional areas and are connected with big university hospitals. They are involved in both research and treatment. In the Saarland area there is one 'Tumorzentrum' and one big university clinic. A series of regional hospitals dedicate considerable personnel and funds to cancer treatment.

A small number of private oncological practices provide diagnostic and aftercare structures.

There are 27 hospitals with 8111 beds in the registration area. Hospitals comprise 141 special medical departments including four radiotherapeutic units. Morphological examinations and diagnoses are performed in eight pathological institutes, one specialized in neuropathology.

Registry structure and methods

The registry was established in 1967 in the State Statistical Office and is based on the Saarland Law on Cancer Registration (SKRG), which came into force in 1979. Since April 2000 the registry has been an integrated unit of the Ministry of Public Health. Until 1999, it was financed by the Government of Saarland and by regular subsidies from the Federal Ministry of Health. Since 2000, it has been completely funded by Saarland State. Two full-time officers of health holding a university degree, two full-time registrars and three half-time clerks are affiliated to the registry.

The basic system of registration is centralized collecting of individual records including personal identifiers, which do not require the consent of registered patients. Notification is voluntary. Hospitals, physicians and persons acting on their behalf have a right, not a duty, to report cancer cases without violating their professional obligations. The sources of information are hospitals, outpatient departments, pathology and radiotherapy departments and private practitioners. Death certificates are also used as data sources, and traced back when necessary.

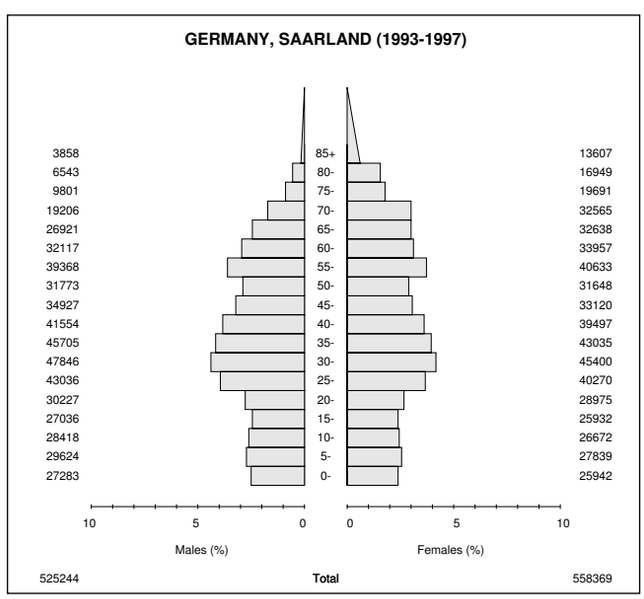
Due to restrictive legal regulations, follow-up of patients is largely passive. Though all physicians treating cancer patients are generally requested to report any serious change in a patient's health status, the registry is not allowed to conduct further enquiries. The files of registered cases are linked annually with all death certificates.

Interpreting the results

Organized population screening in Germany started in 1971. After restructuring the programme in 1982, the population has been screened since then for cervix, breast, rectal and skin cancer. All tests are offered annually to eligible population groups. Up to now (September 2002), there has been no organized mass screening with mammography for women and no PSA testing for men in Germany.

Use of the data

The registry prepares annual reports of cancer incidence and mortality, and provides an interactive database on the Internet. The registry carries out descriptive and analytical epidemiological studies, independently and in national and international collaboration. A new Saarland Law on Cancer Registration regulating and improving the use of personal data for epidemiological research, came into force in April 2002.



Source of population

Annual updates based on the 1987 census and which allow for by births, deaths and migration.

GERMANY, SAARLAND (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	54	0.4	2.1	**1.2**	0.07	0.13	18	0.1	0.6	**0.2**	0.01	0.02	*C00*
Tongue	121	0.9	4.6	**3.1**	0.25	0.36	44	0.3	1.6	**0.9**	0.07	0.10	*C01-02*
Mouth	216	1.5	8.2	**5.7**	0.50	0.62	67	0.5	2.4	**1.4**	0.09	0.17	*C03-06*
Salivary glands	26	0.2	1.0	**0.6**	0.03	0.07	27	0.2	1.0	**0.5**	0.04	0.06	*C07-08*
Tonsil	98	0.7	3.7	**2.6**	0.23	0.29	34	0.2	1.2	**0.8**	0.07	0.09	*C09*
Other oropharynx	41	0.3	1.6	**1.1**	0.09	0.12	9	0.1	0.3	**0.2**	0.02	0.02	*C10*
Nasopharynx	21	0.1	0.8	**0.6**	0.03	0.08	8	0.1	0.3	**0.2**	0.01	0.02	*C11*
Hypopharynx	141	1.0	5.4	**3.7**	0.33	0.41	23	0.2	0.8	**0.5**	0.04	0.06	*C12-13*
Pharynx unspecified	46	0.3	1.8	**1.2**	0.10	0.13	7	0.1	0.3	**0.1**	0.01	0.02	*C14*
Oesophagus	308	2.2	11.7	**7.4**	0.53	0.90	75	0.6	2.7	**1.3**	0.08	0.15	*C15*
Stomach	660	4.7	25.1	**14.7**	0.62	1.64	611	4.5	21.9	**8.4**	0.39	0.88	*C16*
Small intestine	24	0.2	0.9	**0.6**	0.02	0.08	29	0.2	1.0	**0.5**	0.02	0.05	*C17*
Colon	1226	8.7	46.7	**27.3**	1.12	3.30	1552	11.4	55.6	**21.5**	0.99	2.46	*C18*
Rectum	891	6.3	33.9	**20.4**	1.13	2.50	720	5.3	25.8	**11.3**	0.62	1.34	*C19-20*
Anus	26	0.2	1.0	**0.6**	0.03	0.06	37	0.3	1.3	**0.5**	0.02	0.05	*C21*
Liver	217	1.5	8.3	**4.8**	0.23	0.61	131	1.0	4.7	**2.0**	0.11	0.21	*C22*
Gallbladder etc.	147	1.0	5.6	**3.2**	0.14	0.40	317	2.3	11.4	**4.3**	0.16	0.54	*C23-24*
Pancreas	275	1.9	10.5	**6.3**	0.32	0.77	378	2.8	13.5	**5.1**	0.23	0.58	*C25*
Nose, sinuses etc.	19	0.1	0.7	**0.5**	0.03	0.05	22	0.2	0.8	**0.4**	0.02	0.04	*C30-31*
Larynx	272	1.9	10.4	**6.5**	0.42	0.83	34	0.2	1.2	**0.8**	0.05	0.09	*C32*
Trachea, bronchus and lung	2797	19.7	106.5	**63.7**	3.25	8.23	729	5.4	26.1	**13.5**	0.87	1.68	*C33-34*
Other thoracic organs	19	0.1	0.7	**0.4**	0.03	0.05	6	0.0	0.2	**0.1**	0.00	0.01	*C37-38*
Bone	34	0.2	1.3	**1.1**	0.07	0.09	26	0.2	0.9	**0.9**	0.06	0.06	*C40-41*
Melanoma of skin	244	1.7	9.3	**6.3**	0.43	0.69	257	1.9	9.2	**6.1**	0.45	0.60	*C43*
Other skin	2317		88.2	**53.1**	2.63	6.23	2201		78.8	**35.0**	2.00	3.88	*C44*
Mesothelioma	26	0.2	1.0	**0.6**	0.03	0.08	5	0.0	0.2	**0.1**	0.00	0.01	*C45*
Kaposi sarcoma	4	0.0	0.2	**0.1**	0.01	0.01	1	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	98	0.7	3.7	**2.9**	0.16	0.26	80	0.6	2.9	**1.9**	0.12	0.19	*C47+C49*
Breast	29	0.2	1.1	**0.6**	0.03	0.08	3581	26.3	128.3	**71.4**	5.27	7.99	*C50*
Vulva							89	0.7	3.2	**1.2**	0.05	0.11	*C51*
Vagina							24	0.2	0.9	**0.4**	0.02	0.03	*C52*
Cervix uteri							458	3.4	16.4	**10.8**	0.82	1.06	*C53*
Corpus uteri							820	6.0	29.4	**14.1**	0.87	1.84	*C54*
Uterus unspecified							35	0.3	1.3	**0.5**	0.03	0.05	*C55*
Ovary							554	4.1	19.8	**10.3**	0.71	1.21	*C56*
Other female genital organs							45	0.3	1.6	**0.5**	0.02	0.05	*C57*
Placenta							4	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	27	0.2	1.0	**0.6**	0.04	0.07							*C60*
Prostate	2291	16.2	87.2	**49.4**	1.69	5.94							*C61*
Testis	219	1.5	8.3	**6.9**	0.52	0.53							*C62*
Other male genital organs	12	0.1	0.5	**0.3**	0.02	0.04							*C63*
Kidney	483	3.4	18.4	**11.4**	0.69	1.40	344	2.5	12.3	**6.2**	0.38	0.75	*C64*
Renal pelvis	26	0.2	1.0	**0.6**	0.02	0.08	10	0.1	0.4	**0.1**	0.01	0.02	*C65*
Ureter	17	0.1	0.6	**0.4**	0.02	0.05	11	0.1	0.4	**0.1**	0.01	0.01	*C66*
Bladder	1106	7.8	42.1	**24.8**	1.03	3.15	443	3.3	15.9	**6.4**	0.31	0.76	*C67*
Other urinary organs	29	0.2	1.1	**0.6**	0.02	0.07	13	0.1	0.5	**0.2**	0.01	0.02	*C68*
Eye	26	0.2	1.0	**0.8**	0.03	0.09	20	0.1	0.7	**0.5**	0.02	0.05	*C69*
Brain, nervous system	241	1.7	9.2	**7.2**	0.48	0.72	197	1.4	7.1	**5.4**	0.37	0.51	*C70-72*
Thyroid	80	0.6	3.0	**2.1**	0.15	0.24	200	1.5	7.2	**4.8**	0.37	0.49	*C73*
Adrenal gland	5	0.0	0.2	**0.2**	0.01	0.02	8	0.1	0.3	**0.4**	0.02	0.02	*C74*
Other endocrine	4	0.0	0.2	**0.1**	0.01	0.01	1	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	68	0.5	2.6	**2.4**	0.17	0.19	50	0.4	1.8	**1.7**	0.11	0.14	*C81*
Non-Hodgkin lymphoma	400	2.8	15.2	**10.1**	0.59	1.13	382	2.8	13.7	**6.9**	0.43	0.80	*C82-85,C96*
Immunoproliferative diseases	1	0.0	0.0	**0.0**	0.00	0.00	3	0.0	0.1	**0.0**	0.00	0.00	*C88*
Multiple myeloma	127	0.9	4.8	**3.0**	0.14	0.32	157	1.2	5.6	**2.5**	0.14	0.31	*C90*
Lymphoid leukaemia	170	1.2	6.5	**5.3**	0.24	0.50	110	0.8	3.9	**2.7**	0.13	0.23	*C91*
Myeloid leukaemia	182	1.3	6.9	**4.7**	0.26	0.50	174	1.3	6.2	**3.5**	0.19	0.35	*C92-94*
Leukaemia unspecified	14	0.1	0.5	**0.4**	0.01	0.03	20	0.1	0.7	**0.3**	0.01	0.02	*C95*
Other and unspecified	561	4.0	21.4	**13.2**	0.62	1.52	603	4.4	21.6	**8.0**	0.31	0.82	*O&U*
All sites	16486		627.7	**385.3**	19.64	45.65	15804		566.1	**277.6**	17.19	31.04	*ALL*
All sites but C44	14169	100.0	539.5	**332.3**	17.00	39.43	13603	100.0	487.2	**242.6**	15.19	27.16	*ALLbC44*

Iceland

Registration area

The registry covers the whole of the Icelandic population. Iceland is an island in the North Atlantic situated between 64° and 68° N and 14° and 24° W. The total area is 103 000 km^2. Three quarters of the population is urban, for the most part living in the southwest corner of the island. The ethnicity is northern European and religion is Christian Protestant.

Cancer care facilities

Imaging facilities are available at the University Hospital in Reykjavik and in private offices. Pathology laboratories (4), haematology, biochemistry and cytogenetic laboratories are available. Cancer surgery is performed in many hospitals but neurosurgery and radiation treatment is confined to the University Hospital. A nationwide screening programme for cervical cancer has been operating since 1964 and for breast cancer since 1987.

Registry structure and methods

At the request of the Director General of Health, in 1954 the Icelandic Cancer Society undertook to establish and run the cancer registry. It is situated in a building belonging to the Cancer Society. In recent years the Society has received a subsidy towards the cost of running the registry from the Icelandic government. There is a new proposal in preparation which should become law in 2003 and which would make cancer registration in Iceland compulsory.

The core staff consists of a medical director, managing director and 2 registrars, as well as computer technicians and specialists. In addition there are part-time positions for 1–2 researchers.

The sources of data for the cancer registry are national pathology and haematology laboratories, all hospital departments and health care stations. Registrations are also received from practising specialists. Incomplete information is followed up by contact with the aforementioned institutions. Information from the largest pathology laboratory is received on diskettes coded in SNOMED.

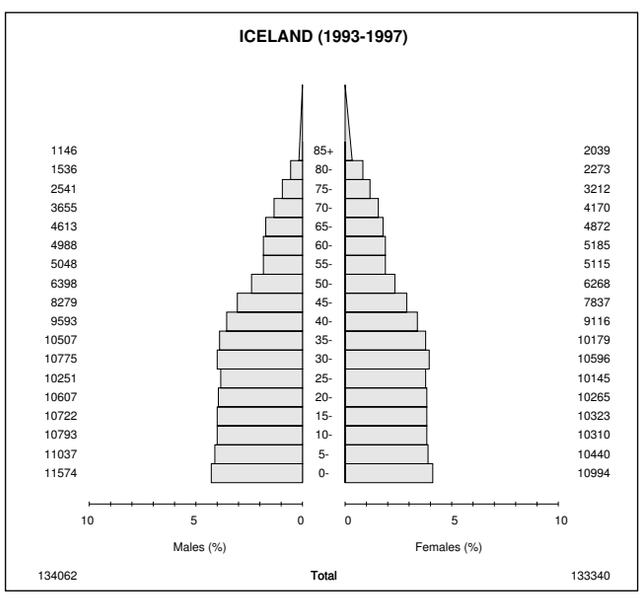
The first information comes from pathologists for around 95% of cases. Further information is then requested from all those who are likely to give additional details.

Information on all death certificates with mention of a malignant disease is first received electronically from Statistics Iceland. Further information is requested for persons who are registered with a diagnosis of cancer, but for whom there is no mention of cancer on the death certificate.

Periodically all registrations for each site are checked and obvious irregularities are further investigated. The IARC check program is also used.

Use of the data

The registry conducts epidemiological research on cancer and facilitates such research conducted by others, as well as producing information to assist public health officials in planning for both the prevention and treatment of cancer.



Source of population

The population-at-risk derives from the Icelandic National Roster, in operation since 1952 and regularly updated for births, deaths and migration.

Notes on the data

† C44 does not include basal cell carcinoma.

ICELAND (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	15	0.6	2.2	**1.5**	0.06	0.11	3	0.1	0.4	**0.4**	0.03	0.03	*C00*
Tongue	7	0.3	1.0	**0.8**	0.05	0.08	10	0.5	1.5	**1.0**	0.02	0.15	*C01-02*
Mouth	11	0.5	1.6	**1.4**	0.11	0.14	17	0.8	2.5	**1.4**	0.06	0.15	*C03-06*
Salivary glands	4	0.2	0.6	**0.4**	0.03	0.03	4	0.2	0.6	**0.5**	0.04	0.04	*C07-08*
Tonsil	3	0.1	0.4	**0.4**	0.04	0.06	1	0.0	0.1	**0.1**	0.00	0.02	*C09*
Other oropharynx	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C11*
Hypopharynx	3	0.1	0.4	**0.4**	0.02	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	1	0.0	0.1	**0.2**	0.02	0.02	1	0.0	0.1	**0.0**	0.00	0.00	*C14*
Oesophagus	53	2.3	7.9	**5.2**	0.11	0.48	24	1.1	3.6	**2.0**	0.05	0.26	*C15*
Stomach	139	5.9	20.7	**15.6**	0.82	1.66	72	3.2	10.8	**6.5**	0.24	0.79	*C16*
Small intestine	12	0.5	1.8	**1.5**	0.10	0.18	15	0.7	2.2	**1.8**	0.15	0.21	*C17*
Colon	199	8.5	29.7	**21.6**	0.82	2.42	170	7.7	25.5	**15.6**	0.60	1.79	*C18*
Rectum	57	2.4	8.5	**6.6**	0.26	0.87	47	2.1	7.0	**4.4**	0.21	0.48	*C19-20*
Anus	1	0.0	0.1	**0.2**	0.02	0.02	6	0.3	0.9	**0.7**	0.06	0.08	*C21*
Liver	30	1.3	4.5	**3.3**	0.12	0.32	12	0.5	1.8	**1.1**	0.02	0.15	*C22*
Gallbladder etc.	10	0.4	1.5	**1.1**	0.04	0.13	24	1.1	3.6	**2.0**	0.08	0.21	*C23-24*
Pancreas	37	1.6	5.5	**4.0**	0.20	0.38	40	1.8	6.0	**3.6**	0.16	0.39	*C25*
Nose, sinuses etc.	3	0.1	0.4	**0.4**	0.02	0.04	9	0.4	1.3	**1.0**	0.04	0.11	*C30-31*
Larynx	21	0.9	3.1	**2.5**	0.16	0.26	3	0.1	0.4	**0.4**	0.04	0.04	*C32*
Trachea, bronchus and lung	253	10.8	37.7	**29.6**	1.32	3.98	208	9.4	31.2	**22.8**	1.36	2.79	*C33-34*
Other thoracic organs	2	0.1	0.3	**0.3**	0.02	0.02	2	0.1	0.3	**0.3**	0.02	0.04	*C37-38*
Bone	7	0.3	1.0	**1.0**	0.05	0.11	10	0.5	1.5	**1.4**	0.11	0.11	*C40-41*
Melanoma of skin	53	2.3	7.9	**6.6**	0.43	0.68	84	3.8	12.6	**10.7**	0.73	0.95	*C43*
†Other skin	336		50.1	**38.6**	1.97	4.34	405		60.7	**43.3**	2.60	4.85	*C44*
Mesothelioma	7	0.3	1.0	**0.9**	0.06	0.13	2	0.1	0.3	**0.2**	0.00	0.02	*C45*
Kaposi sarcoma	19	0.8	2.8	**1.8**	0.01	0.12	8	0.4	1.2	**0.8**	0.07	0.07	*C46*
Connective and soft tissue	21	0.9	3.1	**2.9**	0.20	0.28	14	0.6	2.1	**1.8**	0.11	0.11	*C47+C49*
Breast	9	0.4	1.3	**1.1**	0.05	0.14	622	28.0	93.3	**76.1**	5.87	8.35	*C50*
Vulva							14	0.6	2.1	**1.3**	0.05	0.16	*C51*
Vagina							5	0.2	0.7	**0.6**	0.04	0.06	*C52*
Cervix uteri							75	3.4	11.2	**9.5**	0.70	0.93	*C53*
Corpus uteri							108	4.9	16.2	**13.0**	0.99	1.55	*C54*
Uterus unspecified							0	0.0	0.0	**0.0**	0.00	0.00	*C55*
Ovary							130	5.9	19.5	**16.2**	1.21	1.82	*C56*
Other female genital organs							5	0.2	0.7	**0.5**	0.04	0.04	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	7	0.3	1.0	**0.7**	0.01	0.09							*C60*
Prostate	688	29.4	102.6	**75.2**	2.57	9.31							*C61*
Testis	43	1.8	6.4	**5.8**	0.46	0.46							*C62*
Other male genital organs	3	0.1	0.4	**0.3**	0.00	0.05							*C63*
Kidney	121	5.2	18.1	**14.8**	0.88	1.74	73	3.3	10.9	**7.3**	0.33	0.85	*C64*
Renal pelvis	7	0.3	1.0	**0.9**	0.06	0.10	8	0.4	1.2	**0.8**	0.02	0.10	*C65*
Ureter	4	0.2	0.6	**0.5**	0.02	0.06	2	0.1	0.3	**0.2**	0.00	0.02	*C66*
Bladder	183	7.8	27.3	**20.8**	0.89	2.36	59	2.7	8.8	**5.6**	0.27	0.58	*C67*
Other urinary organs	0	0.0	0.0	**0.0**	0.00	0.00	2	0.1	0.3	**0.2**	0.02	0.02	*C68*
Eye	3	0.1	0.4	**0.4**	0.02	0.07	5	0.2	0.7	**0.8**	0.04	0.06	*C69*
Brain, nervous system	53	2.3	7.9	**7.2**	0.44	0.73	42	1.9	6.3	**5.6**	0.36	0.54	*C70-72*
Thyroid	36	1.5	5.4	**4.3**	0.20	0.53	99	4.5	14.8	**12.6**	0.95	1.31	*C73*
Adrenal gland	1	0.0	0.1	**0.2**	0.02	0.02	1	0.0	0.1	**0.2**	0.01	0.01	*C74*
Other endocrine	1	0.0	0.1	**0.2**	0.02	0.02	1	0.0	0.1	**0.2**	0.01	0.01	*C75*
Hodgkin disease	20	0.9	3.0	**2.9**	0.19	0.21	13	0.6	1.9	**1.6**	0.08	0.10	*C81*
Non-Hodgkin lymphoma	91	3.9	13.6	**11.4**	0.68	1.19	65	2.9	9.7	**7.3**	0.46	0.81	*C82-85,C96*
Immunoproliferative diseases	6	0.3	0.9	**0.7**	0.02	0.09	6	0.3	0.9	**0.6**	0.02	0.08	*C88*
Multiple myeloma	28	1.2	4.2	**3.4**	0.18	0.44	31	1.4	4.6	**3.3**	0.20	0.40	*C90*
Lymphoid leukaemia	28	1.2	4.2	**3.5**	0.16	0.33	20	0.9	3.0	**2.6**	0.13	0.25	*C91*
Myeloid leukaemia	31	1.3	4.6	**3.8**	0.15	0.48	26	1.2	3.9	**2.7**	0.16	0.23	*C92-94*
Leukaemia unspecified	1	0.0	0.1	**0.1**	0.00	0.00	1	0.0	0.1	**0.0**	0.00	0.00	*C95*
Other and unspecified	12	0.5	1.8	**1.1**	0.00	0.10	22	1.0	3.3	**1.8**	0.09	0.21	*O&U*
All sites	2680		399.8	**307.8**	14.07	35.44	2626		393.9	**294.4**	18.83	32.34	*ALL*
All sites but C44	2344	100.0	349.7	**269.3**	12.10	31.09	2221	100.0	333.1	**251.0**	16.24	27.49	*ALLbC44*

†See note following population pyramid

Ireland

Registration area

The catchment area of the National Cancer Registry is the Republic of Ireland. A separate registry covers Northern Ireland.

The Republic of Ireland is situated between 51° and 55° N and between 6° and 10° W. The total land area is 70 282 km², comprising 83% of the island of Ireland, with a long indented coastline of 3169 km. The highlands are mainly coastal, with a central limestone plain, and the country does not rise above 1040 m at any point. The climate is temperate and oceanic, with average winter temperatures between 4° C and 7° C, and summer temperatures between 14° C and 16° C. Yearly rainfall is highest on the mountains of the west and lowest in the east midlands.

The population is predominantly native-born and Caucasian, but information on ethnicity is not collected either at census or by the registry. Most of the population (92% at the 1991 census) are Roman Catholic. In 1996, 42% of the population lived in rural areas (centres with fewer than 1500 inhabitants).

Cancer care facilities

Cancer patients in Ireland can avail of either private or public health care. All public and private hospitals allow the registry full access to case information. The majority of cancer patients (about 84% of incident cases) attend public hospitals. There are two main publicly funded radiotherapy centres in Ireland, located in Dublin and Cork, and two smaller private centres both in Dublin. Almost all cancer treatment is provided within the country. No coordinated screening programmes existed in Ireland in the period 1994 to 1997, but breast screening began in 2000. Opportunistic but unorganized cervical screening has existed for many years but it is not possible to estimate the proportion of the population covered.

Registry structure and methods

The National Cancer Registry was founded in 1991 and began collecting population data from the entire country in 1994. In 1991 it took over the functions of the Southern Tumour Registry, which had provided population-based registration for about one sixth of the country since 1975.

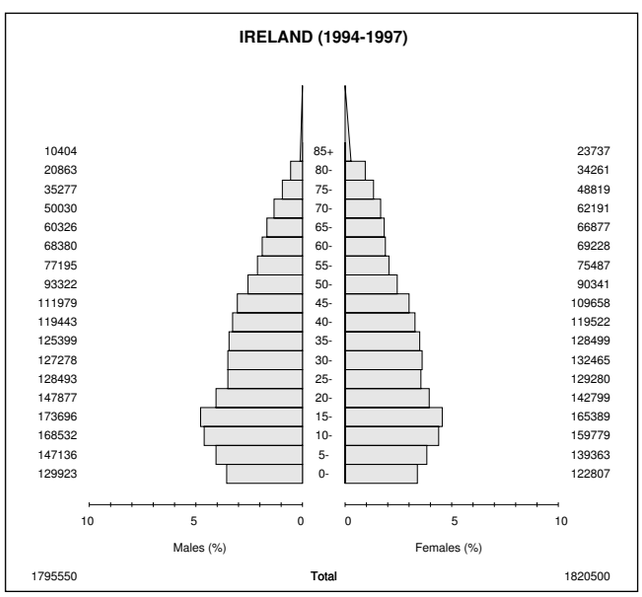
The registry is administered by the National Cancer Registry Board, whose members are mainly medical practitioners, and is fully funded by the Department of Health and Children.

The registry has a staff of 33, 18 of whom are engaged in active data collection. Reporting of cancer cases is not obligatory and the registry collects most of its information through active case finding and data abstraction. Most notifications come from pathology departments, with a smaller number from other hospital sources, death certificates and general practitioners. The registry has full access to all death certificates issued in Ireland since 1994 and uses these for case-finding and follow-up. Death certificates are followed up with the hospital of death or the certifying doctor if the cancer is not already registered. At present the registry does not accept an unconfirmed death certificate (DCO) as a basis for registration. Living patients are actively followed up by enquiry from their general practitioner at five years after diagnosis.

All data are extracted directly onto laptop computers and no paper forms are generated. All malignant, *in situ* and uncertain cancers are registered, as well as benign intracranial and intraspinal cancers. CIN III of cervix is not registered on the basis of cytology but only if confirmed by biopsy. All non-melanoma skin cancers are currently registered.

Use of the data

Annual reports, with information on incidence, mortality, treatment and survival are produced. The data are also widely used in the Irish health services for service planning and needs assessment. The registry has recently begun a research programme, but has not yet published.



Source of population

1996 census. The annual populations for 1994, 1995 and 1997 were based on linear interpolation between the 1991 and 1996 census figures.

IRELAND (1994-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	159	0.6	2.2	**1.7**	0.08	0.21	14	0.1	0.2	**0.1**	0.00	0.01	*C00*
Tongue	177	0.7	2.5	**2.1**	0.15	0.26	64	0.3	0.9	**0.6**	0.04	0.07	*C01-02*
Mouth	166	0.7	2.3	**1.9**	0.13	0.24	77	0.3	1.1	**0.7**	0.04	0.08	*C03-06*
Salivary glands	81	0.3	1.1	**0.9**	0.03	0.10	46	0.2	0.6	**0.4**	0.02	0.04	*C07-08*
Tonsil	57	0.2	0.8	**0.7**	0.05	0.09	15	0.1	0.2	**0.2**	0.01	0.02	*C09*
Other oropharynx	33	0.1	0.5	**0.4**	0.03	0.05	8	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	45	0.2	0.6	**0.6**	0.04	0.07	7	0.0	0.1	**0.1**	0.00	0.01	*C11*
Hypopharynx	107	0.4	1.5	**1.3**	0.08	0.15	51	0.2	0.7	**0.4**	0.02	0.06	*C12-13*
Pharynx unspecified	42	0.2	0.6	**0.5**	0.03	0.05	10	0.0	0.1	**0.1**	0.00	0.01	*C14*
Oesophagus	723	2.9	10.1	**8.0**	0.37	0.97	473	2.0	6.5	**3.8**	0.16	0.41	*C15*
Stomach	1194	4.8	16.6	**12.8**	0.58	1.49	706	3.1	9.7	**5.9**	0.25	0.70	*C16*
Small intestine	85	0.3	1.2	**1.0**	0.05	0.12	56	0.2	0.8	**0.5**	0.03	0.07	*C17*
Colon	2337	9.5	32.5	**25.3**	1.18	3.05	2090	9.0	28.7	**18.3**	0.91	2.17	*C18*
Rectum	1576	6.4	21.9	**17.5**	0.87	2.18	873	3.8	12.0	**8.0**	0.45	0.96	*C19-20*
‡Anus	39	0.2	0.5	**0.4**	0.02	0.05	45	0.2	0.6	**0.4**	0.03	0.04	*C21*
Liver	164	0.7	2.3	**1.8**	0.08	0.23	85	0.4	1.2	**0.7**	0.03	0.09	*C22*
Gallbladder etc.	179	0.7	2.5	**1.9**	0.07	0.21	230	1.0	3.2	**1.9**	0.08	0.23	*C23-24*
Pancreas	641	2.6	8.9	**6.8**	0.28	0.79	661	2.9	9.1	**5.3**	0.22	0.61	*C25*
Nose, sinuses etc.	46	0.2	0.6	**0.5**	0.03	0.06	31	0.1	0.4	**0.3**	0.02	0.03	*C30-31*
Larynx	359	1.5	5.0	**4.1**	0.25	0.53	69	0.3	0.9	**0.7**	0.05	0.09	*C32*
Trachea, bronchus and lung	3903	15.9	54.3	**42.5**	1.91	5.53	2009	8.7	27.6	**17.7**	0.81	2.30	*C33-34*
Other thoracic organs	40	0.2	0.6	**0.5**	0.02	0.06	16	0.1	0.2	**0.2**	0.01	0.02	*C37-38*
Bone	85	0.3	1.2	**1.1**	0.07	0.09	55	0.2	0.8	**0.7**	0.04	0.06	*C40-41*
Melanoma of skin	562	2.3	7.8	**6.5**	0.40	0.69	962	4.2	13.2	**10.5**	0.74	1.08	*C43*
Other skin	13609		189.5	**146.3**	6.83	16.79	10972		150.7	**96.0**	4.91	10.94	*C44*
Mesothelioma	58	0.2	0.8	**0.7**	0.04	0.09	7	0.0	0.1	**0.1**	0.01	0.01	*C45*
Kaposi sarcoma	19	0.1	0.3	**0.2**	0.02	0.02	2	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	182	0.7	2.5	**2.2**	0.14	0.23	139	0.6	1.9	**1.5**	0.09	0.14	*C47+C49*
Breast	54	0.2	0.8	**0.6**	0.03	0.08	6277	27.2	86.2	**69.6**	5.31	7.81	*C50*
Vulva							122	0.5	1.7	**1.0**	0.05	0.11	*C51*
Vagina							34	0.1	0.5	**0.3**	0.02	0.03	*C52*
Cervix uteri							693	3.0	9.5	**8.3**	0.67	0.83	*C53*
Corpus uteri							828	3.6	11.4	**9.1**	0.70	1.14	*C54*
Uterus unspecified							74	0.3	1.0	**0.8**	0.05	0.09	*C55*
Ovary							1257	5.4	17.3	**13.5**	0.96	1.53	*C56*
Other female genital organs							20	0.1	0.3	**0.2**	0.02	0.02	*C57*
Placenta							1	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	81	0.3	1.1	**0.9**	0.05	0.10							*C60*
Prostate	4489	18.2	62.5	**44.4**	1.17	5.22							*C61*
Testis	337	1.4	4.7	**4.4**	0.33	0.33							*C62*
Other male genital organs	9	0.0	0.1	**0.1**	0.01	0.01							*C63*
Kidney	582	2.4	8.1	**6.9**	0.42	0.83	347	1.5	4.8	**3.5**	0.23	0.39	*C64*
Renal pelvis	30	0.1	0.4	**0.3**	0.01	0.03	16	0.1	0.2	**0.1**	0.00	0.02	*C65*
Ureter	26	0.1	0.4	**0.3**	0.02	0.04	21	0.1	0.3	**0.2**	0.01	0.02	*C66*
Bladder	1403	5.7	19.5	**14.8**	0.63	1.69	548	2.4	7.5	**4.8**	0.23	0.59	*C67*
Other urinary organs	19	0.1	0.3	**0.2**	0.01	0.03	7	0.0	0.1	**0.1**	0.00	0.01	*C68*
Eye	72	0.3	1.0	**0.9**	0.05	0.08	79	0.3	1.1	**0.9**	0.05	0.10	*C69*
Brain, nervous system	595	2.4	8.3	**7.6**	0.50	0.80	443	1.9	6.1	**5.2**	0.33	0.51	*C70-72*
Thyroid	79	0.3	1.1	**0.9**	0.05	0.10	167	0.7	2.3	**1.9**	0.13	0.17	*C73*
Adrenal gland	19	0.1	0.3	**0.3**	0.02	0.02	17	0.1	0.2	**0.2**	0.01	0.02	*C74*
Other endocrine	15	0.1	0.2	**0.2**	0.01	0.02	11	0.0	0.2	**0.1**	0.01	0.01	*C75*
Hodgkin disease	172	0.7	2.4	**2.2**	0.16	0.19	142	0.6	2.0	**1.8**	0.12	0.15	*C81*
Non-Hodgkin lymphoma	821	3.3	11.4	**9.7**	0.61	1.07	724	3.1	9.9	**7.5**	0.48	0.86	*C82-85,C96*
Immunoproliferative diseases	21	0.1	0.3	**0.2**	0.00	0.03	11	0.0	0.2	**0.1**	0.00	0.01	*C88*
Multiple myeloma	390	1.6	5.4	**4.2**	0.21	0.50	319	1.4	4.4	**2.7**	0.14	0.33	*C90*
Lymphoid leukaemia	430	1.7	6.0	**5.3**	0.26	0.53	277	1.2	3.8	**3.0**	0.15	0.28	*C91*
Myeloid leukaemia	269	1.1	3.7	**3.1**	0.17	0.34	228	1.0	3.1	**2.5**	0.14	0.25	*C92-94*
Leukaemia unspecified	81	0.3	1.1	**0.8**	0.02	0.08	52	0.2	0.7	**0.5**	0.02	0.05	*C95*
Other and unspecified	1571	6.4	21.9	**16.7**	0.73	1.96	1578	6.8	21.7	**13.0**	0.57	1.51	*O&U*
All sites	38233		532.3	**415.0**	19.33	48.44	34066		467.8	**326.3**	19.40	37.13	*ALL*
All sites but C44	24624	100.0	342.8	**268.7**	12.50	31.66	23094	100.0	317.1	**230.2**	14.49	26.19	*ALLbC44*

‡46.2% of cases are anorectal tumours

Italy, Biella Province

Registration area

The cancer registry of the Province of Biella covers the population of 83 municipalities, 22 having less than 500 inhabitants and 19 with a population between 500 and 1000 inhabitants. The majority live in urban areas, with 25% concentrated in the district of Biella (chief town) and a further 25% in four municipalities with more than 5000 inhabitants.

The textile industry has always been the main activity.

There has been significant immigration, from north-eastern Italy in the fifties and from the south of the country since, but the population is fairly stable. Birth rates are low, probably due to the high cost of living and the large number of women in employment.

Cancer care facilities

The province has only one hospital with about 800 beds, which provides most surgical and medical specialities (except neurology, cardiology and thoracic surgery). There is a department of radiotherapy, and a recently established oncological department. There is one private clinic with about 80 beds and a private psychiatric clinic.

Due to the position of the hospital, the characteristics of the region and the poor public transport facilities, many gynaecological, general surgery, dermatological and ENT patients go to hospitals outside (but near to) the region. Other patients, notably thoracic, neurosurgical and oncological, go the university or research centres located in Milan, Turin, Novara and Pavia. Most of these return to the local facilities after diagnosis for treatment and follow-up.

Registry structure and methods

The registry is located within the Department of Preventive Medicine of a Local Sanitary Unit in Biella. The initial experimental phase was sponsored by a private foundation (Edo Tempia Foundation). Now the registry is financially supported partly by the Local Sanitary Unit and partly by the regional funds allocated to oncological resources in Biella.

The registry is staffed by a part-time medical officer, a full-time trained nurse, a part-time health worker with a scientific degree trained for cancer epidemiology and data management and a full-time medical officer.

During the initial phase of the registry activities, the Piedmont Cancer Registry supported the staff with training and supervision.

The Province of Biella Registry uses active case finding from the local general hospital and local private clinic in- and outpatient records, the computerized archives of the Sanitary Unit containing data from 1985, pathology reports, breast screening programme records and hospital registry records. Information from the hospital registry is ascertained through linkage with the records obtained from the pathology laboratory, the local hospital and clinic.

In-patient and out-patient records from the hospitals of the whole Region which concern residents of the Province of Biella are also consulted, as are the records of the Piedmont Childhood Cancer Registry, Primary Malignant Bone Registry and Occupational Regional Cancer Registry.

Data are checked for quality through manual review, particularly of coding, and automated checking by the Piedmont Cancer Registry.

Interpreting the results

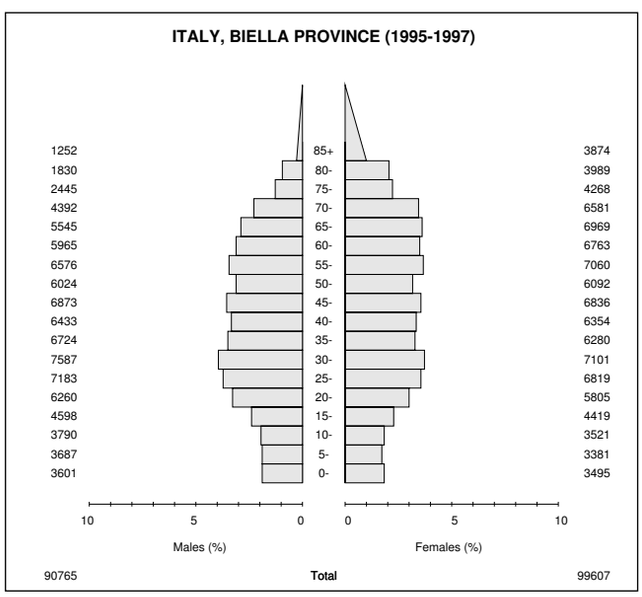
Smoking is increasing among females. The rate of HIV infection is high among young people.

Several voluntary organizations (E. Tempia Foundation, Angelino Foundation, Lega Italiana Tumori) have contributed to the development of a Pap-test programme (since 1980), an organized breast camcer screening programme (covering part of the province from 1990 and the whole area since 1995), screening for prostate cancer and melanoma and limited colorectal screening.

Use of the data

The objectives of the registry are to establish the incidence rates for the population in order to evaluate future needs in terms of diagnosis and therapy and to target prevention activities appropriately.

The registry plans to analyse prevalence, and to investigate occupational exposures. Survival analyses, evaluation of screening programmes and assessment of therapy to produce guidelines are planned.



Source of population

Annual estimates based on the 1991 census, produced by the Ufficio Sistemi Statistici Regione (Regional Office of the National Institute of Statistics – ISTAT).

ITALY, BIELLA PROVINCE (1995-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	2	0.1	0.7	**0.5**	0.02	0.05	2	0.1	0.7	**0.2**	0.02	0.02	*C00*
Tongue	21	1.1	7.7	**4.8**	0.43	0.57	4	0.2	1.3	**0.6**	0.05	0.08	*C01-02*
Mouth	17	0.9	6.2	**3.4**	0.24	0.45	13	0.8	4.4	**1.8**	0.10	0.25	*C03-06*
Salivary glands	5	0.3	1.8	**1.0**	0.08	0.11	1	0.1	0.3	**0.0**	0.00	0.00	*C07-08*
Tonsil	8	0.4	2.9	**1.6**	0.08	0.22	1	0.1	0.3	**0.1**	0.00	0.02	*C09*
Other oropharynx	2	0.1	0.7	**0.4**	0.03	0.06	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	2	0.1	0.7	**0.4**	0.05	0.05	3	0.2	1.0	**0.4**	0.02	0.05	*C11*
Hypopharynx	19	1.0	7.0	**3.7**	0.23	0.53	3	0.2	1.0	**0.6**	0.07	0.07	*C12-13*
Pharynx unspecified	3	0.2	1.1	**0.5**	0.00	0.07	1	0.1	0.3	**0.1**	0.00	0.02	*C14*
Oesophagus	37	1.9	13.6	**6.1**	0.27	0.78	6	0.3	2.0	**0.9**	0.05	0.12	*C15*
Stomach	96	4.9	35.3	**15.9**	0.64	1.82	79	4.6	26.4	**8.1**	0.34	0.88	*C16*
Small intestine	4	0.2	1.5	**0.7**	0.03	0.10	7	0.4	2.3	**1.3**	0.10	0.15	*C17*
Colon	171	8.7	62.8	**30.3**	1.63	3.95	161	9.3	53.9	**19.4**	1.03	2.08	*C18*
Rectum	105	5.4	38.6	**18.9**	1.04	2.44	66	3.8	22.1	**7.5**	0.43	0.80	*C19-20*
Anus	4	0.2	1.5	**0.8**	0.05	0.11	6	0.3	2.0	**0.5**	0.02	0.07	*C21*
Liver	77	3.9	28.3	**13.6**	0.64	1.84	45	2.6	15.1	**4.0**	0.13	0.45	*C22*
Gallbladder etc.	14	0.7	5.1	**2.6**	0.11	0.34	38	2.2	12.7	**3.8**	0.12	0.52	*C23-24*
Pancreas	42	2.1	15.4	**8.1**	0.56	0.92	65	3.8	21.8	**7.7**	0.42	0.91	*C25*
Nose, sinuses etc.	7	0.4	2.6	**1.4**	0.10	0.13	6	0.3	2.0	**0.8**	0.05	0.10	*C30-31*
Larynx	62	3.2	22.8	**11.6**	0.72	1.64	8	0.5	2.7	**1.3**	0.08	0.15	*C32*
Trachea, bronchus and lung	399	20.4	146.5	**70.5**	3.69	9.46	85	4.9	28.4	**10.0**	0.47	1.26	*C33-34*
Other thoracic organs	3	0.2	1.1	**1.0**	0.06	0.09	4	0.2	1.3	**0.6**	0.03	0.08	*C37-38*
Bone	1	0.1	0.4	**0.3**	0.02	0.02	2	0.1	0.7	**0.4**	0.03	0.03	*C40-41*
Melanoma of skin	21	1.1	7.7	**4.2**	0.23	0.54	44	2.5	14.7	**9.6**	0.76	0.93	*C43*
Other skin	345		126.7	**62.2**	3.22	7.44	300		100.4	**42.2**	2.42	4.79	*C44*
Mesothelioma	10	0.5	3.7	**1.9**	0.10	0.19	3	0.2	1.0	**0.4**	0.05	0.05	*C45*
Kaposi sarcoma	4	0.2	1.5	**1.0**	0.05	0.08	5	0.3	1.7	**0.8**	0.05	0.08	*C46*
Connective and soft tissue	9	0.5	3.3	**1.7**	0.08	0.20	17	1.0	5.7	**4.0**	0.28	0.35	*C47+C49*
Breast	4	0.2	1.5	**1.6**	0.11	0.11	491	28.4	164.3	**86.1**	6.37	9.67	*C50*
Vulva							13	0.8	4.4	**1.7**	0.12	0.17	*C51*
Vagina							2	0.1	0.7	**0.1**	0.00	0.00	*C52*
Cervix uteri							34	2.0	11.4	**6.3**	0.53	0.65	*C53*
Corpus uteri							99	5.7	33.1	**14.9**	1.13	1.90	*C54*
Uterus unspecified							2	0.1	0.7	**0.2**	0.02	0.02	*C55*
Ovary							50	2.9	16.7	**8.5**	0.55	0.90	*C56*
Other female genital organs							3	0.2	1.0	**0.2**	0.00	0.03	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	2	0.1	0.7	**0.3**	0.03	0.03							*C60*
Prostate	281	14.3	103.2	**43.0**	1.22	4.81							*C61*
Testis	12	0.6	4.4	**3.9**	0.26	0.29							*C62*
Other male genital organs	3	0.2	1.1	**0.6**	0.03	0.06							*C63*
Kidney	46	2.3	16.9	**9.0**	0.57	1.01	36	2.1	12.0	**5.3**	0.35	0.59	*C64*
Renal pelvis	7	0.4	2.6	**1.2**	0.08	0.14	4	0.2	1.3	**0.4**	0.02	0.05	*C65*
Ureter	6	0.3	2.2	**0.9**	0.00	0.14	0	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	201	10.3	73.8	**35.0**	1.66	4.39	45	2.6	15.1	**5.9**	0.32	0.64	*C67*
Other urinary organs	7	0.4	2.6	**1.2**	0.06	0.15	1	0.1	0.3	**0.2**	0.02	0.02	*C68*
Eye	1	0.1	0.4	**0.3**	0.02	0.02	4	0.2	1.3	**0.5**	0.00	0.10	*C69*
Brain, nervous system	22	1.1	8.1	**6.6**	0.40	0.61	20	1.2	6.7	**3.4**	0.25	0.43	*C70-72*
Thyroid	8	0.4	2.9	**1.8**	0.15	0.23	30	1.7	10.0	**6.7**	0.50	0.62	*C73*
Adrenal gland	1	0.1	0.4	**1.1**	0.05	0.05	0	0.0	0.0	**0.0**	0.00	0.00	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	16	0.8	5.9	**4.2**	0.29	0.37	12	0.7	4.0	**4.6**	0.27	0.30	*C81*
Non-Hodgkin lymphoma	53	2.7	19.5	**10.4**	0.60	1.21	61	3.5	20.4	**8.9**	0.46	0.98	*C82-85,C96*
Immunoproliferative diseases	2	0.1	0.7	**0.3**	0.00	0.04	2	0.1	0.7	**0.2**	0.00	0.02	*C88*
Multiple myeloma	22	1.1	8.1	**3.9**	0.22	0.50	24	1.4	8.0	**2.4**	0.08	0.25	*C90*
Lymphoid leukaemia	31	1.6	11.4	**8.7**	0.40	0.71	22	1.3	7.4	**5.6**	0.30	0.37	*C91*
Myeloid leukaemia	21	1.1	7.7	**5.6**	0.31	0.42	21	1.2	7.0	**3.0**	0.16	0.33	*C92-94*
Leukaemia unspecified	1	0.1	0.4	**0.2**	0.00	0.04	1	0.1	0.3	**0.2**	0.02	0.02	*C95*
Other and unspecified	68	3.5	25.0	**12.5**	0.63	1.28	77	4.5	25.8	**6.9**	0.20	0.80	*O&U*
All sites	2305		846.5	**421.3**	21.47	50.79	2029		679.0	**299.6**	18.83	33.20	*ALL*
All sites but C44	1960	100.0	719.8	**359.0**	18.25	43.35	1729	100.0	578.6	**257.4**	16.41	28.42	*ALLbC44*

Italy, Ferrara Province

Registration area

The Province of Ferrara is located in the area of the Po river delta, between latitudes 44° and 44° N and it is mainly agricultural. It lies close to sea level (maximum altitude 22 m) and it is bordered to the north by the Po river, to the east by the Adriatic sea, to the south by the provinces of Bologna and Ravenna and to the west by those of Modena and Mantova. In 1995 the population was 355 338, with 26 municipalities ranging from 1390 (Migliaro) to 135 085 (Ferrara city) inhabitants; the level of employment was 42.4% (31.1% industry, 12.6% agriculture, 46.3% trade and services). Mechanical and chemical industries are present in the province and they represent the main source of water and air pollution, together with animal breeding, traffic, heating plants and agriculture chemical treatments.

In 1995 the average temperature was 15.3° C (monthly average from 4.5° C in January to 27.6° C in July); the overall rainfall was 496.5 mm. In recent years the population has shown a progressive decrease due to a fall in births; migration to and from other areas is still fairly rare.

Cancer care facilities

In 1995 the area had a network of 11 general hospitals with 2094 beds. These provided cancer surgery units, haematology, radiotherapy and chemotherapy services.

Registry structure and methods

The registry has been supported by the Emilia Romagna Regional Health Care Service since 1994. It is located in the Pathology Department of Ferrara University. The staff comprises a Director, two fellows in pathology and two clerks.

The main sources of information for the registry are discharge diagnoses from local and other national hospitals and the database of the Pathology Department (covering all pathological diagnostic activity in the Province). Additional information is provided by direct contact with care services and general practitioners. Mortality data for all causes are provided by public health services to identify DCN and DCO cases and for follow-up purposes. Data collection is performed both actively and passively. Personal identifying data are protected in compliance with current Italian legislation.

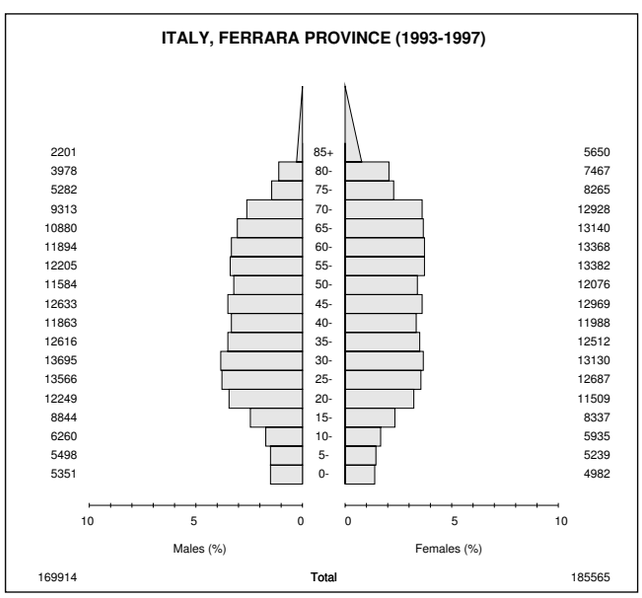
Regular maintenance is carried out on the computerized database. Checking for duplicates, error and consistency is performed using IARC CHECK.

Interpreting the results

In the area covered by the registry some suspected etiological factors have been investigated: air pollution, fog and cigarette smoking may influence the traditionally high incidence rates of lung cancer. High rates for several tumours (colorectal, breast, thyroid and lymphomas) are actually under consideration. Population-based screening programmes for cervix and breast cancer started at the end of 1996 and 1997 respectively, but 'spontaneous' screening for such pathologies has been encouraged over the years.

Use of the data

The registry publishes periodic descriptive reports on local incidence and cancer survival. Several studies concerning bio-pathological assessment of some tumours (breast, colon, rectum, ovary, prostate) are in progress. Multiple tumours, Kaposi sarcoma and occupational cancers are also being examined in some study projects of the Italian Association of Tumour Registries (AIRT). The registry is involved in monitoring the population-based screening programmes of Emilia Romagna Region, particularly concerning the staging of cancers in pre-screening and screening period, and the estimate of incidence and prevalence for health care purposes in areas not covered by a registry. Further studies on registration and coding techniques concerning urothelial neoplasms and lymphomas are also in progress.



Source of population

Annual official census of municipalities collected by the Public Regional Statistical Department (Ufficio Sistemi Statistici Regione Emilia Romagna).

ITALY, FERRARA PROVINCE (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	36	0.6	4.2	**2.0**	0.12	0.27	7	0.1	0.8	**0.2**	0.01	0.01	*C00*
Tongue	28	0.5	3.3	**1.8**	0.11	0.24	19	0.4	2.0	**1.0**	0.07	0.09	*C01-02*
Mouth	34	0.6	4.0	**1.9**	0.13	0.26	12	0.2	1.3	**0.4**	0.02	0.05	*C03-06*
Salivary glands	9	0.1	1.1	**0.6**	0.03	0.05	9	0.2	1.0	**0.4**	0.02	0.05	*C07-08*
Tonsil	23	0.4	2.7	**1.4**	0.12	0.18	3	0.1	0.3	**0.2**	0.02	0.02	*C09*
Other oropharynx	7	0.1	0.8	**0.4**	0.04	0.05	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	9	0.1	1.1	**0.8**	0.06	0.07	5	0.1	0.5	**0.5**	0.03	0.04	*C11*
Hypopharynx	17	0.3	2.0	**1.0**	0.06	0.14	2	0.0	0.2	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	11	0.2	1.3	**0.7**	0.04	0.09	4	0.1	0.4	**0.1**	0.01	0.02	*C14*
Oesophagus	68	1.1	8.0	**3.9**	0.24	0.51	20	0.4	2.2	**0.7**	0.04	0.07	*C15*
Stomach	419	7.0	49.3	**20.9**	0.92	2.46	230	4.5	24.8	**7.9**	0.37	0.87	*C16*
Small intestine	20	0.3	2.4	**1.1**	0.08	0.14	15	0.3	1.6	**0.7**	0.04	0.09	*C17*
Colon	637	10.6	75.0	**32.6**	1.54	4.10	576	11.3	62.1	**22.5**	1.29	2.62	*C18*
Rectum	232	3.9	27.3	**12.1**	0.67	1.39	196	3.9	21.1	**7.6**	0.44	0.94	*C19-20*
Anus	18	0.3	2.1	**1.2**	0.08	0.11	14	0.3	1.5	**0.4**	0.01	0.05	*C21*
Liver	167	2.8	19.7	**8.5**	0.40	1.16	88	1.7	9.5	**3.0**	0.13	0.40	*C22*
Gallbladder etc.	57	0.9	6.7	**3.1**	0.18	0.33	87	1.7	9.4	**2.9**	0.09	0.35	*C23-24*
Pancreas	131	2.2	15.4	**7.6**	0.46	0.91	146	2.9	15.7	**5.1**	0.22	0.58	*C25*
Nose, sinuses etc.	3	0.0	0.4	**0.2**	0.01	0.03	4	0.1	0.4	**0.1**	0.01	0.02	*C30-31*
Larynx	174	2.9	20.5	**9.7**	0.59	1.30	16	0.3	1.7	**0.7**	0.04	0.08	*C32*
Trachea, bronchus and lung	1273	21.2	149.8	**68.4**	3.59	9.14	284	5.6	30.6	**11.9**	0.65	1.56	*C33-34*
Other thoracic organs	13	0.2	1.5	**0.8**	0.04	0.09	5	0.1	0.5	**0.2**	0.00	0.02	*C37-38*
Bone	24	0.4	2.8	**3.3**	0.21	0.24	6	0.1	0.6	**0.2**	0.01	0.01	*C40-41*
Melanoma of skin	68	1.1	8.0	**4.9**	0.36	0.47	67	1.3	7.2	**3.7**	0.26	0.39	*C43*
Other skin	1419		167.0	**73.6**	3.54	8.63	1087		117.2	**43.4**	2.43	4.69	*C44*
Mesothelioma	28	0.5	3.3	**1.5**	0.09	0.18	13	0.3	1.4	**0.5**	0.02	0.08	*C45*
Kaposi sarcoma	25	0.4	2.9	**1.5**	0.06	0.16	15	0.3	1.6	**0.7**	0.03	0.08	*C46*
Connective and soft tissue	30	0.5	3.5	**2.5**	0.15	0.27	32	0.6	3.4	**3.4**	0.21	0.25	*C47+C49*
Breast	10	0.2	1.2	**0.5**	0.02	0.07	1442	28.4	155.4	**78.4**	5.85	8.88	*C50*
Vulva							55	1.1	5.9	**1.9**	0.09	0.21	*C51*
Vagina							10	0.2	1.1	**0.5**	0.03	0.06	*C52*
Cervix uteri							114	2.2	12.3	**7.1**	0.54	0.75	*C53*
Corpus uteri							285	5.6	30.7	**13.7**	0.99	1.73	*C54*
Uterus unspecified							13	0.3	1.4	**0.6**	0.04	0.05	*C55*
Ovary							148	2.9	16.0	**8.3**	0.61	0.93	*C56*
Other female genital organs							4	0.1	0.4	**0.1**	0.00	0.02	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	14	0.2	1.6	**0.8**	0.06	0.08							*C60*
Prostate	574	9.6	67.6	**26.2**	0.66	3.51							*C61*
Testis	28	0.5	3.3	**2.8**	0.22	0.22							*C62*
Other male genital organs	4	0.1	0.5	**0.2**	0.01	0.02							*C63*
Kidney	199	3.3	23.4	**11.8**	0.71	1.45	118	2.3	12.7	**5.2**	0.31	0.61	*C64*
Renal pelvis	26	0.4	3.1	**1.5**	0.09	0.18	3	0.1	0.3	**0.1**	0.01	0.02	*C65*
Ureter	10	0.2	1.2	**0.6**	0.04	0.06	2	0.0	0.2	**0.2**	0.02	0.02	*C66*
Bladder	703	11.7	82.7	**37.0**	1.72	4.77	190	3.7	20.5	**6.6**	0.30	0.78	*C67*
Other urinary organs	26	0.4	3.1	**1.2**	0.04	0.12	11	0.2	1.2	**0.3**	0.01	0.05	*C68*
Eye	9	0.1	1.1	**0.5**	0.02	0.06	16	0.3	1.7	**0.7**	0.05	0.09	*C69*
Brain, nervous system	97	1.6	11.4	**7.7**	0.51	0.79	75	1.5	8.1	**5.5**	0.33	0.50	*C70-72*
Thyroid	49	0.8	5.8	**3.5**	0.28	0.40	130	2.6	14.0	**8.6**	0.63	0.89	*C73*
Adrenal gland	5	0.1	0.6	**0.7**	0.04	0.05	4	0.1	0.4	**0.2**	0.02	0.02	*C74*
Other endocrine	1	0.0	0.1	**0.0**	0.00	0.00	3	0.1	0.3	**0.2**	0.02	0.02	*C75*
Hodgkin disease	27	0.4	3.2	**2.7**	0.21	0.23	20	0.4	2.2	**1.7**	0.12	0.12	*C81*
Non-Hodgkin lymphoma	236	3.9	27.8	**15.7**	0.93	1.68	181	3.6	19.5	**8.5**	0.50	0.93	*C82-85,C96*
Immunoproliferative diseases	1	0.0	0.1	**0.1**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	83	1.4	9.8	**4.4**	0.23	0.41	81	1.6	8.7	**2.9**	0.14	0.37	*C90*
Lymphoid leukaemia	88	1.5	10.4	**6.3**	0.30	0.63	58	1.1	6.3	**3.7**	0.17	0.30	*C91*
Myeloid leukaemia	59	1.0	6.9	**3.5**	0.15	0.33	53	1.0	5.7	**2.4**	0.13	0.27	*C92-94*
Leukaemia unspecified	9	0.1	1.1	**0.4**	0.01	0.06	12	0.2	1.3	**0.9**	0.04	0.07	*C95*
Other and unspecified	187	3.1	22.0	**10.8**	0.57	1.34	172	3.4	18.5	**6.0**	0.30	0.67	*O&U*
All sites	7425		874.0	**406.7**	20.73	49.43	6162		664.1	**283.0**	17.73	31.76	*ALL*
All sites but C44	6006	100.0	706.9	**333.1**	17.20	40.80	5075	100.0	547.0	**239.6**	15.30	27.07	*ALLbC44*

Italy, Florence

Registration area

The territory of the Tuscany Cancer Registry corresponds to two of the ten provinces of the Tuscany Region, the provinces of Florence and Prato, excluding the municipality of Fucecchio. It is situated at 44° N and 11° E. The registry covers an area of 3815 km^2 with a population of 1 164 141 inhabitants (1991 census), with a density of 305 inhabitants per km^2. The territory is divided into 51 municipalities and three local health units.

The only two municipalities with a population larger than 100 000 in 1991 are Prato (population 165 707) and Florence (population 403 294). About 1% of the residents are foreign, 38% from other European countries, 33% from Asia, 14% from Africa and 14% from America.

In 1991, 90% of the residents aged 15–64 years were employed, 49% in industry, 26% in commerce, 0.6% in agriculture and 25% in other activities. Industry in the provinces is concentrated mainly in the surroundings of the cities of Florence and Prato. Manufacturing is the most developed branch of the industrial sector, especially the textile industry. These activities are connected to the much larger fashion industry which employs 40% of the industrial employees. The second largest branch is metallurgy and mechanical work (22%).

Cancer care facilities

In 1996, there were 4784 beds in public hospitals and 1496 beds in private hospitals, excluding chronic care and psychiatric institutions. There were 5.4 beds for every 1000 inhabitants.

Registry structure and methods

The Tuscany Cancer Registry (RTT) is associated with the Unit of Clinical and Descriptive Epidemiology of the Centre for the Study and Prevention of Cancer (CSPO) in Florence. The registry, which is commissioned and funded by the Tuscany Region Department of Health, collects, registers and analyses information related to cases of cancer in residents of the provinces of Florence and Prato. The registry started its activity on 1 January 1985 after a one-year experimental phase to evaluate feasibility and to collect prevalent cases.

While instituted by regional law, notification is compulsory by an administrative order. The registry receives copies of cancer patient records from both public and private hospitals, which have been abstracted from pre-coded electronic media since 1995; they are then filed individually for each tumour. Copies of all autopsies and cyto-histological referrals are received from the public and private pathology services. The information concerning each tumour, including personal identification and full clinical details, is coded and entered into the computer. Specific procedures and key words protect access to the RTT files; names and other personal data and clinical information are stored on different files and, when necessary, are linked with each other by an identification number.

The Regional Mortality Registry receives death certificates (a copy of the National Institute of Statistics form) for all inhabitants. Its files are periodically checked against the cancer registry records to identify cases not otherwise notified.

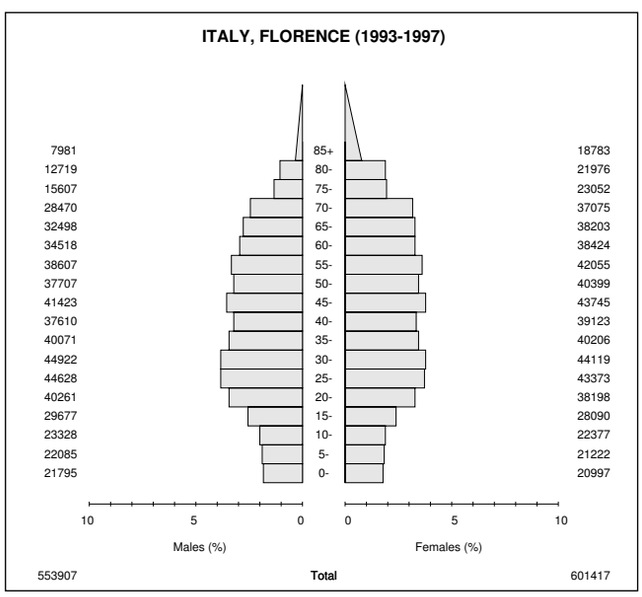
The current staff comprises two full-time physicians, three full-time tumour registrars (registered nurses), two part-time biologists, a part-time statistician and a part-time data manager.

Interpretation of the results

The Centre for the Study and Prevention of Cancer in Florence has provided screening for sections of the population for breast, cervical and colorectal cancer. Outpatient services for the early diagnosis of breast, cervix, gastrointestinal and prostate cancers are also active at the Centre.

Use of the data

The registry routinely publishes incidence and survival data and participates in analytical epidemiological studies. The RTT is improving the collection of clinical data for the evaluation of diagnostic and clinical patterns and is participating in the EUROCARE project.



Source of population

Annual estimates based on the 1981 and 1991 censuses, making allowance for births, deaths and migration, produced by the Ufficio Sistemi Statistici Regione (Regional Office of the National Institute of Statistics – ISTAT).

Notes on the data

* The very low proportion of cases with morphological confirmation, particularly for the leukaemias, suggests a problem of under-ascertainment.

*ITALY, FLORENCE (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	73	0.4	2.6	**1.3**	0.08	0.16	12	0.1	0.4	**0.2**	0.01	0.02	*C00*
Tongue	62	0.4	2.2	**1.2**	0.08	0.13	42	0.3	1.4	**0.7**	0.05	0.08	*C01-02*
Mouth	89	0.5	3.2	**1.8**	0.11	0.20	60	0.4	2.0	**0.8**	0.04	0.09	*C03-06*
Salivary glands	26	0.1	0.9	**0.5**	0.03	0.05	26	0.2	0.9	**0.5**	0.04	0.05	*C07-08*
Tonsil	46	0.3	1.7	**1.0**	0.08	0.11	11	0.1	0.4	**0.2**	0.02	0.03	*C09*
Other oropharynx	25	0.1	0.9	**0.5**	0.04	0.06	4	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	41	0.2	1.5	**0.9**	0.08	0.11	16	0.1	0.5	**0.3**	0.03	0.03	*C11*
Hypopharynx	42	0.2	1.5	**0.9**	0.06	0.11	8	0.1	0.3	**0.2**	0.02	0.02	*C12-13*
Pharynx unspecified	11	0.1	0.4	**0.2**	0.01	0.02	5	0.0	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	128	0.7	4.6	**2.2**	0.14	0.24	73	0.5	2.4	**0.7**	0.03	0.07	*C15*
Stomach	1765	10.0	63.7	**28.4**	1.28	3.21	1310	8.4	43.6	**13.6**	0.58	1.36	*C16*
Small intestine	47	0.3	1.7	**0.9**	0.06	0.09	33	0.2	1.1	**0.5**	0.04	0.06	*C17*
Colon	1680	9.5	60.7	**28.3**	1.35	3.50	1587	10.2	52.8	**19.8**	1.00	2.32	*C18*
Rectum	987	5.6	35.6	**17.2**	0.97	2.05	701	4.5	23.3	**9.2**	0.52	1.08	*C19-20*
Anus	38	0.2	1.4	**0.7**	0.04	0.07	78	0.5	2.6	**1.1**	0.06	0.12	*C21*
Liver	541	3.1	19.5	**9.3**	0.44	1.24	277	1.8	9.2	**3.0**	0.09	0.40	*C22*
Gallbladder etc.	175	1.0	6.3	**2.7**	0.13	0.29	243	1.6	8.1	**2.5**	0.09	0.26	*C23-24*
Pancreas	451	2.5	16.3	**7.7**	0.38	0.91	462	3.0	15.4	**5.4**	0.25	0.61	*C25*
Nose, sinuses etc.	35	0.2	1.3	**0.6**	0.04	0.08	23	0.1	0.8	**0.3**	0.02	0.03	*C30-31*
Larynx	583	3.3	21.1	**11.2**	0.75	1.44	57	0.4	1.9	**1.0**	0.08	0.12	*C32*
Trachea, bronchus and lung	3342	18.9	120.7	**57.7**	2.93	7.48	752	4.8	25.0	**10.1**	0.56	1.21	*C33-34*
Other thoracic organs	39	0.2	1.4	**0.8**	0.04	0.08	29	0.2	1.0	**0.6**	0.03	0.06	*C37-38*
Bone	46	0.3	1.7	**1.5**	0.09	0.13	38	0.2	1.3	**1.2**	0.07	0.08	*C40-41*
Melanoma of skin	330	1.9	11.9	**7.5**	0.56	0.79	421	2.7	14.0	**9.0**	0.67	0.85	*C43*
Other skin	1804		65.1	**30.0**	1.37	3.43	1266		42.1	**16.3**	0.86	1.69	*C44*
Mesothelioma	36	0.2	1.3	**0.6**	0.02	0.08	19	0.1	0.6	**0.2**	0.01	0.03	*C45*
Kaposi sarcoma	100	0.6	3.6	**2.8**	0.21	0.24	14	0.1	0.5	**0.2**	0.01	0.02	*C46*
Connective and soft tissue	95	0.5	3.4	**2.2**	0.13	0.23	76	0.5	2.5	**1.7**	0.11	0.15	*C47+C49*
Breast	41	0.2	1.5	**0.8**	0.05	0.09	4088	26.3	135.9	**72.3**	5.34	8.06	*C50*
Vulva							133	0.9	4.4	**1.4**	0.06	0.15	*C51*
Vagina							21	0.1	0.7	**0.2**	0.01	0.04	*C52*
Cervix uteri							315	2.0	10.5	**6.4**	0.46	0.64	*C53*
Corpus uteri							814	5.2	27.1	**13.1**	0.94	1.63	*C54*
Uterus unspecified							44	0.3	1.5	**0.5**	0.02	0.04	*C55*
Ovary							560	3.6	18.6	**9.9**	0.73	1.10	*C56*
Other female genital organs							25	0.2	0.8	**0.4**	0.03	0.04	*C57*
Placenta							5	0.0	0.2	**0.1**	0.01	0.01	*C58*
Penis	44	0.2	1.6	**0.8**	0.05	0.10							*C60*
Prostate	2404	13.6	86.8	**35.1**	0.96	4.12							*C61*
Testis	112	0.6	4.0	**3.3**	0.24	0.27							*C62*
Other male genital organs	13	0.1	0.5	**0.4**	0.03	0.04							*C63*
Kidney	716	4.0	25.9	**13.7**	0.88	1.63	434	2.8	14.4	**6.6**	0.38	0.75	*C64*
Renal pelvis	39	0.2	1.4	**0.7**	0.03	0.09	17	0.1	0.6	**0.2**	0.01	0.02	*C65*
Ureter	36	0.2	1.3	**0.6**	0.03	0.07	14	0.1	0.5	**0.2**	0.00	0.02	*C66*
Bladder	1123	6.3	40.5	**18.7**	0.87	2.27	269	1.7	8.9	**2.9**	0.11	0.33	*C67*
Other urinary organs	21	0.1	0.8	**0.3**	0.01	0.04	9	0.1	0.3	**0.2**	0.01	0.02	*C68*
Eye	19	0.1	0.7	**0.5**	0.03	0.05	27	0.2	0.9	**0.6**	0.04	0.06	*C69*
Brain, nervous system	266	1.5	9.6	**6.0**	0.39	0.67	245	1.6	8.1	**5.1**	0.31	0.49	*C70-72*
Thyroid	100	0.6	3.6	**2.5**	0.19	0.23	317	2.0	10.5	**6.9**	0.53	0.67	*C73*
Adrenal gland	18	0.1	0.6	**0.7**	0.04	0.04	20	0.1	0.7	**0.7**	0.04	0.05	*C74*
Other endocrine	6	0.0	0.2	**0.1**	0.01	0.02	4	0.0	0.1	**0.2**	0.01	0.01	*C75*
Hodgkin disease	120	0.7	4.3	**3.8**	0.26	0.30	117	0.8	3.9	**3.2**	0.21	0.25	*C81*
Non-Hodgkin lymphoma	577	3.3	20.8	**12.9**	0.79	1.32	581	3.7	19.3	**9.8**	0.65	1.07	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	285	1.6	10.3	**4.6**	0.19	0.53	291	1.9	9.7	**3.7**	0.18	0.42	*C90*
Lymphoid leukaemia	203	1.1	7.3	**5.1**	0.24	0.44	138	0.9	4.6	**3.1**	0.14	0.20	*C91*
Myeloid leukaemia	158	0.9	5.7	**3.3**	0.20	0.35	146	0.9	4.9	**2.4**	0.14	0.24	*C92-94*
Leukaemia unspecified	48	0.3	1.7	**0.8**	0.04	0.08	47	0.3	1.6	**0.5**	0.02	0.05	*C95*
Other and unspecified	507	2.9	18.3	**8.1**	0.33	0.92	481	3.1	16.0	**5.2**	0.21	0.47	*O&U*
All sites	19493		703.8	**343.2**	17.32	40.21	16805		558.8	**255.0**	15.90	27.66	*ALL*
All sites but C44	17689	100.0	638.7	**313.2**	15.95	36.79	15539	100.0	516.7	**238.7**	15.04	25.97	*ALLbC44*

Italy, Genoa Province

Registration area

The Ligurian Cancer Registry has covered the population of Genoa City since 1986 and the population of the Province since 1993. The geographical area covered by the registry (1834 km^2) is situated within the Liguria region in the north-west of Italy.

About 70% of the population lives in the urban area of Genoa (659 116 inhabitants).

The Ligurian death rates are among the highest in Italy (age-adjusted rates: males 1025.5, females 892.6), due to the ageing of the population; on the other hand the birth rate is one of the lowest at 6.7.

Cancer care facilities

In this area the health care service is provided by hospitals and centres located predominantly in the city of Genoa. The health care structure consists of 17 public and 4 private hospitals with radiotherapy and chemotherapy departments; among the public hospitals the National Cancer Institute (NCI) of Genoa is a comprehensive cancer centre.

Registry structure and methods

Institutionally, the Ligurian Cancer Registry belongs to the Health Council of the Region of Liguria and is located in the NCI. The registry is staffed by one director, five full-time researchers, two for coding, two for follow-up and quality control, one for statistical analyses and three registrar-clerks, two full-time and two part-time.

Data are collected regularly by the registry staff through active consultation of the nearly 200 000 clinical records available each year from the hospitals and the pathology departments. Additional data are provided by the computerized discharge records of the hospitals, which are cross-linked with the registry database.

The Registry of Causes of Death codes data concerning cancer mentioned on the death certificate and supplies the cancer registry with a copy of any certificate concerning a death from cancer.

IARC CHECK is used to check the data.

To conform to Italian law regarding personal health data, the registry has a legal basis as a pathology registry for the collection and management of cases, and follows an Ethical Code of Behaviour (published on its web site and sent to all collaborating institutions and to the National Authority for Individual Data Protection).

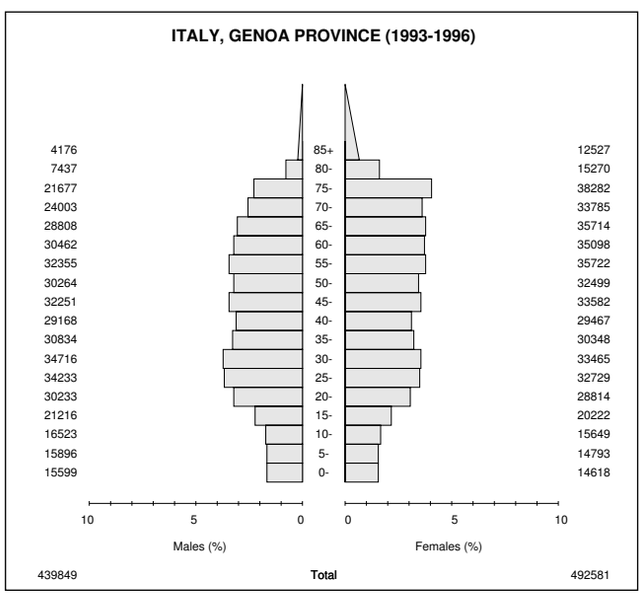
Use of the data

The aim of the registry is to obtain incidence, mortality, prevalence and survival data and to analyse them by demographic (sex, age, place of birth and area of residence), topographic, morphological and behavioural characteristics.

To produce survival data, the registry database is regularly cross-checked, through record linkage, with the demographic data of the Genoa Registry Office and with the causes of death databank to automatically control vital status, migration data and the cause of death of each recorded case.

The registry is involved in the planning and evaluation of the health programmes of the Ligurian Region within the framework of the regional committee in the epidemiological and oncological field.

The registry collaborates with all other Italian registries and internationally on joint research efforts and publications on cancer incidence, mortality, prevalence and survival data. Within the framework of the Europe Against Cancer Programme, the registry is specifically studying 'cancer survival in European elderly patients and its clinical, social and economic determinants', with the aim of interpreting the cancer survival statistics of the European nations participating in EUROCARE in light of the demographic, socio-economic and clinical (health system organization) characteristics of each country.



Source of population

Annual estimates based on the 1991 census, taking into account births, deaths and migration, produced by the Ufficio Sistemi Statistici Regione (Regional Office of the National Institute of Statistics – ISTAT).

ITALY, GENOA PROVINCE (1993-1996)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	30	0.2	1.7	**0.7**	0.04	0.07	5	0.0	0.3	**0.1**	0.00	0.01	*C00*
Tongue	94	0.7	5.3	**2.7**	0.18	0.33	36	0.3	1.8	**0.7**	0.05	0.09	*C01-02*
Mouth	93	0.7	5.3	**2.7**	0.19	0.35	35	0.3	1.8	**0.6**	0.03	0.07	*C03-06*
Salivary glands	25	0.2	1.4	**0.7**	0.03	0.07	22	0.2	1.1	**0.4**	0.02	0.05	*C07-08*
Tonsil	30	0.2	1.7	**1.0**	0.08	0.11	10	0.1	0.5	**0.3**	0.02	0.03	*C09*
Other oropharynx	25	0.2	1.4	**0.8**	0.06	0.09	4	0.0	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	28	0.2	1.6	**0.8**	0.06	0.08	14	0.1	0.7	**0.5**	0.04	0.05	*C11*
Hypopharynx	56	0.4	3.2	**1.6**	0.12	0.22	5	0.0	0.3	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	10	0.1	0.6	**0.3**	0.02	0.04	3	0.0	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	142	1.1	8.1	**3.9**	0.21	0.46	48	0.4	2.4	**0.7**	0.04	0.07	*C15*
Stomach	640	4.8	36.4	**15.9**	0.64	1.68	481	4.3	24.4	**7.6**	0.36	0.74	*C16*
Small intestine	27	0.2	1.5	**0.8**	0.06	0.10	20	0.2	1.0	**0.4**	0.02	0.05	*C17*
Colon	1169	8.8	66.4	**29.2**	1.35	3.45	1167	10.5	59.2	**20.2**	1.01	2.29	*C18*
Rectum	574	4.3	32.6	**14.4**	0.72	1.71	447	4.0	22.7	**7.9**	0.40	0.92	*C19-20*
Anus	35	0.3	2.0	**0.9**	0.04	0.10	49	0.4	2.5	**0.9**	0.05	0.09	*C21*
Liver	443	3.3	25.2	**11.1**	0.55	1.41	267	2.4	13.6	**4.4**	0.16	0.47	*C22*
Gallbladder etc.	132	1.0	7.5	**3.1**	0.13	0.33	264	2.4	13.4	**4.2**	0.19	0.47	*C23-24*
Pancreas	315	2.4	17.9	**8.1**	0.41	0.92	393	3.5	19.9	**6.2**	0.24	0.71	*C25*
Nose, sinuses etc.	28	0.2	1.6	**0.8**	0.04	0.09	9	0.1	0.5	**0.2**	0.01	0.03	*C30-31*
Larynx	413	3.1	23.5	**11.4**	0.74	1.42	39	0.4	2.0	**0.9**	0.07	0.12	*C32*
Trachea, bronchus and lung	2649	20.0	150.6	**66.6**	3.31	8.56	648	5.8	32.9	**11.9**	0.66	1.47	*C33-34*
Other thoracic organs	47	0.4	2.7	**1.2**	0.05	0.10	24	0.2	1.2	**0.4**	0.02	0.04	*C37-38*
Bone	26	0.2	1.5	**1.0**	0.07	0.09	17	0.2	0.9	**0.7**	0.05	0.05	*C40-41*
Melanoma of skin	199	1.5	11.3	**6.7**	0.48	0.69	211	1.9	10.7	**6.1**	0.45	0.61	*C43*
Other skin	1520		86.4	**39.7**	1.96	4.57	1217		61.8	**23.9**	1.40	2.64	*C44*
Mesothelioma	206	1.6	11.7	**5.4**	0.32	0.67	60	0.5	3.0	**1.2**	0.07	0.14	*C45*
Kaposi sarcoma	68	0.5	3.9	**2.4**	0.16	0.23	12	0.1	0.6	**0.3**	0.02	0.03	*C46*
Connective and soft tissue	69	0.5	3.9	**2.4**	0.14	0.22	52	0.5	2.6	**1.6**	0.09	0.15	*C47+C49*
Breast	48	0.4	2.7	**1.2**	0.06	0.13	3067	27.5	155.7	**76.9**	5.80	8.66	*C50*
Vulva							72	0.6	3.7	**1.0**	0.02	0.09	*C51*
Vagina							14	0.1	0.7	**0.2**	0.00	0.02	*C52*
Cervix uteri							270	2.4	13.7	**7.8**	0.59	0.80	*C53*
Corpus uteri							472	4.2	24.0	**10.7**	0.81	1.34	*C54*
Uterus unspecified							67	0.6	3.4	**1.2**	0.06	0.10	*C55*
Ovary							406	3.6	20.6	**9.6**	0.67	1.05	*C56*
Other female genital organs							23	0.2	1.2	**0.5**	0.03	0.06	*C57*
Placenta							2	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	17	0.1	1.0	**0.5**	0.02	0.06							*C60*
Prostate	1749	13.2	99.4	**38.4**	1.00	4.20							*C61*
Testis	85	0.6	4.8	**4.5**	0.33	0.34							*C62*
Other male genital organs	8	0.1	0.5	**0.2**	0.01	0.02							*C63*
Kidney	360	2.7	20.5	**10.2**	0.62	1.27	172	1.5	8.7	**3.6**	0.21	0.40	*C64*
Renal pelvis	39	0.3	2.2	**1.0**	0.05	0.13	15	0.1	0.8	**0.3**	0.02	0.04	*C65*
Ureter	29	0.2	1.6	**0.7**	0.03	0.10	6	0.1	0.3	**0.1**	0.01	0.01	*C66*
Bladder	1626	12.2	92.4	**41.1**	1.96	5.04	429	3.9	21.8	**7.3**	0.34	0.82	*C67*
Other urinary organs	20	0.2	1.1	**0.4**	0.02	0.04	4	0.0	0.2	**0.1**	0.00	0.00	*C68*
Eye	21	0.2	1.2	**1.1**	0.05	0.09	9	0.1	0.5	**0.2**	0.02	0.03	*C69*
Brain, nervous system	165	1.2	9.4	**5.8**	0.35	0.60	158	1.4	8.0	**4.9**	0.30	0.45	*C70-72*
Thyroid	50	0.4	2.8	**1.8**	0.13	0.19	180	1.6	9.1	**6.5**	0.53	0.63	*C73*
Adrenal gland	16	0.1	0.9	**0.9**	0.03	0.06	9	0.1	0.5	**0.5**	0.03	0.03	*C74*
Other endocrine	1	0.0	0.1	**0.1**	0.01	0.01	5	0.0	0.3	**0.2**	0.01	0.02	*C75*
Hodgkin disease	64	0.5	3.6	**3.4**	0.23	0.26	66	0.6	3.3	**3.0**	0.21	0.22	*C81*
Non-Hodgkin lymphoma	406	3.1	23.1	**13.0**	0.77	1.36	443	4.0	22.5	**10.0**	0.63	1.08	*C82-85,C96*
Immunoproliferative diseases	6	0.0	0.3	**0.1**	0.01	0.01	4	0.0	0.2	**0.0**	0.00	0.01	*C88*
Multiple myeloma	185	1.4	10.5	**4.8**	0.24	0.54	185	1.7	9.4	**3.2**	0.16	0.37	*C90*
Lymphoid leukaemia	178	1.3	10.1	**6.1**	0.31	0.55	118	1.1	6.0	**3.8**	0.19	0.29	*C91*
Myeloid leukaemia	124	0.9	7.0	**3.9**	0.20	0.38	115	1.0	5.8	**2.3**	0.15	0.24	*C92-94*
Leukaemia unspecified	28	0.2	1.6	**0.7**	0.02	0.05	21	0.2	1.1	**0.4**	0.03	0.05	*C95*
Other and unspecified	477	3.6	27.1	**11.7**	0.46	1.28	467	4.2	23.7	**7.3**	0.32	0.70	*O&U*
All sites	14795		840.9	**387.8**	19.09	44.87	12358		627.2	**264.2**	16.67	28.97	*ALL*
All sites but C44	13275	100.0	754.5	**348.1**	17.13	40.30	11141	100.0	565.4	**240.3**	15.27	26.33	*ALLbC44*

Italy, Liguria Mesothelioma Cancer Registry

Registration area

The Mesothelioma Registry of Liguria (REM) started its activity in 1994, describing the incidence of pleural mesothelioma (PM) in the population resident in the city of Genoa (660 000 inhabitants). In 1995 the REM extended to the population resident in the Province of Genoa (927 000 inhabitants) and, since 1996, has covered the entire Liguria Region (1 640 000 inhabitants). The region of Liguria is divided into four provinces (from west to east: Imperia, Savona, Genoa, La Spezia). The province of Imperia is essentially characterized by rural and touristic activities; the same holds true for Savona, with the exception of a single, extensive, industrial site (prevalently chemical and coke industries) and an active commercial harbour. The provinces of Genoa and La Spezia share a number of industrial activities, namely shipbuilding, shipping, petrochemicals and steel industries.

Cancer care facilities

Health care in the Liguria Region is provided almost exclusively by structures of the National Health Care Service; private hospitals and diagnostic centres receive very few PM patients. Generally, PM patients are visited first by a general practitioner or in departments of general medicine and are nearly immediately referred to a department of pneumology or thoracic surgery for a definitive diagnosis. Patients are then treated principally by departments of pneumology, oncology or radiotherapy.

Respiratory tumour care facilities are well distributed throughout the territory. Imperia, Savona and La Spezia each have a department of pneumology; Genoa has five and two departments of thoracic surgery. Oncological departments have a distribution similar to pneumology departments. The National Cancer Research Institute, located in Genoa, provides radiotherapy, cancer surgery and chemotherapy services; all the respiratory tumour health care facilities situated in the city of Genoa seem to attract PM patients from other provinces, above all for diagnostic and surgical services.

Registry structure and methods

The REM specializes in the study of PM in Liguria. The REM completes normal clinical information with occupational and environmental data in order to identify working and living areas at risk for asbestos-related pathologies.

It is located in the Environmental Epidemiology and Biostatistcs Department of the National Cancer Research Institute of Genoa. It is funded by the regional health department. The REM is coordinated by an oncologist/epidemiologist, in collaboration with a biologist/statistician for data management and statistical analysis, a university technician and two other biologists for data collection, coding and input.

Data are collected through a combination of active search and passive notification procedures. The data are completed by automated data, such as hospital dismissal lists, mortality data, etc. REM has direct access to the Regional Mortality Registry, and to death certificates.

The REM attempts to interview all PM patients using a questionnaire to obtain complete information on occupational and environmental exposures.

Pleural mesothelioma is a cancer that is classifiable as an asbestos-related occupational pathology (Decreto Legge n. 277/91). Since its outset, the REM has adopted a strict protocol regarding confidentiality and privacy, approved by the ethics committee of its Institute, which requires patients' written consent to the interview.

Quality control procedures are also carried out to monitor lack of consistency in registered data.

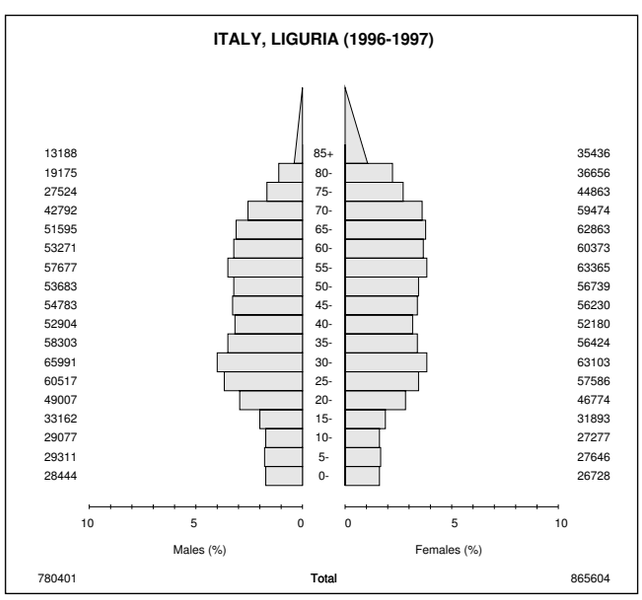
Interpreting the results

Differential distribution of environmental and occupational exposure can lead to different incidence rates. Genoa and La Spezia are at higher risk for pleural mesothelioma than Imperia and Savona, but this is also true for other sites.

Use of the data

Data collected by the REM are used for public health and research purposes. Incidence, time trends and survival are investigated. The data are included in the Italian Mesothelioma Registry, which incorporates data from another four regional mesothelioma registries.

The data of the REM are also used by public health practitioners in order to ascertain patients' rights to receive compensation and to evaluate the real number of people exposed to asbestos, who are consequently at risk for other asbestos-related pathologies.



Source of population

Annual estimates assuming a constant trend from 1995–97 and based on the 1991 census. Ufficio Sistemi Statistici Regione (Regional Office of the National Institute of Statistics – ISTAT).

ITALY, LIGURIA (1996-1997)

Mesothelioma (ICD-10 C45)	MALE No. cases	MALE rate (per 100,000)	FEMALE No. cases	FEMALE rate (per 100,000)
0-	0	-	0	-
5-	0	-	0	-
10-	0	-	0	-
15-	0	-	0	-
20-	0	-	0	-
25-	0	-	0	-
30-	0	-	0	-
35-	0	-	0	-
40-	4	3.8	1	1.0
45-	3	2.7	1	0.9
50-	10	9.3	3	2.6
55-	17	14.7	1	0.8
60-	15	14.1	3	2.5
65-	28	27.1	7	5.6
70-	36	42.1	5	4.2
75-	20	36.3	8	8.9
80-	26	67.8	7	9.5
85+	8	30.3	3	4.2
Unk	0		0	
Total	167	10.7	39	2.3
Cum 0-64		0.2		0.0
Cum 0-74		0.6		0.1
ASR (World)		**4.5**		**0.8**

Italy, Macerata Province

Registration area

The Macerata Province Cancer Registry covers the population of the whole province (57 municipalities) ranging from a mountainous zone in the west to the Adriatic Sea on the east, within the Marches Region, in central Italy.

In 1999 population density was 109.1 per km^2. Some 32% of municipalities are located in the mountainous areas and have a low population density and a high proportion of people engaged in services. The 5% of municipalities situated in the coastal areas bordering the Adriatic Sea have a high number of people engaged in the industrial sector, with few in agriculture. The 63% remaining are located in the hill zone and can be characterized as intermediate between the other two zones.

Cancer care facilities

General health care in the province is provided predominantly by three Local Health Districts (LHUs) through the district oncology services, a network of general hospitals and two pathology laboratories. This is supplemented by regional oncology hospitals with cancer surgery and chemotherapy services and radiotherapy facilities located outside Macerata Province, in Ancona, the capital of the Marches Region (40–90 km distant). Most patients suspected of having cancer in the primary care facilities in the registry area are referred either to regional hospitals and oncology services, to one of the hospitals with comprehensive cancer services in central Italy within a 300 km radius, or occasionally to one of the cancer centres in northern Italy (over 450 km distant).

Registry structure and methods

The registry is located, together with the Mortality Registry of Macerata Province, the Childhood Cancer Registry of Marches region and the Malignant Mesothelioma Registry of Marches region, within the Hygiene, Health and Environmental Sciences Department of Camerino University. The registries are administered and partly funded by Camerino University and the Macerata Province Section of the Anti-Cancer League, and partly by the Regional Health Agency. The registries are staffed by a full-time epidemiologist, a registrar and three doctors, and a medical oncologist and a pathologist act as consultants.

Information on cancer cases is based on active data collection by registry personnel. Lists of cancer in- and outpatients are provided through the regional admission discharge records and new cancer cases are identified from clinical, histological and cytological records of public and private hospitals in the Marche region. Other case collection sources include the list of patients exempted from payment, the death certificates from the mortality registry of Macerata Province, information from general practitioners and other Italian registries. The registry receives copies of all death certificates every three months from LHUs, and a list of all deaths at the end of each year from each municipality.

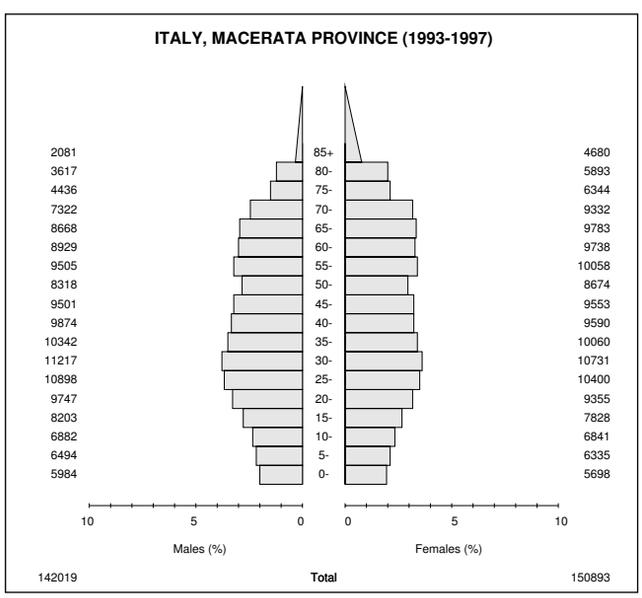
The information concerning each tumour, including personal identification and full clinical details, is coded and entered into a computer database by the same operator.

Interpreting the results

It has been possible to have lists of admission and discharge records for all cancer patients hospitalized in Macerata Province since 1996. The death cause registration system has improved a great deal lately and this information source has improved registry data, particularly for elderly subjects.

Use of the data

The registry prepares a regular report on cancer incidence and mortality rates and time trends for LHUs and occasionally for Regional Health Administration. Some recent studies on survival of the main registered cancer cases in the Province, together with analysis of cancer mortality in the region during the last twenty years, have been carried out. Specific and collaborative projects with other cancer registries in various fields of cancer epidemiology are in progress.



Source of population

Average annual estimate of population data collected at 31 December for each year by the General Registry Office of Municipalities.

ITALY, MACERATA PROVINCE (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	§FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	4	0.1	0.6	**0.2**	0.00	0.04	1	0.0	0.1	**0.0**	0.00	0.00	*C00*
Tongue	14	0.3	2.0	**1.0**	0.06	0.12	8	0.2	1.1	**0.6**	0.05	0.05	*C01-02*
Mouth	16	0.4	2.3	**1.1**	0.05	0.15	5	0.1	0.7	**0.2**	0.01	0.02	*C03-06*
Salivary glands	12	0.3	1.7	**1.0**	0.06	0.09	4	0.1	0.5	**0.4**	0.03	0.04	*C07-08*
Tonsil	3	0.1	0.4	**0.2**	0.00	0.04	1	0.0	0.1	**0.1**	0.00	0.01	*C09*
Other oropharynx	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	4	0.1	0.6	**0.3**	0.02	0.03	3	0.1	0.4	**0.3**	0.02	0.03	*C11*
Hypopharynx	2	0.0	0.3	**0.2**	0.02	0.02	1	0.0	0.1	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	2	0.0	0.3	**0.1**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	30	0.7	4.2	**2.0**	0.10	0.27	5	0.1	0.7	**0.2**	0.01	0.02	*C15*
Stomach	416	9.4	58.6	**26.7**	1.33	3.03	299	8.6	39.6	**14.6**	0.80	1.58	*C16*
Small intestine	7	0.2	1.0	**0.5**	0.04	0.07	9	0.3	1.2	**0.4**	0.03	0.04	*C17*
Colon	399	9.0	56.2	**25.7**	1.33	2.97	411	11.8	54.5	**21.0**	1.14	2.39	*C18*
Rectum	249	5.6	35.1	**16.1**	0.84	1.97	174	5.0	23.1	**8.9**	0.48	1.08	*C19-20*
Anus	0	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.1	**0.0**	0.00	0.00	*C21*
Liver	128	2.9	18.0	**7.6**	0.24	0.95	54	1.6	7.2	**2.5**	0.11	0.32	*C22*
Gallbladder etc.	23	0.5	3.2	**1.2**	0.03	0.14	56	1.6	7.4	**2.5**	0.14	0.27	*C23-24*
Pancreas	95	2.2	13.4	**6.0**	0.25	0.73	99	2.9	13.1	**4.9**	0.20	0.58	*C25*
Nose, sinuses etc.	10	0.2	1.4	**0.8**	0.06	0.09	1	0.0	0.1	**0.0**	0.00	0.00	*C30-31*
Larynx	122	2.8	17.2	**9.1**	0.62	1.21	10	0.3	1.3	**0.9**	0.07	0.08	*C32*
Trachea, bronchus and lung	732	16.6	103.1	**49.1**	2.51	6.65	106	3.1	14.0	**5.9**	0.35	0.71	*C33-34*
Other thoracic organs	7	0.2	1.0	**0.4**	0.01	0.06	8	0.2	1.1	**0.4**	0.01	0.05	*C37-38*
Bone	6	0.1	0.8	**0.7**	0.04	0.04	2	0.1	0.3	**0.3**	0.02	0.02	*C40-41*
Melanoma of skin	92	2.1	13.0	**7.3**	0.49	0.82	117	3.4	15.5	**9.4**	0.69	0.92	*C43*
Other skin	919		129.4	**59.8**	2.87	7.04	813		107.8	**41.8**	2.30	4.66	*C44*
Mesothelioma	13	0.3	1.8	**0.9**	0.04	0.11	4	0.1	0.5	**0.2**	0.01	0.03	*C45*
Kaposi sarcoma	9	0.2	1.3	**0.7**	0.05	0.07	1	0.0	0.1	**0.2**	0.01	0.01	*C46*
Connective and soft tissue	24	0.5	3.4	**2.0**	0.14	0.19	13	0.4	1.7	**0.9**	0.05	0.11	*C47+C49*
Breast	10	0.2	1.4	**0.5**	0.02	0.06	862	24.8	114.3	**64.3**	4.78	7.08	*C50*
Vulva							30	0.9	4.0	**1.1**	0.04	0.12	*C51*
Vagina							10	0.3	1.3	**0.5**	0.04	0.05	*C52*
Cervix uteri							53	1.5	7.0	**4.7**	0.38	0.46	*C53*
Corpus uteri							187	5.4	24.8	**11.4**	0.79	1.43	*C54*
Uterus unspecified							18	0.5	2.4	**0.8**	0.04	0.11	*C55*
Ovary							146	4.2	19.4	**10.5**	0.78	1.21	*C56*
Other female genital organs							4	0.1	0.5	**0.3**	0.02	0.04	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	10	0.2	1.4	**0.6**	0.01	0.07							*C60*
Prostate	687	15.6	96.7	**37.4**	0.98	4.59							*C61*
Testis	31	0.7	4.4	**4.0**	0.31	0.31							*C62*
Other male genital organs	1	0.0	0.1	**0.0**	0.00	0.00							*C63*
Kidney	150	3.4	21.1	**11.1**	0.71	1.26	99	2.9	13.1	**6.2**	0.40	0.78	*C64*
Renal pelvis	6	0.1	0.8	**0.4**	0.01	0.05	1	0.0	0.1	**0.0**	0.00	0.00	*C65*
Ureter	6	0.1	0.8	**0.4**	0.02	0.06	0	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	484	11.0	68.2	**30.8**	1.49	4.02	111	3.2	14.7	**6.0**	0.28	0.71	*C67*
Other urinary organs	2	0.0	0.3	**0.2**	0.01	0.02	1	0.0	0.1	**0.1**	0.01	0.01	*C68*
Eye	10	0.2	1.4	**0.9**	0.04	0.09	3	0.1	0.4	**0.1**	0.00	0.01	*C69*
Brain, nervous system	79	1.8	11.1	**6.8**	0.40	0.70	50	1.4	6.6	**3.2**	0.15	0.42	*C70-72*
Thyroid	32	0.7	4.5	**2.8**	0.21	0.28	76	2.2	10.1	**7.8**	0.61	0.70	*C73*
Adrenal gland	2	0.0	0.3	**0.2**	0.02	0.02	3	0.1	0.4	**0.2**	0.03	0.03	*C74*
Other endocrine	1	0.0	0.1	**0.1**	0.00	0.01	1	0.0	0.1	**0.2**	0.01	0.01	*C75*
Hodgkin disease	23	0.5	3.2	**2.5**	0.18	0.23	25	0.7	3.3	**3.2**	0.20	0.24	*C81*
Non-Hodgkin lymphoma	143	3.2	20.1	**11.4**	0.70	1.29	140	4.0	18.6	**9.6**	0.60	1.03	*C82-85,C96*
Immunoproliferative diseases	2	0.0	0.3	**0.1**	0.00	0.03	1	0.0	0.1	**0.0**	0.00	0.00	*C88*
Multiple myeloma	48	1.1	6.8	**3.3**	0.19	0.39	50	1.4	6.6	**2.6**	0.11	0.35	*C90*
Lymphoid leukaemia	56	1.3	7.9	**5.4**	0.27	0.53	50	1.4	6.6	**4.4**	0.22	0.38	*C91*
Myeloid leukaemia	39	0.9	5.5	**3.3**	0.22	0.28	28	0.8	3.7	**1.8**	0.10	0.21	*C92-94*
Leukaemia unspecified	16	0.4	2.3	**1.3**	0.10	0.14	14	0.4	1.9	**0.6**	0.04	0.06	*C95*
Other and unspecified	153	3.5	21.5	**9.1**	0.37	0.85	117	3.4	15.5	**5.1**	0.21	0.50	*O&U*
All sites	5329		750.5	**353.1**	17.49	42.22	4286		568.1	**261.3**	16.38	28.97	*ALL*
All sites but C44	4410	100.0	621.0	**293.2**	14.62	35.18	3473	100.0	460.3	**219.5**	14.08	24.32	*ALLbC44*

§Includes 1 case of unknown age

Italy, Modena Province

Registration area

The area covered by the registry is the whole province of Modena, which is one of the nine provinces of the region of Emilia Romagna in northern Italy. It borders the provinces of Bologna to the east, of Lucca and Pistoia along the Apennines to the south, of Reggio Emilia to the west and of Mantua and Ferrara to the north. It is located between latitudes 44° and 44° N and longitudes 10° and 11° E. The total area is 2690 km^2. The population on 31 December 1997 numbered 616 585 (density 229 inhabitants per km^2).

The province is divided into 47 municipalities, of which only two have 30 000–100 000 inhabitants and one more than 100 000. The one municipality with a population greater than 100 000 is Modena (175 013 inhabitants in 1997).

The weather in spring and autumn is wet and mild; summer is dry and hot, while winter is wet and cold, with occasional snow. The relative humidity is fairly high.

Registry structure and methods

The Modena Cancer Registriy (MCR) was established in 1988. It is supported by the Regione Emilia Romagna, the Azienda USL di Modena and the Associazione Angela Serra per la Ricerca sul Cancro.

The MCR is located at the Department of Oncology and Haematology of the University of Modena and Reggio Emilia. The registry collects data on to all malignant tumours diagnosed in residents of the province of Modena.

The registry staff collects a copy of discharge forms for each patient suffering from a malignant tumour from the general hospital's clinical files. Information is usually collected through meticulous examination of all admission and discharge forms. Information is received from the Oncology Department and the Radiotherapy Institute of the University of Modena and Reggio Emilia. Information is also received from records concerning residents of the province of Modena discharged by all public or private hospitals in Italy.

The MCR staff also checks records at the Dermatology Department and the archives of private hospitals of the province. The pathology services of the University of Modena supply a list of all malignant tumours diagnosed histologically and their origin. In addition, the Public Health Services of the province supply a file stating whether or not death was caused by cancer. All the information concerning a single tumour is coded, and entered into a computer.

Since 1994 information on survival of all cases of malignant tumours registered has been periodically brought up to date by the General Registries Offices of the various municipalities in the province, allowing the calculation of survival rates.

The registry staff periodically cross-check records on deaths from malignant tumours in the Province of Modena, in order to identify cases not previously reported.

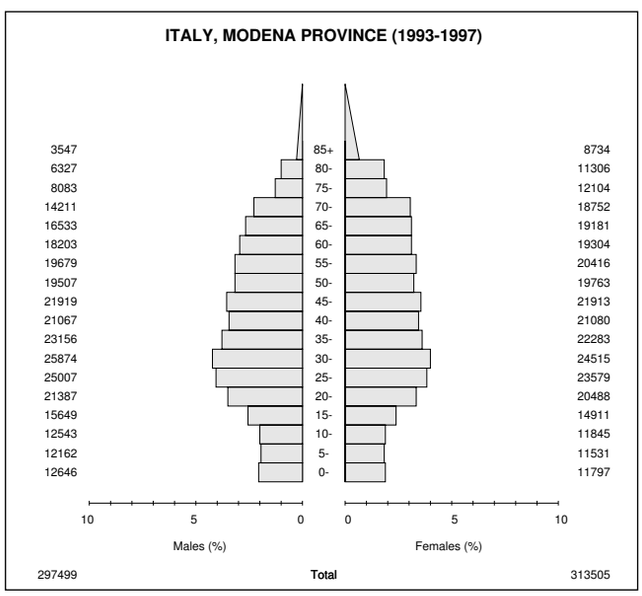
Since 1994 the stage of breast tumour has been consistently recorded.

Doubtful cases are periodically considered by a scientific committee of different specialists.

Whenever new elements appear to confirm the malignancy of a tumour, the case is recorded and included among incident cases.

Interpretation of the results

The population aged 50–69 has been screened for breast cancer since 1995. The population aged 25–64 has been screened for cervical cancer since 1996.



Source of population

Annual estimates based on the 1991 census, taking into account births, deaths and migration, produced by the Ufficio Sistemi Statistici Regione (Regional Office of the National Institute of Statistics – ISTAT).

ITALY, MODENA PROVINCE (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	3	0.0	0.2	**0.1**	0.00	0.01	2	0.0	0.1	**0.1**	0.01	0.01	*C00*
Tongue	29	0.3	1.9	**1.1**	0.08	0.16	10	0.1	0.6	**0.3**	0.02	0.03	*C01-02*
Mouth	33	0.4	2.2	**1.3**	0.08	0.18	12	0.2	0.8	**0.4**	0.03	0.05	*C03-06*
Salivary glands	20	0.2	1.3	**0.7**	0.05	0.09	17	0.2	1.1	**0.5**	0.03	0.06	*C07-08*
Tonsil	32	0.4	2.2	**1.2**	0.10	0.15	6	0.1	0.4	**0.2**	0.02	0.02	*C09*
Other oropharynx	4	0.0	0.3	**0.2**	0.01	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	18	0.2	1.2	**0.7**	0.05	0.08	6	0.1	0.4	**0.2**	0.02	0.02	*C11*
Hypopharynx	19	0.2	1.3	**0.7**	0.04	0.09	4	0.1	0.3	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	7	0.1	0.5	**0.3**	0.02	0.03	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	52	0.6	3.5	**1.8**	0.11	0.21	24	0.3	1.5	**0.5**	0.03	0.07	*C15*
Stomach	662	7.4	44.5	**20.6**	0.74	2.24	449	5.9	28.6	**9.5**	0.39	0.95	*C16*
Small intestine	37	0.4	2.5	**1.4**	0.08	0.17	27	0.4	1.7	**0.8**	0.04	0.10	*C17*
Colon	805	9.1	54.1	**26.7**	1.38	3.22	710	9.4	45.3	**17.9**	0.94	2.08	*C18*
Rectum	343	3.9	23.1	**11.2**	0.53	1.34	246	3.2	15.7	**6.2**	0.33	0.72	*C19-20*
Anus	9	0.1	0.6	**0.3**	0.02	0.04	23	0.3	1.5	**0.6**	0.04	0.05	*C21*
Liver	331	3.7	22.3	**10.6**	0.47	1.39	190	2.5	12.1	**4.1**	0.12	0.50	*C22*
Gallbladder etc.	55	0.6	3.7	**1.6**	0.05	0.17	126	1.7	8.0	**2.9**	0.13	0.36	*C23-24*
Pancreas	238	2.7	16.0	**7.9**	0.41	0.98	237	3.1	15.1	**5.5**	0.30	0.63	*C25*
Nose, sinuses etc.	9	0.1	0.6	**0.3**	0.02	0.04	7	0.1	0.4	**0.1**	0.00	0.02	*C30-31*
Larynx	223	2.5	15.0	**8.2**	0.49	1.14	25	0.3	1.6	**0.8**	0.05	0.09	*C32*
Trachea, bronchus and lung	1882	21.2	126.5	**64.0**	3.17	8.43	385	5.1	24.6	**10.7**	0.59	1.33	*C33-34*
Other thoracic organs	21	0.2	1.4	**0.8**	0.06	0.12	19	0.3	1.2	**0.5**	0.03	0.07	*C37-38*
Bone	14	0.2	0.9	**0.9**	0.06	0.07	8	0.1	0.5	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	167	1.9	11.2	**6.9**	0.48	0.75	175	2.3	11.2	**7.2**	0.54	0.71	*C43*
Other skin	1587		106.7	**53.2**	2.56	6.07	1217		77.6	**32.5**	1.85	3.48	*C44*
Mesothelioma	18	0.2	1.2	**0.8**	0.07	0.09	4	0.1	0.3	**0.2**	0.01	0.02	*C45*
Kaposi sarcoma	30	0.3	2.0	**1.3**	0.09	0.10	15	0.2	1.0	**0.4**	0.03	0.05	*C46*
Connective and soft tissue	33	0.4	2.2	**1.4**	0.12	0.15	40	0.5	2.6	**1.3**	0.07	0.15	*C47+C49*
Breast	15	0.2	1.0	**0.5**	0.03	0.06	2189	28.8	139.6	**77.3**	5.66	8.84	*C50*
Vulva							48	0.6	3.1	**1.0**	0.03	0.10	*C51*
Vagina							18	0.2	1.1	**0.4**	0.02	0.05	*C52*
Cervix uteri							173	2.3	11.0	**6.6**	0.50	0.67	*C53*
Corpus uteri							374	4.9	23.9	**11.8**	0.82	1.50	*C54*
Uterus unspecified							4	0.1	0.3	**0.1**	0.00	0.01	*C55*
Ovary							319	4.2	20.4	**10.6**	0.77	1.14	*C56*
Other female genital organs							16	0.2	1.0	**0.4**	0.03	0.04	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	11	0.1	0.7	**0.4**	0.02	0.05							*C60*
Prostate	1114	12.5	74.9	**33.1**	0.90	4.12							*C61*
Testis	82	0.9	5.5	**4.4**	0.34	0.36							*C62*
Other male genital organs	8	0.1	0.5	**0.3**	0.03	0.03							*C63*
Kidney	311	3.5	20.9	**11.4**	0.71	1.41	180	2.4	11.5	**5.4**	0.33	0.64	*C64*
Renal pelvis	19	0.2	1.3	**0.7**	0.03	0.10	5	0.1	0.3	**0.2**	0.02	0.02	*C65*
Ureter	21	0.2	1.4	**0.7**	0.03	0.10	6	0.1	0.4	**0.2**	0.01	0.02	*C66*
Bladder	886	10.0	59.6	**29.6**	1.41	3.84	239	3.1	15.2	**6.2**	0.33	0.75	*C67*
Other urinary organs	5	0.1	0.3	**0.2**	0.02	0.02	3	0.0	0.2	**0.1**	0.00	0.01	*C68*
Eye	8	0.1	0.5	**0.4**	0.03	0.04	1	0.0	0.1	**0.0**	0.00	0.00	*C69*
Brain, nervous system	145	1.6	9.7	**6.5**	0.44	0.69	106	1.4	6.8	**4.8**	0.31	0.45	*C70-72*
Thyroid	54	0.6	3.6	**2.6**	0.20	0.24	191	2.5	12.2	**8.4**	0.67	0.85	*C73*
Adrenal gland	10	0.1	0.7	**0.8**	0.04	0.05	7	0.1	0.4	**0.5**	0.03	0.04	*C74*
Other endocrine	2	0.0	0.1	**0.1**	0.00	0.01	3	0.0	0.2	**0.1**	0.01	0.01	*C75*
Hodgkin disease	39	0.4	2.6	**2.0**	0.14	0.18	52	0.7	3.3	**2.7**	0.20	0.22	*C81*
Non-Hodgkin lymphoma	401	4.5	27.0	**15.8**	0.90	1.70	330	4.3	21.1	**10.4**	0.61	1.15	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	148	1.7	9.9	**4.9**	0.23	0.55	138	1.8	8.8	**3.2**	0.16	0.40	*C90*
Lymphoid leukaemia	118	1.3	7.9	**5.1**	0.25	0.53	75	1.0	4.8	**3.3**	0.18	0.29	*C91*
Myeloid leukaemia	121	1.4	8.1	**4.2**	0.22	0.44	86	1.1	5.5	**2.7**	0.17	0.30	*C92-94*
Leukaemia unspecified	3	0.0	0.2	**0.2**	0.01	0.01	5	0.1	0.3	**0.1**	0.00	0.01	*C95*
Other and unspecified	274	3.1	18.4	**8.5**	0.31	0.89	253	3.3	16.1	**5.2**	0.21	0.53	*O&U*
All sites	10476		704.3	**358.5**	17.62	42.95	8805		561.7	**265.6**	16.73	29.65	*ALL*
All sites but C44	8889	100.0	597.6	**305.3**	15.05	36.88	7588	100.0	484.1	**233.2**	14.88	26.17	*ALLbC44*

Italy, North East Cancer Surveillance Network

Registration area

This large area in the northeast of Italy is made up of two distinct parts. The first consists of a mountainous area, where approximately 50% of the population lives in urban areas, and an eastern area bordered by the Adriatic sea in the Padanian Valley, largely industrialized, with 80% of the population living in urban areas. In the province of Bolzano 68% of the population are German-speaking. Levels of unemployment range from 2.7% to 6%.

Cancer care facilities

The territory is subdivided into 11 health units of variable size, being smaller in the mountainous area. Hospital services are provided by 35 public hospitals and 16 private clinics. Cancer patients are generally treated in the oncology and radiotherapy departments, which are uniformly distributed throughout the territory. A proportion of cancer patients is also treated outside the region.

Registry structure and methods

The North East Italy Cancer Surveillance Network (NEICSN) is a collaborative network of three different cancer registration administrative units, Azienda Sanitaria di Bolzano, Registro Tumori dell'Alto Adige-Tumorregister Sud Tirol, Corso Italia 13/M, Bolzano; Agenzia Regionale della Sanità, Udine; Azienda Provinciale per I Servizi Sanitari, Osservatorio epidemiologico, via Gilli 2, Trento. Each has adopted the same approach based on automated registration methodology. The objective was to produce comparable cancer incidence estimates for a large population by using the same methodology, sharing the same expertise and resources, with the main interest on cancer surveillance and control. The project includes the provinces of Trento (population 454 649 on 31/12/1996), Bolzano (451 563 on 1/1/1996) and the Region of Friuli-Venezia Giulia (1 186 617 on 31/12/1996), all three located in the north-east part of Italy. The incidence data presented here have been ascertained using the automated cancer registration (ACR) methodology which was first applied to the Venetian Cancer Registry. Basically it implies availability of computerized and coded (ICD and SNOMED) diagnoses of cancer from the pathology departments, hospital archives, and population offices (the latter for population files and death certificates). The process is carried out through record linkage operations including summarizing of computerized records, ascertainment of prevalent cases, case consolidation, etc.

The total number of original records treated by the automated process was 7 084 584 for the period 1995–98, of which approximately 1/7 concerned cancer cases. The availability of computerized records before 1995 was not homogeneous across the three areas. The overall efficiency of the system is about 60% at present, so some two-thirds of incident cases are registered by the automated process.

The registry, which has operated since 1984 in the area of Trieste, has been incorporated into the Friuli-Venezia-Giulia registry. The latter region and the Trento Province have activated ACR, while traditional cancer registration based on passive collection of cancer forms prepared by pathologists, medical personnel in the hospitals, general practitioners, etc., operated in the province of Bolzano.

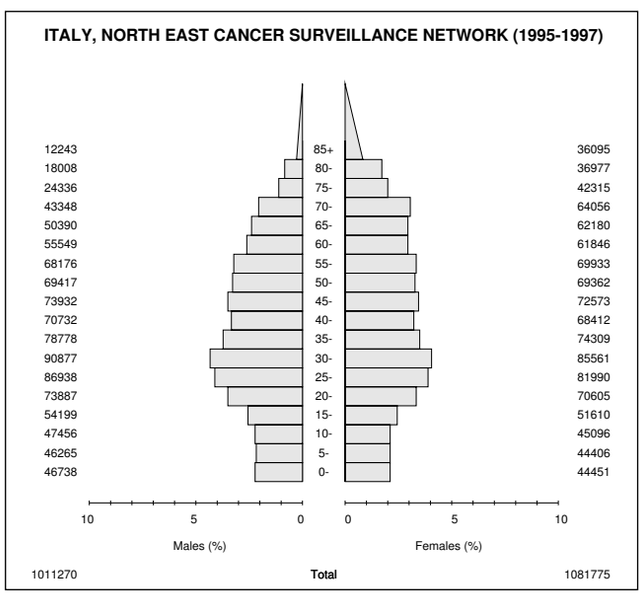
The ACR process has been carried out in parallel to the existing system, with the purpose of comparing the performances of the two systems.

Interpreting the results

Several analytical studies conducted on the residents of the Friuli-Venezia-Giulia area have shown cancer excesses associated with personal habits such as cigarette smoking and alcohol consumption, occupational exposures, for example to asbestos, asbestos deriving from the shipbuilding industry, and air pollution. The pattern is different for the population living in the mountainous area, which is far less urbanized and industrialized and which has lower cancer rates.

Use of the data

Cancer surveillance and planning more efficient control of cancer in this area is the main task of the cancer registry.



Source of population

Annual estimates based on the 1991 census, taking into account births, deaths and migration, produced by the Ufficio Sistemi Statistici (National institute of Statistics – ISTAT).

† C44 does not include basal cell carcinoma.

ITALY, NORTH EAST CANCER SURVEILLANCE NETWORK (1995-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	130	0.6	4.3	**2.1**	0.07	0.24	30	0.2	0.9	**0.2**	0.01	0.02	*C00*
Tongue	152	0.7	5.0	**3.0**	0.20	0.35	57	0.3	1.8	**0.8**	0.04	0.09	*C01-02*
Mouth	252	1.2	8.3	**5.0**	0.34	0.59	87	0.5	2.7	**1.2**	0.08	0.13	*C03-06*
Salivary glands	50	0.2	1.6	**1.0**	0.05	0.10	27	0.2	0.8	**0.5**	0.03	0.05	*C07-08*
Tonsil	69	0.3	2.3	**1.4**	0.09	0.18	27	0.2	0.8	**0.5**	0.04	0.06	*C09*
Other oropharynx	83	0.4	2.7	**1.7**	0.11	0.22	11	0.1	0.3	**0.3**	0.03	0.03	*C10*
Nasopharynx	29	0.1	1.0	**0.6**	0.04	0.07	15	0.1	0.5	**0.2**	0.01	0.03	*C11*
Hypopharynx	196	1.0	6.5	**4.1**	0.34	0.51	20	0.1	0.6	**0.3**	0.03	0.04	*C12-13*
Pharynx unspecified	99	0.5	3.3	**2.1**	0.16	0.25	21	0.1	0.6	**0.3**	0.02	0.04	*C14*
Oesophagus	513	2.5	16.9	**9.9**	0.64	1.21	120	0.7	3.7	**1.5**	0.09	0.18	*C15*
Stomach	1170	5.7	38.6	**19.8**	0.82	2.31	1013	5.7	31.2	**10.9**	0.49	1.20	*C16*
Small intestine	58	0.3	1.9	**1.1**	0.07	0.13	64	0.4	2.0	**0.8**	0.05	0.09	*C17*
Colon	1822	8.9	60.1	**31.5**	1.43	3.72	1665	9.4	51.3	**19.8**	1.05	2.26	*C18*
Rectum	739	3.6	24.4	**13.2**	0.67	1.59	600	3.4	18.5	**6.9**	0.36	0.76	*C19-20*
‡Anus	57	0.3	1.9	**1.0**	0.04	0.11	101	0.6	3.1	**1.1**	0.06	0.11	*C21*
Liver	1000	4.9	33.0	**17.9**	0.89	2.34	381	2.1	11.7	**3.9**	0.15	0.46	*C22*
Gallbladder etc.	183	0.9	6.0	**3.1**	0.13	0.33	333	1.9	10.3	**3.4**	0.14	0.39	*C23-24*
Pancreas	614	3.0	20.2	**10.7**	0.49	1.23	622	3.5	19.2	**6.6**	0.27	0.76	*C25*
Nose, sinuses etc.	35	0.2	1.2	**0.7**	0.05	0.07	19	0.1	0.6	**0.3**	0.01	0.03	*C30-31*
Larynx	676	3.3	22.3	**13.0**	0.79	1.68	70	0.4	2.2	**1.1**	0.07	0.13	*C32*
Trachea, bronchus and lung	3177	15.5	104.7	**56.3**	2.49	7.20	927	5.2	28.6	**11.3**	0.58	1.37	*C33-34*
Other thoracic organs	28	0.1	0.9	**0.6**	0.04	0.07	29	0.2	0.9	**0.5**	0.02	0.05	*C37-38*
Bone	29	0.1	1.0	**0.7**	0.04	0.05	25	0.1	0.8	**0.6**	0.03	0.05	*C40-41*
Melanoma of skin	441	2.2	14.5	**9.2**	0.65	0.99	520	2.9	16.0	**9.9**	0.71	1.00	*C43*
†Other skin	3470		114.4	**60.8**	2.79	6.86	3287		101.3	**41.8**	2.32	4.62	*C44*
Mesothelioma	133	0.7	4.4	**2.4**	0.12	0.29	34	0.2	1.0	**0.5**	0.03	0.05	*C45*
Kaposi sarcoma	34	0.2	1.1	**0.7**	0.05	0.07	16	0.1	0.5	**0.2**	0.02	0.02	*C46*
Connective and soft tissue	101	0.5	3.3	**2.4**	0.14	0.21	89	0.5	2.7	**1.6**	0.10	0.16	*C47+C49*
Breast	39	0.2	1.3	**0.7**	0.04	0.09	4794	27.0	147.7	**79.2**	5.77	8.87	*C50*
Vulva							154	0.9	4.7	**1.5**	0.05	0.15	*C51*
Vagina							41	0.2	1.3	**0.5**	0.02	0.05	*C52*
Cervix uteri							378	2.1	11.6	**7.3**	0.57	0.76	*C53*
Corpus uteri							844	4.8	26.0	**13.3**	0.97	1.62	*C54*
Uterus unspecified							116	0.7	3.6	**1.7**	0.12	0.18	*C55*
Ovary							500	2.8	15.4	**8.4**	0.60	0.94	*C56*
Other female genital organs							188	1.1	5.8	**2.4**	0.13	0.26	*C57*
Placenta							6	0.0	0.2	**0.2**	0.01	0.01	*C58*
Penis	40	0.2	1.3	**0.7**	0.04	0.08							*C60*
Prostate	3224	15.8	106.3	**51.6**	1.47	6.45							*C61*
Testis	140	0.7	4.6	**3.9**	0.28	0.29							*C62*
Other male genital organs	17	0.1	0.6	**0.3**	0.01	0.03							*C63*
Kidney	561	2.7	18.5	**10.8**	0.69	1.29	329	1.9	10.1	**5.1**	0.32	0.60	*C64*
Renal pelvis	30	0.1	1.0	**0.5**	0.03	0.07	24	0.1	0.7	**0.2**	0.01	0.02	*C65*
Ureter	35	0.2	1.2	**0.6**	0.02	0.08	32	0.2	1.0	**0.4**	0.01	0.04	*C66*
Bladder	1763	8.6	58.1	**30.6**	1.34	3.74	567	3.2	17.5	**6.5**	0.31	0.75	*C67*
Other urinary organs	168	0.8	5.5	**2.8**	0.09	0.29	88	0.5	2.7	**0.9**	0.04	0.10	*C68*
Eye	24	0.1	0.8	**0.5**	0.02	0.06	23	0.1	0.7	**0.6**	0.03	0.05	*C69*
Brain, nervous system	297	1.5	9.8	**6.7**	0.42	0.66	295	1.7	9.1	**5.4**	0.35	0.57	*C70-72*
Thyroid	112	0.5	3.7	**2.3**	0.16	0.22	384	2.2	11.8	**8.1**	0.62	0.82	*C73*
Adrenal gland	16	0.1	0.5	**0.7**	0.03	0.04	11	0.1	0.3	**0.2**	0.02	0.02	*C74*
Other endocrine	9	0.0	0.3	**0.2**	0.01	0.01	8	0.0	0.2	**0.2**	0.01	0.01	*C75*
Hodgkin disease	81	0.4	2.7	**2.5**	0.16	0.19	91	0.5	2.8	**2.6**	0.17	0.19	*C81*
Non-Hodgkin lymphoma	660	3.2	21.8	**13.1**	0.77	1.45	679	3.8	20.9	**9.9**	0.58	1.12	*C82-85,C96*
Immunoproliferative diseases	4	0.0	0.1	**0.1**	0.00	0.01	1	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	217	1.1	7.2	**3.8**	0.18	0.47	225	1.3	6.9	**2.7**	0.12	0.34	*C90*
Lymphoid leukaemia	225	1.1	7.4	**5.2**	0.23	0.44	186	1.0	5.7	**3.2**	0.15	0.25	*C91*
Myeloid leukaemia	204	1.0	6.7	**4.0**	0.19	0.41	197	1.1	6.1	**3.1**	0.17	0.29	*C92-94*
Leukaemia unspecified	20	0.1	0.7	**0.4**	0.01	0.03	23	0.1	0.7	**0.4**	0.02	0.03	*C95*
Other and unspecified	691	3.4	22.8	**11.8**	0.50	1.34	621	3.5	19.1	**6.1**	0.25	0.59	*O&U*
All sites	23917		788.3	**429.9**	20.45	50.73	21015		647.5	**297.0**	18.27	32.81	*ALL*
All sites but C44	20447	100.0	674.0	**369.1**	17.66	43.87	17728	100.0	546.3	**255.2**	15.95	28.19	*ALLbC44*
	‡38.6% of cases are anorectal tumours						‡43.6% of cases are anorectal tumours						

†See note following population pyramid

Italy, Parma Province

Registration area

The total registration area covers 34 449 km² (44% mountains, 31% hills, 25% plains) subdivided into 47 municipalities. It lies between latitudes 44° and 45° N and longitudes 9° and 10° E. The altitude ranges from 20 to 1861 m above sea level, while the average annual temperature is 13.6° C, relative humidity is 67% and precipitation level is 713 mm.

On 1 January 1993 the province had a population of 392 107, and five years later 393 963, a rise due to the increase in the population aged over 80 years.

In the middle of the period, the main occupational groups of the total employed population were industry 32.4 %, agriculture 7.4 %, tertiary 60.1%, including commerce, which accounted for 16.3 %.

Cancer care facilities

The organization of the hospitals in the province (one main general university hospital, two small public hospitals and three private ones) is such that only a minimal number of cases go to external health structures. The Hospital of Parma houses a Division of Medical Oncology (including a section for cytopathological diagnosis) and a Radiotherapy Service.

Registry structure and methods

Parma Cancer Registry (PCR) was founded in 1976 in the Medical Oncology Division of the local hospital, and started official registration on 1 January 1978.

The staff consists of a medical doctor as Director, a statistician as data manager, one health nurse and two biologists with the task of collecting and entering data.

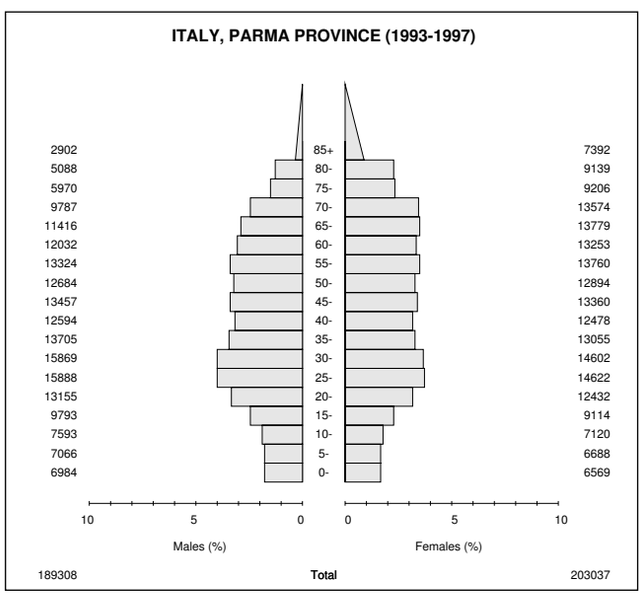
The basic information on new cases is obtained from the diagnosis reported on the discharge forms from public hospitals and private clinics, oncological out-patient clinics, day-hospitals, death certificates, and from the archive of the public pathology service. Since 1992 there has also been active collaboration with the private pathology service.

Interpreting the results

The registry carries out continuous collection of data regarding incidence and mortality of the resident population; moreover PCR continues to register and correct data diagnosed in previous years. Consequently, previously published statistics could slightly differ from the latest news about the same year, resulting from late reporting.

Use of the data

In addition to producing data on cancer incidence in the area, the PCR is carrying out studies on survival, using the information obtained through direct access to the health registry files of the Province and integrating data with the Registry Office of the district.



Source of population

Annual estimates based on the 1991 census, taking into account births, deaths and migration, produced by the Ufficio Sistemi Statistici (National institute of Statistics – ISTAT).

ITALY, PARMA PROVINCE (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	7	0.1	0.7	**0.3**	0.01	0.05	2	0.0	0.2	**0.0**	0.00	0.00	*C00*
Tongue	37	0.6	3.9	**2.4**	0.17	0.27	16	0.3	1.6	**0.7**	0.04	0.07	*C01-02*
Mouth	36	0.6	3.8	**2.4**	0.18	0.28	19	0.3	1.9	**0.9**	0.07	0.09	*C03-06*
Salivary glands	12	0.2	1.3	**0.6**	0.04	0.08	15	0.3	1.5	**0.9**	0.07	0.09	*C07-08*
Tonsil	25	0.4	2.6	**1.4**	0.10	0.18	0	0.0	0.0	**0.0**	0.00	0.00	*C09*
Other oropharynx	16	0.2	1.7	**1.0**	0.09	0.12	3	0.1	0.3	**0.1**	0.01	0.01	*C10*
Nasopharynx	14	0.2	1.5	**1.1**	0.08	0.11	0	0.0	0.0	**0.0**	0.00	0.00	*C11*
Hypopharynx	36	0.6	3.8	**2.3**	0.21	0.26	4	0.1	0.4	**0.1**	0.00	0.01	*C12-13*
Pharynx unspecified	5	0.1	0.5	**0.3**	0.03	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	74	1.1	7.8	**4.0**	0.25	0.52	28	0.5	2.8	**1.0**	0.04	0.11	*C15*
Stomach	588	9.1	62.1	**26.7**	1.23	2.98	466	8.2	45.9	**13.5**	0.56	1.47	*C16*
Small intestine	13	0.2	1.4	**0.6**	0.03	0.06	17	0.3	1.7	**0.7**	0.05	0.07	*C17*
Colon	577	8.9	61.0	**27.0**	1.43	3.10	509	8.9	50.1	**17.9**	0.99	2.03	*C18*
Rectum	261	4.0	27.6	**12.9**	0.72	1.60	199	3.5	19.6	**7.5**	0.49	0.91	*C19-20*
Anus	14	0.2	1.5	**0.7**	0.03	0.07	21	0.4	2.1	**0.8**	0.04	0.12	*C21*
Liver	404	6.2	42.7	**19.6**	0.96	2.48	195	3.4	19.2	**6.6**	0.31	0.84	*C22*
Gallbladder etc.	72	1.1	7.6	**3.0**	0.12	0.33	88	1.5	8.7	**2.4**	0.07	0.27	*C23-24*
Pancreas	221	3.4	23.3	**10.3**	0.54	1.21	204	3.6	20.1	**5.8**	0.23	0.66	*C25*
Nose, sinuses etc.	10	0.2	1.1	**0.6**	0.03	0.09	1	0.0	0.1	**0.0**	0.00	0.00	*C30-31*
Larynx	156	2.4	16.5	**8.6**	0.59	1.15	12	0.2	1.2	**0.7**	0.06	0.07	*C32*
Trachea, bronchus and lung	1211	18.7	127.9	**59.7**	3.15	7.83	275	4.8	27.1	**9.9**	0.59	1.21	*C33-34*
Other thoracic organs	5	0.1	0.5	**0.2**	0.01	0.02	1	0.0	0.1	**0.0**	0.00	0.00	*C37-38*
Bone	13	0.2	1.4	**1.2**	0.10	0.10	10	0.2	1.0	**0.8**	0.04	0.04	*C40-41*
Melanoma of skin	75	1.2	7.9	**4.7**	0.29	0.46	86	1.5	8.5	**5.2**	0.39	0.50	*C43*
Other skin	446		47.1	**19.4**	0.80	2.13	334		32.9	**10.6**	0.56	1.11	*C44*
Mesothelioma	24	0.4	2.5	**1.1**	0.06	0.14	16	0.3	1.6	**0.6**	0.03	0.07	*C45*
Kaposi sarcoma	17	0.3	1.8	**1.1**	0.08	0.09	2	0.0	0.2	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	39	0.6	4.1	**3.3**	0.17	0.28	30	0.5	3.0	**1.6**	0.09	0.17	*C47+C49*
Breast	18	0.3	1.9	**1.0**	0.07	0.13	1577	27.7	155.3	**82.7**	6.26	9.28	*C50*
Vulva							38	0.7	3.7	**1.0**	0.04	0.12	*C51*
Vagina							5	0.1	0.5	**0.2**	0.01	0.02	*C52*
Cervix uteri							107	1.9	10.5	**6.0**	0.45	0.65	*C53*
Corpus uteri							311	5.5	30.6	**15.0**	1.13	1.81	*C54*
Uterus unspecified							20	0.4	2.0	**0.5**	0.02	0.04	*C55*
Ovary							223	3.9	22.0	**10.6**	0.73	1.17	*C56*
Other female genital organs							8	0.1	0.8	**0.3**	0.02	0.02	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	8	0.1	0.8	**0.4**	0.02	0.04							*C60*
Prostate	716	11.0	75.6	**29.3**	0.96	3.48							*C61*
Testis	40	0.6	4.2	**3.9**	0.27	0.29							*C62*
Other male genital organs	1	0.0	0.1	**0.1**	0.01	0.01							*C63*
Kidney	204	3.1	21.6	**11.3**	0.75	1.32	121	2.1	11.9	**4.8**	0.31	0.57	*C64*
Renal pelvis	25	0.4	2.6	**1.2**	0.06	0.18	9	0.2	0.9	**0.3**	0.01	0.04	*C65*
Ureter	11	0.2	1.2	**0.5**	0.02	0.06	4	0.1	0.4	**0.1**	0.00	0.01	*C66*
Bladder	679	10.5	71.7	**33.0**	1.61	4.13	195	3.4	19.2	**6.8**	0.41	0.84	*C67*
Other urinary organs	6	0.1	0.6	**0.3**	0.02	0.02	2	0.0	0.2	**0.1**	0.01	0.01	*C68*
Eye	9	0.1	1.0	**0.8**	0.05	0.06	11	0.2	1.1	**0.4**	0.02	0.05	*C69*
Brain, nervous system	116	1.8	12.3	**8.3**	0.51	0.81	92	1.6	9.1	**4.7**	0.30	0.52	*C70-72*
Thyroid	33	0.5	3.5	**2.5**	0.20	0.24	77	1.4	7.6	**5.4**	0.41	0.52	*C73*
Adrenal gland	4	0.1	0.4	**0.3**	0.02	0.03	4	0.1	0.4	**0.3**	0.03	0.03	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	18	0.3	1.9	**1.4**	0.11	0.12	29	0.5	2.9	**2.9**	0.19	0.22	*C81*
Non-Hodgkin lymphoma	224	3.5	23.7	**12.3**	0.74	1.33	241	4.2	23.7	**10.5**	0.61	1.19	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	125	1.9	13.2	**6.2**	0.38	0.70	100	1.8	9.9	**3.2**	0.16	0.36	*C90*
Lymphoid leukaemia	85	1.3	9.0	**5.9**	0.34	0.52	56	1.0	5.5	**3.0**	0.16	0.26	*C91*
Myeloid leukaemia	76	1.2	8.0	**4.3**	0.26	0.43	68	1.2	6.7	**2.9**	0.16	0.28	*C92-94*
Leukaemia unspecified	25	0.4	2.6	**1.3**	0.06	0.14	23	0.4	2.3	**0.9**	0.03	0.08	*C95*
Other and unspecified	107	1.6	11.3	**4.6**	0.20	0.45	158	2.8	15.6	**3.8**	0.13	0.36	*O&U*
All sites	6938		733.0	**345.3**	18.17	40.48	6032		594.2	**254.6**	16.35	28.40	*ALL*
All sites but C44	6492	100.0	685.9	**326.0**	17.37	38.35	5698	100.0	561.3	**244.0**	15.79	27.29	*ALLbC44*

Italy, Ragusa Province

Registration area

The Ragusa Cancer Registry (RCR) covers 12 municipalities within the province of Ragusa, in south-east Sicily. Geographically the area consists of a northern highland with altitudes ranging from 500 to 975 m, and a southern coastal plan facing the Mediterranean sea. The population at the 1991 census included 2179 immigrants, mostly from northern Africa. The population density is 181 inhabitants per km^2 and more than 95% live in small urban areas (the 1991 census showed only Ragusa city had more than 60 000 inhabitants). With the exception of the small number of immigrants, the population is mono-racial (Latin) and about 100% Christian-Catholic.

Cancer care facilities

In the area covered by RCR there is a main hospital (AOCMPA) located in Ragusa and four other public municipal hospitals, three public women's health care centres and 283 general practitioners; there were no private hospitals. AOCMPA has an oncological department, which provides cancer diagnostic facilities and chemotherapy services, and a general surgery department and a thoracic surgery department. Virtually all of the thoracic cancer patients in the registry area are referred to the thoracic surgery department while the majority of the other cancer patients are admitted or investigated in the oncological department. In the case of haematological and CNS malignancies the patients are likely to be admitted into specialized Institutes at the University of Catania (100 km distant, outside the area covered by RCR).

Despite these cancer care facilities, which should be regarded as satisfactory, especially in comparison with those in other regions of southern Italy, a high proportion of tumour-cases are likely to be diagnosed and treated in extra-regional hospitals with comprehensive cancer services (mainly in northern Italy).

Registry structure and methods

The registry is sited within AOCMPA, which supports the routine activities; RCR is funded by the Sicilian government, the Provincial government and the Ragusa section of the Italian Anti-Cancer League. The registry is staffed by two part-time pathologists, one full-time biologist and two full-time health workers; there is a variable number of field personnel (or research clerks), usually young medical doctors and biologists employed on a temporary basis.

Cancer registration is voluntary and based on active case finding. Sources of data are each of the medical records departments and clinical departments of the two branches of AOCMPA and the four municipal hospitals (for both in- and out-patients), the two local pathology laboratories, the private Computerized Axial Tomography centre (CAT), and health insurance, compensation funds or authorization to be exempted from payment. The hospitals and pathology laboratories located in neighbouring Sicilian provinces which diagnose cancer are also covered. The registry staff visit, scrutinize clinical and administrative records, abstract the information onto forms which are stored in an individual file which will include copies of histological and/or other diagnostic reports, hospital discharge forms and death certificates.

The provincial death registration office periodically provides copies of death certificates from all causes. Arrangements have been made with the other Italian cancer registries and the National Cancer Institute of Milan to notify the RCR about cancer in residents.

A pathologist evaluates and codes all cases. Checks are made for duplicates and inconsistencies or errors.

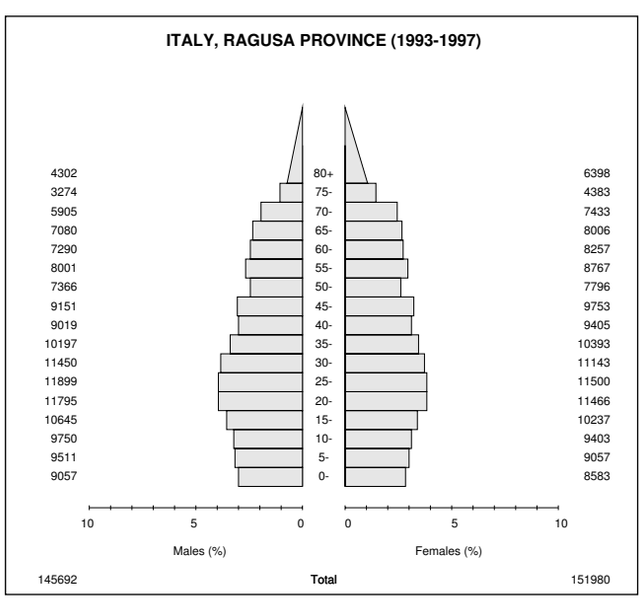
Interpreting the results

Since the introduction of Italian laws on privacy and confidentiality, the help of local general practitioners who will collect missing data has became essential. Because of these laws, the 1993–97 incidence data contain a small percentage of unclassified tumours.

A new department of thoracic surgery was established in 1994 at AOCMPA; in mid-1994 an organized screening programme for breast cancer was launched. The number of colonoscopies and PSA examinations increased during the period.

Use of the data

The main interest of RCR is to contribute to multicentre epidemiological research on cancer prevention by providing data from an area with low incidence rates, probably related to the Mediterranean dietary habit and lifestyle of the local population. Mortality and incidence data are published in collaboration with the Italian Association of Cancer Registries, and studies on prevalence and survival are in progress. The registry is a collaborating centre for the European Prospective Investigation into Cancer and Nutrition (the EPIC study) and has planned, at the request of the local Occupational Medicine Unit, some retrospective cohort studies based on linkage between workers and the registry.



Source of population

Annual estimates based on the 1991 census, taking into account births, deaths and migration, produced by the Ufficio Sistemi Statistici (National institute of Statistics – ISTAT).

Notes on the data

* The low proportion of cases with morphological confirmation suggests a degree of under-ascertainment.

*ITALY, RAGUSA PROVINCE (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	39	1.5	5.4	**3.1**	0.12	0.41	7	0.3	0.9	**0.4**	0.02	0.05	*C00*
Tongue	6	0.2	0.8	**0.5**	0.04	0.04	1	0.0	0.1	**0.0**	0.00	0.00	*C01-02*
Mouth	6	0.2	0.8	**0.6**	0.06	0.08	4	0.2	0.5	**0.2**	0.01	0.01	*C03-06*
Salivary glands	5	0.2	0.7	**0.4**	0.02	0.04	2	0.1	0.3	**0.1**	0.01	0.01	*C07-08*
Tonsil	3	0.1	0.4	**0.4**	0.04	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C09*
Other oropharynx	1	0.0	0.1	**0.1**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	9	0.3	1.2	**1.1**	0.09	0.11	5	0.2	0.7	**0.6**	0.05	0.05	*C11*
Hypopharynx	3	0.1	0.4	**0.3**	0.03	0.04	1	0.0	0.1	**0.1**	0.00	0.01	*C12-13*
Pharynx unspecified	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	29	1.1	4.0	**2.3**	0.12	0.25	4	0.2	0.5	**0.2**	0.00	0.03	*C15*
Stomach	149	5.7	20.5	**11.9**	0.62	1.39	79	3.8	10.4	**5.5**	0.32	0.63	*C16*
Small intestine	5	0.2	0.7	**0.4**	0.02	0.04	5	0.2	0.7	**0.4**	0.02	0.03	*C17*
Colon	189	7.3	25.9	**14.7**	0.72	1.78	186	8.9	24.5	**12.1**	0.62	1.31	*C18*
Rectum	142	5.5	19.5	**10.8**	0.52	1.15	96	4.6	12.6	**6.5**	0.33	0.76	*C19-20*
Anus	4	0.2	0.5	**0.3**	0.02	0.04	5	0.2	0.7	**0.3**	0.01	0.05	*C21*
Liver	144	5.5	19.8	**11.7**	0.57	1.51	46	2.2	6.1	**2.7**	0.11	0.30	*C22*
Gallbladder etc.	57	2.2	7.8	**4.6**	0.24	0.49	86	4.1	11.3	**4.8**	0.19	0.54	*C23-24*
Pancreas	78	3.0	10.7	**6.0**	0.28	0.73	57	2.7	7.5	**3.1**	0.09	0.30	*C25*
Nose, sinuses etc.	2	0.1	0.3	**0.2**	0.00	0.03	1	0.0	0.1	**0.1**	0.01	0.01	*C30-31*
Larynx	51	2.0	7.0	**4.6**	0.32	0.57	3	0.1	0.4	**0.3**	0.02	0.02	*C32*
Trachea, bronchus and lung	440	17.0	60.4	**36.9**	1.98	4.78	71	3.4	9.3	**4.6**	0.23	0.49	*C33-34*
Other thoracic organs	14	0.5	1.9	**1.1**	0.05	0.12	9	0.4	1.2	**0.5**	0.01	0.06	*C37-38*
Bone	7	0.3	1.0	**0.9**	0.06	0.09	7	0.3	0.9	**0.9**	0.04	0.07	*C40-41*
Melanoma of skin	37	1.4	5.1	**3.5**	0.23	0.40	36	1.7	4.7	**3.0**	0.21	0.31	*C43*
Other skin	574		78.8	**44.2**	1.87	5.43	320		42.1	**21.1**	1.14	2.39	*C44*
Mesothelioma	10	0.4	1.4	**1.0**	0.06	0.09	3	0.1	0.4	**0.3**	0.02	0.04	*C45*
Kaposi sarcoma	12	0.5	1.6	**0.7**	0.01	0.03	4	0.2	0.5	**0.2**	0.00	0.00	*C46*
Connective and soft tissue	11	0.4	1.5	**1.0**	0.07	0.08	13	0.6	1.7	**1.3**	0.08	0.14	*C47+C49*
Breast	8	0.3	1.1	**0.7**	0.04	0.07	584	28.0	76.9	**51.0**	3.90	5.81	*C50*
Vulva							17	0.8	2.2	**1.2**	0.06	0.13	*C51*
Vagina							3	0.1	0.4	**0.3**	0.03	0.03	*C52*
Cervix uteri							63	3.0	8.3	**5.4**	0.36	0.56	*C53*
Corpus uteri							142	6.8	18.7	**10.8**	0.69	1.44	*C54*
Uterus unspecified							24	1.2	3.2	**1.6**	0.11	0.17	*C55*
Ovary							112	5.4	14.7	**8.5**	0.51	0.99	*C56*
Other female genital organs							7	0.3	0.9	**0.5**	0.02	0.07	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	10	0.4	1.4	**1.0**	0.07	0.11							*C60*
Prostate	306	11.8	42.0	**20.1**	0.47	2.05							*C61*
Testis	13	0.5	1.8	**1.7**	0.10	0.12							*C62*
Other male genital organs	0	0.0	0.0	**0.0**	0.00	0.00							*C63*
Kidney	54	2.1	7.4	**5.6**	0.33	0.58	25	1.2	3.3	**2.4**	0.14	0.24	*C64*
Renal pelvis	5	0.2	0.7	**0.4**	0.01	0.06	3	0.1	0.4	**0.2**	0.01	0.04	*C65*
Ureter	1	0.0	0.1	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	339	13.1	46.5	**27.9**	1.46	3.29	44	2.1	5.8	**2.9**	0.13	0.38	*C67*
Other urinary organs	6	0.2	0.8	**0.5**	0.03	0.06	4	0.2	0.5	**0.3**	0.02	0.04	*C68*
Eye	5	0.2	0.7	**0.6**	0.02	0.04	2	0.1	0.3	**0.2**	0.02	0.02	*C69*
Brain, nervous system	56	2.2	7.7	**5.8**	0.43	0.60	40	1.9	5.3	**3.6**	0.22	0.39	*C70-72*
Thyroid	18	0.7	2.5	**2.1**	0.14	0.16	52	2.5	6.8	**5.5**	0.41	0.51	*C73*
Adrenal gland	4	0.2	0.5	**0.3**	0.01	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.1	**0.0**	0.00	0.00	*C75*
Hodgkin disease	18	0.7	2.5	**2.3**	0.15	0.20	22	1.1	2.9	**2.8**	0.18	0.20	*C81*
Non-Hodgkin lymphoma	82	3.2	11.3	**8.0**	0.53	0.78	50	2.4	6.6	**4.5**	0.26	0.49	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	38	1.5	5.2	**3.1**	0.18	0.31	35	1.7	4.6	**2.0**	0.08	0.23	*C90*
Lymphoid leukaemia	42	1.6	5.8	**4.3**	0.25	0.42	21	1.0	2.8	**1.7**	0.07	0.16	*C91*
Myeloid leukaemia	34	1.3	4.7	**3.2**	0.17	0.36	23	1.1	3.0	**1.9**	0.13	0.19	*C92-94*
Leukaemia unspecified	13	0.5	1.8	**1.1**	0.05	0.11	6	0.3	0.8	**0.6**	0.04	0.04	*C95*
Other and unspecified	90	3.5	12.4	**7.3**	0.36	0.80	75	3.6	9.9	**5.2**	0.29	0.52	*O&U*
All sites	3169		435.0	**259.3**	12.96	29.92	2406		316.6	**182.5**	11.26	20.26	*ALL*
All sites but C44	2595	100.0	356.2	**215.1**	11.09	24.49	2086	100.0	274.5	**161.3**	10.12	17.87	*ALLbC44*

Italy, Romagna

Registration area

The area covered by the Romagna Cancer Registry is part of the Emilia-Romagna region and is situated in the north-east of Italy. The Romagna region extends from the Adriatic sea in the east to the borders of the provinces of Bologna in the west, Ferrara in the north, Florence and Pesaro in the south. The population is fairly stable. Among residents, the prevalence of non-Caucasians as well as of foreigners is negligible. The Romagna region amounts to 4769 km^2. The south of the region (or 48% of the total surface) is hilly and sparsely populated. The area is subdivided into three Provinces (Ravenna, Forlì-Cesena, and Rimini) with a total of 68 municipalities. The population density per km^2 is 148 in the Province of Forlì-Cesena, 188 in the Province of Ravenna, and 499 in the Province of Rimini. The area is socioeconomically homogeneous. The proportion of adults employed is 60–62% for men and 44–49% for women. The unemployment rate varies between 6.1% (province of Forlì-Cesena) and 8.8% (Rimini). The industrial sector and the agricultural sector employ 29.9% and 9.6% of the active population, respectively.

Cancer care facilities

The Romagna region has 14 public (National Health Service) hospitals and 12 certified private hospitals. According to 1999 data, the total number of hospital beds is 3814 (or 3.9 per 1000 residents) with an annual number of discharges of 214 000. The number of general practitioners is 819 (or 0.94 per 1000 adult residents). Cancer care facilities in the area include medical oncology departments and centres for early detection of cancer at the hospitals of Ravenna, Forlì, Faenza, Lugo, Cesena, Rimini, and Riccione. Radiotherapy services are available at the hospitals of Ravenna and Forlì. Considerable financial support is provided for research and medical care at all of these institutions by the non-profit Istituto Oncologico Romagnolo.

Registry structure and methods

The Romagna Cancer Registry was financed by the Istituto Oncologico Romagnolo until 1995, and has been supported by the Government of the Emilia-Romagna Region since 1995.

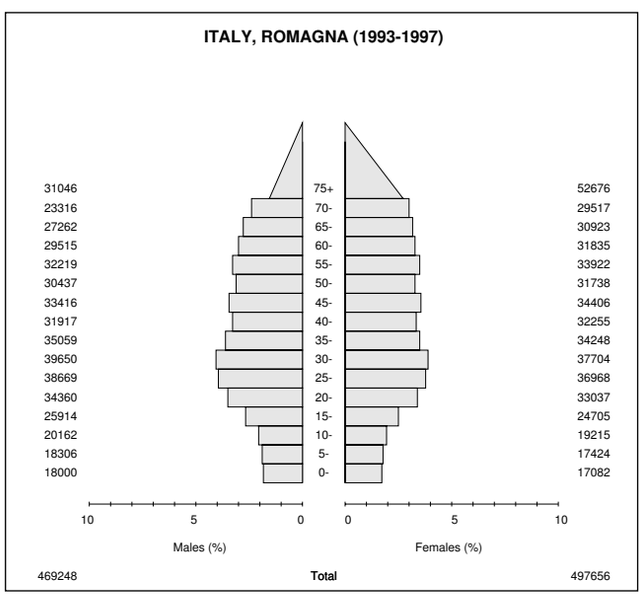
The major information sources for the Romagna Cancer Registry are the archives of histology and cytology reports, the hospital discharge forms, the out-patient records of the medical oncology departments, the archives of private clinics, and the death certificates obtained from the departments of public health of local health care districts. The registry is staffed by a part-time epidemiologist and 12 part-time data managers.

Interpreting the results

Between 1996 and 1997, population-based screening programmes for breast cancer and cervical cancer were progressively implemented in each of the four health care districts of Romagna.

Use of the data

Incidence data from the Romagna Cancer Registry are published through the IARC, the Health Department of the Emilia-Romagna Region, and the Italian Association of Cancer Registries (AIRT). The registry participates in many research projects coordinated by the AIRT. The active contribution of the registry to local cancer control strategies includes situation analyses (studies of the patterns of stage, diagnosis, and treatment of major malignancies) as well as cervical and breast cancer screening monitoring. The database of the registry has been used for several cohort and case-control studies. Most of these have addressed the relationship between diet and digestive tumours, diet and breast cancer, pesticides and haematopoietic malignancies. Others have evaluated the risk of breast cancer for women bearing breast cysts and the risk of colorectal cancer for subjects undergoing polypectomy. The registry participates in the planning, conduct and analysis of numerous studies aimed at validation of diagnostic techniques and evaluation of health services.



Source of population

Annual estimates based on the 1991 census, taking into account births, deaths and migration, produced by the Ufficio Sistemi Statistici (National institute of Statistics – ISTAT).

ITALY, ROMAGNA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	36	0.2	1.5	**0.7**	0.05	0.08	5	0.0	0.2	**0.1**	0.00	0.00	*C00*
Tongue	52	0.3	2.2	**1.1**	0.07	0.15	28	0.2	1.1	**0.6**	0.03	0.06	*C01-02*
Mouth	43	0.3	1.8	**1.0**	0.08	0.12	22	0.2	0.9	**0.4**	0.02	0.04	*C03-06*
Salivary glands	35	0.2	1.5	**0.9**	0.06	0.10	20	0.2	0.8	**0.4**	0.02	0.04	*C07-08*
Tonsil	42	0.3	1.8	**0.9**	0.06	0.12	17	0.1	0.7	**0.4**	0.03	0.04	*C09*
Other oropharynx	8	0.0	0.3	**0.2**	0.02	0.02	3	0.0	0.1	**0.1**	0.00	0.01	*C10*
Nasopharynx	27	0.2	1.2	**0.7**	0.05	0.07	13	0.1	0.5	**0.4**	0.03	0.04	*C11*
Hypopharynx	19	0.1	0.8	**0.4**	0.03	0.06	5	0.0	0.2	**0.1**	0.00	0.01	*C12-13*
Pharynx unspecified	8	0.0	0.3	**0.2**	0.02	0.02	5	0.0	0.2	**0.1**	0.00	0.01	*C14*
Oesophagus	89	0.5	3.8	**1.9**	0.13	0.22	31	0.2	1.2	**0.5**	0.04	0.06	*C15*
Stomach	1681	10.4	71.6	**32.3**	1.37	3.74	1253	9.7	50.4	**17.8**	0.76	1.99	*C16*
Small intestine	46	0.3	2.0	**0.9**	0.03	0.12	26	0.2	1.0	**0.4**	0.02	0.04	*C17*
Colon	1424	8.8	60.7	**28.6**	1.47	3.38	1371	10.6	55.1	**21.2**	1.10	2.37	*C18*
Rectum	662	4.1	28.2	**13.5**	0.70	1.63	494	3.8	19.9	**7.9**	0.48	0.86	*C19-20*
Anus	33	0.2	1.4	**0.8**	0.05	0.08	43	0.3	1.7	**0.7**	0.04	0.08	*C21*
Liver	351	2.2	15.0	**7.3**	0.39	0.95	173	1.3	7.0	**2.6**	0.10	0.30	*C22*
Gallbladder etc.	129	0.8	5.5	**2.4**	0.11	0.24	216	1.7	8.7	**3.0**	0.13	0.34	*C23-24*
Pancreas	437	2.7	18.6	**8.6**	0.42	1.04	406	3.1	16.3	**5.3**	0.21	0.56	*C25*
Nose, sinuses etc.	26	0.2	1.1	**0.6**	0.04	0.08	12	0.1	0.5	**0.2**	0.01	0.03	*C30-31*
Larynx	426	2.6	18.2	**9.5**	0.59	1.25	33	0.3	1.3	**0.6**	0.04	0.07	*C32*
Trachea, bronchus and lung	2957	18.3	126.0	**60.3**	2.96	7.89	660	5.1	26.5	**11.1**	0.61	1.36	*C33-34*
Other thoracic organs	32	0.2	1.4	**0.7**	0.03	0.06	14	0.1	0.6	**0.3**	0.02	0.03	*C37-38*
Bone	28	0.2	1.2	**1.0**	0.06	0.08	25	0.2	1.0	**0.9**	0.06	0.07	*C40-41*
Melanoma of skin	289	1.8	12.3	**7.2**	0.51	0.80	302	2.3	12.1	**7.7**	0.57	0.76	*C43*
Other skin	3108		132.5	**62.5**	2.96	7.27	2185		87.8	**36.2**	2.04	3.84	*C44*
Mesothelioma	39	0.2	1.7	**0.9**	0.05	0.13	26	0.2	1.0	**0.5**	0.03	0.07	*C45*
Kaposi sarcoma	61	0.4	2.6	**1.8**	0.14	0.17	17	0.1	0.7	**0.3**	0.02	0.02	*C46*
Connective and soft tissue	77	0.5	3.3	**2.3**	0.15	0.21	61	0.5	2.5	**1.8**	0.11	0.15	*C47+C49*
Breast	33	0.2	1.4	**0.7**	0.04	0.10	3256	25.2	130.9	**71.1**	5.28	8.14	*C50*
Vulva							118	0.9	4.7	**1.6**	0.06	0.17	*C51*
Vagina							22	0.2	0.9	**0.4**	0.02	0.04	*C52*
Cervix uteri							368	2.8	14.8	**9.1**	0.72	0.96	*C53*
Corpus uteri							539	4.2	21.7	**10.4**	0.72	1.30	*C54*
Uterus unspecified							25	0.2	1.0	**0.4**	0.02	0.03	*C55*
Ovary							469	3.6	18.8	**9.8**	0.67	1.09	*C56*
Other female genital organs							23	0.2	0.9	**0.3**	0.02	0.03	*C57*
Placenta							1	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	29	0.2	1.2	**0.6**	0.03	0.07							*C60*
Prostate	2277	14.1	97.0	**39.3**	1.01	4.57							*C61*
Testis	105	0.6	4.5	**4.1**	0.29	0.31							*C62*
Other male genital organs	9	0.1	0.4	**0.2**	0.01	0.02							*C63*
Kidney	577	3.6	24.6	**12.4**	0.73	1.47	323	2.5	13.0	**6.2**	0.38	0.70	*C64*
Renal pelvis	32	0.2	1.4	**0.6**	0.03	0.09	10	0.1	0.4	**0.1**	0.00	0.01	*C65*
Ureter	39	0.2	1.7	**0.8**	0.03	0.11	11	0.1	0.4	**0.2**	0.01	0.01	*C66*
Bladder	1743	10.8	74.3	**35.2**	1.73	4.39	383	3.0	15.4	**5.9**	0.27	0.68	*C67*
Other urinary organs	33	0.2	1.4	**0.6**	0.03	0.07	5	0.0	0.2	**0.1**	0.01	0.01	*C68*
Eye	27	0.2	1.2	**0.7**	0.04	0.07	26	0.2	1.0	**0.8**	0.05	0.07	*C69*
Brain, nervous system	248	1.5	10.6	**6.6**	0.46	0.65	217	1.7	8.7	**5.4**	0.33	0.54	*C70-72*
Thyroid	112	0.7	4.8	**3.3**	0.24	0.35	328	2.5	13.2	**9.4**	0.74	0.92	*C73*
Adrenal gland	9	0.1	0.4	**0.3**	0.02	0.02	12	0.1	0.5	**0.4**	0.02	0.03	*C74*
Other endocrine	3	0.0	0.1	**0.1**	0.00	0.01	5	0.0	0.2	**0.2**	0.01	0.01	*C75*
Hodgkin disease	66	0.4	2.8	**2.3**	0.16	0.19	51	0.4	2.0	**1.8**	0.12	0.14	*C81*
Non-Hodgkin lymphoma	658	4.1	28.0	**15.5**	0.90	1.67	502	3.9	20.2	**9.8**	0.60	1.06	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	238	1.5	10.1	**4.7**	0.20	0.52	226	1.7	9.1	**3.4**	0.17	0.39	*C90*
Lymphoid leukaemia	266	1.6	11.3	**6.4**	0.33	0.64	165	1.3	6.6	**3.6**	0.19	0.34	*C91*
Myeloid leukaemia	225	1.4	9.6	**4.7**	0.21	0.54	150	1.2	6.0	**2.5**	0.13	0.26	*C92-94*
Leukaemia unspecified	27	0.2	1.2	**0.5**	0.01	0.04	28	0.2	1.1	**0.4**	0.01	0.03	*C95*
Other and unspecified	369	2.3	15.7	**7.1**	0.30	0.77	382	3.0	15.4	**5.0**	0.19	0.46	*O&U*
All sites	19290		822.2	**395.9**	19.41	46.74	15111		607.3	**279.7**	17.26	30.70	*ALL*
All sites but C44	16182	100.0	689.7	**333.4**	16.46	39.47	12926	100.0	519.5	**243.6**	15.23	26.86	*ALLbC44*

Italy, Sassari

Registration area

The Sassari Cancer Registry covers the population of Sassari province in the Mediterranean island of Sardinia (Italy). Between 1981 and 1991, there was a small but steady increase in the population, about 4.5% (20 286 persons), whereas the increase was around 9% in the previous decade.

The province covers 7520 km^2, and has a population density of 60 persons per km^2, approximately one-third of the national population density. The principal town has 128 000 inhabitants; three towns have 30 000–40 000 inhabitants, three have 10 000 inhabitants and the remaining population lives in 83 small villages. With a few exceptions, the population is of the same race and the same culture.

Cancer care facilities

General health care is provided by the National Health Service through one regional hospital (which is also a teaching hospital) and four district hospitals and primary health centres. This is supplemented by private practitioners.

The oncology department is located in the regional hospital in Sassari, and provides facilities for diagnosis, cancer surgery, and chemotherapy services

Patients suspected of having cancer in the primary and secondary care facilities are mostly referred to district or regional hospitals. Some patients may use hospitals in other provinces or outside the island.

Registry structure and methods

The registry is a result of the partnership between the Epidemiology Service of the Azienda Sanitaria of Sassari and the Anatomy and Histopathology Institute of Sassari University. It is funded by both organizations and is located in the Epidemiology Service. The registry is staffed by four epidemiologists and two health workers.

The Sassari Cancer Registry (SCR) started on 1 January 1992. The variables collected include presence of tumour in any other family member, and TNM stage.

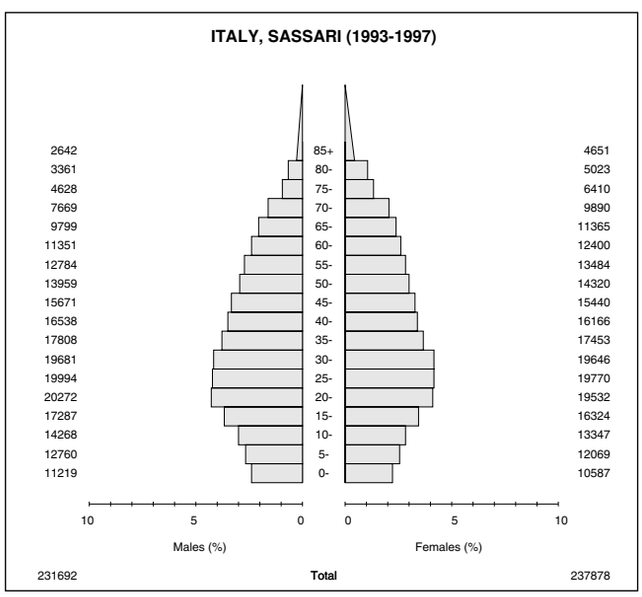
The registry receives the lists of all persons admitted to Sassari Hospital and of biopsies. In addition, active case-finding is undertaken in two regional hospitals (Sassari and Nuoro), in five district hospitals, in all medical offices for oncology and in the death registration offices. The registry staff visit these sources periodically, and check the records kept in medical records departments, and the registers of individual departments concerned with the diagnosis and treatment of cancer, to identify and abstract information on cases of cancer, diagnosed by all methods, among residents of the province. Cancer is not a notifiable disease, and no information about cancer cases is received from private practitioners. Arrangements have been made with the hospitals outside the region to notify the cancer cases diagnosed and treated in their area among residents of Sassari Province.

Interpreting the results

There are as many hospitals and diagnostic facilities in the area as required, and they are well distributed, so access to services is considered to be good. There is a screening service for breast cancer and cervical cancer. The percentage of tumours of unknown or ill-defined sites is about 2.5%, more or less similar to the percentage of the other Italian registries. Microscopic confirmation of diagnosis is available for 82.9% of cases, although for elderly people (over 70 years), it is lower for both women (71%) and men (72%).

Use of the data

The registry prepares an annual report of cancer incidence highlighting changes and tumours of particular interest (e.g., Kaposi sarcoma). Survival has been reported over the past five years of registration. All information about incidence and survival are sent to the local health authority for health organization planning. Furthermore, the registry data are used as a base to locate groups with a genetic risk of cancer.



Source of population

Annual estimates based on the 1991 census, taking into account births, deaths and migration, produced by the Ufficio Sistemi Statistici (National Institute of Statistics – ISTAT).

ITALY, SASSARI (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	66	1.4	5.7	**3.5**	0.18	0.45	7	0.2	0.6	**0.3**	0.01	0.02	*C00*
Tongue	40	0.8	3.5	**2.5**	0.17	0.29	12	0.3	1.0	**0.6**	0.04	0.05	*C01-02*
Mouth	51	1.1	4.4	**3.0**	0.21	0.33	11	0.3	0.9	**0.5**	0.03	0.06	*C03-06*
Salivary glands	14	0.3	1.2	**0.8**	0.05	0.08	9	0.2	0.8	**0.5**	0.03	0.05	*C07-08*
Tonsil	14	0.3	1.2	**0.8**	0.07	0.10	2	0.1	0.2	**0.1**	0.01	0.02	*C09*
Other oropharynx	7	0.1	0.6	**0.4**	0.02	0.07	3	0.1	0.3	**0.2**	0.01	0.01	*C10*
Nasopharynx	3	0.1	0.3	**0.2**	0.02	0.02	1	0.0	0.1	**0.1**	0.01	0.01	*C11*
Hypopharynx	26	0.5	2.2	**1.6**	0.13	0.20	2	0.1	0.2	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	38	0.8	3.3	**2.4**	0.18	0.29	3	0.1	0.3	**0.1**	0.01	0.01	*C14*
Oesophagus	55	1.1	4.7	**3.2**	0.23	0.43	10	0.3	0.8	**0.4**	0.02	0.02	*C15*
Stomach	202	4.2	17.4	**10.9**	0.57	1.16	138	3.6	11.6	**5.3**	0.21	0.51	*C16*
Small intestine	12	0.3	1.0	**0.6**	0.02	0.09	10	0.3	0.8	**0.3**	0.00	0.04	*C17*
Colon	297	6.2	25.6	**16.2**	0.73	2.03	288	7.4	24.2	**12.9**	0.74	1.39	*C18*
Rectum	201	4.2	17.4	**11.2**	0.51	1.34	114	2.9	9.6	**5.5**	0.33	0.68	*C19-20*
‡Anus	2	0.0	0.2	**0.1**	0.01	0.01	9	0.2	0.8	**0.4**	0.02	0.06	*C21*
Liver	260	5.4	22.4	**14.5**	0.72	1.86	130	3.4	10.9	**5.5**	0.20	0.66	*C22*
Gallbladder etc.	61	1.3	5.3	**3.0**	0.09	0.29	103	2.7	8.7	**4.5**	0.20	0.58	*C23-24*
Pancreas	159	3.3	13.7	**8.3**	0.35	1.06	148	3.8	12.4	**5.8**	0.26	0.62	*C25*
Nose, sinuses etc.	8	0.2	0.7	**0.5**	0.03	0.05	4	0.1	0.3	**0.3**	0.01	0.02	*C30-31*
Larynx	161	3.4	13.9	**9.8**	0.68	1.26	9	0.2	0.8	**0.5**	0.04	0.05	*C32*
Trachea, bronchus and lung	917	19.1	79.2	**52.1**	2.72	6.86	141	3.6	11.9	**6.5**	0.35	0.82	*C33-34*
Other thoracic organs	13	0.3	1.1	**0.8**	0.05	0.07	7	0.2	0.6	**0.3**	0.02	0.02	*C37-38*
Bone	9	0.2	0.8	**0.8**	0.05	0.06	6	0.2	0.5	**0.6**	0.04	0.04	*C40-41*
Melanoma of skin	54	1.1	4.7	**3.4**	0.25	0.34	45	1.2	3.8	**2.6**	0.19	0.25	*C43*
Other skin	968		83.6	**53.7**	2.60	6.31	675		56.8	**31.9**	1.92	3.57	*C44*
Mesothelioma	7	0.1	0.6	**0.4**	0.03	0.07	0	0.0	0.0	**0.0**	0.00	0.00	*C45*
Kaposi sarcoma	56	1.2	4.8	**3.0**	0.14	0.30	21	0.5	1.8	**0.8**	0.04	0.07	*C46*
Connective and soft tissue	33	0.7	2.8	**2.4**	0.13	0.28	23	0.6	1.9	**1.5**	0.12	0.15	*C47+C49*
Breast	5	0.1	0.4	**0.3**	0.02	0.04	1134	29.3	95.3	**63.7**	4.67	7.08	*C50*
Vulva							21	0.5	1.8	**0.9**	0.04	0.10	*C51*
Vagina							3	0.1	0.3	**0.1**	0.01	0.01	*C52*
Cervix uteri							85	2.2	7.1	**5.4**	0.47	0.54	*C53*
Corpus uteri							244	6.3	20.5	**13.1**	0.92	1.70	*C54*
Uterus unspecified							12	0.3	1.0	**0.4**	0.02	0.03	*C55*
Ovary							150	3.9	12.6	**8.0**	0.57	0.89	*C56*
Other female genital organs							2	0.1	0.2	**0.1**	0.00	0.01	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	7	0.1	0.6	**0.5**	0.04	0.06							*C60*
Prostate	491	10.2	42.4	**23.6**	0.48	2.88							*C61*
Testis	41	0.9	3.5	**2.9**	0.23	0.24							*C62*
Other male genital organs	3	0.1	0.3	**0.2**	0.01	0.02							*C63*
Kidney	122	2.5	10.5	**7.4**	0.48	0.90	59	1.5	5.0	**2.9**	0.15	0.35	*C64*
Renal pelvis	12	0.3	1.0	**0.7**	0.04	0.10	6	0.2	0.5	**0.3**	0.02	0.04	*C65*
Ureter	8	0.2	0.7	**0.5**	0.03	0.05	1	0.0	0.1	**0.0**	0.00	0.00	*C66*
Bladder	542	11.3	46.8	**30.3**	1.54	3.81	117	3.0	9.8	**5.4**	0.29	0.66	*C67*
Other urinary organs	6	0.1	0.5	**0.3**	0.02	0.03	3	0.1	0.3	**0.1**	0.00	0.00	*C68*
Eye	4	0.1	0.3	**0.3**	0.01	0.03	2	0.1	0.2	**0.3**	0.02	0.02	*C69*
Brain, nervous system	108	2.3	9.3	**6.9**	0.43	0.80	125	3.2	10.5	**7.1**	0.51	0.78	*C70-72*
Thyroid	34	0.7	2.9	**2.2**	0.17	0.20	147	3.8	12.4	**9.4**	0.70	0.89	*C73*
Adrenal gland	4	0.1	0.3	**0.3**	0.01	0.02	6	0.2	0.5	**0.9**	0.05	0.05	*C74*
Other endocrine	8	0.2	0.7	**0.8**	0.05	0.05	15	0.4	1.3	**1.1**	0.08	0.09	*C75*
Hodgkin disease	45	0.9	3.9	**3.6**	0.24	0.30	22	0.6	1.8	**1.3**	0.09	0.15	*C81*
Non-Hodgkin lymphoma	162	3.4	14.0	**10.8**	0.72	1.18	129	3.3	10.8	**6.9**	0.42	0.82	*C82-85,C96*
Immunoproliferative diseases	5	0.1	0.4	**0.3**	0.01	0.03	5	0.1	0.4	**0.2**	0.00	0.02	*C88*
Multiple myeloma	48	1.0	4.1	**2.7**	0.16	0.35	48	1.2	4.0	**2.1**	0.11	0.29	*C90*
Lymphoid leukaemia	86	1.8	7.4	**5.5**	0.26	0.63	62	1.6	5.2	**3.6**	0.18	0.37	*C91*
Myeloid leukaemia	79	1.6	6.8	**4.4**	0.20	0.47	59	1.5	5.0	**2.6**	0.14	0.23	*C92-94*
Leukaemia unspecified	4	0.1	0.3	**0.2**	0.01	0.01	1	0.0	0.1	**0.0**	0.00	0.00	*C95*
Other and unspecified	201	4.2	17.4	**10.7**	0.46	1.19	154	4.0	12.9	**6.5**	0.30	0.72	*O&U*
All sites	5759		497.1	**325.6**	16.54	39.09	4543		382.0	**230.4**	14.61	25.65	*ALL*
All sites but C44	4791	100.0	413.6	**271.9**	13.94	32.78	3868	100.0	325.2	**198.5**	12.69	22.07	*ALLbC44*

‡50.0% of cases are anorectal tumours

Italy, Torino

Registration Area

Piedmont Cancer Registry covers the population of the city of Torino. The population at the most recent census was 925 000 inhabitants. The present population structure is influenced by a high level of internal migration: 7.7% of the population aged between 25 and 75 years was born in the north-east of Italy and 34.4% in the south. Incidence figures are influenced since people born in southern Italy have lower risk profiles than people born in the northern regions.

Cancer care facilities

In Torino there are 11 public hospitals and 12 private clinics (a total of 7800 beds): all these hospitals and clinics offer cancer treatment; only one relatively small hospital (49 beds) is entirely devoted to oncological treatment. There are two radiotherapy departments. Since 1992, two screening programmes have been set up in the Torino area: mammographic screening for women between 50 and 69 years and cytological screening for women between 25 and 64 years of age. A trial is in progress on colon cancer screening, as an arm of a European project (SCORE).

Registry structure and methods

The registry is part of the Piedmont Oncological Prevention Centre (CPO). The registry is staffed by a director, two epidemiologists, two full-time registrars and six part-time workers.

The principal sources of information for the registry are the following: (a) the hospital archive of clinical records; (b) the regional archive of hospital discharge forms; (c) the pathology reports; (d) the archives of day hospitals and radiotherapy services; (e) the health insurance file for those cases treated outside the region; and (f) the death certificates. The registry has access to the Municipality roster in order to check personal data for vital status.

Registration is carried out in an almost completely active manner. The collection of data is done in two steps: (a) a provisional input into a portable personal computer, carried out at hospital archives, after reading clinical records and histological reports; (b) a definitive input, after checking the quality of data and linkage with the other information. Part of the coding is done automatically.

Follow-up procedures include periodic record linkage with the mortality registry.

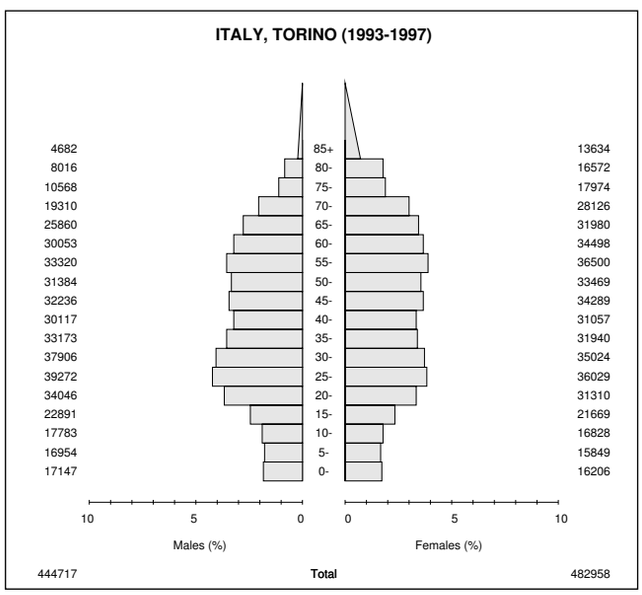
Interpreting the results

Incidence patterns in Torino are influenced by the population structure, which has been determined by the high levels of internal migration which occurred in the past.

A 13% increase in female breast cancer incidence observed in 1993–94 is probably due to the beginning of the screening programme.

Use of the data

The registry provides periodic reports on cancer incidence, prevalence, mortality and survival. The data are also sent to the Italian Cancer Registries' databank. The final incidence data files, completed with data regarding survival, are linked with census data to acquire further social and demographic information on subjects, to be used for further analyses. The data are also used by the local heath authority for planning of the regional network of cancer services.



Source of population

The population is counted on 31 December of each year from the municipality roster. The figures are provided annually by the Demographic Services of the municipality.

ITALY, TORINO (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	31	0.2	1.4	**0.7**	0.05	0.08	10	0.1	0.4	**0.2**	0.01	0.02	*C00*
Tongue	104	0.8	4.7	**2.7**	0.19	0.31	40	0.3	1.7	**0.7**	0.04	0.08	*C01-02*
Mouth	94	0.7	4.2	**2.4**	0.16	0.29	47	0.4	1.9	**0.8**	0.05	0.09	*C03-06*
Salivary glands	30	0.2	1.3	**0.8**	0.04	0.09	29	0.2	1.2	**0.5**	0.03	0.06	*C07-08*
Tonsil	38	0.3	1.7	**0.9**	0.05	0.13	15	0.1	0.6	**0.3**	0.02	0.04	*C09*
Other oropharynx	48	0.3	2.2	**1.2**	0.10	0.15	14	0.1	0.6	**0.3**	0.03	0.04	*C10*
Nasopharynx	31	0.2	1.4	**0.9**	0.08	0.09	15	0.1	0.6	**0.3**	0.02	0.03	*C11*
Hypopharynx	51	0.4	2.3	**1.4**	0.11	0.17	6	0.0	0.2	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	11	0.1	0.5	**0.3**	0.02	0.04	4	0.0	0.2	**0.1**	0.00	0.01	*C14*
Oesophagus	150	1.1	6.7	**3.6**	0.20	0.45	55	0.4	2.3	**0.8**	0.05	0.09	*C15*
Stomach	699	5.1	31.4	**16.0**	0.81	1.80	469	3.8	19.4	**7.0**	0.34	0.77	*C16*
Small intestine	34	0.2	1.5	**0.9**	0.05	0.11	26	0.2	1.1	**0.5**	0.03	0.05	*C17*
Colon	1136	8.2	51.1	**25.5**	1.16	3.08	1155	9.4	47.8	**18.6**	0.99	2.15	*C18*
Rectum	535	3.9	24.1	**12.3**	0.68	1.48	462	3.8	19.1	**7.5**	0.40	0.89	*C19-20*
Anus	33	0.2	1.5	**0.9**	0.06	0.07	64	0.5	2.7	**1.1**	0.07	0.13	*C21*
Liver	521	3.8	23.4	**12.1**	0.58	1.49	254	2.1	10.5	**3.5**	0.12	0.45	*C22*
Gallbladder etc.	175	1.3	7.9	**3.8**	0.15	0.45	286	2.3	11.8	**4.0**	0.15	0.48	*C23-24*
Pancreas	341	2.5	15.3	**7.8**	0.36	0.94	349	2.9	14.5	**5.1**	0.24	0.57	*C25*
Nose, sinuses etc.	31	0.2	1.4	**0.8**	0.05	0.10	9	0.1	0.4	**0.1**	0.01	0.02	*C30-31*
Larynx	406	2.9	18.3	**10.1**	0.68	1.27	31	0.3	1.3	**0.7**	0.05	0.08	*C32*
Trachea, bronchus and lung	2772	20.1	124.7	**63.9**	3.31	8.10	696	5.7	28.8	**11.7**	0.62	1.42	*C33-34*
Other thoracic organs	39	0.3	1.8	**0.9**	0.04	0.10	34	0.3	1.4	**0.6**	0.04	0.06	*C37-38*
Bone	24	0.2	1.1	**1.0**	0.06	0.08	23	0.2	1.0	**0.9**	0.06	0.07	*C40-41*
Melanoma of skin	254	1.8	11.4	**7.0**	0.51	0.72	300	2.5	12.4	**7.6**	0.56	0.78	*C43*
Other skin	2321		104.4	**53.7**	2.70	6.33	2075		85.9	**36.7**	2.16	4.19	*C44*
Mesothelioma	88	0.6	4.0	**2.0**	0.10	0.24	38	0.3	1.6	**0.6**	0.04	0.07	*C45*
Kaposi sarcoma	90	0.7	4.0	**2.6**	0.19	0.25	21	0.2	0.9	**0.4**	0.03	0.04	*C46*
Connective and soft tissue	59	0.4	2.7	**1.6**	0.10	0.16	73	0.6	3.0	**2.0**	0.11	0.19	*C47+C49*
Breast	29	0.2	1.3	**0.7**	0.03	0.08	3611	29.5	149.5	**79.2**	5.99	8.86	*C50*
Vulva							79	0.6	3.3	**1.1**	0.04	0.13	*C51*
Vagina							21	0.2	0.9	**0.3**	0.01	0.03	*C52*
Cervix uteri							289	2.4	12.0	**6.8**	0.51	0.73	*C53*
Corpus uteri							606	5.0	25.1	**11.8**	0.85	1.45	*C54*
Uterus unspecified							22	0.2	0.9	**0.3**	0.01	0.02	*C55*
Ovary							529	4.3	21.9	**11.3**	0.79	1.26	*C56*
Other female genital organs							34	0.3	1.4	**0.6**	0.04	0.09	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	26	0.2	1.2	**0.6**	0.03	0.07							*C60*
Prostate	1821	13.2	81.9	**37.7**	1.03	4.71							*C61*
Testis	102	0.7	4.6	**4.0**	0.29	0.30							*C62*
Other male genital organs	4	0.0	0.2	**0.1**	0.01	0.01							*C63*
Kidney	399	2.9	17.9	**10.3**	0.65	1.23	203	1.7	8.4	**3.7**	0.20	0.47	*C64*
Renal pelvis	56	0.4	2.5	**1.2**	0.04	0.16	24	0.2	1.0	**0.3**	0.02	0.03	*C65*
Ureter	27	0.2	1.2	**0.6**	0.03	0.08	11	0.1	0.5	**0.2**	0.00	0.02	*C66*
Bladder	1696	12.3	76.3	**38.6**	1.78	4.86	462	3.8	19.1	**7.2**	0.35	0.89	*C67*
Other urinary organs	21	0.2	0.9	**0.5**	0.02	0.05	2	0.0	0.1	**0.0**	0.00	0.00	*C68*
Eye	21	0.2	0.9	**1.0**	0.06	0.07	9	0.1	0.4	**0.2**	0.01	0.02	*C69*
Brain, nervous system	236	1.7	10.6	**7.7**	0.50	0.78	186	1.5	7.7	**5.0**	0.29	0.47	*C70-72*
Thyroid	83	0.6	3.7	**2.6**	0.18	0.25	242	2.0	10.0	**6.9**	0.54	0.68	*C73*
Adrenal gland	12	0.1	0.5	**0.5**	0.03	0.04	4	0.0	0.2	**0.1**	0.01	0.01	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	2	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	65	0.5	2.9	**2.7**	0.18	0.20	57	0.5	2.4	**2.2**	0.15	0.18	*C81*
Non-Hodgkin lymphoma	479	3.5	21.5	**12.5**	0.79	1.38	414	3.4	17.1	**8.2**	0.49	0.90	*C82-85,C96*
Immunoproliferative diseases	3	0.0	0.1	**0.1**	0.01	0.01	2	0.0	0.1	**0.0**	0.00	0.00	*C88*
Multiple myeloma	162	1.2	7.3	**3.7**	0.21	0.41	170	1.4	7.0	**2.6**	0.13	0.30	*C90*
Lymphoid leukaemia	145	1.1	6.5	**5.3**	0.26	0.42	120	1.0	5.0	**3.1**	0.16	0.27	*C91*
Myeloid leukaemia	129	0.9	5.8	**3.2**	0.17	0.38	130	1.1	5.4	**3.2**	0.19	0.29	*C92-94*
Leukaemia unspecified	36	0.3	1.6	**0.9**	0.05	0.10	52	0.4	2.2	**1.1**	0.06	0.11	*C95*
Other and unspecified	416	3.0	18.7	**9.1**	0.36	0.97	420	3.4	17.4	**5.4**	0.20	0.55	*O&U*
All sites	16114		724.7	**381.3**	19.31	45.13	14301		592.2	**274.0**	17.31	30.68	*ALL*
All sites but C44	13793	100.0	620.3	**327.6**	16.61	38.79	12226	100.0	506.3	**237.3**	15.15	26.49	*ALLbC44*

Italy, Umbria

Registration area

The Umbrian Cancer Registry covers the population of the whole Umbria Region. Umbria is a small region situated in central Italy, which is divided into two provinces. The total area is 8456 km^2, and population density is about 96 inhabitants per km^2. The population is older than the Italian average: people over age 65 comprise 21.5% of the population. The population is stable, growing slowly due to migration, while the birth rate is low. Overall foreigners form about 2% of the resident population, most from eastern Europe and North Africa. Nearly 70% of the people live in centres with >5000 inhabitants. The great majority of Umbria's population is employed in services and industry (agriculture 7% both sexes). The unemployment rate is 9.1%.

Cancer care facilities

Health care is provided mostly in the public hospitals and districts of the four Local Health Services. There are two main teaching hospitals and 18 public hospitals in the region with 3 949 beds overall. In addition, there are five private clinics.

The main specialized oncology centres (including clinical oncology, surgical oncology, paediatric oncology, radiotherapy, and haematology specialities) are located in the two larger cities, Perugia and Terni (maximum distance from anywhere within the region 55 km).

Registry structure and methods

The Cancer Registry is managed at the Department of Hygiene of the University of Perugia. The registry is funded by the Regional Health Authority while staff and equipment are supplied by the University. All the staff is part-time.

Types of source used for case finding include the outpatient records of public and private clinics, pathology reports, radiotherapy outpatient records and death certificates.

Relevant information for eligible cases (i.e. residents) is abstracted from the medical records of 20 public and five private hospitals. Other sources of data are cytology centres for cervical cancer screening, personal case histories and independent studies, reimbursement requests for patients treated outside the region, other cancer registries and autopsy reports.

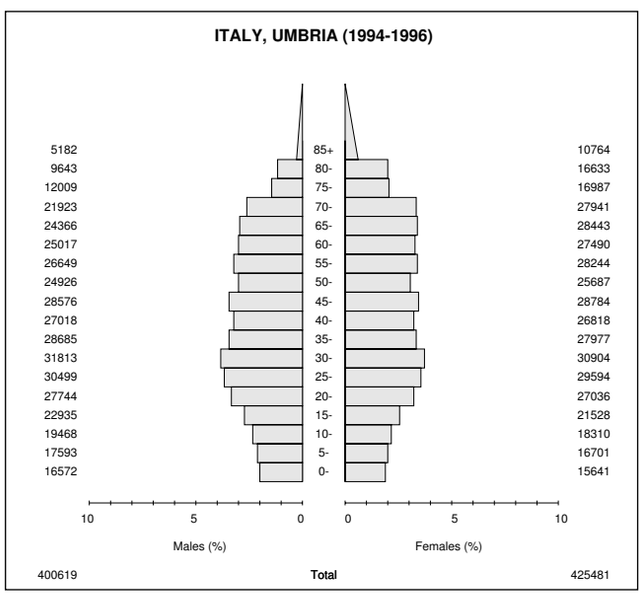
A trace-back is performed for cases of undefined malignity, of unknown primary site, with outpatient record as the only source or with other missing information as well as death certificate notifications. The traceback procedure includes contacting the family doctor and re-abstracting or re-screening of sources.

Interpreting the results

Opportunistic screening for cervical cancer was introduced a long time ago. More recently this opportunistic screening was turned into an organized programme and an organized screening programme for breast cancer was introduced (1999). Opportunistic PSA screening for prostate cancer is responsible for the high incidence rates observed in the northern area of the region.

Use of the data

Annual incidence and survival reports are produced and distributed. A survival study by prognostic factors for breast cancer is ongoing. The registry is participating in a case control study aimed at defining occupational cancer risks.



Source of population

Annual estimates based on the 1991 census, taking into account births, deaths and migration, produced by the Ufficio Sistemi Statistici (National institute of Statistics – ISTAT).

ITALY, UMBRIA (1994-1996)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	47	0.6	3.9	**1.8**	0.09	0.19	9	0.2	0.7	**0.2**	0.00	0.02	*C00*
Tongue	38	0.5	3.2	**1.7**	0.14	0.21	10	0.2	0.8	**0.3**	0.02	0.05	*C01-02*
Mouth	53	0.7	4.4	**2.1**	0.12	0.24	14	0.2	1.1	**0.6**	0.04	0.06	*C03-06*
Salivary glands	15	0.2	1.2	**0.8**	0.04	0.07	13	0.2	1.0	**0.5**	0.03	0.04	*C07-08*
Tonsil	16	0.2	1.3	**0.7**	0.04	0.10	1	0.0	0.1	**0.0**	0.00	0.00	*C09*
Other oropharynx	10	0.1	0.8	**0.4**	0.03	0.05	2	0.0	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	14	0.2	1.2	**0.8**	0.06	0.09	6	0.1	0.5	**0.4**	0.02	0.04	*C11*
Hypopharynx	18	0.2	1.5	**0.8**	0.05	0.11	0	0.0	0.0	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	6	0.1	0.5	**0.2**	0.00	0.02	1	0.0	0.1	**0.0**	0.00	0.00	*C14*
Oesophagus	84	1.1	7.0	**3.4**	0.20	0.42	17	0.3	1.3	**0.5**	0.02	0.06	*C15*
Stomach	719	9.7	59.8	**27.3**	1.32	3.23	478	8.3	37.4	**12.8**	0.58	1.40	*C16*
Small intestine	15	0.2	1.2	**0.7**	0.04	0.07	17	0.3	1.3	**0.6**	0.05	0.07	*C17*
Colon	632	8.5	52.6	**23.3**	1.01	2.84	571	9.9	44.7	**16.9**	0.79	1.92	*C18*
Rectum	405	5.5	33.7	**15.1**	0.59	1.94	295	5.1	23.1	**9.6**	0.55	1.15	*C19-20*
Anus	18	0.2	1.5	**0.7**	0.02	0.07	25	0.4	2.0	**0.7**	0.04	0.06	*C21*
Liver	264	3.6	22.0	**9.7**	0.41	1.23	137	2.4	10.7	**3.7**	0.16	0.39	*C22*
Gallbladder etc.	72	1.0	6.0	**2.5**	0.06	0.31	155	2.7	12.1	**3.6**	0.12	0.38	*C23-24*
Pancreas	171	2.3	14.2	**6.8**	0.39	0.76	161	2.8	12.6	**4.0**	0.13	0.43	*C25*
Nose, sinuses etc.	9	0.1	0.7	**0.5**	0.03	0.05	8	0.1	0.6	**0.3**	0.02	0.03	*C30-31*
Larynx	191	2.6	15.9	**8.0**	0.51	1.01	8	0.1	0.6	**0.3**	0.02	0.04	*C32*
Trachea, bronchus and lung	1219	16.4	101.4	**47.5**	2.34	6.20	263	4.6	20.6	**8.9**	0.52	1.07	*C33-34*
Other thoracic organs	9	0.1	0.7	**0.4**	0.03	0.05	3	0.1	0.2	**0.2**	0.02	0.02	*C37-38*
Bone	13	0.2	1.1	**0.8**	0.05	0.07	14	0.2	1.1	**0.7**	0.05	0.06	*C40-41*
Melanoma of skin	86	1.2	7.2	**4.1**	0.29	0.48	101	1.8	7.9	**4.3**	0.30	0.44	*C43*
Other skin	1153		95.9	**41.8**	1.71	4.82	803		62.9	**22.3**	0.99	2.33	*C44*
Mesothelioma	14	0.2	1.2	**0.5**	0.04	0.07	6	0.1	0.5	**0.3**	0.02	0.02	*C45*
Kaposi sarcoma	15	0.2	1.2	**1.0**	0.08	0.08	3	0.1	0.2	**0.1**	0.00	0.01	*C46*
Connective and soft tissue	35	0.5	2.9	**2.0**	0.12	0.18	35	0.6	2.7	**1.7**	0.10	0.13	*C47+C49*
Breast	21	0.3	1.7	**0.9**	0.04	0.12	1517	26.3	118.8	**65.4**	4.90	7.28	*C50*
Vulva							61	1.1	4.8	**1.5**	0.05	0.16	*C51*
Vagina							12	0.2	0.9	**0.4**	0.02	0.04	*C52*
Cervix uteri							116	2.0	9.1	**5.4**	0.39	0.58	*C53*
Corpus uteri							324	5.6	25.4	**12.3**	0.90	1.49	*C54*
Uterus unspecified							7	0.1	0.5	**0.2**	0.01	0.01	*C55*
Ovary							239	4.1	18.7	**9.7**	0.69	1.07	*C56*
Other female genital organs							10	0.2	0.8	**0.3**	0.02	0.03	*C57*
Placenta							1	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	20	0.3	1.7	**0.8**	0.03	0.08							*C60*
Prostate	1149	15.5	95.6	**36.4**	0.79	4.22							*C61*
Testis	55	0.7	4.6	**3.9**	0.28	0.31							*C62*
Other male genital organs	5	0.1	0.4	**0.4**	0.02	0.03							*C63*
Kidney	220	3.0	18.3	**9.8**	0.62	1.26	117	2.0	9.2	**4.6**	0.28	0.49	*C64*
Renal pelvis	24	0.3	2.0	**1.0**	0.05	0.10	6	0.1	0.5	**0.2**	0.02	0.02	*C65*
Ureter	16	0.2	1.3	**0.6**	0.03	0.08	4	0.1	0.3	**0.1**	0.00	0.01	*C66*
Bladder	769	10.4	64.0	**28.5**	1.30	3.56	181	3.1	14.2	**5.6**	0.31	0.66	*C67*
Other urinary organs	18	0.2	1.5	**0.6**	0.01	0.08	9	0.2	0.7	**0.4**	0.03	0.04	*C68*
Eye	15	0.2	1.2	**1.0**	0.05	0.09	14	0.2	1.1	**0.8**	0.05	0.07	*C69*
Brain, nervous system	149	2.0	12.4	**8.3**	0.53	0.81	114	2.0	8.9	**6.1**	0.36	0.58	*C70-72*
Thyroid	40	0.5	3.3	**2.0**	0.15	0.20	99	1.7	7.8	**5.9**	0.47	0.53	*C73*
Adrenal gland	8	0.1	0.7	**0.7**	0.05	0.05	12	0.2	0.9	**0.8**	0.06	0.06	*C74*
Other endocrine	3	0.0	0.2	**0.5**	0.02	0.02	3	0.1	0.2	**0.2**	0.02	0.02	*C75*
Hodgkin disease	37	0.5	3.1	**2.5**	0.16	0.22	34	0.6	2.7	**2.7**	0.18	0.19	*C81*
Non-Hodgkin lymphoma	247	3.3	20.6	**11.4**	0.70	1.22	206	3.6	16.1	**8.3**	0.51	0.89	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	93	1.3	7.7	**3.5**	0.14	0.36	90	1.6	7.1	**2.7**	0.15	0.32	*C90*
Lymphoid leukaemia	125	1.7	10.4	**6.9**	0.35	0.59	83	1.4	6.5	**4.1**	0.21	0.37	*C91*
Myeloid leukaemia	114	1.5	9.5	**5.0**	0.28	0.48	72	1.2	5.6	**2.6**	0.17	0.27	*C92-94*
Leukaemia unspecified	22	0.3	1.8	**0.7**	0.02	0.09	8	0.1	0.6	**0.2**	0.01	0.01	*C95*
Other and unspecified	82	1.1	6.8	**2.9**	0.14	0.31	71	1.2	5.6	**1.9**	0.07	0.18	*O&U*
All sites	8573		713.3	**333.7**	15.62	39.24	6566		514.4	**236.0**	14.45	25.62	*ALL*
All sites but C44	7420	100.0	617.4	**291.9**	13.90	34.42	5763	100.0	451.5	**213.8**	13.46	23.29	*ALLbC44*

Italy, Varese Province

Registration area

Varese Province is one of the northernmost in Italy, bordered on the north by Switzerland, on the west by Lake Verbano and the Ticino river, which mark the border with the Piedmont Region. Two other Lombardy Region provinces border Varese on the south and east. The northern part of the Province is mountainous, and there is plain in the south.

The population size increased from from 581 526 in 1961 to 811 778 in 1997. More than 30% of residents were born outside Lombardy. Considerable immigration occurred in the past, mainly from the east and south of Italy. The proportion of elderly has increased with the end of migration flows: the ratio of people over age 64 to children under six was 1.2 in 1961 and 1971 and is 2.8 in 1991 census.

The population density is 665 inhabitants per km^2. Less than 1% of the active population is employed in agriculture. The proportion of active people working in industry is roughly 60% for males and 40% for female with a considerable decline since the 1971 census.

Cancer care facilities

The area is served by 11 public general hospitals, including one university teaching hospital with all facilities for diagnosis and treatment of cancer. There are also three private clinics. The total number of hospital beds is 5800 (7.3 per 1000 inhabitants).

Registry structure and methods

The Lombardy Cancer Registry (Registro Tumori della Lombardia – RTL) was established in 1974. The registry is supported by the Regional Health Authority and is run by the Epidemiology Unit of the Milan National Cancer Institute. Staff comprise three epidemiologists, a computer expert and four clerks.

All public and private hospitals of the province are requested to notify every admission of cancer, whether new or previously reported, using a unique form. However, difficulties in maintaining a purely passive system of notification, as well as the improvement of automated hospital discharge systems, have led to active case-finding in many hospitals, and to the incorporation of information from automated systems. Information from hospital automated systems is now extensively used for case detection and data correction. The files of the main oncological hospitals in the region are also systematically scrutinized.

Pathology departments are accessed automatically, and all cancer diagnoses matched with the RTL files. Plain text is used for site and morphology reporting.

To check completeness the RTL files are matched with the Regional Hospital Discharge Diagnosis information system, which records almost all discharges in the Lombardy Region.

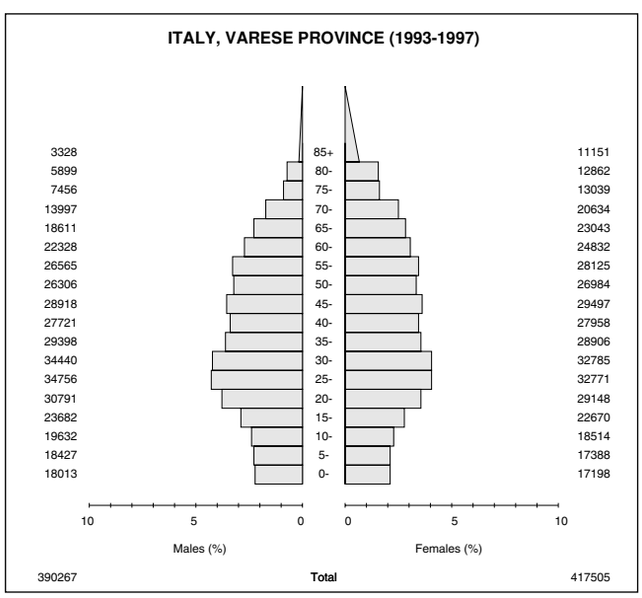
The RTL receives an automated copy of all mortality records with personal data and the code of underlying cause of death from the Local Health Authority. In case of inconsistency, a copy of the original papers is also available at the RTL.

A link with the population files used by the National Health Service is systematically used when a patient's residence is unknown or in doubt.

For DCOs a traceback is performed only after all sources have been used for case finding.

Use of the data

The high proportion of immigrants, who tend to keep the dietary and other cultural habits of their regions of origin, has led to descriptive studies on differences in cancer risk by place of birth and analytical studies on diet and cancer. Two large prospective studies on diet, hormones and breast cancer, and on diet and cancer are being conducted in the registry area; case–control studies are also carried out, mainly on occupational determinants of cancer. The RTL coordinates a European programme on the evaluation of care (EUROCARE), using registry-based survival figures.



Source of population

Annual estimates based on the 1991 census, taking into account births, deaths and migration, produced by the Ufficio Sistemi Statistici (National institute of Statistics – ISTAT).

ITALY, VARESE PROVINCE (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	29	0.3	1.5	**0.8**	0.03	0.09	8	0.1	0.4	**0.1**	0.00	0.01	*C00*
Tongue	73	0.7	3.7	**2.4**	0.16	0.31	16	0.2	0.8	**0.3**	0.01	0.04	*C01-02*
Mouth	98	0.9	5.0	**3.2**	0.20	0.39	26	0.3	1.2	**0.6**	0.04	0.06	*C03-06*
Salivary glands	23	0.2	1.2	**0.8**	0.04	0.08	9	0.1	0.4	**0.2**	0.01	0.02	*C07-08*
Tonsil	48	0.4	2.5	**1.6**	0.11	0.19	10	0.1	0.5	**0.2**	0.02	0.03	*C09*
Other oropharynx	50	0.4	2.6	**1.7**	0.11	0.22	7	0.1	0.3	**0.2**	0.02	0.02	*C10*
Nasopharynx	33	0.3	1.7	**1.2**	0.08	0.13	7	0.1	0.3	**0.1**	0.00	0.03	*C11*
Hypopharynx	93	0.8	4.8	**3.0**	0.20	0.41	14	0.1	0.7	**0.3**	0.03	0.03	*C12-13*
Pharynx unspecified	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	173	1.6	8.9	**5.4**	0.30	0.67	38	0.4	1.8	**0.7**	0.03	0.09	*C15*
Stomach	782	7.0	40.1	**23.6**	1.05	2.65	623	6.6	29.8	**11.2**	0.51	1.18	*C16*
Small intestine	25	0.2	1.3	**0.7**	0.05	0.07	20	0.2	1.0	**0.4**	0.03	0.05	*C17*
Colon	882	7.9	45.2	**26.4**	1.12	3.13	863	9.1	41.3	**17.1**	0.89	1.99	*C18*
Rectum	447	4.0	22.9	**13.6**	0.76	1.69	363	3.8	17.4	**7.9**	0.47	0.90	*C19-20*
Anus	16	0.1	0.8	**0.4**	0.01	0.05	28	0.3	1.3	**0.6**	0.03	0.07	*C21*
Liver	480	4.3	24.6	**14.5**	0.60	1.85	164	1.7	7.9	**2.8**	0.10	0.32	*C22*
Gallbladder etc.	110	1.0	5.6	**3.2**	0.10	0.37	199	2.1	9.5	**3.6**	0.14	0.43	*C23-24*
Pancreas	298	2.7	15.3	**9.1**	0.44	1.12	280	3.0	13.4	**5.0**	0.19	0.55	*C25*
Nose, sinuses etc.	23	0.2	1.2	**0.8**	0.04	0.09	11	0.1	0.5	**0.3**	0.01	0.03	*C30-31*
Larynx	317	2.8	16.2	**10.2**	0.67	1.27	21	0.2	1.0	**0.5**	0.04	0.06	*C32*
Trachea, bronchus and lung	2218	19.9	113.7	**68.1**	3.23	8.98	437	4.6	20.9	**9.7**	0.55	1.18	*C33-34*
Other thoracic organs	16	0.1	0.8	**0.7**	0.04	0.06	11	0.1	0.5	**0.6**	0.03	0.04	*C37-38*
Bone	21	0.2	1.1	**1.1**	0.07	0.09	18	0.2	0.9	**0.9**	0.06	0.07	*C40-41*
Melanoma of skin	157	1.4	8.0	**5.5**	0.41	0.59	206	2.2	9.9	**5.9**	0.44	0.60	*C43*
Other skin	1150		58.9	**34.4**	1.55	3.85	923		44.2	**18.3**	0.89	1.98	*C44*
Mesothelioma	37	0.3	1.9	**1.1**	0.07	0.13	33	0.3	1.6	**0.8**	0.04	0.12	*C45*
Kaposi sarcoma	41	0.4	2.1	**1.4**	0.10	0.15	20	0.2	1.0	**0.5**	0.02	0.03	*C46*
Connective and soft tissue	58	0.5	3.0	**2.1**	0.14	0.22	35	0.4	1.7	**1.4**	0.07	0.12	*C47+C49*
Breast	18	0.2	0.9	**0.5**	0.01	0.07	2823	29.9	135.2	**77.0**	5.69	8.58	*C50*
Vulva							79	0.8	3.8	**1.5**	0.05	0.18	*C51*
Vagina							14	0.1	0.7	**0.3**	0.01	0.04	*C52*
Cervix uteri							196	2.1	9.4	**5.8**	0.43	0.62	*C53*
Corpus uteri							469	5.0	22.5	**11.7**	0.84	1.43	*C54*
Uterus unspecified							9	0.1	0.4	**0.1**	0.00	0.00	*C55*
Ovary							381	4.0	18.3	**9.4**	0.64	1.05	*C56*
Other female genital organs							14	0.1	0.7	**0.2**	0.01	0.02	*C57*
Placenta							1	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	13	0.1	0.7	**0.4**	0.02	0.05							*C60*
Prostate	1430	12.9	73.3	**40.7**	1.06	4.77							*C61*
Testis	95	0.9	4.9	**3.9**	0.30	0.31							*C62*
Other male genital organs	2	0.0	0.1	**0.1**	0.01	0.01							*C63*
Kidney	355	3.2	18.2	**11.6**	0.68	1.45	233	2.5	11.2	**5.5**	0.31	0.65	*C64*
Renal pelvis	33	0.3	1.7	**1.0**	0.03	0.13	12	0.1	0.6	**0.2**	0.02	0.02	*C65*
Ureter	21	0.2	1.1	**0.6**	0.02	0.08	8	0.1	0.4	**0.2**	0.01	0.03	*C66*
Bladder	1189	10.7	60.9	**36.1**	1.63	4.53	278	2.9	13.3	**5.6**	0.26	0.60	*C67*
Other urinary organs	15	0.1	0.8	**0.5**	0.02	0.06	2	0.0	0.1	**0.0**	0.00	0.00	*C68*
Eye	15	0.1	0.8	**0.5**	0.02	0.06	17	0.2	0.8	**0.5**	0.04	0.04	*C69*
Brain, nervous system	175	1.6	9.0	**7.1**	0.42	0.68	179	1.9	8.6	**5.9**	0.34	0.54	*C70-72*
Thyroid	51	0.5	2.6	**1.9**	0.14	0.18	164	1.7	7.9	**5.6**	0.43	0.53	*C73*
Adrenal gland	5	0.0	0.3	**0.3**	0.01	0.02	8	0.1	0.4	**0.4**	0.02	0.03	*C74*
Other endocrine	2	0.0	0.1	**0.1**	0.00	0.01	2	0.0	0.1	**0.0**	0.00	0.00	*C75*
Hodgkin disease	74	0.7	3.8	**3.5**	0.24	0.26	55	0.6	2.6	**2.5**	0.17	0.19	*C81*
Non-Hodgkin lymphoma	383	3.4	19.6	**13.2**	0.78	1.33	376	4.0	18.0	**9.6**	0.59	1.04	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	130	1.2	6.7	**3.8**	0.16	0.42	135	1.4	6.5	**2.6**	0.11	0.30	*C90*
Lymphoid leukaemia	131	1.2	6.7	**4.9**	0.23	0.48	106	1.1	5.1	**3.6**	0.17	0.30	*C91*
Myeloid leukaemia	155	1.4	7.9	**5.0**	0.25	0.54	103	1.1	4.9	**2.6**	0.17	0.25	*C92-94*
Leukaemia unspecified	11	0.1	0.6	**0.3**	0.01	0.01	4	0.0	0.2	**0.1**	0.00	0.01	*C95*
Other and unspecified	275	2.5	14.1	**8.1**	0.29	0.92	319	3.4	15.3	**5.2**	0.20	0.48	*O&U*
All sites	12276		629.1	**380.9**	18.01	45.21	10377		497.1	**246.5**	15.15	27.00	*ALL*
All sites but C44	11126	100.0	570.2	**346.6**	16.46	41.37	9454	100.0	452.9	**228.1**	14.25	25.02	*ALLbC44*

Italy, Venetian Region

Registration area

The Venetian Region is the largest in north-east Italy. It is bordered to the north by Austria and the Trentino Alto-Adige Region, to the east by the Friuli-Venezia-Giulia Region and the Adriatic Sea, to the west by the Lombardy Region and to the south by that of Emilia Romagna, from which it is separated by the River Po. The Venetian Cancer Registry covers 42% of the population of the region.

The northern part of the Region is mountainous, whereas the southern area is very flat (the Paduan Plain).

In the period immediately after the Second World War, there was considerable emigration from the Region, especially from two provinces, Belluno and Rovigo. People left mainly because of the poor living conditions and went mostly to Belgium, Switzerland and Germany. However, the situation in the Region has changed, and in 1995 the unemployment rate was only 5.6% compared to a national average of 12%; economic activity was divided as follows: agriculture 5.4%, industry 40.9%, and other activities 53.7%.

Registry structure and methods

The Venetian Tumour Registry (Registro Tumori del Veneto), was established in 1990 and is supported by the Regional Health Authority. It is run by the Unit of Epidemiology of the Hospital Unit and the University of Padua.

The registration system uses medical information from computerized sources for case-finding and an automated process for case resolution.

A feasibility study was carried out before setting up started in mid-1990 and dealt with data collected in the period 1987–89. This project was successfully concluded in June 1995, with the publication of the incidence data from nine Local Health Units (LHUs). An update covering the years 1990–94 was published in 1997 and covered a larger registered population. The LHUs studied were selected on the basis of two criteria: the availability of computerized files and a population at a higher risk of cancer according to the cancer mortality data.

First, the computerized population file of residents in of the whole region is linked to records of hospital discharges, pathology reports and death certificates of both the LHUs in the registry and of the other LHUs not included in the network, thus permitting a search for cases diagnosed and/or treated outside the area of residence. Since all the main hospital centres of the region are included in the network, the proportion of cases missed by the registry should be relatively small and limited to patients whose diagnosis and treatment has taken place outside the region.

All histological and cytological diagnoses coded in SNOMED are transcoded into ICD-9 codes using an *ad hoc* program. After logical checks and quality controls, the data are processed using a program which assigns a three-digit cancer diagnosis (ICD-9) on the basis of an algorithm which accepts:

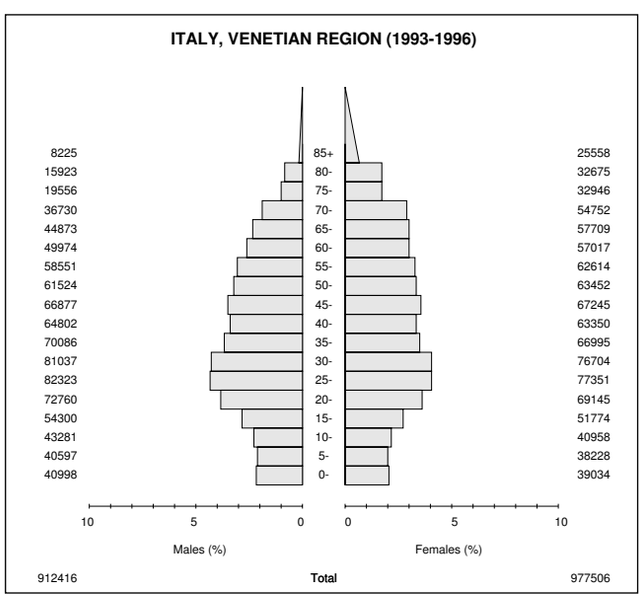
- cancer cases where data from two or more sources are identical;
- histologically confirmed cases in the presence of other compatible hospital diagnoses (e.g., metastases or ill-defined site);
- histologically confirmed skin cancer (ICD-9 173) unless combined with skin melanoma (ICD-9 172);
- histologically confirmed benign, *in situ*, and tumours of uncertain behaviour.

Diagnoses based on only one source are rejected by the programme and checked manually, unless based on pathology, as are multiple primary tumours. Manual checking is also performed for all discordant or incompatible diagnoses using the criteria reported above.

This method of recording data has proved to be efficient both in terms of the geographical area it is able to cover and in the speed with which data can be updated. Furthermore, the system facilitates evaluation of the survival rate of patients as the information required is already contained within the data sources used. Active follow-up is required in about 4.5% of all cases.

Use of the data

The registry collaborates with all the Italian registries in research projects and publications of incidence, prevalence, and survival data.



Source of population

Annual population estimates based on the Municipal Registries Surveys at 31st December of each year (ISTAT National Institute of Statistics).

ITALY, VENETIAN REGION (1993-1996)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	149	0.7	4.1	**2.2**	0.08	0.25	28	0.2	0.7	**0.2**	0.00	0.02	*C00*
Tongue	219	1.0	6.0	**3.8**	0.27	0.44	56	0.3	1.4	**0.7**	0.04	0.08	*C01-02*
Mouth	275	1.2	7.5	**5.0**	0.39	0.58	100	0.5	2.6	**1.3**	0.09	0.15	*C03-06*
Salivary glands	45	0.2	1.2	**0.7**	0.04	0.09	43	0.2	1.1	**0.5**	0.03	0.06	*C07-08*
Tonsil	88	0.4	2.4	**1.5**	0.12	0.20	22	0.1	0.6	**0.3**	0.03	0.04	*C09*
Other oropharynx	50	0.2	1.4	**0.8**	0.05	0.10	7	0.0	0.2	**0.1**	0.00	0.01	*C10*
Nasopharynx	39	0.2	1.1	**0.8**	0.05	0.09	17	0.1	0.4	**0.3**	0.03	0.03	*C11*
Hypopharynx	110	0.5	3.0	**2.0**	0.14	0.23	10	0.1	0.3	**0.2**	0.02	0.02	*C12-13*
Pharynx unspecified	77	0.3	2.1	**1.3**	0.10	0.16	23	0.1	0.6	**0.4**	0.03	0.04	*C14*
Oesophagus	474	2.1	13.0	**8.0**	0.49	1.03	110	0.6	2.8	**1.2**	0.06	0.15	*C15*
Stomach	1080	4.8	29.6	**16.5**	0.78	1.83	868	4.7	22.2	**8.1**	0.36	0.80	*C16*
Small intestine	48	0.2	1.3	**0.8**	0.04	0.08	49	0.3	1.3	**0.6**	0.04	0.06	*C17*
Colon	1757	7.8	48.1	**27.1**	1.23	3.25	1648	8.9	42.1	**17.7**	0.93	2.02	*C18*
Rectum	731	3.2	20.0	**11.7**	0.60	1.44	548	3.0	14.0	**6.2**	0.34	0.72	*C19-20*
‡Anus	73	0.3	2.0	**1.1**	0.05	0.11	97	0.5	2.5	**0.9**	0.05	0.08	*C21*
Liver	1167	5.2	32.0	**18.3**	0.92	2.35	539	2.9	13.8	**5.1**	0.18	0.65	*C22*
Gallbladder etc.	200	0.9	5.5	**3.0**	0.14	0.34	333	1.8	8.5	**3.1**	0.11	0.37	*C23-24*
Pancreas	653	2.9	17.9	**10.2**	0.51	1.20	655	3.5	16.8	**6.2**	0.28	0.69	*C25*
Nose, sinuses etc.	46	0.2	1.3	**0.8**	0.06	0.10	18	0.1	0.5	**0.2**	0.01	0.03	*C30-31*
Larynx	829	3.7	22.7	**14.1**	0.97	1.81	74	0.4	1.9	**0.8**	0.05	0.11	*C32*
Trachea, bronchus and lung	4595	20.4	125.9	**72.5**	3.53	9.44	1097	5.9	28.1	**12.6**	0.66	1.57	*C33-34*
Other thoracic organs	58	0.3	1.6	**1.0**	0.06	0.11	24	0.1	0.6	**0.2**	0.01	0.03	*C37-38*
Bone	42	0.2	1.2	**1.0**	0.06	0.08	24	0.1	0.6	**0.6**	0.04	0.05	*C40-41*
Melanoma of skin	469	2.1	12.9	**8.8**	0.64	0.94	549	3.0	14.0	**9.4**	0.70	0.89	*C43*
Other skin	4332		118.7	**66.5**	3.07	7.79	3447		88.2	**38.3**	2.04	4.28	*C44*
Mesothelioma	86	0.4	2.4	**1.4**	0.06	0.18	31	0.2	0.8	**0.4**	0.02	0.06	*C45*
Kaposi sarcoma	75	0.3	2.1	**1.5**	0.11	0.14	18	0.1	0.5	**0.2**	0.01	0.02	*C46*
Connective and soft tissue	133	0.6	3.6	**2.7**	0.17	0.27	123	0.7	3.1	**2.3**	0.15	0.19	*C47+C49*
Breast	46	0.2	1.3	**0.8**	0.04	0.08	5156	27.8	131.9	**74.7**	5.48	8.30	*C50*
Vulva							133	0.7	3.4	**1.2**	0.04	0.12	*C51*
Vagina							37	0.2	0.9	**0.4**	0.02	0.05	*C52*
Cervix uteri							328	1.8	8.4	**5.2**	0.40	0.55	*C53*
Corpus uteri							763	4.1	19.5	**10.4**	0.76	1.27	*C54*
Uterus unspecified							151	0.8	3.9	**2.0**	0.14	0.21	*C55*
Ovary							554	3.0	14.2	**7.8**	0.53	0.86	*C56*
Other female genital organs							184	1.0	4.7	**2.2**	0.14	0.26	*C57*
Placenta							3	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	39	0.2	1.1	**0.7**	0.04	0.08							*C60*
Prostate	2640	11.7	72.3	**37.0**	0.88	4.28							*C61*
Testis	177	0.8	4.8	**4.0**	0.30	0.31							*C62*
Other male genital organs	8	0.0	0.2	**0.2**	0.01	0.02							*C63*
Kidney	692	3.1	19.0	**11.7**	0.70	1.49	379	2.0	9.7	**5.0**	0.30	0.59	*C64*
Renal pelvis	33	0.1	0.9	**0.5**	0.02	0.09	11	0.1	0.3	**0.1**	0.00	0.02	*C65*
Ureter	25	0.1	0.7	**0.4**	0.02	0.03	11	0.1	0.3	**0.1**	0.00	0.02	*C66*
Bladder	1957	8.7	53.6	**30.0**	1.33	3.63	560	3.0	14.3	**5.7**	0.25	0.68	*C67*
Other urinary organs	344	1.5	9.4	**5.2**	0.21	0.59	116	0.6	3.0	**1.0**	0.04	0.10	*C68*
Eye	33	0.1	0.9	**0.5**	0.03	0.08	31	0.2	0.8	**0.6**	0.04	0.05	*C69*
Brain, nervous system	327	1.5	9.0	**6.7**	0.41	0.69	315	1.7	8.1	**5.3**	0.32	0.53	*C70-72*
Thyroid	112	0.5	3.1	**2.1**	0.15	0.21	319	1.7	8.2	**5.7**	0.44	0.56	*C73*
Adrenal gland	11	0.0	0.3	**0.3**	0.01	0.02	15	0.1	0.4	**0.3**	0.02	0.03	*C74*
Other endocrine	3	0.0	0.1	**0.1**	0.00	0.00	5	0.0	0.1	**0.0**	0.00	0.01	*C75*
Hodgkin disease	146	0.6	4.0	**3.6**	0.24	0.29	127	0.7	3.2	**2.8**	0.19	0.21	*C81*
Non-Hodgkin lymphoma	880	3.9	24.1	**15.8**	0.94	1.66	856	4.6	21.9	**11.1**	0.68	1.23	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	272	1.2	7.5	**4.3**	0.22	0.51	304	1.6	7.8	**3.4**	0.18	0.41	*C90*
Lymphoid leukaemia	252	1.1	6.9	**5.6**	0.30	0.48	208	1.1	5.3	**3.4**	0.17	0.27	*C91*
Myeloid leukaemia	242	1.1	6.6	**4.0**	0.22	0.41	205	1.1	5.2	**2.7**	0.15	0.25	*C92-94*
Leukaemia unspecified	47	0.2	1.3	**0.7**	0.02	0.06	41	0.2	1.0	**0.4**	0.02	0.04	*C95*
Other and unspecified	692	3.1	19.0	**10.4**	0.40	1.23	610	3.3	15.6	**5.6**	0.23	0.56	*O&U*
All sites	26878		736.5	**429.9**	21.24	50.84	21980		562.1	**275.3**	16.87	30.37	*ALL*
All sites but C44	22546	100.0	617.8	**363.3**	18.18	43.06	18533	100.0	474.0	**236.9**	14.83	26.09	*ALLbC44*
	‡58.9% of cases are anorectal tumours						‡45.4% of cases are anorectal tumours						

Latvia

Registration area

Latvia (area 64 589 km2) is one of the Baltic states; it regained its independence, together with Estonia and Lithuania, in 1991. The population of Latvia at the end of 1997 was 2 458 400. The main ethnic groups (end of 1997) are: Latvians 55.5%, Russians 32.4%, Belarusians 3.9%, Ukrainians 2.9%, Poles 2.2%, Lithuanians 1.3%. The distribution of urban (69%) and rural (31%) populations has not changed substantially.

The birth rate has decreased gradually during recent years, reaching 7.6/1000 in 1997; the death rate was 13.6/1000 in 1997.

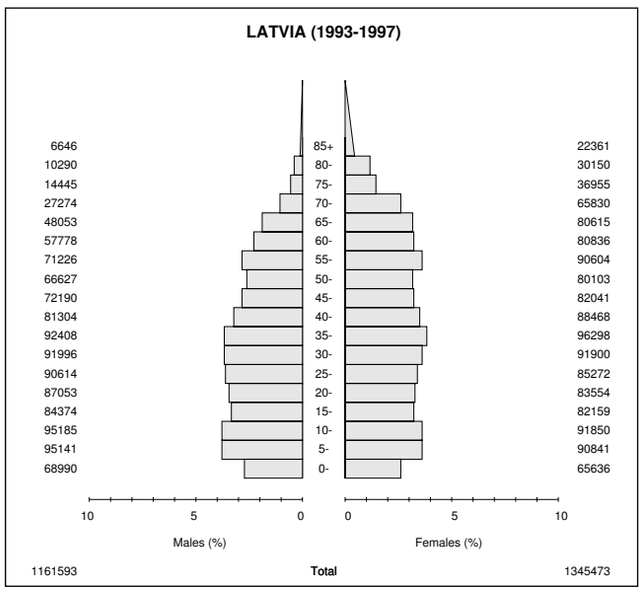
Registry structure and methods

The Latvian Cancer Registry is organized on the basis of the regulations of the Health Department of the Republic's Ministry of Welfare. The system covers all the inhabitants of the country.

Data processing and data storage have been computerized since 1979. ICD-10 topography codes are used. However there are still difficulties in changing the morphology coding of numerous death cases coded until 1996 by an adapted system, used in USSR.

Interpreting the results

Malignancies are the second main cause of death in Latvia. There is still a high number of advanced cancer cases, partially due to the social reasons and also to the lack of organized screening systems.



Source of population

Annual estimates based on the 1989 census, taking into account births, deaths and migration.

Notes on the data

* The ratios of mortality to incidence are high for several sites, and the lack of cases based on death certificates alone, suggest a degree of under-reporting.

*LATVIA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	156	0.9	2.7	**2.1**	0.10	0.26	50	0.3	0.7	**0.3**	0.01	0.03	*C00*
Tongue	141	0.8	2.4	**1.9**	0.16	0.23	38	0.2	0.6	**0.3**	0.02	0.04	*C01-02*
Mouth	214	1.2	3.7	**2.9**	0.22	0.36	44	0.2	0.7	**0.4**	0.03	0.05	*C03-06*
Salivary glands	48	0.3	0.8	**0.6**	0.05	0.07	47	0.3	0.7	**0.4**	0.03	0.06	*C07-08*
Tonsil	70	0.4	1.2	**1.0**	0.08	0.12	24	0.1	0.4	**0.2**	0.02	0.02	*C09*
Other oropharynx	52	0.3	0.9	**0.7**	0.06	0.09	13	0.1	0.2	**0.1**	0.00	0.01	*C10*
Nasopharynx	38	0.2	0.7	**0.5**	0.04	0.06	15	0.1	0.2	**0.1**	0.01	0.01	*C11*
Hypopharynx	163	0.9	2.8	**2.2**	0.19	0.26	14	0.1	0.2	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	6	0.0	0.1	**0.1**	0.00	0.01	4	0.0	0.1	**0.0**	0.00	0.00	*C14*
Oesophagus	415	2.3	7.1	**5.6**	0.38	0.69	72	0.4	1.1	**0.5**	0.02	0.06	*C15*
Stomach	2103	11.8	36.2	**28.2**	1.68	3.55	1685	9.0	25.0	**13.0**	0.74	1.56	*C16*
Small intestine	42	0.2	0.7	**0.6**	0.03	0.08	47	0.3	0.7	**0.4**	0.03	0.05	*C17*
Colon	936	5.3	16.1	**12.5**	0.60	1.59	1279	6.9	19.0	**9.6**	0.49	1.14	*C18*
Rectum	800	4.5	13.8	**10.5**	0.51	1.28	884	4.7	13.1	**6.7**	0.39	0.83	*C19-20*
Anus	55	0.3	0.9	**0.7**	0.04	0.09	72	0.4	1.1	**0.5**	0.02	0.06	*C21*
Liver	281	1.6	4.8	**3.8**	0.19	0.49	237	1.3	3.5	**1.9**	0.10	0.23	*C22*
Gallbladder etc.	81	0.5	1.4	**1.1**	0.05	0.13	138	0.7	2.1	**1.0**	0.04	0.12	*C23-24*
Pancreas	892	5.0	15.4	**12.1**	0.75	1.52	792	4.2	11.8	**5.5**	0.25	0.66	*C25*
Nose, sinuses etc.	62	0.3	1.1	**0.8**	0.05	0.10	54	0.3	0.8	**0.4**	0.03	0.05	*C30-31*
Larynx	618	3.5	10.6	**8.3**	0.60	1.07	26	0.1	0.4	**0.3**	0.03	0.03	*C32*
Trachea, bronchus and lung	4769	26.8	82.1	**63.5**	4.10	8.35	847	4.5	12.6	**6.4**	0.34	0.81	*C33-34*
Other thoracic organs	84	0.5	1.4	**1.2**	0.08	0.13	46	0.2	0.7	**0.5**	0.03	0.05	*C37-38*
Bone	86	0.5	1.5	**1.2**	0.09	0.15	84	0.4	1.2	**1.0**	0.06	0.09	*C40-41*
Melanoma of skin	209	1.2	3.6	**2.9**	0.18	0.34	402	2.2	6.0	**3.8**	0.27	0.42	*C43*
Other skin	1281		22.1	**17.1**	0.72	1.94	1875		27.9	**13.8**	0.71	1.64	*C44*
Mesothelioma	27	0.2	0.5	**0.4**	0.03	0.04	21	0.1	0.3	**0.2**	0.02	0.02	*C45*
Kaposi sarcoma	5	0.0	0.1	**0.1**	0.01	0.01	4	0.0	0.1	**0.0**	0.00	0.01	*C46*
Connective and soft tissue	106	0.6	1.8	**1.6**	0.10	0.15	148	0.8	2.2	**1.6**	0.11	0.15	*C47+C49*
Breast	28	0.2	0.5	**0.4**	0.02	0.04	4018	21.5	59.7	**39.4**	3.05	4.36	*C50*
Vulva							147	0.8	2.2	**1.1**	0.05	0.12	*C51*
Vagina							59	0.3	0.9	**0.4**	0.02	0.04	*C52*
Cervix uteri							897	4.8	13.3	**9.5**	0.73	0.99	*C53*
Corpus uteri							1914	10.3	28.5	**17.2**	1.35	2.12	*C54*
Uterus unspecified							1	0.0	0.0	**0.0**	0.00	0.00	*C55*
Ovary							1367	7.3	20.3	**13.1**	0.96	1.48	*C56*
Other female genital organs							61	0.3	0.9	**0.5**	0.04	0.07	*C57*
Placenta							13	0.1	0.2	**0.2**	0.02	0.02	*C58*
Penis	55	0.3	0.9	**0.8**	0.04	0.07							*C60*
Prostate	1426	8.0	24.6	**18.8**	0.57	2.30							*C61*
Testis	129	0.7	2.2	**1.9**	0.13	0.16							*C62*
Other male genital organs	19	0.1	0.3	**0.3**	0.01	0.03							*C63*
Kidney	764	4.3	13.2	**10.5**	0.69	1.27	601	3.2	8.9	**5.4**	0.37	0.64	*C64*
Renal pelvis	22	0.1	0.4	**0.3**	0.02	0.04	8	0.0	0.1	**0.1**	0.01	0.01	*C65*
Ureter	6	0.0	0.1	**0.1**	0.01	0.01	13	0.1	0.2	**0.1**	0.00	0.01	*C66*
Bladder	958	5.4	16.5	**12.8**	0.59	1.64	326	1.7	4.8	**2.2**	0.08	0.28	*C67*
Other urinary organs	47	0.3	0.8	**0.6**	0.04	0.08	33	0.2	0.5	**0.4**	0.03	0.04	*C68*
Eye	38	0.2	0.7	**0.5**	0.03	0.06	45	0.2	0.7	**0.5**	0.03	0.05	*C69*
Brain, nervous system	311	1.7	5.4	**4.6**	0.34	0.46	301	1.6	4.5	**3.2**	0.24	0.35	*C70-72*
Thyroid	63	0.4	1.1	**0.9**	0.06	0.10	304	1.6	4.5	**3.1**	0.22	0.31	*C73*
Adrenal gland	32	0.2	0.6	**0.5**	0.04	0.05	32	0.2	0.5	**0.3**	0.02	0.03	*C74*
Other endocrine	4	0.0	0.1	**0.1**	0.00	0.01	6	0.0	0.1	**0.1**	0.00	0.01	*C75*
Hodgkin disease	151	0.8	2.6	**2.4**	0.17	0.21	128	0.7	1.9	**1.9**	0.13	0.15	*C81*
Non-Hodgkin lymphoma	259	1.5	4.5	**3.8**	0.24	0.40	224	1.2	3.3	**2.1**	0.13	0.25	*C82-85,C96*
Immunoproliferative diseases	2	0.0	0.0	**0.0**	0.00	0.00	7	0.0	0.1	**0.0**	0.00	0.01	*C88*
Multiple myeloma	128	0.7	2.2	**1.7**	0.12	0.23	183	1.0	2.7	**1.5**	0.09	0.20	*C90*
Lymphoid leukaemia	330	1.9	5.7	**5.1**	0.23	0.55	322	1.7	4.8	**3.4**	0.18	0.32	*C91*
Myeloid leukaemia	262	1.5	4.5	**3.8**	0.23	0.46	273	1.5	4.1	**2.7**	0.17	0.28	*C92-94*
Leukaemia unspecified	29	0.2	0.5	**0.4**	0.03	0.04	23	0.1	0.3	**0.2**	0.01	0.02	*C95*
Other and unspecified	290	1.6	5.0	**4.0**	0.23	0.47	275	1.5	4.1	**2.3**	0.14	0.28	*O&U*
All sites	19093		328.7	**258.3**	14.91	31.81	20543		305.4	**179.9**	11.91	20.65	*ALL*
All sites but C44	17812	100.0	306.7	**241.1**	14.19	29.87	18668	100.0	277.5	**166.2**	11.20	19.00	*ALLbC44*

Lithuania

Registration area

Lithuania is the southernmost of the Baltic states, which for more than fifty years were part of the USSR. With the dissolution of the latter, Lithuania gained independence in 1990. The country covers a surface of 64 000 km^2 and its population in 1989 was 3 689 800, 23% of whom were children of less than 15 years of age. The population is composed mostly (80%) of Lithuanians, 15% are Russians and 4% are Polish. In 1990 the primary sectors of employment were industry 40%, agriculture 25%, construction 15%, and transport and communications 5%. Lithuania is administratively subdivided into 44 districts, with Vilnius as the capital.

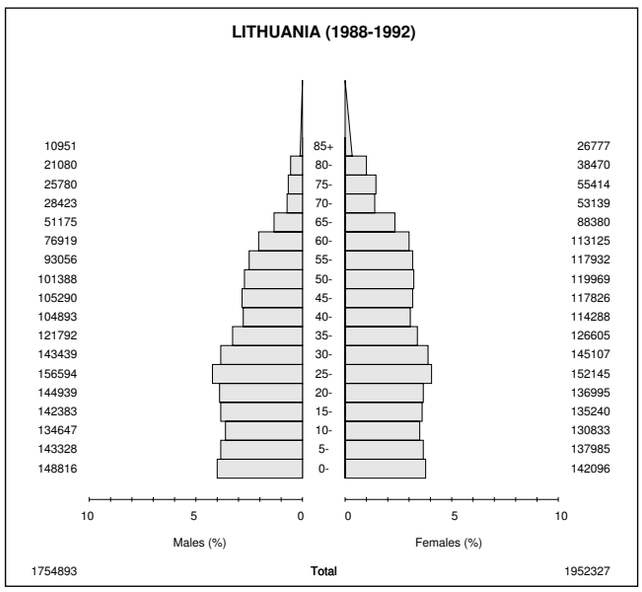
Registry structure and methods

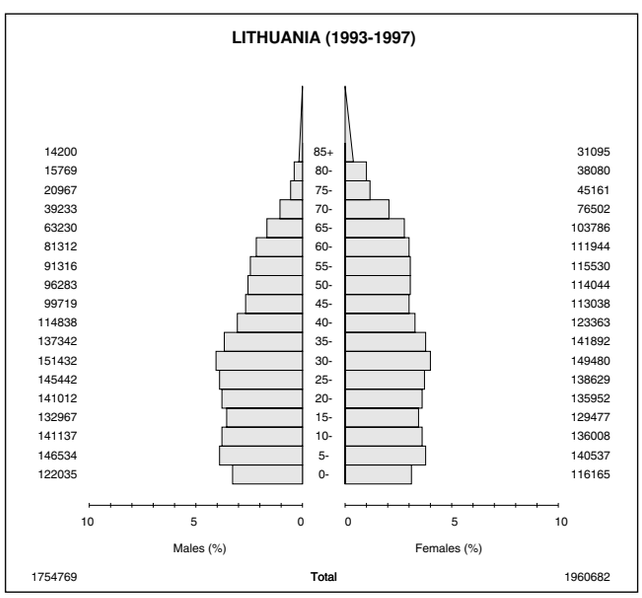
Compulsory cancer registration was introduced throughout the territory of Lithuania in 1957. The Department of Epidemiology of the Institute of Oncology in Vilnius was responsible for data collection and the preparation of annual statistical reports for submission to the Ministry of Health. Population-based statistics by site, sex and age groups have been available since 1964. For a long time, however, cancer registration operations and statistical reporting remained an entirely manual process.

In 1990, the Lithuanian Cancer Registry was established as a separate department of the Oncology Centre. The main purpose of the cancer registry is to collect data about all new cancer cases and deaths from cancers in Lithuania, to describe cancer occurrence by age, sex, and territorial subdivision, to assess cancer patient survival, and to serve the national cancer control program. The registration of cancer is based on compulsory reporting of all new cases of cancer in the population of Lithuania. The notifications include identification information (surname, name, sex, year of birth, nationality, occupation, and place of residence), information on cancer diagnosis (date of diagnosis, site, stage, TNM code, clinical group, and method of diagnosis). Cancer topography has always been coded according to the International Classification of Diseases (ICD), and at present the ICD-9 is in use. Coding of tumour morphology according to ICD-O, however, only started in 1993. Before, only a local one-digit code for morphology was recorded. The second main information source for the cancer registry is the death certificate. The death certificate in use in Lithuania corresponds to the international standards and contains name, date of birth, sex, place of residence, date of death and causes of death (immediate, underlying and associated).

Use of the data

Once a year, the cancer registry reports the official cancer incidence figures to the Ministry of Health. Furthermore, cancer registry reports are published at regular intervals. Studies on survival of cancer patients have been carried out.





Source of population

Annual estimates based on the 1989 census, taking into account births, deaths and migration.

Notes on the data

The registry was omitted from Volume VII because of a data processing error. For this reason, two time-periods are published in this volume.

LITHUANIA (1988-1992)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	308	1.3	3.5	**3.1**	0.17	0.39	97	0.5	1.0	**0.5**	0.03	0.05	*C00*
Tongue	232	1.0	2.6	**2.3**	0.21	0.26	46	0.2	0.5	**0.3**	0.02	0.04	*C01-02*
Mouth	247	1.1	2.8	**2.5**	0.21	0.28	40	0.2	0.4	**0.3**	0.02	0.04	*C03-06*
Salivary glands	60	0.3	0.7	**0.6**	0.04	0.06	45	0.2	0.5	**0.3**	0.02	0.04	*C07-08*
Tonsil	68	0.3	0.8	**0.7**	0.05	0.08	14	0.1	0.1	**0.1**	0.01	0.01	*C09*
Other oropharynx	42	0.2	0.5	**0.4**	0.03	0.05	6	0.0	0.1	**0.0**	0.00	0.01	*C10*
Nasopharynx	52	0.2	0.6	**0.5**	0.05	0.05	20	0.1	0.2	**0.2**	0.01	0.02	*C11*
Hypopharynx	166	0.7	1.9	**1.7**	0.15	0.20	20	0.1	0.2	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	29	0.1	0.3	**0.3**	0.02	0.03	5	0.0	0.1	**0.0**	0.00	0.00	*C14*
Oesophagus	512	2.2	5.8	**5.1**	0.35	0.62	86	0.4	0.9	**0.5**	0.02	0.05	*C15*
Stomach	3157	13.6	36.0	**31.4**	1.78	3.90	2206	10.4	22.6	**13.7**	0.73	1.66	*C16*
Small intestine	36	0.2	0.4	**0.4**	0.03	0.05	31	0.1	0.3	**0.2**	0.01	0.02	*C17*
Colon	976	4.2	11.1	**9.8**	0.53	1.20	1219	5.8	12.5	**7.5**	0.39	0.92	*C18*
Rectum	1121	4.8	12.8	**11.0**	0.52	1.38	1104	5.2	11.3	**7.0**	0.38	0.88	*C19-20*
‡Anus	38	0.2	0.4	**0.4**	0.02	0.05	38	0.2	0.4	**0.2**	0.01	0.03	*C21*
Liver	320	1.4	3.6	**3.3**	0.17	0.41	224	1.1	2.3	**1.4**	0.07	0.16	*C22*
Gallbladder etc.	103	0.4	1.2	**1.0**	0.05	0.14	302	1.4	3.1	**1.8**	0.08	0.23	*C23-24*
Pancreas	1058	4.6	12.1	**10.5**	0.61	1.29	798	3.8	8.2	**4.7**	0.23	0.58	*C25*
Nose, sinuses etc.	73	0.3	0.8	**0.7**	0.05	0.09	47	0.2	0.5	**0.4**	0.02	0.04	*C30-31*
Larynx	966	4.2	11.0	**9.9**	0.75	1.22	63	0.3	0.6	**0.4**	0.03	0.05	*C32*
Trachea, bronchus and lung	6165	26.6	70.3	**62.6**	4.01	8.24	1004	4.7	10.3	**6.1**	0.32	0.78	*C33-34*
Other thoracic organs	100	0.4	1.1	**1.1**	0.06	0.13	58	0.3	0.6	**0.4**	0.03	0.04	*C37-38*
Bone	120	0.5	1.4	**1.2**	0.08	0.11	105	0.5	1.1	**0.9**	0.05	0.08	*C40-41*
Melanoma of skin	212	0.9	2.4	**2.1**	0.13	0.22	390	1.8	4.0	**3.0**	0.21	0.31	*C43*
Other skin	1841		21.0	**18.0**	0.92	2.12	2733		28.0	**16.9**	0.90	2.00	*C44*
Mesothelioma	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C45*
Kaposi sarcoma	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	147	0.6	1.7	**1.5**	0.10	0.14	154	0.7	1.6	**1.3**	0.08	0.13	*C47+C49*
Breast	43	0.2	0.5	**0.4**	0.02	0.05	4030	19.1	41.3	**30.8**	2.33	3.48	*C50*
Vulva							154	0.7	1.6	**0.9**	0.04	0.10	*C51*
Vagina							53	0.3	0.5	**0.4**	0.02	0.04	*C52*
Cervix uteri							1714	8.1	17.6	**13.2**	0.98	1.46	*C53*
Corpus uteri							1572	7.4	16.1	**11.2**	0.85	1.42	*C54*
Uterus unspecified							2	0.0	0.0	**0.0**	0.00	0.00	*C55*
Ovary							1682	8.0	17.2	**12.3**	0.88	1.45	*C56*
Other female genital organs							78	0.4	0.8	**0.6**	0.04	0.07	*C57*
Placenta							8	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	37	0.2	0.4	**0.3**	0.02	0.04							*C60*
Prostate	1964	8.5	22.4	**18.7**	0.46	2.29							*C61*
Testis	112	0.5	1.3	**1.1**	0.08	0.09							*C62*
Other male genital organs	43	0.2	0.5	**0.4**	0.03	0.04							*C63*
Kidney	373	1.6	4.3	**3.9**	0.26	0.48	293	1.4	3.0	**2.1**	0.15	0.25	*C64*
Renal pelvis	9	0.0	0.1	**0.1**	0.01	0.02	5	0.0	0.1	**0.0**	0.00	0.01	*C65*
Ureter	2	0.0	0.0	**0.0**	0.00	0.00	4	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	1094	4.7	12.5	**10.8**	0.45	1.40	298	1.4	3.1	**1.8**	0.07	0.23	*C67*
Other urinary organs	496	2.1	5.7	**5.1**	0.33	0.66	399	1.9	4.1	**2.9**	0.19	0.36	*C68*
Eye	80	0.3	0.9	**0.9**	0.05	0.11	95	0.4	1.0	**0.8**	0.05	0.09	*C69*
Brain, nervous system	447	1.9	5.1	**4.8**	0.35	0.48	408	1.9	4.2	**3.5**	0.26	0.36	*C70-72*
Thyroid	77	0.3	0.9	**0.8**	0.05	0.08	346	1.6	3.5	**2.8**	0.21	0.29	*C73*
Adrenal gland	18	0.1	0.2	**0.2**	0.02	0.02	14	0.1	0.1	**0.1**	0.01	0.01	*C74*
Other endocrine	5	0.0	0.1	**0.1**	0.00	0.01	10	0.0	0.1	**0.1**	0.00	0.01	*C75*
Hodgkin disease	272	1.2	3.1	**3.0**	0.19	0.27	220	1.0	2.3	**2.1**	0.14	0.16	*C81*
Non-Hodgkin lymphoma	293	1.3	3.3	**3.2**	0.19	0.33	252	1.2	2.6	**1.9**	0.12	0.20	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	175	0.8	2.0	**1.8**	0.09	0.24	227	1.1	2.3	**1.5**	0.09	0.20	*C90*
Lymphoid leukaemia	557	2.4	6.3	**5.9**	0.30	0.68	411	1.9	4.2	**3.1**	0.16	0.36	*C91*
Myeloid leukaemia	295	1.3	3.4	**3.0**	0.19	0.33	283	1.3	2.9	**2.2**	0.13	0.24	*C92-94*
Leukaemia unspecified	73	0.3	0.8	**0.8**	0.05	0.07	93	0.4	1.0	**0.7**	0.04	0.07	*C95*
Other and unspecified	385	1.7	4.4	**4.0**	0.24	0.48	370	1.7	3.8	**2.5**	0.13	0.29	*O&U*
All sites	24999		284.9	**251.5**	14.43	30.89	23876		244.6	**165.8**	10.61	19.33	*ALL*
All sites but C44	23158	100.0	263.9	**233.5**	13.52	28.77	21143	100.0	216.6	**148.9**	9.71	17.33	*ALLbC44*

‡34.2% of cases are anorectal tumours

LITHUANIA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	301	1.1	3.4	**2.8**	0.12	0.35	86	0.3	0.9	**0.4**	0.01	0.04	*C00*
Tongue	232	0.8	2.6	**2.3**	0.20	0.27	40	0.2	0.4	**0.3**	0.02	0.03	*C01-02*
Mouth	254	0.9	2.9	**2.5**	0.21	0.29	41	0.2	0.4	**0.2**	0.01	0.03	*C03-06*
Salivary glands	93	0.3	1.1	**0.9**	0.07	0.10	50	0.2	0.5	**0.3**	0.02	0.03	*C07-08*
Tonsil	68	0.2	0.8	**0.7**	0.05	0.08	22	0.1	0.2	**0.1**	0.01	0.02	*C09*
Other oropharynx	149	0.5	1.7	**1.5**	0.13	0.18	15	0.1	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	41	0.1	0.5	**0.4**	0.03	0.04	33	0.1	0.3	**0.2**	0.01	0.02	*C11*
Hypopharynx	243	0.9	2.8	**2.4**	0.20	0.30	10	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	64	0.2	0.7	**0.6**	0.05	0.08	9	0.0	0.1	**0.1**	0.00	0.01	*C14*
Oesophagus	629	2.3	7.2	**6.0**	0.41	0.74	112	0.4	1.1	**0.6**	0.03	0.07	*C15*
Stomach	3144	11.5	35.8	**29.7**	1.62	3.62	2196	8.5	22.4	**12.6**	0.65	1.48	*C16*
Small intestine	25	0.1	0.3	**0.2**	0.02	0.03	44	0.2	0.4	**0.2**	0.01	0.03	*C17*
Colon	1251	4.6	14.3	**11.8**	0.57	1.49	1501	5.8	15.3	**8.9**	0.49	1.07	*C18*
Rectum	1415	5.2	16.1	**13.2**	0.66	1.64	1304	5.1	13.3	**7.6**	0.40	0.94	*C19-20*
‡Anus	63	0.2	0.7	**0.6**	0.03	0.07	55	0.2	0.6	**0.3**	0.01	0.04	*C21*
Liver	333	1.2	3.8	**3.2**	0.16	0.40	301	1.2	3.1	**1.7**	0.08	0.20	*C22*
Gallbladder etc.	155	0.6	1.8	**1.5**	0.07	0.18	384	1.5	3.9	**2.1**	0.10	0.26	*C23-24*
Pancreas	1179	4.3	13.4	**11.2**	0.62	1.39	921	3.6	9.4	**5.0**	0.23	0.60	*C25*
Nose, sinuses etc.	69	0.3	0.8	**0.7**	0.04	0.08	43	0.2	0.4	**0.3**	0.02	0.03	*C30-31*
Larynx	1011	3.7	11.5	**9.9**	0.73	1.26	55	0.2	0.6	**0.4**	0.03	0.04	*C32*
Trachea, bronchus and lung	6875	25.1	78.4	**65.8**	4.00	8.79	1106	4.3	11.3	**6.3**	0.30	0.77	*C33-34*
Other thoracic organs	74	0.3	0.8	**0.7**	0.05	0.08	51	0.2	0.5	**0.4**	0.02	0.04	*C37-38*
Bone	121	0.4	1.4	**1.2**	0.07	0.13	110	0.4	1.1	**0.8**	0.05	0.08	*C40-41*
Melanoma of skin	264	1.0	3.0	**2.6**	0.16	0.27	538	2.1	5.5	**4.0**	0.29	0.41	*C43*
Other skin	2318		26.4	**21.6**	0.98	2.62	3739		38.1	**22.1**	1.22	2.60	*C44*
Mesothelioma	22	0.1	0.3	**0.2**	0.01	0.03	18	0.1	0.2	**0.1**	0.01	0.01	*C45*
Kaposi sarcoma	4	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	140	0.5	1.6	**1.4**	0.09	0.14	192	0.7	2.0	**1.5**	0.09	0.15	*C47+C49*
Breast	32	0.1	0.4	**0.3**	0.02	0.04	5258	20.4	53.6	**37.7**	2.85	4.25	*C50*
Vulva							166	0.6	1.7	**0.9**	0.04	0.10	*C51*
Vagina							57	0.2	0.6	**0.3**	0.02	0.03	*C52*
Cervix uteri							1932	7.5	19.7	**14.6**	1.11	1.54	*C53*
Corpus uteri							1970	7.6	20.1	**13.2**	1.02	1.65	*C54*
Uterus unspecified							107	0.4	1.1	**0.8**	0.05	0.09	*C55*
Ovary							1932	7.5	19.7	**13.3**	0.96	1.52	*C56*
Other female genital organs							98	0.4	1.0	**0.5**	0.03	0.06	*C57*
Placenta							10	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	74	0.3	0.8	**0.7**	0.03	0.08							*C60*
Prostate	2885	10.5	32.9	**26.0**	0.61	3.14							*C61*
Testis	156	0.6	1.8	**1.6**	0.11	0.13							*C62*
Other male genital organs	26	0.1	0.3	**0.2**	0.01	0.03							*C63*
Kidney	1049	3.8	12.0	**10.2**	0.66	1.30	799	3.1	8.2	**5.3**	0.34	0.67	*C64*
Renal pelvis	12	0.0	0.1	**0.1**	0.01	0.02	5	0.0	0.1	**0.0**	0.00	0.00	*C65*
Ureter	6	0.0	0.1	**0.1**	0.00	0.01	7	0.0	0.1	**0.0**	0.00	0.01	*C66*
Bladder	1363	5.0	15.5	**12.8**	0.52	1.62	418	1.6	4.3	**2.2**	0.08	0.26	*C67*
Other urinary organs	254	0.9	2.9	**2.4**	0.13	0.30	221	0.9	2.3	**1.4**	0.08	0.18	*C68*
Eye	82	0.3	0.9	**0.9**	0.06	0.09	88	0.3	0.9	**0.8**	0.05	0.07	*C69*
Brain, nervous system	563	2.1	6.4	**5.9**	0.41	0.62	528	2.0	5.4	**4.4**	0.31	0.44	*C70-72*
Thyroid	109	0.4	1.2	**1.0**	0.07	0.11	547	2.1	5.6	**4.3**	0.33	0.43	*C73*
Adrenal gland	26	0.1	0.3	**0.3**	0.02	0.03	26	0.1	0.3	**0.2**	0.02	0.02	*C74*
Other endocrine	27	0.1	0.3	**0.3**	0.02	0.03	19	0.1	0.2	**0.2**	0.01	0.02	*C75*
Hodgkin disease	264	1.0	3.0	**2.8**	0.18	0.24	262	1.0	2.7	**2.5**	0.17	0.20	*C81*
Non-Hodgkin lymphoma	406	1.5	4.6	**4.1**	0.23	0.45	376	1.5	3.8	**2.7**	0.16	0.29	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	219	0.8	2.5	**2.1**	0.12	0.27	286	1.1	2.9	**1.8**	0.09	0.23	*C90*
Lymphoid leukaemia	543	2.0	6.2	**5.7**	0.29	0.61	393	1.5	4.0	**2.7**	0.13	0.29	*C91*
Myeloid leukaemia	348	1.3	4.0	**3.4**	0.20	0.39	391	1.5	4.0	**2.6**	0.15	0.29	*C92-94*
Leukaemia unspecified	88	0.3	1.0	**0.9**	0.04	0.10	109	0.4	1.1	**0.7**	0.04	0.08	*C95*
Other and unspecified	675	2.5	7.7	**6.5**	0.34	0.81	518	2.0	5.3	**3.2**	0.17	0.36	*O&U*
All sites	29744		339.0	**284.1**	15.43	35.02	29500		300.9	**192.8**	12.33	22.09	*ALL*
All sites but C44	27426	100.0	312.6	**262.5**	14.45	32.40	25761	100.0	262.8	**170.6**	11.11	19.50	*ALLbC44*
	‡47.6% of cases are anorectal tumours						‡40.0% of cases are anorectal tumours						

Malta

Registration area

The Malta National Cancer Registry covers the population of the Maltese Islands, a small archipelago in the middle of the Mediterranean Sea. The total resident population at the most recent census (1995) was 378 132. There is no clear distinction on the islands between urban and rural areas. However the harbour area (centred around the capital Valletta) can be considered the most urban, with much of the rest of Malta being suburban, and most of the north-west part and the whole of Gozo being rural. The majority of the local population are Roman Catholic and although quite a large number of foreigners are resident on the islands, one cannot identify any distinct ethnic minority groups.

Cancer care facilities

In Malta, there is a comprehensive national health service that is available to all Maltese residents and that is entirely free at the point of delivery. All residents have access to preventive, diagnostic, therapeutic and rehabilitative services in the Government Health Centres and Hospitals. The public health services are funded from general taxation. There is one major general acute hospital in Malta, a smaller one in Gozo and a number of public health centres scattered all over the islands. Since 1996 there have also been three private hospitals operating in Malta. Cancer surgery is carried out in any of the above-mentioned hospitals, while radiotherapy and most of the chemotherapy treatments are given at the oncology department in Sir Paul Boffa Hospital which is the only cancer centre in Malta.

Registry structure and methods

The registry is located near to the major general acute (St Luke's) hospital in Malta. It is part of the Department of Health Information within the Health Division and is wholly funded by the Government of Malta. The registry is staffed by a full-time principal medical officer, and one full-time and one part-time registrar.

The data collection for the Malta National Cancer Registry is both active and passive from multiple sources. Active data collection includes review of and extraction from the pathology laboratories' databases (histology, cytology and autopsy reports) of cases of cancer, review of the hospital files of known cases and collection of information from the National Mortality Registry (both active and passive). Passive methods include the receipt of notifications of cancer from the clinicians, a monthly report from the Oncology department on the new cases referred to their department and an annual report on the cases of cancer sent abroad for treatment by the state. The National Mortality Registry is also housed within the Department of Health Information and linkage between the cancer and mortality databases is routinely performed. The mortality registry is the recognized national source on death statistics.

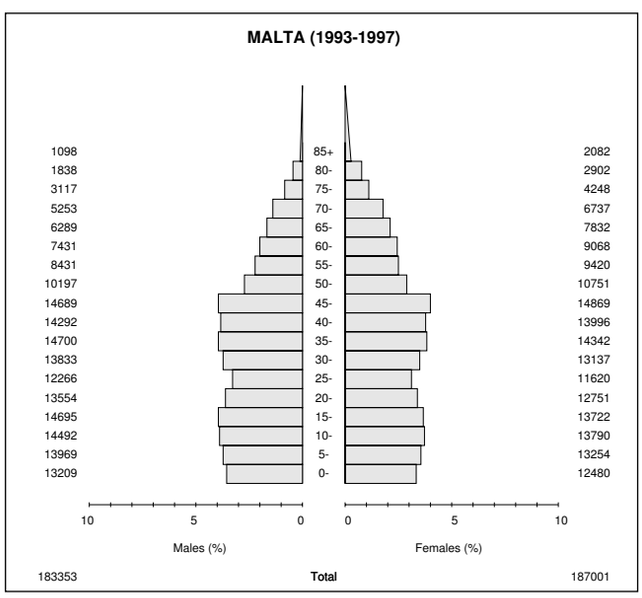
Interpreting the results

It is estimated that only a small proportion of the cancers diagnosed in Maltese residents remain unregistered. These mainly include cases diagnosed, treated and followed-up abroad. The registry staff actively try to reduce the proportion of cases that remain registered on the basis of a death certificate only by reviewing all possible medical information on the cases. The staff are permitted access to the hospital files of cases diagnosed and treated at all public and private hospitals and clinics.

To date, no organized cancer screening programme has been implemented in Malta. However, facilities for opportunistic screening for breast, cervical, prostate and colorectal cancers are locally available.

Use of the data

The registry has published annual reports on cancer incidence and mortality from 1992 to 1997. The latest report (1996–97) also included survival statistics for selected cancer sites of the registered cases from 1993 to 1997. The registry is the recognized national source of information on cancer incidence. Its staff annually answer several requests for information originating from various sources, including both local and foreign clinicians and other professionals, students, journalists and interested organizations.



Source of population

Annual estimates, taking into account births, deaths and migration, are produced by the National Statistics Office, Malta. The 1993–95 estimates were based on the 1985 census, and the 1996–97 populations were based on the 1995 census (26 November 1995).

Ref: Demographic Review of the Maltese Islands, 1993; 1994; 1995; 1996; 1997.

Notes on the data

Care should be taken in interpreting trends with earlier data, which may have included some prevalent cases.

MALTA (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	33	1.1	3.6	**2.8**	0.14	0.33	2	0.1	0.2	**0.1**	0.01	0.01	*C00*
Tongue	13	0.4	1.4	**1.2**	0.08	0.14	10	0.4	1.1	**0.8**	0.06	0.09	*C01-02*
Mouth	26	0.9	2.8	**2.3**	0.14	0.27	10	0.4	1.1	**0.7**	0.04	0.11	*C03-06*
Salivary glands	4	0.1	0.4	**0.3**	0.01	0.03	11	0.4	1.2	**0.7**	0.04	0.06	*C07-08*
Tonsil	4	0.1	0.4	**0.4**	0.03	0.04	1	0.0	0.1	**0.0**	0.00	0.00	*C09*
Other oropharynx	1	0.0	0.1	**0.1**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	30	1.0	3.3	**2.6**	0.18	0.32	11	0.4	1.2	**0.9**	0.07	0.08	*C11*
Hypopharynx	4	0.1	0.4	**0.3**	0.01	0.04	1	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	1	0.0	0.1	**0.1**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	42	1.4	4.6	**3.6**	0.13	0.48	21	0.8	2.2	**1.2**	0.06	0.10	*C15*
Stomach	153	5.3	16.7	**12.4**	0.43	1.42	83	3.0	8.9	**5.1**	0.17	0.61	*C16*
Small intestine	13	0.4	1.4	**1.2**	0.10	0.15	9	0.3	1.0	**0.7**	0.06	0.08	*C17*
Colon	202	7.0	22.0	**17.1**	0.87	2.00	209	7.5	22.4	**14.6**	0.83	1.71	*C18*
Rectum	126	4.3	13.7	**10.9**	0.65	1.22	94	3.4	10.1	**6.4**	0.37	0.73	*C19-20*
‡Anus	13	0.4	1.4	**1.0**	0.04	0.10	5	0.2	0.5	**0.3**	0.02	0.03	*C21*
Liver	20	0.7	2.2	**1.6**	0.09	0.18	17	0.6	1.8	**1.1**	0.05	0.12	*C22*
Gallbladder etc.	13	0.4	1.4	**1.1**	0.09	0.12	20	0.7	2.1	**1.3**	0.06	0.15	*C23-24*
Pancreas	96	3.3	10.5	**8.3**	0.36	1.07	63	2.3	6.7	**4.0**	0.15	0.50	*C25*
Nose, sinuses etc.	4	0.1	0.4	**0.4**	0.02	0.03	4	0.1	0.4	**0.3**	0.02	0.02	*C30-31*
Larynx	80	2.8	8.7	**7.2**	0.46	0.94	7	0.3	0.7	**0.5**	0.03	0.04	*C32*
Trachea, bronchus and lung	537	18.5	58.6	**45.7**	2.11	5.66	72	2.6	7.7	**4.9**	0.27	0.59	*C33-34*
Other thoracic organs	2	0.1	0.2	**0.1**	0.01	0.01	3	0.1	0.3	**0.2**	0.01	0.02	*C37-38*
Bone	11	0.4	1.2	**1.2**	0.08	0.11	9	0.3	1.0	**0.8**	0.04	0.05	*C40-41*
Melanoma of skin	38	1.3	4.1	**3.5**	0.26	0.39	58	2.1	6.2	**5.2**	0.42	0.50	*C43*
Other skin	640		69.8	**52.0**	2.17	5.74	367		39.3	**25.1**	1.38	2.65	*C44*
Mesothelioma	12	0.4	1.3	**1.0**	0.05	0.12	1	0.0	0.1	**0.1**	0.00	0.01	*C45*
Kaposi sarcoma	8	0.3	0.9	**0.7**	0.04	0.06	5	0.2	0.5	**0.3**	0.01	0.01	*C46*
Connective and soft tissue	24	0.8	2.6	**2.3**	0.16	0.20	18	0.6	1.9	**1.5**	0.09	0.10	*C47+C49*
Breast	11	0.4	1.2	**1.0**	0.04	0.09	919	33.1	98.3	**68.1**	4.74	7.63	*C50*
Vulva							32	1.2	3.4	**2.0**	0.10	0.25	*C51*
Vagina							6	0.2	0.6	**0.3**	0.02	0.02	*C52*
Cervix uteri							73	2.6	7.8	**6.1**	0.53	0.62	*C53*
Corpus uteri							215	7.8	23.0	**16.3**	1.15	2.04	*C54*
Uterus unspecified							18	0.6	1.9	**1.4**	0.10	0.14	*C55*
Ovary							161	5.8	17.2	**12.3**	0.91	1.40	*C56*
Other female genital organs							2	0.1	0.2	**0.1**	0.00	0.01	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	18	0.6	2.0	**1.6**	0.10	0.18							*C60*
Prostate	326	11.3	35.6	**25.6**	0.62	2.88							*C61*
Testis	29	1.0	3.2	**2.8**	0.21	0.22							*C62*
Other male genital organs	1	0.0	0.1	**0.1**	0.00	0.02							*C63*
Kidney	76	2.6	8.3	**6.9**	0.39	0.83	46	1.7	4.9	**3.9**	0.26	0.42	*C64*
Renal pelvis	8	0.3	0.9	**0.7**	0.03	0.08	3	0.1	0.3	**0.3**	0.02	0.03	*C65*
Ureter	6	0.2	0.7	**0.5**	0.02	0.07	0	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	364	12.6	39.7	**30.6**	1.28	3.74	80	2.9	8.6	**5.1**	0.17	0.65	*C67*
Other urinary organs	0	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.1	**0.1**	0.01	0.01	*C68*
Eye	8	0.3	0.9	**0.9**	0.03	0.06	1	0.0	0.1	**0.1**	0.00	0.01	*C69*
Brain, nervous system	53	1.8	5.8	**4.9**	0.31	0.49	44	1.6	4.7	**4.0**	0.23	0.33	*C70-72*
Thyroid	18	0.6	2.0	**1.6**	0.13	0.15	72	2.6	7.7	**6.6**	0.51	0.56	*C73*
Adrenal gland	8	0.3	0.9	**1.1**	0.05	0.06	2	0.1	0.2	**0.3**	0.02	0.02	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	30	1.0	3.3	**3.2**	0.20	0.25	23	0.8	2.5	**2.0**	0.12	0.21	*C81*
Non-Hodgkin lymphoma	121	4.2	13.2	**11.0**	0.70	1.23	96	3.5	10.3	**7.1**	0.42	0.84	*C82-85,C96*
Immunoproliferative diseases	1	0.0	0.1	**0.1**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	41	1.4	4.5	**3.4**	0.14	0.41	44	1.6	4.7	**2.7**	0.09	0.30	*C90*
Lymphoid leukaemia	55	1.9	6.0	**5.3**	0.22	0.45	26	0.9	2.8	**2.4**	0.11	0.21	*C91*
Myeloid leukaemia	53	1.8	5.8	**4.6**	0.20	0.57	43	1.6	4.6	**3.3**	0.21	0.35	*C92-94*
Leukaemia unspecified	1	0.0	0.1	**0.1**	0.00	0.00	2	0.1	0.2	**0.1**	0.00	0.01	*C95*
Other and unspecified	159	5.5	17.3	**13.3**	0.53	1.50	121	4.4	12.9	**7.8**	0.33	0.93	*O&U*
All sites	3537		385.8	**300.7**	13.94	34.48	3141		335.9	**229.2**	14.30	25.39	*ALL*
All sites but C44	2897	100.0	316.0	**248.8**	11.76	28.75	2774	100.0	296.7	**204.0**	12.92	22.74	*ALLbC44*

§Includes 3 cases of unknown age

§Includes 4 cases of unknown age

‡40.0% of cases are anorectal tumours

The Netherlands

Registration area

The Dutch territory covers 41 547 km^2, 7636 of which are water. The population of the Netherlands increased from 15.24 million on 1/1/1993 to 15.65 million on 1/1/1998, reaching a population density of 461 inhabitants per km^2 of land area. The country is highly urbanized, particularly in the west. The majority of the population is of Caucasian origin, but 9% of the population in 1998 was born outside the Netherlands. The latter group comprised immigrants from Turkey and Morocco as well as from the former Dutch colonies of Indonesia, Surinam and the Netherlands Antilles. The Netherlands have a mixed Protestant/Catholic population, the latter concentrated in the south. However, the percentage of non-religious people is considerable. More than 70% of the employed population worked in services, a quarter in industry, while only 4% worked in agriculture.

Cancer care facilities

Accessibility of medical care in the Netherlands is good as a result of the relatively short – usually less than 30 km – distances to a hospital, ample supply of various health services and a sickness insurance system without major financial obstacles. Some 60% of people are covered by the Sickness Benefit Fund, a compulsory social insurance policy for people with lower incomes, while the others have a private insurance. Less than 1% of the population are uninsured. Virtually all specialized clinicians work in about 100 community hospitals, 8 university hospitals and a cancer hospital in Amsterdam. Radiotherapy is provided by the cancer and university hospitals as well as by 13 regional institutes that serve combinations of community hospitals. The pathologists work in about 65 pathology laboratories. They enter all diagnoses into a nationwide computer system, which also notifies the regional registries.

Registry structure and methods

Nationwide cancer incidence data have been available in the Netherlands since 1989. The nine Comprehensive Cancer Centres are responsible for the collection of data for the Netherlands Cancer Registry. The data are collected from the medical records in all Dutch hospitals, with the consent of the medical specialists and institutes. Specially trained co-workers of the cancer registry perform the coding of data. They receive lists of newly diagnosed cancer cases from the pathology department in their hospital(s). In addition, lists of hospitalized cancer patients are obtained from the medical records departments. Often, regional cancer registries use other notification sources, e.g., radiotherapy departments. Death certificates cannot be used because of the privacy regulations of Statistics Netherlands.

The IARC rules for coding multiple tumours are applied to the data. However, supplementary data are available on multiple tumours of paired organs (mostly bilateral breast cancer), colon, skin, bone and soft tissue. For the staging of tumours, the TNM classification is used. As far as available, autopsy data are included in the registry.

All data are subjected to extensive consistency checks (range and cross checks), both at the regional and the national level. A control programme for duplicate records is also applied to the data.

For the privacy of those registered, legal and technical guidelines have been created which ensure adequate protection of registered patients and collaborating physicians.

Interpreting the results

Completeness of the Netherlands Cancer Registry is estimated to be over 95%. Cases not referred to a Dutch hospital are systematically missed.

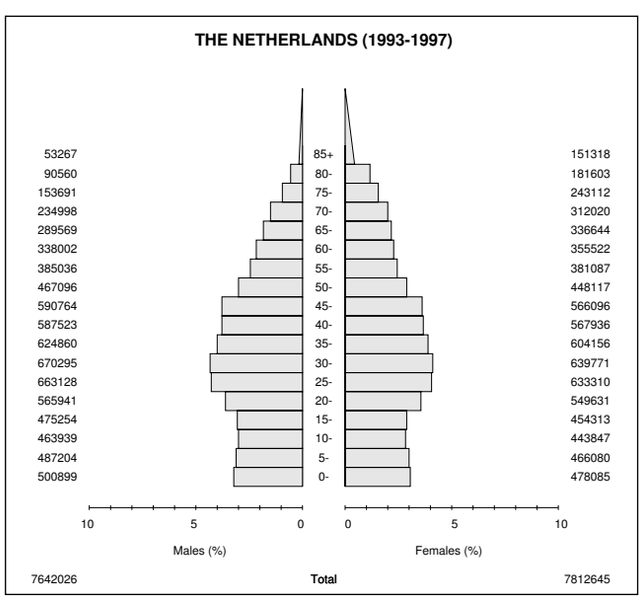
Pilot projects for breast cancer screening were followed by a national screening programme for women between 50 and 70 years of age in 1990. Women in this age group are invited for screening once every two years. The number of screening units has gradually increased and national coverage was attained in 1997. About 22% of the invited women do not attend the screening.

Cervical cancer screening has been carried out since 1988 by general practitioners among women aged 35–55 years, the attendance rates being unsatisfactory. As of 1995, the regional health services and Comprehensive Cancer Centres, in collaboration with general practitioners, pathology laboratories and gynaecologists, have set up a new screening programme for women between 30 and 60 years of age. The interval between two successive screening rounds has been increased from three to five years.

PSA testing has been used increasingly since the beginning of the 1990s. A pilot project for prostate cancer screening is being carried out in the Rotterdam region.

Use of the data

Results of the Netherlands Cancer Registry are published in the annual report *Incidence of Cancer in the Netherlands*, as well as in booklets aimed at medical specialists. Many special studies have been carried out by the Comprehensive Cancer Centres.



Source of population

Population data are calculated annually for 1 January, by Statistics Netherlands using data supplied by all the municipal population registries.

Notes on the data

† C44 does not include basal cell or squamous cell carcinoma.

THE NETHERLANDS (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	718	0.4	1.9	**1.3**	0.06	0.16	180	0.1	0.5	**0.2**	0.01	0.03	*C00*
Tongue	770	0.5	2.0	**1.5**	0.10	0.18	510	0.3	1.3	**0.8**	0.06	0.09	*C01-02*
Mouth	1250	0.7	3.3	**2.5**	0.18	0.29	828	0.6	2.1	**1.4**	0.10	0.15	*C03-06*
Salivary glands	294	0.2	0.8	**0.6**	0.03	0.07	231	0.2	0.6	**0.4**	0.03	0.04	*C07-08*
Tonsil	397	0.2	1.0	**0.8**	0.06	0.09	211	0.1	0.5	**0.4**	0.03	0.05	*C09*
Other oropharynx	313	0.2	0.8	**0.6**	0.05	0.07	99	0.1	0.3	**0.2**	0.02	0.02	*C10*
Nasopharynx	222	0.1	0.6	**0.5**	0.03	0.05	82	0.1	0.2	**0.2**	0.01	0.02	*C11*
Hypopharynx	612	0.4	1.6	**1.2**	0.09	0.15	157	0.1	0.4	**0.3**	0.02	0.03	*C12-13*
Pharynx unspecified	38	0.0	0.1	**0.1**	0.00	0.01	17	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	3297	2.0	8.6	**6.2**	0.35	0.76	1640	1.1	4.2	**2.2**	0.12	0.25	*C15*
Stomach	7324	4.3	19.2	**13.1**	0.56	1.54	4165	2.8	10.7	**5.2**	0.23	0.57	*C16*
Small intestine	376	0.2	1.0	**0.7**	0.04	0.09	362	0.2	0.9	**0.5**	0.03	0.06	*C17*
Colon	12786	7.6	33.5	**23.0**	1.00	2.74	14134	9.4	36.2	**18.8**	0.91	2.16	*C18*
Rectum	8063	4.8	21.1	**14.8**	0.75	1.78	6326	4.2	16.2	**8.8**	0.48	1.04	*C19-20*
Anus	152	0.1	0.4	**0.3**	0.02	0.03	243	0.2	0.6	**0.4**	0.02	0.04	*C21*
Liver	853	0.5	2.2	**1.6**	0.08	0.20	476	0.3	1.2	**0.7**	0.04	0.09	*C22*
Gallbladder etc.	1171	0.7	3.1	**2.1**	0.09	0.24	1791	1.2	4.6	**2.2**	0.09	0.26	*C23-24*
Pancreas	3402	2.0	8.9	**6.2**	0.31	0.75	3589	2.4	9.2	**4.7**	0.23	0.57	*C25*
Nose, sinuses etc.	464	0.3	1.2	**0.9**	0.05	0.10	244	0.2	0.6	**0.4**	0.03	0.04	*C30-31*
Larynx	3017	1.8	7.9	**5.8**	0.34	0.74	552	0.4	1.4	**1.0**	0.08	0.12	*C32*
Trachea, bronchus and lung	35244	20.9	92.2	**64.7**	3.01	8.39	9501	6.3	24.3	**16.3**	1.13	2.05	*C33-34*
Other thoracic organs	255	0.2	0.7	**0.5**	0.03	0.05	93	0.1	0.2	**0.2**	0.01	0.02	*C37-38*
Bone	383	0.2	1.0	**1.0**	0.06	0.08	352	0.2	0.9	**0.9**	0.05	0.07	*C40-41*
Melanoma of skin	3985	2.4	10.4	**8.0**	0.58	0.83	5710	3.8	14.6	**10.9**	0.82	1.06	*C43*
†Other skin	8985		23.5	**15.6**	0.52	1.61	5739		14.7	**6.8**	0.29	0.69	*C44*
Mesothelioma	1451	0.9	3.8	**2.8**	0.15	0.35	222	0.1	0.6	**0.3**	0.02	0.04	*C45*
Kaposi sarcoma	425	0.3	1.1	**0.8**	0.07	0.07	25	0.0	0.1	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	1212	0.7	3.2	**2.6**	0.15	0.25	1011	0.7	2.6	**1.9**	0.11	0.17	*C47+C49*
Breast	268	0.2	0.7	**0.5**	0.02	0.06	49570	33.1	126.9	**85.6**	6.37	9.57	*C50*
Vulva							1061	0.7	2.7	**1.4**	0.06	0.15	*C51*
Vagina							209	0.1	0.5	**0.3**	0.02	0.03	*C52*
Cervix uteri							3594	2.4	9.2	**6.6**	0.50	0.65	*C53*
Corpus uteri							6993	4.7	17.9	**11.2**	0.75	1.40	*C54*
Uterus unspecified							18	0.0	0.0	**0.0**	0.00	0.00	*C55*
Ovary							7113	4.7	18.2	**12.0**	0.82	1.38	*C56*
Other female genital organs							258	0.2	0.7	**0.4**	0.02	0.04	*C57*
Placenta							22	0.0	0.1	**0.0**	0.00	0.00	*C58*
Penis	378	0.2	1.0	**0.7**	0.03	0.07							*C60*
Prostate	31479	18.6	82.4	**53.9**	1.48	6.51							*C61*
Testis	2106	1.2	5.5	**4.7**	0.34	0.36							*C62*
Other male genital organs	68	0.0	0.2	**0.1**	0.01	0.01							*C63*
Kidney	4205	2.5	11.0	**8.2**	0.47	0.98	2893	1.9	7.4	**4.6**	0.26	0.55	*C64*
Renal pelvis	497	0.3	1.3	**0.9**	0.04	0.11	286	0.2	0.7	**0.4**	0.02	0.05	*C65*
Ureter	336	0.2	0.9	**0.6**	0.02	0.08	170	0.1	0.4	**0.2**	0.01	0.03	*C66*
Bladder	16795	9.9	44.0	**30.2**	1.28	3.71	4342	2.9	11.1	**5.9**	0.30	0.70	*C67*
Other urinary organs	156	0.1	0.4	**0.3**	0.01	0.04	49	0.0	0.1	**0.1**	0.00	0.01	*C68*
Eye	353	0.2	0.9	**0.8**	0.05	0.08	336	0.2	0.9	**0.7**	0.04	0.06	*C69*
Brain, nervous system	2831	1.7	7.4	**6.2**	0.42	0.64	2079	1.4	5.3	**4.4**	0.29	0.43	*C70-72*
Thyroid	499	0.3	1.3	**1.0**	0.07	0.10	1137	0.8	2.9	**2.2**	0.16	0.21	*C73*
Adrenal gland	97	0.1	0.3	**0.3**	0.01	0.02	93	0.1	0.2	**0.2**	0.01	0.02	*C74*
Other endocrine	53	0.0	0.1	**0.1**	0.01	0.01	21	0.0	0.1	**0.1**	0.00	0.00	*C75*
Hodgkin disease	955	0.6	2.5	**2.2**	0.16	0.19	730	0.5	1.9	**1.7**	0.12	0.14	*C81*
Non-Hodgkin lymphoma	5524	3.3	14.5	**10.9**	0.65	1.20	4614	3.1	11.8	**7.0**	0.41	0.78	*C82-85,C96*
Immunoproliferative diseases	275	0.2	0.7	**0.5**	0.02	0.05	186	0.1	0.5	**0.2**	0.01	0.02	*C88*
Multiple myeloma	1978	1.2	5.2	**3.6**	0.17	0.44	1824	1.2	4.7	**2.4**	0.12	0.30	*C90*
Lymphoid leukaemia	2100	1.2	5.5	**4.7**	0.24	0.45	1287	0.9	3.3	**2.5**	0.12	0.22	*C91*
Myeloid leukaemia	1935	1.1	5.1	**3.8**	0.20	0.39	1494	1.0	3.8	**2.4**	0.14	0.25	*C92-94*
Leukaemia unspecified	103	0.1	0.3	**0.2**	0.01	0.02	94	0.1	0.2	**0.1**	0.00	0.01	*C95*
Other and unspecified	7456	4.4	19.5	**13.6**	0.61	1.61	6599	4.4	16.9	**8.9**	0.46	1.01	*O&U*
All sites	177906		465.6	**327.7**	15.09	38.83	155562		398.2	**247.7**	15.98	27.75	*ALL*
All sites but C44	168921	100.0	442.1	**312.1**	14.58	37.23	149823	100.0	383.5	**240.9**	15.69	27.06	*ALLbC44*

†See note following population pyramid

The Netherlands, Eindhoven

Registration area

The registry initially served an area of about 2500 km², which lies 20 to 50 m above sea level and includes almost one million inhabitants (6% of the 1990 Dutch population). Since 1988 another million have been added, bringing the total population in 2000 to 2.3 million; these data are included in the national registry, whereas this dataset only includes the data from the original population. The population density is about 400 per km², roughly the national average; 47% of the population-at-risk lives in urban, 43% in suburban and 10% in rural municipalities. The proportion of immigrants was very low, but is rapidly rising.

With regard to the environment, an intensive pig and poultry breeding industry has developed since the 1970s, now contributing considerably to acid rain and a rising nitrate level in ground water. The main industries produce electronic goods, trucks, photocopiers, textiles and milk products. Zinc factories, situated along the border with Belgium since 1900, caused marked pollution of the soil with cadmium. Relatively high concentrations in the air of ozone, lead, nitric oxide and sulfur dioxide, coming mainly from surrounding industrialized regions and automobile traffic, have been declining in the last decade. The tobacco-processing and cigar industry, important in the area south of Eindhoven until the 1980s, had a marked effect on the incidence of lung cancer among males, whose prevalence of smoking was 95% in the 1950s. By contrast the prevalence of smoking and incidence of smoking-related cancers among females were very low until the 1970s.

Cancer care facilities

Some 60% of the inhabitants are covered by Sickness Benefit Funds, a compulsory social insurance policy for people with low income; less than 1% of the population may be uninsured.

The growing interest in oncology during the 1970s led in 1979 to a regional organization, the Cooperating Association of Hospitals in Oncology (SOOZ). In 1982 the Comprehensive Cancer Centre South (IKZ) was founded as a collaborative effort of the radiotherapy institutes in Eindhoven and Tilburg and 18 community hospitals, one of its tasks being cancer registration.

Access to clinical specialists was good until 2000, generally through general practitioners, one for every 2200 persons. Despite a markedly ageing population the number of hospital beds decreased from 5 to 2.5 per 1000 persons in the past 20 years, while the number of nursing home beds has increased, as well as, more recently, home care provision. In the late 1990s the hospitals generally comprised 300 to 600 beds.

Registry structure and methods

This regional registry began operation in 1955 as part of a programme for nationwide cancer registration. The 13 participating hospitals of the 1970s have now been merged into 6. The registry has always cooperated systematically with up to four regional pathology laboratories, which have paraffin-embedded blocks of biopsy specimens from all patients since the 1970s. These laboratories also serve physicians outside hospitals. Moreover, through medical records departments the registry has access to the medical records of most hospitals, in particular in the regional Department of Radiotherapy in Eindhoven, which has gradually extended service to all of these hospitals. Since 1988 the registry functions within the scope of a national scheme for cancer registration which developed since 1984.

Assessment of completeness and accuracy was carried out in the period 1980–83 with the support of the Department of Epidemiology of the Erasmus University, Rotterdam. The database was initially computerized for patients registered since 1974 and patients diagnosed before were added in 1994.

Extensive analyses of incidence since 1958 became thus possible, e.g. for lung and breast cancer, both of which exhibited major changes. Data have now been submitted to *Cancer Incidence in Five Continents* and Eurocim since 1958. They include non-melanoma skin cancer, because of early involvement of dermatologists and pathologists.

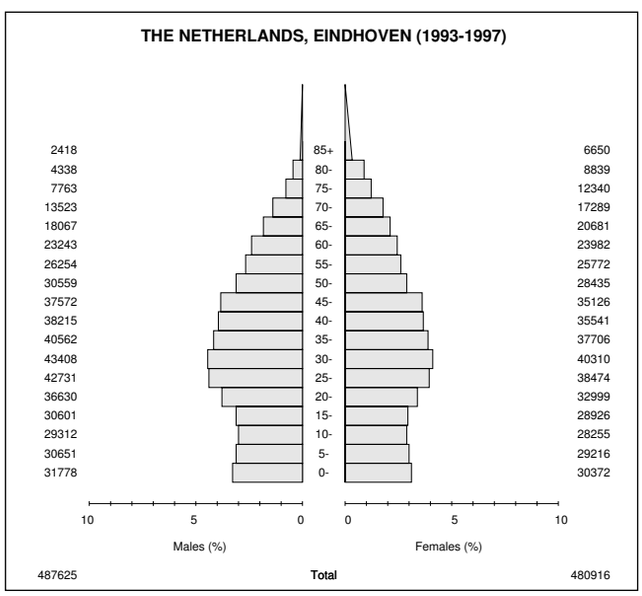
Using the municipal population registers, active follow-up with respect to vital status was performed in 1987, 1991, 1994, 1999 and recently 2002. The percentage of patients lost to follow-up declined from 5% to less than 1%. The national death index at the Central Bureau of Genealogy is also used.

Interpreting the results

Screening for cervical cancer, started already during the 1970s but declining in the 1980s, started again in 1996 among women 30–60 years of age with a five-year interval programme. Biannual mass mammography screening for breast cancer gradually started among women between 50 and 70 years during 1992.

Use of the data

Regular overviews of trends in incidence, stage and survival of patients registered since 1958 are published every five years, including detailed information on uncommon tumours and prevalence since 1970 and co-morbidity at diagnosis since 1993. Cancer survival has also been studied since 1978 within the framework of the EUROCARE study.



Source of population

Population data are calculated annually for 1 January; they are derived by Statistics Netherlands from the municipal population registries.

THE NETHERLANDS, EINDHOVEN (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	46	0.4	1.9	**1.4**	0.06	0.18	11	0.1	0.5	**0.2**	0.01	0.02	*C00*
Tongue	54	0.5	2.2	**1.7**	0.10	0.19	15	0.2	0.6	**0.4**	0.04	0.05	*C01-02*
Mouth	72	0.7	3.0	**2.2**	0.12	0.28	52	0.6	2.2	**1.5**	0.12	0.18	*C03-06*
Salivary glands	16	0.2	0.7	**0.5**	0.03	0.07	16	0.2	0.7	**0.4**	0.03	0.05	*C07-08*
Tonsil	26	0.3	1.1	**0.8**	0.06	0.10	10	0.1	0.4	**0.3**	0.03	0.03	*C09*
Other oropharynx	10	0.1	0.4	**0.3**	0.01	0.05	8	0.1	0.3	**0.3**	0.02	0.03	*C10*
Nasopharynx	9	0.1	0.4	**0.3**	0.01	0.04	2	0.0	0.1	**0.0**	0.00	0.00	*C11*
Hypopharynx	40	0.4	1.6	**1.2**	0.08	0.12	3	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	5	0.0	0.2	**0.1**	0.01	0.01	2	0.0	0.1	**0.1**	0.00	0.01	*C14*
Oesophagus	130	1.3	5.3	**4.1**	0.24	0.53	71	0.8	3.0	**1.7**	0.10	0.18	*C15*
Stomach	496	4.8	20.3	**15.3**	0.63	1.88	283	3.2	11.8	**6.0**	0.24	0.60	*C16*
Small intestine	26	0.3	1.1	**0.8**	0.07	0.09	16	0.2	0.7	**0.4**	0.02	0.04	*C17*
Colon	840	8.1	34.5	**25.6**	0.99	3.08	820	9.2	34.1	**19.4**	0.86	2.25	*C18*
Rectum	551	5.3	22.6	**17.2**	0.92	2.13	402	4.5	16.7	**10.2**	0.58	1.27	*C19-20*
Anus	13	0.1	0.5	**0.4**	0.03	0.05	13	0.1	0.5	**0.3**	0.02	0.04	*C21*
Liver	45	0.4	1.8	**1.4**	0.07	0.17	29	0.3	1.2	**0.7**	0.04	0.08	*C22*
Gallbladder etc.	74	0.7	3.0	**2.3**	0.10	0.27	93	1.0	3.9	**2.2**	0.09	0.27	*C23-24*
Pancreas	188	1.8	7.7	**5.7**	0.27	0.66	163	1.8	6.8	**3.8**	0.15	0.50	*C25*
Nose, sinuses etc.	25	0.2	1.0	**0.7**	0.03	0.10	8	0.1	0.3	**0.2**	0.01	0.03	*C30-31*
Larynx	199	1.9	8.2	**6.3**	0.35	0.80	34	0.4	1.4	**1.0**	0.08	0.13	*C32*
Trachea, bronchus and lung	2368	22.9	97.1	**73.0**	3.36	9.20	520	5.8	21.6	**14.7**	1.00	1.81	*C33-34*
Other thoracic organs	12	0.1	0.5	**0.5**	0.03	0.05	8	0.1	0.3	**0.3**	0.02	0.03	*C37-38*
Bone	25	0.2	1.0	**1.0**	0.06	0.07	27	0.3	1.1	**1.2**	0.07	0.09	*C40-41*
Melanoma of skin	280	2.7	11.5	**8.9**	0.62	0.89	379	4.3	15.8	**12.3**	0.96	1.12	*C43*
Other skin	2355		96.6	**73.0**	3.65	8.37	2213		92.0	**58.2**	3.73	6.41	*C44*
Mesothelioma	57	0.6	2.3	**1.8**	0.13	0.22	11	0.1	0.5	**0.3**	0.01	0.05	*C45*
Kaposi sarcoma	6	0.1	0.2	**0.2**	0.02	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	90	0.9	3.7	**3.0**	0.17	0.31	60	0.7	2.5	**1.7**	0.10	0.13	*C47+C49*
Breast	15	0.1	0.6	**0.5**	0.02	0.06	2976	33.5	123.8	**85.3**	6.37	9.55	*C50*
Vulva							52	0.6	2.2	**1.3**	0.06	0.13	*C51*
Vagina							8	0.1	0.3	**0.2**	0.01	0.02	*C52*
Cervix uteri							223	2.5	9.3	**6.8**	0.50	0.70	*C53*
Corpus uteri							493	5.5	20.5	**13.6**	0.92	1.71	*C54*
Uterus unspecified							0	0.0	0.0	**0.0**	0.00	0.00	*C55*
Ovary							441	5.0	18.3	**12.8**	0.87	1.50	*C56*
Other female genital organs							8	0.1	0.3	**0.2**	0.01	0.02	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	19	0.2	0.8	**0.6**	0.03	0.07							*C60*
Prostate	1728	16.7	70.9	**52.1**	1.45	6.30							*C61*
Testis	128	1.2	5.2	**4.4**	0.33	0.35							*C62*
Other male genital organs	5	0.0	0.2	**0.1**	0.00	0.02							*C63*
Kidney	255	2.5	10.5	**8.2**	0.48	1.01	170	1.9	7.1	**4.7**	0.29	0.54	*C64*
Renal pelvis	40	0.4	1.6	**1.2**	0.05	0.17	19	0.2	0.8	**0.4**	0.02	0.05	*C65*
Ureter	22	0.2	0.9	**0.7**	0.02	0.09	11	0.1	0.5	**0.3**	0.01	0.03	*C66*
Bladder	925	8.9	37.9	**28.4**	1.15	3.41	239	2.7	9.9	**5.8**	0.31	0.66	*C67*
Other urinary organs	10	0.1	0.4	**0.3**	0.01	0.03	2	0.0	0.1	**0.1**	0.00	0.01	*C68*
Eye	29	0.3	1.2	**1.0**	0.06	0.10	14	0.2	0.6	**0.4**	0.02	0.05	*C69*
Brain, nervous system	178	1.7	7.3	**6.2**	0.43	0.60	126	1.4	5.2	**4.7**	0.32	0.43	*C70-72*
Thyroid	24	0.2	1.0	**0.8**	0.05	0.08	92	1.0	3.8	**3.1**	0.22	0.29	*C73*
Adrenal gland	4	0.0	0.2	**0.2**	0.01	0.01	3	0.0	0.1	**0.1**	0.01	0.01	*C74*
Other endocrine	4	0.0	0.2	**0.2**	0.01	0.01	1	0.0	0.0	**0.0**	0.00	0.01	*C75*
Hodgkin disease	75	0.7	3.1	**2.9**	0.19	0.23	44	0.5	1.8	**1.6**	0.10	0.14	*C81*
Non-Hodgkin lymphoma	303	2.9	12.4	**9.8**	0.52	1.11	249	2.8	10.4	**6.6**	0.43	0.67	*C82-85,C96*
Immunoproliferative diseases	10	0.1	0.4	**0.3**	0.01	0.04	8	0.1	0.3	**0.2**	0.00	0.03	*C88*
Multiple myeloma	132	1.3	5.4	**4.1**	0.17	0.53	97	1.1	4.0	**2.4**	0.14	0.32	*C90*
Lymphoid leukaemia	112	1.1	4.6	**4.3**	0.18	0.42	77	0.9	3.2	**2.7**	0.12	0.26	*C91*
Myeloid leukaemia	126	1.2	5.2	**4.4**	0.25	0.43	85	1.0	3.5	**2.7**	0.17	0.25	*C92-94*
Leukaemia unspecified	5	0.0	0.2	**0.2**	0.01	0.02	3	0.0	0.1	**0.1**	0.00	0.00	*C95*
Other and unspecified	485	4.7	19.9	**14.9**	0.63	1.70	394	4.4	16.4	**9.4**	0.46	1.05	*O&U*
All sites	12692		520.6	**395.5**	18.30	46.72	11104		461.8	**303.6**	19.71	33.86	*ALL*
All sites but C44	10337	100.0	424.0	**322.6**	14.65	38.35	8891	100.0	369.8	**245.4**	15.98	27.44	*ALLbC44*

The Netherlands, Maastricht

Registration area

The Maastricht Cancer Registry is situated in the south-east of the Netherlands, and comprises the southern and middle parts of the province of Limburg, an area of some 1355 km^2. A large area to the west, south and east is bordered by Belgium and Germany. The Eindhoven Cancer Registry is on the northern boundary.

In the southern part of Limburg, population density in 1996 was 952 per km^2, and in the middle 335 per km^2. About 29% of the population lived in rural municipalities, 57% in sparsely and moderately urbanized municipalities and 14% in densely urbanized municipalities.

Current industrial activities in the region include chemical, automobile, ceramics and cement industries. From 1919 to 1975 coal mining was a very important source of employment; the province of Limburg was the only mining region in the Netherlands. In 1992, about 32% of the working population were employed in industry and 4% in agriculture. The great majority of the Limburg population are Catholic.

Cancer care facilities

There is easy access to medical care in the Netherlands. About 60% of the population are covered for medical expenses by a government plan for people with lower incomes (sick funds). The large majority of people with higher incomes are privately insured.

In the Province of Limburg, there is about one general practitioner per 2300 inhabitants. Medical specialists usually work at the hospitals; they can be consulted after referral by the general practitioner. Almost all cancer patients are diagnosed and treated by medical specialists. In the MCR area, there are five general hospitals and one university hospital with a total of 3800 beds. The area also has one radiotherapy institute.

Registry structure and methods

The Maastricht Cancer Registry was established in 1984 as part of the Comprehensive Cancer Centre (CCC) Limburg. Within CCC, there is collaboration between the hospitals, Maastricht University and the Radiotherapy Institute of Limburg. The aim of the Comprehensive Cancer Centre is to improve care for cancer patients through research, treatment and coordination of regional activities (e.g. cancer screening). The MCR Cancer Registry is one of nine regional cancer registries in the Netherlands. Together, these registries represent the Netherlands National Cancer Registry.

The staff of the registry includes one physician specialized in epidemiology as head of the registry, two epidemiological researchers, one computer programmer and five tumour registrars. In addition, two consultants on cancer registration (from the field of epidemiology and radiotherapy) are available.

Notification is voluntary. The cancer registry receives lists of newly diagnosed cases on a regular basis from the seven pathology departments in the region. In addition, lists of hospitalized cancer patients are provided by the medical records departments of the six hospitals. Following notification, the medical records of newly diagnosed patients are collected and the necessary information is abstracted from the medical records by trained tumour registrars for the cancer registry. Death certificates cannot be used because of the privacy regulations of the Dutch Central Bureau of Statistics. Tumour data are copied onto registration forms at the hospitals and entered into the computer at the registration office. Identifying information is entered into a portable personal computer at the hospital. After encryption, these data are also sent to the registration office. This procedure provides optimal protection of the privacy of cancer patients. Patients treated at hospitals in other parts of the Netherlands are notified by the national cancer registry.

Completeness of records, data consistency and the possibility of duplicate records are continuously and extensively checked by the computer program.

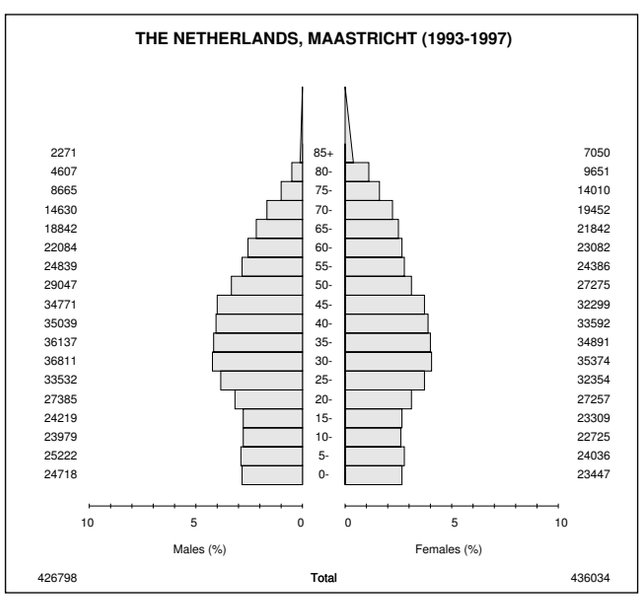
Interpreting the results

Research into the completeness of ascertainment and into validity and accuracy of data has shown that the quality of the data is high (*Int. J. Epidemiol.*, 1993, 22, 369–376, *Br. J. Cancer*, 1993, 68, 974–977; *Int. J. Epidemiol.*, 1994, 23, 1111–1116).

In December 1990, an organized breast cancer screening programme covering women aged 50–69 resulted in a large, temporary increase in the number of breast cancers detected. A cervical cancer screening programme was started in 1992, and expanded to the whole region in 1996, for women aged 30–60. Trends in prostate cancer incidence also show a large increase, chiefly in early-stage tumours, associated with opportunistic PSA screening.

Use of the data

The registry regularly publishes a report on cancer incidence. Data from the Maastricht Cancer Registry have been used for etiological research, evaluation of the breast cancer screening programme and the study of the diagnosis and treatment of cancer in the elderly. The data are also used to plan health-care facilities.



Source of population

Population data are calculated annually for 1 January by the municipal population registries.

Notes on the data

† C44 does not include basal cell carcinoma.

THE NETHERLANDS, MAASTRICHT (1993-1997)

	MALE						FEMALE						
SITE	No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	19	0.2	0.9	**0.6**	0.04	0.07	8	0.1	0.4	**0.2**	0.00	0.02	*C00*
Tongue	56	0.6	2.6	**1.8**	0.12	0.21	27	0.3	1.2	**0.8**	0.06	0.08	*C01-02*
Mouth	87	0.9	4.1	**2.8**	0.24	0.33	36	0.4	1.7	**1.0**	0.07	0.11	*C03-06*
Salivary glands	16	0.2	0.7	**0.6**	0.03	0.07	13	0.2	0.6	**0.3**	0.01	0.03	*C07-08*
Tonsil	34	0.3	1.6	**1.1**	0.08	0.13	12	0.1	0.6	**0.4**	0.03	0.05	*C09*
Other oropharynx	33	0.3	1.5	**1.1**	0.09	0.13	4	0.0	0.2	**0.1**	0.01	0.02	*C10*
Nasopharynx	21	0.2	1.0	**0.7**	0.05	0.08	4	0.0	0.2	**0.2**	0.01	0.02	*C11*
Hypopharynx	47	0.5	2.2	**1.5**	0.14	0.18	9	0.1	0.4	**0.2**	0.02	0.03	*C12-13*
Pharynx unspecified	6	0.1	0.3	**0.2**	0.02	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	176	1.7	8.2	**5.6**	0.33	0.73	45	0.5	2.1	**1.1**	0.06	0.13	*C15*
Stomach	403	4.0	18.9	**12.0**	0.46	1.39	301	3.6	13.8	**6.6**	0.29	0.75	*C16*
Small intestine	15	0.1	0.7	**0.5**	0.02	0.05	15	0.2	0.7	**0.4**	0.02	0.05	*C17*
Colon	736	7.3	34.5	**22.1**	0.90	2.65	846	10.0	38.8	**19.4**	0.94	2.24	*C18*
Rectum	570	5.6	26.7	**17.3**	0.84	2.06	444	5.2	20.4	**10.4**	0.52	1.27	*C19-20*
Anus	17	0.2	0.8	**0.6**	0.05	0.06	20	0.2	0.9	**0.5**	0.03	0.05	*C21*
Liver	60	0.6	2.8	**1.9**	0.07	0.23	27	0.3	1.2	**0.6**	0.03	0.07	*C22*
Gallbladder etc.	86	0.8	4.0	**2.6**	0.12	0.27	96	1.1	4.4	**2.0**	0.08	0.24	*C23-24*
Pancreas	224	2.2	10.5	**6.8**	0.32	0.85	183	2.2	8.4	**4.0**	0.18	0.43	*C25*
Nose, sinuses etc.	30	0.3	1.4	**0.9**	0.06	0.10	6	0.1	0.3	**0.2**	0.01	0.02	*C30-31*
Larynx	209	2.1	9.8	**6.6**	0.43	0.85	31	0.4	1.4	**0.9**	0.07	0.11	*C32*
Trachea, bronchus and lung	2230	22.0	104.5	**67.1**	2.99	8.81	609	7.2	27.9	**16.9**	1.14	2.11	*C33-34*
Other thoracic organs	21	0.2	1.0	**0.7**	0.03	0.06	7	0.1	0.3	**0.3**	0.02	0.03	*C37-38*
Bone	13	0.1	0.6	**0.5**	0.04	0.05	17	0.2	0.8	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	202	2.0	9.5	**6.9**	0.50	0.71	296	3.5	13.6	**9.9**	0.74	0.95	*C43*
†Other skin	500		23.4	**15.1**	0.45	1.55	260		11.9	**5.6**	0.25	0.60	*C44*
Mesothelioma	106	1.0	5.0	**3.4**	0.19	0.46	14	0.2	0.6	**0.4**	0.02	0.05	*C45*
Kaposi sarcoma	9	0.1	0.4	**0.3**	0.03	0.03	1	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	75	0.7	3.5	**2.7**	0.17	0.28	60	0.7	2.8	**1.9**	0.12	0.15	*C47+C49*
Breast	13	0.1	0.6	**0.4**	0.03	0.04	2663	31.4	122.1	**77.5**	5.79	8.56	*C50*
Vulva							44	0.5	2.0	**1.1**	0.05	0.12	*C51*
Vagina							9	0.1	0.4	**0.3**	0.02	0.03	*C52*
Cervix uteri							228	2.7	10.5	**6.9**	0.52	0.69	*C53*
Corpus uteri							383	4.5	17.6	**10.1**	0.63	1.34	*C54*
Uterus unspecified							2	0.0	0.1	**0.0**	0.00	0.00	*C55*
Ovary							420	5.0	19.3	**12.1**	0.87	1.48	*C56*
Other female genital organs							19	0.2	0.9	**0.5**	0.04	0.06	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	21	0.2	1.0	**0.7**	0.03	0.06							*C60*
Prostate	1784	17.6	83.6	**51.9**	1.45	6.42							*C61*
Testis	127	1.3	6.0	**5.3**	0.38	0.42							*C62*
Other male genital organs	4	0.0	0.2	**0.1**	0.01	0.02							*C63*
Kidney	266	2.6	12.5	**8.4**	0.44	1.02	183	2.2	8.4	**5.0**	0.28	0.59	*C64*
Renal pelvis	22	0.2	1.0	**0.7**	0.02	0.09	12	0.1	0.6	**0.3**	0.01	0.04	*C65*
Ureter	30	0.3	1.4	**0.9**	0.03	0.10	9	0.1	0.4	**0.2**	0.01	0.03	*C66*
Bladder	932	9.2	43.7	**27.9**	1.10	3.48	225	2.7	10.3	**5.2**	0.28	0.61	*C67*
Other urinary organs	11	0.1	0.5	**0.3**	0.01	0.05	1	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	12	0.1	0.6	**0.5**	0.03	0.05	19	0.2	0.9	**0.6**	0.02	0.07	*C69*
Brain, nervous system	156	1.5	7.3	**5.6**	0.40	0.58	119	1.4	5.5	**4.6**	0.29	0.43	*C70-72*
Thyroid	40	0.4	1.9	**1.6**	0.10	0.13	55	0.6	2.5	**2.1**	0.13	0.19	*C73*
Adrenal gland	6	0.1	0.3	**0.2**	0.01	0.03	8	0.1	0.4	**0.4**	0.02	0.02	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	52	0.5	2.4	**1.9**	0.13	0.18	33	0.4	1.5	**1.6**	0.11	0.11	*C81*
Non-Hodgkin lymphoma	316	3.1	14.8	**10.6**	0.64	1.17	249	2.9	11.4	**6.5**	0.36	0.68	*C82-85,C96*
Immunoproliferative diseases	10	0.1	0.5	**0.3**	0.02	0.05	6	0.1	0.3	**0.1**	0.01	0.01	*C88*
Multiple myeloma	105	1.0	4.9	**3.3**	0.17	0.41	90	1.1	4.1	**2.3**	0.14	0.28	*C90*
Lymphoid leukaemia	114	1.1	5.3	**4.9**	0.26	0.41	71	0.8	3.3	**2.7**	0.12	0.22	*C91*
Myeloid leukaemia	102	1.0	4.8	**3.5**	0.19	0.36	80	0.9	3.7	**1.9**	0.10	0.21	*C92-94*
Leukaemia unspecified	9	0.1	0.4	**0.3**	0.00	0.04	6	0.1	0.3	**0.2**	0.01	0.02	*C95*
Other and unspecified	515	5.1	24.1	**15.9**	0.71	1.84	408	4.8	18.7	**9.1**	0.41	1.02	*O&U*
All sites	10648		499.0	**329.1**	14.98	39.34	8734		400.6	**236.4**	15.01	26.46	*ALL*
All sites but C44	10148	100.0	475.5	**314.1**	14.53	37.79	8474	100.0	388.7	**230.7**	14.77	25.86	*ALLbC44*

†See note following population pyramid

Norway

Registration area

Norway covers 324 000 km² between latitudes 57° and 71° N and longitudes 4° and 31° E. The total population is 4 600 000, most of whom are Caucasians, but 0.5% are Lapps and 4% are foreign-born. At the 1990 census the main occupations for men were: industry 23%, agriculture 8%, community 23% and other services 46%; the corresponding figures for women were: industry 4%, agriculture 4%, community 50% and other services 42%.

Cancer care facilities

In 1993 there were approximately 4 hospital beds and 3 physicians per 1000 inhabitants. Surgical treatment of cancer is carried out both in general hospitals and at oncological centres.

Registry structure and methods

The Cancer Registry of Norway was initiated by the Norwegian Cancer Society and established in 1951. Since 1979 the Ministry of Health and Social Affairs has been administratively and financially responsible for the registry.

Site and morphology have been coded according to ICD-O-2 since 1993. Before 1993, site was coded according to ICD-7, while the morphology was coded according to a modified verson of SNOMED. Primary tumours in different organs in one individual are classified as independent tumours. If multiple tumours occur within paired organs or other sites within the same ICD-code (e.g. kidney, colon), the case is classified in such a way that it can be counted either as one primary cancer only or as the number of primaries that actually exist. For the female breast, two primary cancers may be registered in one individual. A double coding system is also used for lymphomas. Lymphomas in, for instance, the tonsils or the stomach are coded both to the lymphoma site and to the specific organ site.

The registry is based on compulsory reporting of all new cases of cancer in the Norwegian population since 1953. Each year the registry receives more than 100 000 reports which include clinical forms, copies of cytology, biopsy and autopsy reports, and copies of death certificates from Statistics Norway. The registry is organized as a multi-user on-line database. All reports are interpreted and, after coding, updated and processed. At regular intervals, the registry material is matched against all deaths in the country and date and cause of death are recorded. Since the 1960 census, all inhabitants of Norway have a unique personal identification number, and this number is used to link records from the different data sources.

Use of the data

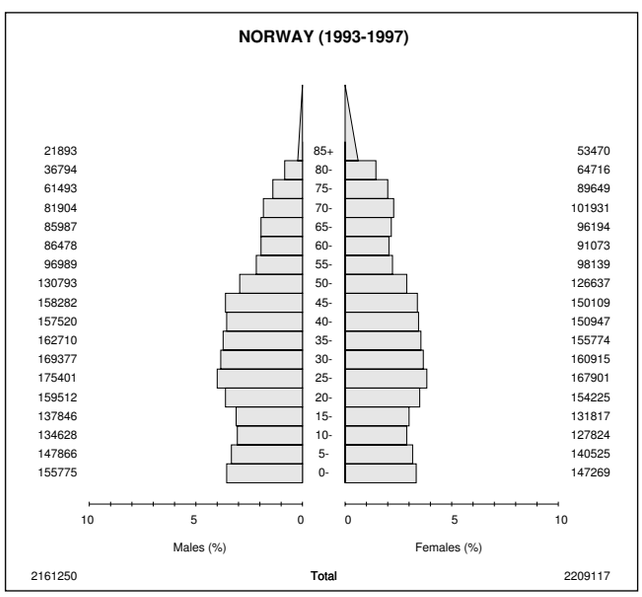
The basic aims of the registry are to describe the patterns of cancer in Norway, and temporal changes, and to analyse survival. The registry also advises the Director of Health and the oncological cancer centres, particularly for planning diagnostic and therapeutic facilities. The data are used as a basis for planning by the health authorities.

Annual reports on cancer incidence and summary reports with more detailed information on incidence are published regularly. Reports covering survival, trends in incidence and geographical variation in incidence are published. The registry is used extensively as an end-point in cohort studies of environmental factors in relation to cancer risk and medical procedure in relation to prognosis.

Analytical research is conducted into cancer and endogenous and exogenous carcinogens, especially those that are linked to residence, occupation or lifestyle factors.

Studies are also carried out in collaboration with other health and research institutes, and with cancer registries in other countries.

The registry is involved in the organization of nationwide mass screening for cervical and breast cancer.



Source of population

Average annual taken from an annual census.

Notes on the data

† C44 does not include basal cell or squamous cell carcinoma.

NORWAY (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	319	0.6	3.0	**1.8**	0.10	0.23	101	0.2	0.9	**0.5**	0.03	0.05	*C00*
Tongue	206	0.4	1.9	**1.3**	0.09	0.15	108	0.2	1.0	**0.6**	0.04	0.06	*C01-02*
Mouth	320	0.6	3.0	**2.1**	0.14	0.26	230	0.5	2.1	**1.1**	0.07	0.12	*C03-06*
Salivary glands	89	0.2	0.8	**0.5**	0.03	0.07	94	0.2	0.9	**0.5**	0.03	0.06	*C07-08*
Tonsil	124	0.3	1.1	**0.9**	0.07	0.10	46	0.1	0.4	**0.3**	0.02	0.04	*C09*
Other oropharynx	40	0.1	0.4	**0.3**	0.02	0.04	13	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	53	0.1	0.5	**0.4**	0.03	0.04	15	0.0	0.1	**0.1**	0.00	0.01	*C11*
Hypopharynx	130	0.3	1.2	**0.9**	0.06	0.11	27	0.1	0.2	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	11	0.0	0.1	**0.1**	0.01	0.01	1	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	549	1.1	5.1	**3.3**	0.16	0.43	213	0.5	1.9	**0.8**	0.03	0.11	*C15*
Stomach	2188	4.4	20.2	**11.6**	0.47	1.36	1454	3.2	13.2	**5.5**	0.24	0.61	*C16*
Small intestine	179	0.4	1.7	**1.1**	0.06	0.13	147	0.3	1.3	**0.7**	0.04	0.08	*C17*
Colon	4238	8.6	39.2	**22.9**	1.00	2.70	5177	11.3	46.9	**21.5**	1.06	2.56	*C18*
Rectum	2879	5.8	26.6	**16.2**	0.75	2.03	2315	5.1	21.0	**10.3**	0.55	1.23	*C19-20*
Anus	85	0.2	0.8	**0.5**	0.03	0.06	177	0.4	1.6	**0.9**	0.06	0.10	*C21*
Liver	282	0.6	2.6	**1.7**	0.08	0.20	196	0.4	1.8	**0.9**	0.04	0.09	*C22*
Gallbladder etc.	261	0.5	2.4	**1.4**	0.06	0.16	352	0.8	3.2	**1.5**	0.07	0.17	*C23-24*
Pancreas	1390	2.8	12.9	**7.5**	0.33	0.89	1505	3.3	13.6	**5.8**	0.25	0.68	*C25*
Nose, sinuses etc.	94	0.2	0.9	**0.5**	0.02	0.07	79	0.2	0.7	**0.4**	0.02	0.04	*C30-31*
Larynx	527	1.1	4.9	**3.3**	0.21	0.44	104	0.2	0.9	**0.6**	0.04	0.08	*C32*
Trachea, bronchus and lung	6215	12.6	57.5	**36.4**	1.78	4.79	3021	6.6	27.4	**16.6**	1.07	2.16	*C33-34*
Other thoracic organs	91	0.2	0.8	**0.5**	0.03	0.06	29	0.1	0.3	**0.2**	0.01	0.02	*C37-38*
Bone	122	0.2	1.1	**1.1**	0.07	0.09	104	0.2	0.9	**0.8**	0.06	0.07	*C40-41*
Melanoma of skin	2128	4.3	19.7	**14.3**	1.01	1.60	2444	5.3	22.1	**16.1**	1.22	1.66	*C43*
†Other skin	2500		23.1	**12.5**	0.39	1.30	2070		18.7	**7.5**	0.32	0.76	*C44*
Mesothelioma	220	0.4	2.0	**1.3**	0.08	0.18	45	0.1	0.4	**0.2**	0.02	0.03	*C45*
Kaposi sarcoma	61	0.1	0.6	**0.4**	0.02	0.03	26	0.1	0.2	**0.1**	0.00	0.01	*C46*
Connective and soft tissue	341	0.7	3.2	**2.3**	0.13	0.24	274	0.6	2.5	**1.6**	0.10	0.15	*C47+C49*
Breast	65	0.1	0.6	**0.4**	0.02	0.05	10783	23.6	97.6	**63.2**	4.69	7.05	*C50*
Vulva							371	0.8	3.4	**1.7**	0.09	0.18	*C51*
Vagina							99	0.2	0.9	**0.5**	0.03	0.05	*C52*
Cervix uteri							1777	3.9	16.1	**12.2**	0.95	1.21	*C53*
Corpus uteri							2348	5.1	21.3	**13.5**	1.00	1.66	*C54*
Uterus unspecified							56	0.1	0.5	**0.3**	0.02	0.03	*C55*
Ovary							2293	5.0	20.8	**13.2**	0.94	1.52	*C56*
Other female genital organs							156	0.3	1.4	**0.7**	0.04	0.08	*C57*
Placenta							11	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	153	0.3	1.4	**0.9**	0.04	0.11							*C60*
Prostate	12094	24.5	111.9	**60.9**	1.83	7.26							*C61*
Testis	982	2.0	9.1	**8.2**	0.60	0.63							*C62*
Other male genital organs	45	0.1	0.4	**0.2**	0.01	0.03							*C63*
Kidney	1329	2.7	12.3	**8.0**	0.46	0.97	937	2.0	8.5	**4.6**	0.25	0.54	*C64*
Renal pelvis	201	0.4	1.9	**1.1**	0.06	0.14	123	0.3	1.1	**0.5**	0.02	0.06	*C65*
Ureter	126	0.3	1.2	**0.7**	0.03	0.09	60	0.1	0.5	**0.2**	0.01	0.03	*C66*
Bladder	3947	8.0	36.5	**21.3**	0.91	2.55	1333	2.9	12.1	**5.5**	0.26	0.66	*C67*
Other urinary organs	78	0.2	0.7	**0.4**	0.02	0.05	39	0.1	0.4	**0.2**	0.01	0.02	*C68*
Eye	135	0.3	1.2	**1.0**	0.05	0.10	142	0.3	1.3	**0.9**	0.06	0.09	*C69*
Brain, nervous system	1052	2.1	9.7	**7.8**	0.49	0.76	962	2.1	8.7	**6.5**	0.41	0.62	*C70-72*
Thyroid	224	0.5	2.1	**1.5**	0.11	0.16	643	1.4	5.8	**4.3**	0.32	0.41	*C73*
Adrenal gland	32	0.1	0.3	**0.3**	0.01	0.02	34	0.1	0.3	**0.3**	0.02	0.03	*C74*
Other endocrine	12	0.0	0.1	**0.1**	0.01	0.01	10	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	251	0.5	2.3	**2.2**	0.15	0.17	155	0.3	1.4	**1.3**	0.09	0.10	*C81*
Non-Hodgkin lymphoma	1603	3.2	14.8	**10.3**	0.62	1.12	1370	3.0	12.4	**7.4**	0.48	0.84	*C82-85,C96*
Immunoproliferative diseases	61	0.1	0.6	**0.3**	0.01	0.04	48	0.1	0.4	**0.2**	0.02	0.03	*C88*
Multiple myeloma	657	1.3	6.1	**3.5**	0.16	0.39	545	1.2	4.9	**2.1**	0.09	0.24	*C90*
Lymphoid leukaemia	562	1.1	5.2	**3.9**	0.19	0.35	405	0.9	3.7	**2.5**	0.12	0.20	*C91*
Myeloid leukaemia	526	1.1	4.9	**3.3**	0.17	0.36	436	1.0	3.9	**2.3**	0.13	0.23	*C92-94*
Leukaemia unspecified	170	0.3	1.6	**1.0**	0.04	0.10	128	0.3	1.2	**0.5**	0.03	0.06	*C95*
Other and unspecified	1947	3.9	18.0	**10.3**	0.40	1.12	2167	4.7	19.6	**8.5**	0.38	0.95	*O&U*
All sites	51894		480.2	**295.0**	13.60	34.32	47798		432.7	**248.8**	15.87	27.84	*ALL*
All sites but C44	49394	100.0	457.1	**282.5**	13.22	33.01	45728	100.0	414.0	**241.3**	15.55	27.08	*ALLbC44*

†See note following population pyramid

Poland, Cracow

Registration area

The Cracow Cancer Registry covers the population of the Cracow Region in southern Poland, an area of 3254 km^2. In 1996 the City of Cracow, the data for which are presented here, had 740 675 inhabitants (46.9% male, 53.1% female). The population is little differentiated ethnically, and the large majority is Roman Catholic. The principal industries are metallurgy, electro-mechanics, chemicals and food processing.

Cancer care facilities

In Cracow, diagnostic and treatment services for cancer are provided by the Centre of Oncology Maria Sklodowska-Curie Memorial Institute (radiotherapy, cancer surgery, chemotherapy), and 22 clinics of the Collegium Medicum Jagiellonian University (radiotherapy, cancer surgery, chemotherapy). Patients are also treated at ten hospitals in Cracow.

Registry structure and methods

The registry is part of the Epidemiology Unit of the Centre of Oncology Maria Sklodowska-Curie Memorial Institute. The registry receives financial support from the Ministry of Health and Social Welfare. The staff consists of an epidemiologist, three registrars, a statistician, and two computer programmers.

Notification of cancer cases or suspected malignant neoplasms has been compulsory in Poland since 1952. All hospitals and outpatient clinics have to report all cancer cases on special cards which are submitted to the registry.

In the registry, each new notification is compared and checked with the main database of cases already registered.

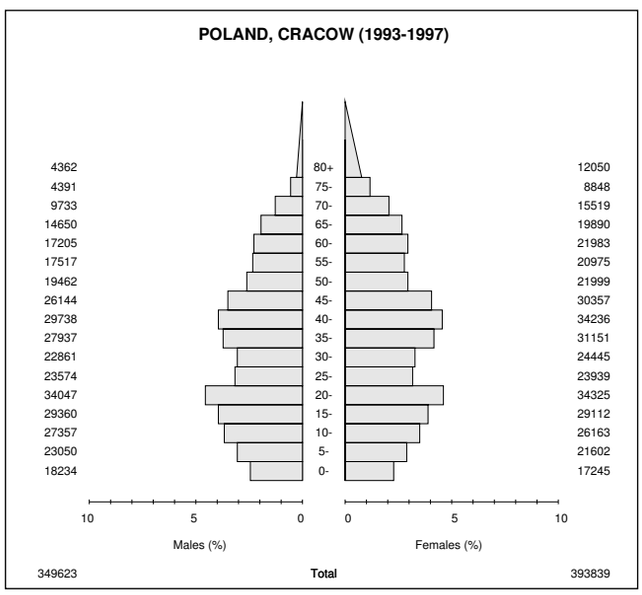
The registry also conducts active registration by checking hospital records, pathology records and death certificates. Patient follow-up is carried out by the registry every year through the checking of medical records and death certificates. If no data about cancer patients are available, information is collected via the Address Office in Cracow.

Quality control of the data is done using the IARC-CHECK program and other programs developed in the registry.

Use of the data

The registry publishes an annual report of cancer incidence and mortality by sex, age, primary site, and place of residence. In addition, the registry is preparing survival analysis of cancer patients.

The Cracow Cancer Registry is participating in the EUROCARE multicentre studies on survival and care of patients, and the Europreval multicentre studies on cancer prevalence. The data from the Cracow Cancer Registry are in the EUROCIM database.



Source of population

Censuses were held in 1978 and 1988. Intercensal estimates were prepared for 1984 and 1995, based on the census data and taking into account births, deaths, migration and administrative changes. Data relating to population are published annually in the *Statistical Journal* of the Central Statistical Office.

Notes on the data

* The proportion of cases registered on the basis of a death certificate alone suggests a degree of under-ascertainment. Haematological malignancies are under-reported.

*POLAND, CRACOW (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	21	0.4	1.2	**0.9**	0.04	0.12	5	0.1	0.3	**0.1**	0.01	0.01	*C00*
Tongue	49	0.9	2.8	**2.2**	0.14	0.28	19	0.3	1.0	**0.7**	0.05	0.07	*C01-02*
Mouth	33	0.6	1.9	**1.5**	0.11	0.17	11	0.2	0.6	**0.4**	0.03	0.04	*C03-06*
Salivary glands	23	0.4	1.3	**1.0**	0.06	0.13	12	0.2	0.6	**0.5**	0.03	0.04	*C07-08*
Tonsil	7	0.1	0.4	**0.3**	0.02	0.04	6	0.1	0.3	**0.2**	0.02	0.02	*C09*
Other oropharynx	33	0.6	1.9	**1.5**	0.09	0.17	11	0.2	0.6	**0.4**	0.02	0.04	*C10*
Nasopharynx	12	0.2	0.7	**0.5**	0.04	0.05	4	0.1	0.2	**0.1**	0.00	0.02	*C11*
Hypopharynx	12	0.2	0.7	**0.5**	0.04	0.07	4	0.1	0.2	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	6	0.1	0.3	**0.3**	0.02	0.04	2	0.0	0.1	**0.1**	0.00	0.00	*C14*
Oesophagus	104	1.8	5.9	**4.7**	0.30	0.56	34	0.5	1.7	**1.0**	0.04	0.11	*C15*
Stomach	473	8.3	27.1	**21.0**	0.96	2.55	265	4.1	13.5	**7.4**	0.32	0.87	*C16*
Small intestine	5	0.1	0.3	**0.2**	0.01	0.01	14	0.2	0.7	**0.5**	0.04	0.05	*C17*
Colon	329	5.8	18.8	**14.6**	0.62	1.65	368	5.7	18.7	**10.2**	0.48	1.17	*C18*
Rectum	261	4.6	14.9	**11.6**	0.58	1.38	232	3.6	11.8	**6.8**	0.35	0.81	*C19-20*
Anus	2	0.0	0.1	**0.1**	0.00	0.00	3	0.0	0.2	**0.1**	0.00	0.01	*C21*
Liver	84	1.5	4.8	**3.8**	0.15	0.46	110	1.7	5.6	**2.9**	0.11	0.35	*C22*
Gallbladder etc.	67	1.2	3.8	**3.0**	0.12	0.36	215	3.3	10.9	**5.6**	0.20	0.64	*C23-24*
Pancreas	176	3.1	10.1	**7.8**	0.46	0.97	215	3.3	10.9	**6.0**	0.31	0.64	*C25*
Nose, sinuses etc.	7	0.1	0.4	**0.3**	0.02	0.04	2	0.0	0.1	**0.0**	0.00	0.00	*C30-31*
Larynx	235	4.1	13.4	**10.6**	0.76	1.35	29	0.4	1.5	**1.0**	0.08	0.13	*C32*
Trachea, bronchus and lung	1570	27.6	89.8	**69.6**	4.02	9.03	562	8.6	28.5	**17.3**	1.03	2.15	*C33-34*
Other thoracic organs	21	0.4	1.2	**1.0**	0.05	0.11	22	0.3	1.1	**0.7**	0.04	0.07	*C37-38*
Bone	12	0.2	0.7	**0.6**	0.03	0.07	29	0.4	1.5	**1.3**	0.08	0.11	*C40-41*
Melanoma of skin	105	1.8	6.0	**4.7**	0.32	0.53	164	2.5	8.3	**5.8**	0.41	0.63	*C43*
Other skin	336		19.2	**14.9**	0.65	1.73	416		21.1	**11.6**	0.51	1.29	*C44*
Mesothelioma	12	0.2	0.7	**0.5**	0.03	0.05	5	0.1	0.3	**0.2**	0.01	0.02	*C45*
Kaposi sarcoma	1	0.0	0.1	**0.0**	0.00	0.01	1	0.0	0.1	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	26	0.5	1.5	**1.3**	0.10	0.13	30	0.5	1.5	**1.3**	0.07	0.11	*C47+C49*
Breast	15	0.3	0.9	**0.7**	0.03	0.10	1496	23.0	76.0	**50.4**	3.64	5.71	*C50*
Vulva							43	0.7	2.2	**1.1**	0.05	0.11	*C51*
Vagina							12	0.2	0.6	**0.4**	0.02	0.04	*C52*
Cervix uteri							550	8.4	27.9	**19.6**	1.55	2.08	*C53*
Corpus uteri							410	6.3	20.8	**13.6**	1.02	1.73	*C54*
Uterus unspecified							15	0.2	0.8	**0.4**	0.03	0.05	*C55*
Ovary							374	5.7	19.0	**12.9**	0.95	1.48	*C56*
Other female genital organs							22	0.3	1.1	**0.6**	0.04	0.06	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	9	0.2	0.5	**0.4**	0.03	0.05							*C60*
Prostate	384	6.7	22.0	**16.8**	0.45	2.02							*C61*
Testis	67	1.2	3.8	**3.3**	0.22	0.27							*C62*
Other male genital organs	4	0.1	0.2	**0.2**	0.00	0.02							*C63*
Kidney	262	4.6	15.0	**11.6**	0.70	1.56	153	2.3	7.8	**4.9**	0.30	0.61	*C64*
Renal pelvis	2	0.0	0.1	**0.1**	0.00	0.00	7	0.1	0.4	**0.2**	0.01	0.03	*C65*
Ureter	0	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.1	**0.0**	0.00	0.00	*C66*
Bladder	353	6.2	20.2	**15.6**	0.67	1.87	111	1.7	5.6	**3.3**	0.16	0.39	*C67*
Other urinary organs	2	0.0	0.1	**0.1**	0.01	0.01	1	0.0	0.1	**0.0**	0.00	0.01	*C68*
Eye	11	0.2	0.6	**0.5**	0.03	0.04	13	0.2	0.7	**0.4**	0.03	0.06	*C69*
Brain, nervous system	136	2.4	7.8	**7.0**	0.43	0.71	124	1.9	6.3	**4.8**	0.32	0.51	*C70-72*
Thyroid	35	0.6	2.0	**1.7**	0.10	0.17	123	1.9	6.2	**4.4**	0.30	0.47	*C73*
Adrenal gland	4	0.1	0.2	**0.2**	0.00	0.03	6	0.1	0.3	**0.2**	0.01	0.03	*C74*
Other endocrine	4	0.1	0.2	**0.2**	0.02	0.03	3	0.0	0.2	**0.1**	0.00	0.02	*C75*
Hodgkin disease	50	0.9	2.9	**2.6**	0.17	0.25	49	0.8	2.5	**2.1**	0.15	0.18	*C81*
Non-Hodgkin lymphoma	144	2.5	8.2	**6.7**	0.38	0.73	148	2.3	7.5	**5.0**	0.32	0.57	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	50	0.9	2.9	**2.2**	0.12	0.28	41	0.6	2.1	**1.2**	0.07	0.15	*C90*
Lymphoid leukaemia	37	0.7	2.1	**2.0**	0.09	0.16	38	0.6	1.9	**1.7**	0.10	0.12	*C91*
Myeloid leukaemia	45	0.8	2.6	**2.5**	0.13	0.21	47	0.7	2.4	**2.1**	0.11	0.18	*C92-94*
Leukaemia unspecified	17	0.3	1.0	**0.7**	0.02	0.09	12	0.2	0.6	**0.4**	0.01	0.01	*C95*
Other and unspecified	375	6.6	21.5	**16.9**	0.88	1.81	340	5.2	17.3	**9.2**	0.40	0.98	*O&U*
All sites	6028		344.8	**271.2**	14.26	32.49	6929		351.9	**221.3**	13.87	24.95	*ALL*
All sites but C44	5692	100.0	325.6	**256.3**	13.60	30.76	6513	100.0	330.7	**209.7**	13.36	23.66	*ALLbC44*

Poland, Kielce

Registration area

The registry covers the Holy Cross Province (area 9211 km^2), one of 49 provinces in Poland. It is located in the south-central part of the country between latitudes 50° and 51° N and longitudes 19° and 21° E. The Holy Cross Mountains (about 600 m above sea level) are situated in the north of the province. In the south is a fertile agricultural region. The Wisla (Vistula) river forms the province's southeastern border.

The annual average temperature is 6.9° C (maximum 32.9° C and minimum –33.9° C). Annual rainfall amounts to about 565 mm.

The population at the most recent official statistical office (1996) was 1 145 782 (about 3% of the Polish population), with 49% males and 51% females (density 123.3 per km^2). 47% of the population lived in the towns and 53% in the country. The average age was 34 years. About 56% of the population are of reproductive age and 28% have not reached 17 years. The majority of the population is Christian.

Cancer care facilities

In 1996 there were 2253 physicians in Kielce Province and 18 hospitals with a total of 6876 beds (60.1 per 10 000) and 161 outpatient clinics. Psychiatric centres are not included. The Holycross Cancer Centre is located in Kielce, the capital of the province, and provides chemotherapy and, since 1997, radiotherapy services.

Registry structure and methods

The Holycross Cancer Registry is a department of the Holycross Cancer Centre and its full name is Department of Epidemiology and Cancer Control, Provincial Cancer Registry. It was founded by the state. It is directed by a physician oncologist, and one full-time biologist, two part-time computer scientists and three full-time registrars staff the registry.

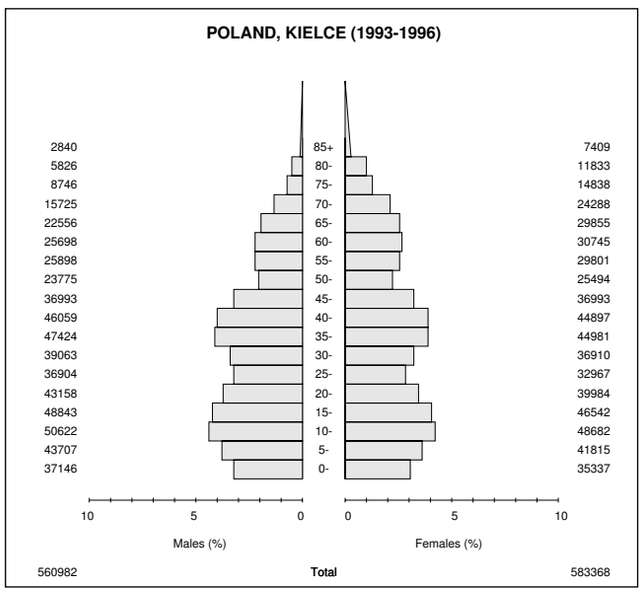
All doctors and medical centres are obliged to report all cases of cancer on a special cancer reporting card, which includes the basic demographic and diagnostic information, by administrative order. Although cancer reporting is obligatory, it is often neglected and therefore reports received have to be completed and checked against data from the main Statistical Office, local civil departments and hospital data by the registry staff

Use of the data

The registry maintains two basic files: a computerized file containing the patient's serial number, sex, surname, name, date of birth, date of first cancer diagnosis, ICD code and year of death (if applicable); and a file containing cards of first and follow-up registration arranged according to information mentioned above.

The registry prepares an annual rapport on cancer incidence and mortality for local government as well as sending the incidence data to the National Cancer Registry of Poland.

The registry cooperates with the European Network and uses EUROCIM for epidemiological research.



Source of population

1988 Census. Official data provided by the Central Statistical Office.

Notes on the data

* The rather low incidence rates, combined with high ratios of mortality to incidence, suggest under-ascertainment. There are some surprising trends since the last volume.

† C67 does not include non-invasive tumours.

*POLAND, KIELCE (1993-1996)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	160	2.3	7.1	**5.5**	0.29	0.72	34	0.6	1.5	**0.7**	0.02	0.08	*C00*
Tongue	27	0.4	1.2	**1.1**	0.10	0.13	6	0.1	0.3	**0.2**	0.01	0.02	*C01-02*
Mouth	38	0.6	1.7	**1.5**	0.10	0.18	15	0.3	0.6	**0.4**	0.03	0.04	*C03-06*
Salivary glands	10	0.1	0.4	**0.4**	0.03	0.04	16	0.3	0.7	**0.4**	0.03	0.05	*C07-08*
Tonsil	9	0.1	0.4	**0.4**	0.03	0.04	4	0.1	0.2	**0.1**	0.01	0.02	*C09*
Other oropharynx	32	0.5	1.4	**1.3**	0.11	0.15	3	0.1	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	12	0.2	0.5	**0.4**	0.03	0.06	9	0.2	0.4	**0.3**	0.02	0.02	*C11*
Hypopharynx	13	0.2	0.6	**0.5**	0.04	0.05	1	0.0	0.0	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	4	0.1	0.2	**0.1**	0.01	0.01	3	0.1	0.1	**0.1**	0.00	0.00	*C14*
Oesophagus	104	1.5	4.6	**3.8**	0.24	0.44	28	0.5	1.2	**0.6**	0.02	0.06	*C15*
Stomach	626	9.1	27.9	**21.6**	1.14	2.67	363	6.4	15.6	**8.6**	0.43	1.02	*C16*
Small intestine	8	0.1	0.4	**0.3**	0.03	0.03	4	0.1	0.2	**0.1**	0.00	0.01	*C17*
Colon	306	4.4	13.6	**10.7**	0.55	1.33	317	5.6	13.6	**7.9**	0.46	0.96	*C18*
Rectum	183	2.7	8.2	**6.4**	0.35	0.82	139	2.4	6.0	**3.6**	0.20	0.42	*C19-20*
‡Anus	146	2.1	6.5	**5.1**	0.26	0.64	166	2.9	7.1	**4.1**	0.23	0.49	*C21*
Liver	67	1.0	3.0	**2.3**	0.09	0.29	74	1.3	3.2	**1.6**	0.06	0.19	*C22*
Gallbladder etc.	79	1.1	3.5	**2.7**	0.12	0.29	251	4.4	10.8	**5.9**	0.28	0.73	*C23-24*
Pancreas	241	3.5	10.7	**8.5**	0.46	1.03	207	3.6	8.9	**4.8**	0.22	0.58	*C25*
Nose, sinuses etc.	21	0.3	0.9	**0.8**	0.06	0.08	13	0.2	0.6	**0.4**	0.02	0.04	*C30-31*
Larynx	344	5.0	15.3	**13.0**	1.02	1.62	37	0.6	1.6	**1.3**	0.10	0.14	*C32*
Trachea, bronchus and lung	2048	29.7	91.3	**73.4**	4.58	9.74	322	5.7	13.8	**8.7**	0.54	1.02	*C33-34*
Other thoracic organs	28	0.4	1.2	**1.0**	0.08	0.11	21	0.4	0.9	**0.6**	0.04	0.06	*C37-38*
Bone	36	0.5	1.6	**1.5**	0.11	0.12	28	0.5	1.2	**0.9**	0.06	0.07	*C40-41*
Melanoma of skin	83	1.2	3.7	**3.1**	0.22	0.34	96	1.7	4.1	**3.0**	0.24	0.33	*C43*
Other skin	565		25.2	**19.7**	1.08	2.36	627		26.9	**15.9**	0.94	1.75	*C44*
Mesothelioma	3	0.0	0.1	**0.1**	0.01	0.02	10	0.2	0.4	**0.3**	0.02	0.04	*C45*
Kaposi sarcoma	1	0.0	0.0	**0.0**	0.00	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	43	0.6	1.9	**1.6**	0.11	0.18	39	0.7	1.7	**1.4**	0.09	0.12	*C47+C49*
Breast	8	0.1	0.4	**0.3**	0.03	0.03	1084	19.0	46.5	**33.5**	2.61	3.65	*C50*
Vulva							54	0.9	2.3	**1.3**	0.07	0.17	*C51*
Vagina							5	0.1	0.2	**0.1**	0.00	0.02	*C52*
Cervix uteri							485	8.5	20.8	**15.4**	1.16	1.65	*C53*
Corpus uteri							375	6.6	16.1	**11.4**	0.89	1.41	*C54*
Uterus unspecified							26	0.5	1.1	**0.8**	0.06	0.07	*C55*
Ovary							345	6.1	14.8	**11.1**	0.88	1.25	*C56*
Other female genital organs							19	0.3	0.8	**0.5**	0.02	0.06	*C57*
Placenta							1	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	3	0.0	0.1	**0.1**	0.00	0.02							*C60*
Prostate	496	7.2	22.1	**15.8**	0.36	1.91							*C61*
Testis	57	0.8	2.5	**2.2**	0.16	0.18							*C62*
Other male genital organs	8	0.1	0.4	**0.3**	0.01	0.02							*C63*
Kidney	235	3.4	10.5	**8.8**	0.61	1.11	136	2.4	5.8	**4.3**	0.30	0.50	*C64*
Renal pelvis	3	0.0	0.1	**0.1**	0.00	0.02	1	0.0	0.0	**0.0**	0.00	0.00	*C65*
Ureter	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C66*
†Bladder	445	6.4	19.8	**15.5**	0.81	1.93	79	1.4	3.4	**1.9**	0.09	0.23	*C67*
Other urinary organs	2	0.0	0.1	**0.1**	0.00	0.01	2	0.0	0.1	**0.0**	0.00	0.00	*C68*
Eye	13	0.2	0.6	**0.5**	0.03	0.04	13	0.2	0.6	**0.4**	0.04	0.04	*C69*
Brain, nervous system	164	2.4	7.3	**6.7**	0.48	0.73	147	2.6	6.3	**5.2**	0.38	0.54	*C70-72*
Thyroid	18	0.3	0.8	**0.7**	0.06	0.08	74	1.3	3.2	**2.4**	0.19	0.27	*C73*
Adrenal gland	4	0.1	0.2	**0.2**	0.00	0.01	4	0.1	0.2	**0.2**	0.01	0.02	*C74*
Other endocrine	9	0.1	0.4	**0.4**	0.02	0.03	8	0.1	0.3	**0.4**	0.03	0.03	*C75*
Hodgkin disease	46	0.7	2.0	**1.9**	0.13	0.15	46	0.8	2.0	**1.8**	0.12	0.15	*C81*
Non-Hodgkin lymphoma	144	2.1	6.4	**5.5**	0.36	0.64	99	1.7	4.2	**2.9**	0.18	0.34	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	55	0.8	2.5	**2.0**	0.12	0.27	58	1.0	2.5	**1.5**	0.08	0.21	*C90*
Lymphoid leukaemia	102	1.5	4.5	**4.1**	0.18	0.46	72	1.3	3.1	**2.4**	0.12	0.21	*C91*
Myeloid leukaemia	71	1.0	3.2	**2.5**	0.13	0.30	51	0.9	2.2	**1.5**	0.08	0.17	*C92-94*
Leukaemia unspecified	2	0.0	0.1	**0.1**	0.00	0.01	6	0.1	0.3	**0.1**	0.00	0.01	*C95*
Other and unspecified	345	5.0	15.4	**12.0**	0.65	1.43	298	5.2	12.8	**6.9**	0.31	0.82	*O&U*
All sites	7467		332.8	**266.5**	15.40	32.88	6321		270.9	**177.7**	11.71	20.07	*ALL*
All sites but C44	6902	100.0	307.6	**246.8**	14.32	30.52	5694	100.0	244.0	**161.8**	10.77	18.32	*ALLbC44*
	‡87.7% of cases are anorectal tumours						‡79.5% of cases are anorectal tumours						

†See note following population pyramid

Poland, Lower Silesia

Registration area

The registry covers the Lower Silesian region, in the southwestern part of Poland, an area of 18 870 km^2. This region borders Germany to the west, the Czech republic to the south, Upper Silesia in the east and Poznan province in the north (the latter two are Polish regions). The region is divided into four voivodships, surrounding the major cities: Wroclaw, Walbrzych, Jelenia Gora and Legnica.

Lower Silesia is a heavily urbanized region, including many industries. About 15% of the inhabitants are employed in industry. The region covers a plain, partly submountainous area, the southern border of which is formed by the Karkonosze Mountains.

In 1997 Lower Silesia had 2 921 851 inhabitants (48.3% males, 51.7% females), 70% from whom were living in cities and 30% in rural areas.

Almost all of the population of Lower Silesia is of Caucasian background; there are no data on ethnic groups. The great majority belong to the Roman Catholic Church.

Registry structure and methods

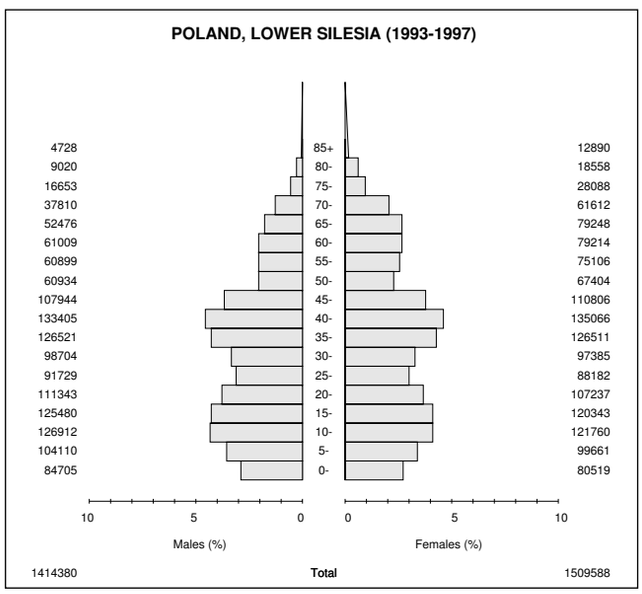
The Lower Silesian Cancer Registry was established in 1962, when compulsory reporting of all cancer cases was introduced in Poland. The registry is a part of the Cancer Epidemiology Department, which is a unit of the Cancer Oncology Centre in Wroclaw. Apart from six members of the medical administrative staff working on the quality and completeness of the data, a physician, a mathematician and a computer programmer are employed.

There are 6600 physicians in Lower Silesia, and they are required to submit data concerning cancer cases to the registry. The registry also pursues active registration by checking hospital records and death certificates. Previously, the registry did not actively follow up patients, but it is now checking all those still alive.

Data on patients, including name, date of birth and ICD site code, have been computerized since 1984. Many checks are used to eliminate duplicate registrations, to identify multiple primaries and to correct discrepancies between topography and morphology.

Use of the data

After a two-year period of verification, the information collected is analysed to describe the patterns and burden of cancer in the area. Distribution of new cases by age and place as well as trends in changes are studied. Mapping is often used to visualize the data.



Source of population

Estimates based on the 1988 census, making allowance for births, deaths and migration.

Notes on the data

* The proportion of cases registered without histological confirmation is low, hence the validity is affected. There are no mortality data, so the mortality/incidence ratios cannot be checked. Internal consistency checks revealed many errors.

*POLAND, LOWER SILESIA (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	175	0.7	2.5	**2.1**	0.08	0.25	34	0.2	0.5	**0.3**	0.01	0.02	*C00*
Tongue	171	0.7	2.4	**2.2**	0.18	0.26	39	0.2	0.5	**0.4**	0.03	0.04	*C01-02*
Mouth	177	0.7	2.5	**2.2**	0.20	0.26	52	0.2	0.7	**0.5**	0.04	0.05	*C03-06*
Salivary glands	66	0.3	0.9	**0.8**	0.05	0.10	53	0.2	0.7	**0.5**	0.03	0.05	*C07-08*
Tonsil	140	0.6	2.0	**1.8**	0.13	0.19	38	0.2	0.5	**0.3**	0.02	0.04	*C09*
Other oropharynx	11	0.0	0.2	**0.2**	0.02	0.02	2	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	51	0.2	0.7	**0.6**	0.05	0.06	16	0.1	0.2	**0.1**	0.01	0.01	*C11*
Hypopharynx	48	0.2	0.7	**0.6**	0.05	0.07	9	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	40	0.2	0.6	**0.5**	0.05	0.06	4	0.0	0.1	**0.0**	0.00	0.00	*C14*
Oesophagus	403	1.6	5.7	**5.0**	0.30	0.59	106	0.5	1.4	**0.9**	0.05	0.10	*C15*
Stomach	1872	7.7	26.5	**22.9**	1.17	2.74	1017	4.7	13.5	**8.4**	0.40	0.95	*C16*
Small intestine	31	0.1	0.4	**0.4**	0.02	0.04	34	0.2	0.5	**0.3**	0.01	0.03	*C17*
Colon	1290	5.3	18.2	**15.6**	0.80	1.93	1328	6.1	17.6	**11.2**	0.60	1.35	*C18*
Rectum	1043	4.3	14.7	**12.7**	0.64	1.58	855	3.9	11.3	**7.2**	0.38	0.86	*C19-20*
Anus	113	0.5	1.6	**1.4**	0.06	0.14	114	0.5	1.5	**0.9**	0.05	0.10	*C21*
Liver	427	1.7	6.0	**5.3**	0.24	0.67	426	2.0	5.6	**3.5**	0.16	0.42	*C22*
Gallbladder etc.	299	1.2	4.2	**3.6**	0.15	0.43	771	3.5	10.2	**6.2**	0.26	0.75	*C23-24*
Pancreas	796	3.3	11.3	**9.7**	0.60	1.15	706	3.2	9.4	**5.9**	0.30	0.66	*C25*
Nose, sinuses etc.	67	0.3	0.9	**0.8**	0.06	0.10	47	0.2	0.6	**0.4**	0.03	0.04	*C30-31*
Larynx	1076	4.4	15.2	**13.3**	0.98	1.64	133	0.6	1.8	**1.3**	0.10	0.14	*C32*
Trachea, bronchus and lung	7575	31.0	107.1	**92.5**	5.40	12.03	2220	10.2	29.4	**19.4**	1.16	2.29	*C33-34*
Other thoracic organs	181	0.7	2.6	**2.3**	0.13	0.26	111	0.5	1.5	**1.0**	0.05	0.11	*C37-38*
Bone	130	0.5	1.8	**1.7**	0.09	0.16	96	0.4	1.3	**1.1**	0.06	0.09	*C40-41*
Melanoma of skin	226	0.9	3.2	**2.8**	0.20	0.29	373	1.7	4.9	**3.6**	0.27	0.39	*C43*
Other skin	1091		15.4	**13.5**	0.60	1.52	1075		14.2	**8.9**	0.44	1.00	*C44*
Mesothelioma	33	0.1	0.5	**0.4**	0.03	0.06	19	0.1	0.3	**0.2**	0.01	0.02	*C45*
Kaposi sarcoma	1	0.0	0.0	**0.0**	0.00	0.00	3	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	122	0.5	1.7	**1.6**	0.11	0.15	114	0.5	1.5	**1.2**	0.07	0.11	*C47+C49*
Breast	26	0.1	0.4	**0.3**	0.02	0.03	3976	18.2	52.7	**38.0**	2.87	4.24	*C50*
Vulva							159	0.7	2.1	**1.3**	0.07	0.15	*C51*
Vagina							51	0.2	0.7	**0.4**	0.02	0.05	*C52*
Cervix uteri							1629	7.5	21.6	**15.8**	1.20	1.69	*C53*
Corpus uteri							1321	6.1	17.5	**12.4**	0.93	1.56	*C54*
Uterus unspecified							62	0.3	0.8	**0.5**	0.02	0.05	*C55*
Ovary							991	4.5	13.1	**9.8**	0.75	1.09	*C56*
Other female genital organs							343	1.6	4.5	**3.3**	0.23	0.36	*C57*
Placenta							5	0.0	0.1	**0.1**	0.00	0.01	*C58*
Penis	69	0.3	1.0	**0.8**	0.05	0.09							*C60*
Prostate	1596	6.5	22.6	**19.3**	0.53	2.26							*C61*
Testis	245	1.0	3.5	**3.1**	0.21	0.25							*C62*
Other male genital organs	8	0.0	0.1	**0.1**	0.01	0.02							*C63*
Kidney	816	3.3	11.5	**10.1**	0.69	1.27	611	2.8	8.1	**5.7**	0.37	0.68	*C64*
Renal pelvis	3	0.0	0.0	**0.0**	0.00	0.00	5	0.0	0.1	**0.0**	0.00	0.01	*C65*
Ureter	12	0.0	0.2	**0.1**	0.00	0.02	5	0.0	0.1	**0.0**	0.00	0.00	*C66*
Bladder	1473	6.0	20.8	**18.3**	0.84	2.17	380	1.7	5.0	**3.2**	0.17	0.39	*C67*
Other urinary organs	191	0.8	2.7	**2.3**	0.13	0.29	133	0.6	1.8	**1.1**	0.06	0.13	*C68*
Eye	52	0.2	0.7	**0.8**	0.04	0.08	69	0.3	0.9	**0.7**	0.05	0.07	*C69*
Brain, nervous system	634	2.6	9.0	**8.1**	0.58	0.89	581	2.7	7.7	**6.2**	0.44	0.64	*C70-72*
Thyroid	72	0.3	1.0	**0.9**	0.06	0.10	331	1.5	4.4	**3.3**	0.23	0.36	*C73*
Adrenal gland	46	0.2	0.7	**0.6**	0.04	0.07	55	0.3	0.7	**0.6**	0.04	0.06	*C74*
Other endocrine	21	0.1	0.3	**0.3**	0.02	0.03	25	0.1	0.3	**0.3**	0.02	0.03	*C75*
Hodgkin disease	172	0.7	2.4	**2.1**	0.15	0.21	153	0.7	2.0	**1.8**	0.12	0.15	*C81*
Non-Hodgkin lymphoma	430	1.8	6.1	**5.4**	0.34	0.63	333	1.5	4.4	**3.2**	0.20	0.36	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	195	0.8	2.8	**2.3**	0.13	0.29	186	0.9	2.5	**1.6**	0.10	0.21	*C90*
Lymphoid leukaemia	316	1.3	4.5	**4.2**	0.20	0.44	248	1.1	3.3	**2.5**	0.12	0.24	*C91*
Myeloid leukaemia	287	1.2	4.1	**3.6**	0.20	0.41	267	1.2	3.5	**2.6**	0.15	0.28	*C92-94*
Leukaemia unspecified	46	0.2	0.7	**0.6**	0.03	0.06	34	0.2	0.5	**0.3**	0.02	0.04	*C95*
Other and unspecified	1177	4.8	16.6	**14.6**	0.77	1.69	1120	5.1	14.8	**9.3**	0.42	1.01	*O&U*
All sites	25542		361.2	**314.7**	17.43	38.04	22868		303.0	**208.0**	13.18	23.52	*ALL*
All sites but C44	24451	100.0	345.7	**301.2**	16.84	36.53	21793	100.0	288.7	**199.1**	12.74	22.52	*ALLbC44*

Poland, Warsaw City

Registration area

In the years 1963–88, the Warsaw Cancer Registry collected data on the population living in Warsaw city (an urban population) and selected municipalities in the provinces of Warsaw, Ciechanów, Plock, and Siedlce (rural populations). After 1989 this area became one voivodship with the addition of the populations of Ostrolçka and Plock. The data presented here are for Warsaw City only.

These provinces cover an area of 37 558 km^2, 12% of the total Polish territory. The area is inhabited by over five million people (13.5% of the total Polish population).

Registry structure and methods

The Warsaw Cancer Registry was established in 1963 in collaboration with the National Cancer Institute, USA, to conduct comparative studies on the incidence of gastric cancer in Poland and among Americans of Polish origin. In subsequent years, these studies were extended to cancer of other organs, and registration now embraces all sites.

The Warsaw Cancer Registry was one of the first Registries in Poland. The database now contains 71 600 records from the old database (Warsaw and Selected Rural Areas: 1963–88), and 154 105 records from the new database (Region: 1989–99).

The registry is located at the Maria Sklodowska-Curie Memorial Cancer Centre and Institute of Oncology in Warsaw, which is the institution responsible for the organization of nationwide epidemiological studies, scientific research, and therapeutic services in relation to cancer. It is supported by the Ministry of Health and Social Welfare.

Since 1989 the database has been maintained in a computerized file arranged by patients' names, date of birth and cancer site, and a card file containing the first registration and follow-up cards arranged by sex and registration number.

The data collected are recorded on reporting cards and include personal identification data: name and surname, sex, date of birth, address, occupation; the medical institution where the card is completed; date of first diagnosis/first hospital admission; site of primary, pathology, clinical stage, methods of diagnosis, methods of treatment, and (where applicable) date of death.

The cards are sent from hospitals and outpatient clinics from Warsaw city, the region and other areas of Poland; from oncological outpatient clinics, medical records departments, and other registries. They are completed and signed by physicians.

The death certificates collected by the Central Statistical Office and statistical cards of deaths from the Regional Department of Health are used as another source.

The recording and reporting of every case or suspected case of malignant neoplasm by all health service institutions and also by individual physicians has been compulsory in Poland since 1952.

New notifications are immediately checked for consistency of the identifying data. When more than one neoplasm is observed, with a different histopathology, in the same person, a new card is prepared for each different site. All entries are checked for duplicates.

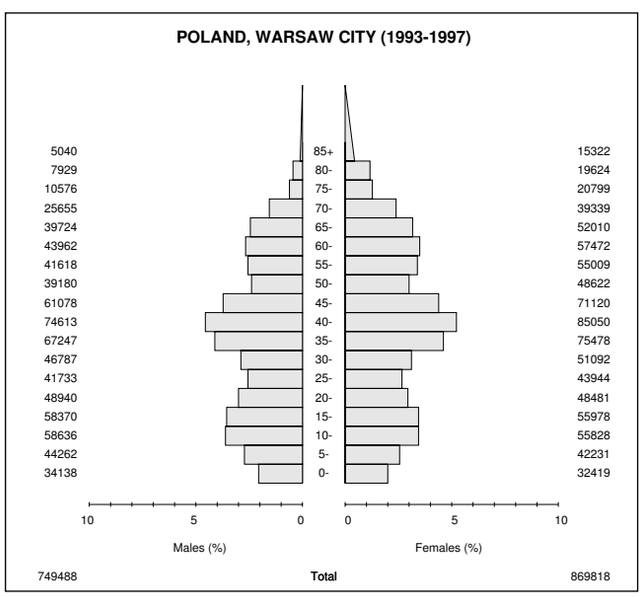
Site is coded to ICD-9 and histology to MOTNAC.

A combination of active and passive follow-up continues until the patient's death.

Use of data

The data are analysed to describe the patterns and trends of cancer in the area. Clinical stage is also analysed for selected cancers. Survival studies are conducted, as well as analysis of treatment regimes, and etiological studies for some sites.

The data are published in the form of annual reports, monographs, other publications and papers, through the National Cancer Registry, research projects and international collaborative projects.



Source of population

Estimates based on the 1988 census, making allowance for births, deaths and migration.

POLAND, WARSAW CITY (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	70	0.5	1.9	**1.2**	0.06	0.13	16	0.1	0.4	**0.2**	0.01	0.01	*C00*
Tongue	85	0.6	2.3	**1.6**	0.13	0.18	36	0.2	0.8	**0.5**	0.03	0.06	*C01-02*
Mouth	111	0.8	3.0	**2.1**	0.15	0.25	52	0.3	1.2	**0.8**	0.06	0.08	*C03-06*
Salivary glands	40	0.3	1.1	**0.7**	0.04	0.09	41	0.2	0.9	**0.5**	0.03	0.05	*C07-08*
Tonsil	55	0.4	1.5	**1.0**	0.09	0.12	21	0.1	0.5	**0.3**	0.02	0.03	*C09*
Other oropharynx	101	0.7	2.7	**1.9**	0.15	0.23	19	0.1	0.4	**0.3**	0.02	0.04	*C10*
Nasopharynx	25	0.2	0.7	**0.5**	0.03	0.05	20	0.1	0.5	**0.3**	0.02	0.04	*C11*
Hypopharynx	43	0.3	1.1	**0.8**	0.06	0.10	12	0.1	0.3	**0.2**	0.01	0.02	*C12-13*
Pharynx unspecified	7	0.0	0.2	**0.1**	0.01	0.01	2	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	264	1.8	7.0	**4.7**	0.28	0.55	107	0.6	2.5	**1.1**	0.04	0.11	*C15*
Stomach	982	6.7	26.2	**16.9**	0.79	2.01	599	3.6	13.8	**6.6**	0.31	0.74	*C16*
Small intestine	22	0.2	0.6	**0.4**	0.03	0.04	12	0.1	0.3	**0.1**	0.00	0.02	*C17*
Colon	1020	7.0	27.2	**17.5**	0.75	2.11	1097	6.6	25.2	**12.0**	0.59	1.35	*C18*
Rectum	645	4.4	17.2	**11.1**	0.52	1.35	586	3.5	13.5	**6.7**	0.37	0.83	*C19-20*
Anus	45	0.3	1.2	**0.8**	0.04	0.08	73	0.4	1.7	**0.8**	0.04	0.10	*C21*
Liver	236	1.6	6.3	**4.1**	0.18	0.48	243	1.5	5.6	**2.5**	0.10	0.28	*C22*
Gallbladder etc.	227	1.6	6.1	**3.9**	0.15	0.43	608	3.7	14.0	**6.2**	0.25	0.70	*C23-24*
Pancreas	421	2.9	11.2	**7.5**	0.39	0.88	496	3.0	11.4	**5.4**	0.26	0.62	*C25*
Nose, sinuses etc.	23	0.2	0.6	**0.5**	0.03	0.05	23	0.1	0.5	**0.3**	0.02	0.04	*C30-31*
Larynx	566	3.9	15.1	**10.2**	0.71	1.26	96	0.6	2.2	**1.3**	0.10	0.16	*C32*
Trachea, bronchus and lung	3696	25.4	98.6	**64.4**	3.60	8.29	1717	10.3	39.5	**20.6**	1.17	2.68	*C33-34*
Other thoracic organs	50	0.3	1.3	**1.0**	0.06	0.11	60	0.4	1.4	**0.8**	0.05	0.08	*C37-38*
Bone	55	0.4	1.5	**1.3**	0.07	0.11	23	0.1	0.5	**0.3**	0.02	0.03	*C40-41*
Melanoma of skin	220	1.5	5.9	**4.1**	0.26	0.46	287	1.7	6.6	**4.1**	0.29	0.46	*C43*
Other skin	560		14.9	**9.7**	0.34	0.98	676		15.5	**7.3**	0.34	0.85	*C44*
Mesothelioma	21	0.1	0.6	**0.4**	0.02	0.05	13	0.1	0.3	**0.2**	0.02	0.02	*C45*
Kaposi sarcoma	2	0.0	0.1	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	95	0.7	2.5	**2.0**	0.12	0.21	96	0.6	2.2	**1.8**	0.11	0.15	*C47+C49*
Breast	28	0.2	0.7	**0.5**	0.02	0.05	3952	23.8	90.9	**53.7**	3.99	6.00	*C50*
Vulva							121	0.7	2.8	**1.4**	0.08	0.15	*C51*
Vagina							33	0.2	0.8	**0.4**	0.02	0.04	*C52*
Cervix uteri							1015	6.1	23.3	**14.4**	1.08	1.51	*C53*
Corpus uteri							970	5.8	22.3	**12.7**	0.90	1.60	*C54*
Uterus unspecified							49	0.3	1.1	**0.6**	0.03	0.05	*C55*
Ovary							871	5.2	20.0	**12.4**	0.90	1.35	*C56*
Other female genital organs							61	0.4	1.4	**0.6**	0.03	0.06	*C57*
Placenta							8	0.0	0.2	**0.3**	0.02	0.02	*C58*
Penis	35	0.2	0.9	**0.6**	0.03	0.07							*C60*
Prostate	1344	9.2	35.9	**22.2**	0.56	2.68							*C61*
Testis	171	1.2	4.6	**4.2**	0.30	0.32							*C62*
Other male genital organs	4	0.0	0.1	**0.1**	0.00	0.00							*C63*
Kidney	669	4.6	17.9	**12.2**	0.71	1.49	459	2.8	10.6	**5.9**	0.34	0.70	*C64*
Renal pelvis	13	0.1	0.3	**0.2**	0.01	0.03	3	0.0	0.1	**0.0**	0.00	0.01	*C65*
Ureter	10	0.1	0.3	**0.2**	0.01	0.02	8	0.0	0.2	**0.1**	0.01	0.02	*C66*
Bladder	1046	7.2	27.9	**18.0**	0.81	2.22	316	1.9	7.3	**3.5**	0.16	0.38	*C67*
Other urinary organs	8	0.1	0.2	**0.1**	0.00	0.01	6	0.0	0.1	**0.1**	0.00	0.01	*C68*
Eye	17	0.1	0.5	**0.4**	0.03	0.03	29	0.2	0.7	**0.6**	0.04	0.05	*C69*
Brain, nervous system	372	2.6	9.9	**7.7**	0.52	0.82	395	2.4	9.1	**6.0**	0.40	0.64	*C70-72*
Thyroid	74	0.5	2.0	**1.4**	0.10	0.15	264	1.6	6.1	**4.3**	0.32	0.42	*C73*
Adrenal gland	22	0.2	0.6	**0.5**	0.03	0.05	15	0.1	0.3	**0.3**	0.02	0.03	*C74*
Other endocrine	27	0.2	0.7	**0.6**	0.04	0.05	17	0.1	0.4	**0.3**	0.02	0.03	*C75*
Hodgkin disease	100	0.7	2.7	**2.5**	0.17	0.20	79	0.5	1.8	**1.7**	0.11	0.13	*C81*
Non-Hodgkin lymphoma	342	2.3	9.1	**6.5**	0.35	0.72	321	1.9	7.4	**4.2**	0.23	0.49	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	149	1.0	4.0	**2.6**	0.14	0.33	147	0.9	3.4	**1.6**	0.08	0.21	*C90*
Lymphoid leukaemia	141	1.0	3.8	**3.1**	0.14	0.26	118	0.7	2.7	**2.4**	0.11	0.17	*C91*
Myeloid leukaemia	146	1.0	3.9	**2.8**	0.14	0.28	166	1.0	3.8	**2.3**	0.13	0.23	*C92-94*
Leukaemia unspecified	17	0.1	0.5	**0.3**	0.01	0.03	23	0.1	0.5	**0.2**	0.01	0.02	*C95*
Other and unspecified	700	4.8	18.7	**12.1**	0.53	1.39	823	5.0	18.9	**8.0**	0.27	0.79	*O&U*
All sites	15122		403.5	**269.1**	13.72	31.82	17300		397.8	**219.1**	13.56	24.67	*ALL*
All sites but C44	14562	100.0	388.6	**259.4**	13.38	30.84	16624	100.0	382.2	**211.9**	13.22	23.82	*ALLbC44*

§Includes 1 case of unknown age

§Includes 2 cases of unknown age

Portugal, Vila Nova de Gaia

Registration area
The Cancer Registry of Vila Nova de Gaia, near the city of Oporto, covers an area of 170 km².

Cancer care facilities
General health care in the region is provided predominantly by the Regional Authority of Health, through the hospitals and a network of primary health centres. These facilities are supplemented by private practitioners and clinics. Patients in the primary and secondary care facilities in the registry area who are suspected to have cancer are mostly referred to hospital, or to a hospital in Oporto city, either the Portuguese Institute of Cancer (Instituto Português de Oncologia) or General Hospital of Santo Antonio.

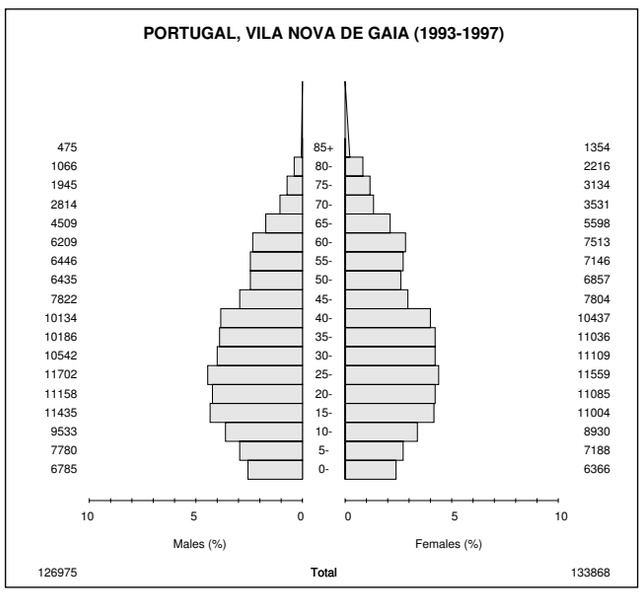
Registry structure and methods
The registry is located within the main hospital, and is supported partly by the hospital (providing personnel and some equipment). The registry is staffed voluntarily by part-time professionals.

The Vila Nova de Gaia Cancer Registry uses active case finding from different sources, including hospitals that treat patients from the area, general practitioners, the health authority and the district death registration offices. The registry staff visit these sources, where they scrutinize the records kept in medical records departments, and registers of individual departments concerned with the diagnosis and treatment of cancers, to identify and abstract information on cases of cancer, diagnosed by all methods, among residents of the registry region.

Although cancer is not a notifiable disease, a few registration forms are received from private practitioners. The hospitals outside the registration area are also visited once or twice a year to look for cancer cases diagnosed and treated there who are residents of the registry area.

Interpreting the results
It is not possible to estimate how many cancer cases remain undiagnosed, but this probably occurs for some subjects who do not use the public health system. An opportunistic screening service for cervical, breast, colon and rectum and prostate cancers is operated by general practitioners.

Use of the data
The database of the registry is used by undergraduate and postgraduate students for special studies. Occasional reports on cancer incidence, highlighting trends and changes are produced. Some special studies of survival of registered cancer cases (gastric, colon, skin, breast and cervix cancer) have been carried out.



Source of population
1991 Census, INE.

Notes on the data
* Mortality data were not available, so it was not possible to examine the mortality:incidence ratios. The high proportion of diagnoses based on a death certificate alone, and some rather low rates, suggest a degree of under-ascertainment and lack of validity.

*PORTUGAL, VILA NOVA DE GAIA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	13	0.7	2.0	**1.8**	0.08	0.21	7	0.4	1.0	**0.6**	0.01	0.06	*C00*
Tongue	26	1.4	4.1	**3.7**	0.20	0.43	12	0.7	1.8	**1.2**	0.09	0.14	*C01-02*
Mouth	21	1.1	3.3	**2.8**	0.27	0.30	6	0.4	0.9	**0.7**	0.04	0.07	*C03-06*
Salivary glands	1	0.1	0.2	**0.1**	0.00	0.00	4	0.2	0.6	**0.6**	0.04	0.04	*C07-08*
Tonsil	10	0.5	1.6	**1.4**	0.14	0.14	1	0.1	0.1	**0.1**	0.01	0.01	*C09*
Other oropharynx	4	0.2	0.6	**0.5**	0.02	0.04	1	0.1	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	7	0.4	1.1	**1.0**	0.06	0.12	3	0.2	0.4	**0.3**	0.02	0.05	*C11*
Hypopharynx	7	0.4	1.1	**0.9**	0.08	0.11	1	0.1	0.1	**0.1**	0.00	0.03	*C12-13*
Pharynx unspecified	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	42	2.2	6.6	**5.5**	0.40	0.65	14	0.8	2.1	**1.2**	0.01	0.12	*C15*
Stomach	252	13.3	39.7	**33.3**	1.80	3.66	216	12.9	32.3	**19.9**	0.79	2.29	*C16*
Small intestine	6	0.3	0.9	**0.7**	0.04	0.09	0	0.0	0.0	**0.0**	0.00	0.00	*C17*
Colon	168	8.8	26.5	**22.0**	0.95	2.72	148	8.8	22.1	**13.8**	0.65	1.53	*C18*
Rectum	102	5.4	16.1	**13.4**	0.61	1.72	69	4.1	10.3	**6.9**	0.34	0.84	*C19-20*
‡Anus	1	0.1	0.2	**0.1**	0.01	0.01	3	0.2	0.4	**0.3**	0.01	0.04	*C21*
Liver	48	2.5	7.6	**6.2**	0.40	0.82	26	1.6	3.9	**2.5**	0.10	0.34	*C22*
Gallbladder etc.	16	0.8	2.5	**2.1**	0.06	0.22	19	1.1	2.8	**1.6**	0.05	0.17	*C23-24*
Pancreas	35	1.8	5.5	**4.4**	0.10	0.49	48	2.9	7.2	**4.3**	0.08	0.60	*C25*
Nose, sinuses etc.	9	0.5	1.4	**1.2**	0.06	0.09	1	0.1	0.1	**0.2**	0.01	0.01	*C30-31*
Larynx	52	2.7	8.2	**6.9**	0.51	0.94	2	0.1	0.3	**0.3**	0.03	0.03	*C32*
Trachea, bronchus and lung	356	18.7	56.1	**47.0**	2.41	6.39	55	3.3	8.2	**5.5**	0.27	0.71	*C33-34*
Other thoracic organs	7	0.4	1.1	**0.9**	0.04	0.14	4	0.2	0.6	**0.4**	0.00	0.07	*C37-38*
Bone	5	0.3	0.8	**0.7**	0.02	0.10	6	0.4	0.9	**0.7**	0.02	0.13	*C40-41*
Melanoma of skin	10	0.5	1.6	**1.4**	0.07	0.17	19	1.1	2.8	**2.0**	0.14	0.21	*C43*
Other skin	120		18.9	**15.7**	0.61	1.70	157		23.5	**14.0**	0.48	1.53	*C44*
Mesothelioma	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C45*
Kaposi sarcoma	2	0.1	0.3	**0.2**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	14	0.7	2.2	**2.0**	0.11	0.18	8	0.5	1.2	**1.0**	0.05	0.12	*C47+C49*
Breast	2	0.1	0.3	**0.3**	0.02	0.05	420	25.0	62.7	**47.1**	3.35	5.36	*C50*
Vulva							19	1.1	2.8	**1.7**	0.05	0.20	*C51*
Vagina							10	0.6	1.5	**1.4**	0.06	0.15	*C52*
Cervix uteri							119	7.1	17.8	**13.6**	0.95	1.48	*C53*
Corpus uteri							68	4.1	10.2	**7.1**	0.42	0.87	*C54*
Uterus unspecified							10	0.6	1.5	**0.9**	0.06	0.10	*C55*
Ovary							51	3.0	7.6	**6.1**	0.37	0.80	*C56*
Other female genital organs							3	0.2	0.4	**0.2**	0.01	0.01	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	4	0.2	0.6	**0.6**	0.02	0.11							*C60*
Prostate	248	13.1	39.1	**31.8**	0.83	3.49							*C61*
Testis	7	0.4	1.1	**0.8**	0.06	0.06							*C62*
Other male genital organs	0	0.0	0.0	**0.0**	0.00	0.00							*C63*
Kidney	50	2.6	7.9	**7.0**	0.35	0.86	28	1.7	4.2	**3.6**	0.28	0.37	*C64*
Renal pelvis	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C65*
Ureter	1	0.1	0.2	**0.1**	0.00	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	118	6.2	18.6	**15.3**	0.57	1.82	32	1.9	4.8	**3.0**	0.14	0.30	*C67*
Other urinary organs	3	0.2	0.5	**0.4**	0.00	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	7	0.4	1.1	**1.4**	0.04	0.15	2	0.1	0.3	**0.3**	0.01	0.03	*C69*
Brain, nervous system	54	2.8	8.5	**8.3**	0.52	0.85	35	2.1	5.2	**4.1**	0.22	0.51	*C70-72*
Thyroid	11	0.6	1.7	**1.4**	0.09	0.12	42	2.5	6.3	**5.2**	0.43	0.43	*C73*
Adrenal gland	2	0.1	0.3	**0.2**	0.03	0.03	0	0.0	0.0	**0.0**	0.00	0.00	*C74*
Other endocrine	3	0.2	0.5	**0.4**	0.02	0.05	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	11	0.6	1.7	**1.4**	0.11	0.11	4	0.2	0.6	**0.5**	0.03	0.03	*C81*
Non-Hodgkin lymphoma	60	3.2	9.5	**8.4**	0.49	0.75	61	3.6	9.1	**7.3**	0.44	0.82	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	21	1.1	3.3	**2.7**	0.13	0.38	17	1.0	2.5	**1.6**	0.12	0.18	*C90*
Lymphoid leukaemia	12	0.6	1.9	**1.8**	0.09	0.16	8	0.5	1.2	**0.7**	0.01	0.11	*C91*
Myeloid leukaemia	15	0.8	2.4	**2.5**	0.13	0.25	17	1.0	2.5	**2.1**	0.16	0.21	*C92-94*
Leukaemia unspecified	1	0.1	0.2	**0.1**	0.00	0.00	4	0.2	0.6	**0.5**	0.05	0.05	*C95*
Other and unspecified	56	2.9	8.8	**7.5**	0.34	0.98	54	3.2	8.1	**5.4**	0.29	0.49	*O&U*
All sites	2020		318.2	**268.4**	12.94	31.74	1834		274.0	**190.8**	10.71	21.65	*ALL*
All sites but C44	1900	100.0	299.3	**252.7**	12.32	30.04	1677	100.0	250.5	**176.8**	10.23	20.12	*ALLbC44*

§Includes 1 case of unknown age
‡33.3% of cases are anorectal tumours

Russia, St Petersburg

Registration area

St Petersburg is the second largest city in Russia and one of the biggest industrial, scientific and cultural centres. It was founded in May 1703, in 1914 its name was changed to Petrograd and in 1924 to Leningrad. It was the capital of the state from 1712 to 1728 and from 1732 to 1918. St Petersburg is situated at the point where the Nova river flows into the Gulf of Finland and includes 42 islands of the Nova delta. The climate is of a maritime type with mild winters, rather cool summers, and very changeable weather. The average temperature in January is –7–9° C, in July +17.7° C. The annual precipitation is 585 mm and the total area is 570 km^2.

The main occupations are heavy industry, especially heavy engineering (energy engineering industry, machine-tool construction, shipbuilding). In 1995 the total population was 4 610 000. According to the 1989 census, the main population subgroups are Russians 89.1%, Ukrainians 3.0%, Jews 2.1%, Belarusians 1.9%, Tartars 0.9%, Armenians and Azerbaijani 0.2%.

The mortality rate for all causes in St Petersburg in 1995 was 15.8 per 1000 inhabitants, infant mortality is 14.1 per 1000 live births, and the average life expectancy in 1995 was 64.0 years.

Cancer care facilities

There are three medical institutes and two advanced training institutes for doctors, as well as a large number of clinics and hospitals. The total number of hospital beds is 50 000, 10.4 per 1000 inhabitants. In 1994 there were 33 600 doctors of all specialities, 7.0 per 1000 inhabItants. Some of the patients come from other parts of the country. The treatment of cancer patients is carried out mostly in the City oncological dispensary at the Professor N.N. Petrov Research Institute of Oncology, or in a number of oncology departments in large general hospitals. The total number of oncological beds is 1310, includIng 380 radiological and 40 paediatrlc, with a ratio of 57 beds per 1000 patlents. 40% of oncological patients are treated in ordinary hospitals and clinics.

Registry structure and methods

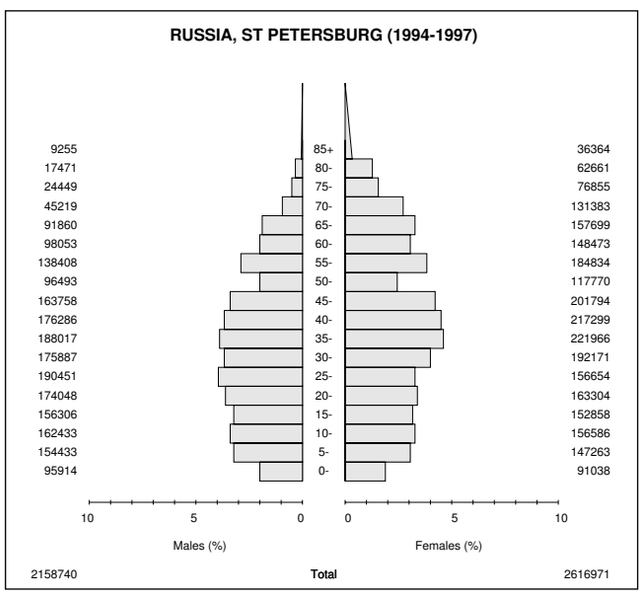
The general process of registration is the same as that used across the whole territory of the ex-USSR. A doctor who detects a cancer patient must send a notification card to the oncological dispensary or the cancer registry for the region of residence of the patient. On the basis of this card, and some other documents, a control card is compiled and entered into the computer. The data of the oncological dispensary are checked regularly against those of the statistics department, which is responsible for registering cancer deaths.

Use of the data

Information about all cancer patients and about deaths is included in special tables which are sent to the Russian Ministry of Health annually.

The first evaluation of cancer rates in St Petersburg was made in 1912 by N. Toichkin. His research was based on the cancer mortality rate of 93–99 per 100 000 inhabitants in St Petersburg from 1901 to 1910 whIch he obtained from the municipal statistics department.

In 1926 N.N. Petrov initiated an Institute of Oncology in St Petersburg, which was later named after him. Obligatory registration was attempted in St Petersburg in the 1930s and was permanently adopted after the Second World War. Epidemiological research is carried out in the Petrov Institute of Oncology, including a study of geographical cancer incidence in different areas of the ex-USSR.



Source of population

Official governmental estimates based on the 1989 census.

Notes on the data

* There are no cases registered on the basis of a death certificate alone, although the registry uses death certificates. The low proportion of morphological verification implies a certain lack of validity, and the high ratios of mortality to incidence for several sites suggest under-ascertainment.

*RUSSIA, ST PETERSBURG (1994-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	102	0.4	1.2	**1.0**	0.04	0.12	40	0.1	0.4	**0.2**	0.01	0.02	*C00*
Tongue	367	1.3	4.3	**3.4**	0.28	0.41	105	0.3	1.0	**0.6**	0.03	0.06	*C01-02*
Mouth	450	1.6	5.2	**4.2**	0.32	0.51	97	0.3	0.9	**0.5**	0.02	0.05	*C03-06*
Salivary glands	78	0.3	0.9	**0.7**	0.05	0.08	89	0.3	0.9	**0.5**	0.03	0.06	*C07-08*
Tonsil	62	0.2	0.7	**0.6**	0.04	0.07	28	0.1	0.3	**0.1**	0.01	0.02	*C09*
Other oropharynx	163	0.6	1.9	**1.5**	0.12	0.18	18	0.1	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	55	0.2	0.6	**0.5**	0.04	0.06	28	0.1	0.3	**0.2**	0.02	0.02	*C11*
Hypopharynx	308	1.1	3.6	**2.8**	0.22	0.35	25	0.1	0.2	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	88	0.3	1.0	**0.9**	0.07	0.11	10	0.0	0.1	**0.1**	0.00	0.01	*C14*
Oesophagus	945	3.4	10.9	**8.8**	0.59	1.07	473	1.3	4.5	**1.9**	0.06	0.20	*C15*
Stomach	4101	14.8	47.5	**38.3**	1.98	4.74	4008	11.3	38.3	**17.9**	0.83	2.03	*C16*
Small intestine	44	0.2	0.5	**0.4**	0.03	0.05	54	0.2	0.5	**0.2**	0.01	0.03	*C17*
Colon	2111	7.6	24.4	**19.9**	0.95	2.41	3752	10.6	35.8	**17.0**	0.83	2.03	*C18*
Rectum	1713	6.2	19.8	**16.1**	0.86	1.99	2048	5.8	19.6	**9.9**	0.57	1.20	*C19-20*
‡Anus	28	0.1	0.3	**0.3**	0.02	0.03	64	0.2	0.6	**0.3**	0.02	0.04	*C21*
Liver	481	1.7	5.6	**4.6**	0.25	0.55	426	1.2	4.1	**2.0**	0.10	0.23	*C22*
Gallbladder etc.	197	0.7	2.3	**1.9**	0.10	0.20	562	1.6	5.4	**2.5**	0.11	0.29	*C23-24*
Pancreas	1152	4.2	13.3	**10.8**	0.62	1.29	1328	3.7	12.7	**5.8**	0.27	0.66	*C25*
Nose, sinuses etc.	40	0.1	0.5	**0.4**	0.03	0.04	42	0.1	0.4	**0.2**	0.01	0.02	*C30-31*
Larynx	668	2.4	7.7	**6.3**	0.43	0.80	48	0.1	0.5	**0.3**	0.02	0.03	*C32*
Trachea, bronchus and lung	6649	24.0	77.0	**62.2**	3.58	8.22	1630	4.6	15.6	**7.3**	0.32	0.88	*C33-34*
Other thoracic organs	75	0.3	0.9	**0.7**	0.04	0.09	75	0.2	0.7	**0.5**	0.03	0.05	*C37-38*
Bone	102	0.4	1.2	**1.0**	0.06	0.11	112	0.3	1.1	**0.8**	0.05	0.07	*C40-41*
Melanoma of skin	369	1.3	4.3	**3.5**	0.24	0.40	662	1.9	6.3	**4.0**	0.29	0.42	*C43*
Other skin	1286		14.9	**12.2**	0.51	1.37	2257		21.6	**10.4**	0.54	1.17	*C44*
Mesothelioma	21	0.1	0.2	**0.2**	0.01	0.02	23	0.1	0.2	**0.1**	0.01	0.02	*C45*
Kaposi sarcoma	2	0.0	0.0	**0.0**	0.00	0.00	4	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	191	0.7	2.2	**1.9**	0.12	0.21	256	0.7	2.4	**1.7**	0.10	0.16	*C47+C49*
Breast	56	0.2	0.6	**0.5**	0.03	0.05	7992	22.6	76.3	**46.1**	3.44	5.19	*C50*
Vulva							268	0.8	2.6	**1.2**	0.05	0.13	*C51*
Vagina							98	0.3	0.9	**0.5**	0.03	0.05	*C52*
Cervix uteri							1427	4.0	13.6	**8.8**	0.63	0.92	*C53*
Corpus uteri							2383	6.7	22.8	**13.3**	1.01	1.65	*C54*
Uterus unspecified							51	0.1	0.5	**0.3**	0.02	0.03	*C55*
Ovary							1820	5.1	17.4	**10.8**	0.82	1.21	*C56*
Other female genital organs							79	0.2	0.8	**0.5**	0.04	0.06	*C57*
Placenta							5	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	46	0.2	0.5	**0.4**	0.03	0.04							*C60*
Prostate	1598	5.8	18.5	**15.3**	0.48	1.83							*C61*
Testis	185	0.7	2.1	**1.8**	0.12	0.15							*C62*
Other male genital organs	27	0.1	0.3	**0.3**	0.02	0.03							*C63*
Kidney	993	3.6	11.5	**9.5**	0.59	1.14	1017	2.9	9.7	**5.3**	0.32	0.65	*C64*
Renal pelvis	16	0.1	0.2	**0.2**	0.00	0.02	12	0.0	0.1	**0.1**	0.00	0.01	*C65*
Ureter	11	0.0	0.1	**0.1**	0.01	0.02	4	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	1296	4.7	15.0	**12.3**	0.56	1.50	446	1.3	4.3	**1.9**	0.08	0.20	*C67*
Other urinary organs	96	0.3	1.1	**0.9**	0.05	0.11	126	0.4	1.2	**0.6**	0.04	0.08	*C68*
Eye	37	0.1	0.4	**0.5**	0.03	0.04	45	0.1	0.4	**0.4**	0.02	0.03	*C69*
Brain, nervous system	456	1.6	5.3	**4.9**	0.33	0.48	507	1.4	4.8	**3.8**	0.26	0.36	*C70-72*
Thyroid	129	0.5	1.5	**1.3**	0.09	0.14	611	1.7	5.8	**3.8**	0.27	0.40	*C73*
Adrenal gland	28	0.1	0.3	**0.3**	0.01	0.03	22	0.1	0.2	**0.2**	0.01	0.02	*C74*
Other endocrine	10	0.0	0.1	**0.1**	0.00	0.01	11	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	208	0.8	2.4	**2.1**	0.15	0.18	233	0.7	2.2	**2.2**	0.15	0.16	*C81*
Non-Hodgkin lymphoma	459	1.7	5.3	**4.5**	0.27	0.50	482	1.4	4.6	**3.0**	0.20	0.30	*C82-85,C96*
Immunoproliferative diseases	5	0.0	0.1	**0.0**	0.00	0.01	5	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	136	0.5	1.6	**1.2**	0.07	0.16	254	0.7	2.4	**1.3**	0.07	0.18	*C90*
Lymphoid leukaemia	476	1.7	5.5	**5.2**	0.26	0.54	437	1.2	4.2	**2.7**	0.13	0.27	*C91*
Myeloid leukaemia	242	0.9	2.8	**2.5**	0.15	0.25	297	0.8	2.8	**1.9**	0.12	0.20	*C92-94*
Leukaemia unspecified	88	0.3	1.0	**0.8**	0.04	0.09	125	0.4	1.2	**0.7**	0.04	0.07	*C95*
Other and unspecified	565	2.0	6.5	**5.3**	0.30	0.64	658	1.9	6.3	**3.2**	0.17	0.35	*O&U*
All sites	29011		336.0	**275.0**	15.18	33.46	37679		359.9	**197.6**	12.22	22.31	*ALL*
All sites but C44	27725	100.0	321.1	**262.8**	14.67	32.09	35422	100.0	338.4	**187.1**	11.68	21.14	*ALLbC44*
	‡42.9% of cases are anorectal tumours						‡40.6% of cases are anorectal tumours						

Slovakia

Registration area

The Cancer Registry of Slovakia covers the population of the Slovak Republic, with nearly 5.4 million inhabitants in 1995. The territory of Slovakia was divided into four counties and 38 districts, but in 1996 a new administrative division of the country was introduced with 8 counties and 78 districts. 14% of the inhabitants live in the two bigger towns, Bratislava and Kosice with around 440 000 and 230 000 inhabitants, respectively. 10% live in another seven towns with 50 000 to 100 000 inhabitants, the majority (56%) in communities and smaller towns of 5000 to 50 000 inhabitants, and the remainder in villages with less than 5000 inhabitants.

In 1995 the majority of the working population was employed in industry (25.7%) and in agriculture (9.4%), the remainder being in building, services, trade, transportation, education, health and culture. Unemployment was 13.7% in 1979, a figure which is gradually increasing. The majority of the population is of Slovak nationality, the second most numerous group being Hungarians (11%).

Cancer care facilities

Health care in Slovakia is provided predominantly by state health services, namely three university hospitals, county and district hospitals as well as by the network of primary health centres in all communities. Cancer care at the highest level is provided by the National Cancer Institute and the Oncological Hospital of St Elizabeth in Bratislava. There are departments of oncology and radiology at the university and in some county hospitals. The peripheral network of outpatient clinics of oncology established during 1975–80 in every district is oriented to registration and notification of diagnosis, active life-long follow-up and providing treatment for cancer patients.

Registry structure and methods

Failure in obtaining reliable cancer incidence statistics, despite the introduction of compulsory notification of all cancer cases and deaths in Slovakia in 1952, led to the establishment of the population-based cancer registry in 1976.

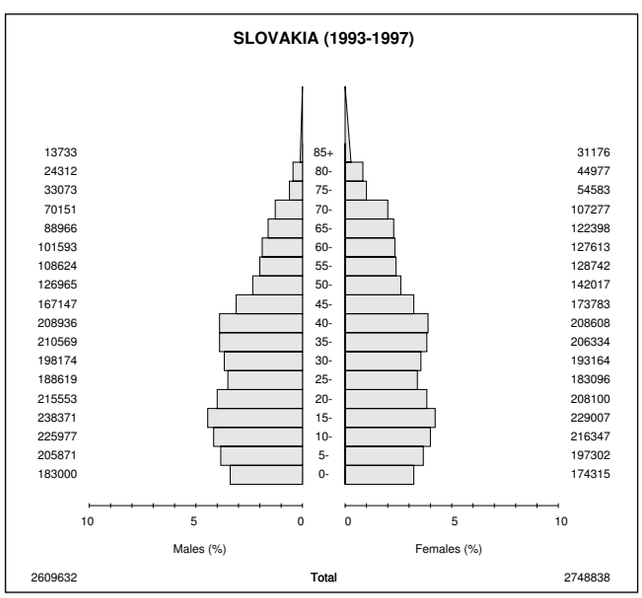
Detailed notification forms are used for data collection. The registry has had its own computer centre since 1990, since when it has been situated in the National Cancer Institute and supported financially by the Ministry of Health. The staff of the registry consists of three physicians, eight registrars and one computer specialist (half-time). Notification of cancer is obligatory and all physicians have three months to complete the notification forms.

The registry notification form is completed in the district outpatient clinics of oncology. Further information from the clinics is provided about change of name, address and diagnosis, and about the death of any cancer patient. In the registry each newly notified patient is compared and checked with the main file of patients already registered to ensure proper registration of new primaries and elimination of duplicates. All death certificates (all causes of death) are regularly reviewed to ensure the inclusion of previously unregistered cases and consequently to include the DCO cases. The completion of dates of death is now also assessed using data from the Office for the Evidence of Population of the Slovak Republic. Since 1990, the registry has received a lot of information on cancer patients from other documents accompanying the notification form (discharge summary, hospital record, operation report, results of histology or cytology and autopsy report).

Use of the data

Annual reports have been published regularly since 1983 and encompass the period beginning with the year 1968. The report contains detailed data on cancer incidence in Slovakia, including sub-regions, and is distributed to all the health institutions of the country (Ministry of Health, central institutes, hospitals, centres of clinical oncology, public health institutes). The data are used for policy preparation for cancer care and prevention, as well as for planning facilities for the diagnosis and treatment of cancer patients. Recently these data have been increasingly used by the National Centre of Health Promotion and by the League Against Cancer of Slovakia, mainly for health education of the population in the field of cancer prevention.

The data are also used for international collaborative projects such as ECLIS, EUROCARE, Europreval, and Euroclus.



Source of population

Estimates based on the 1991 census, prepared by the Statistical Office of the Slovak Republic. Statistical Yearbook of the Slovak Republic, Bratislava, Pub. VEDA, 1993, 1994, 1995, 1996, 1997. Age-structure of the Population of the Slovak Republic on 1 July, 1993, 1994, 1995, 1996, 1997, Statistical Office of the Slovak Republic.

SLOVAKIA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	463	1.0	3.5	**3.0**	0.14	0.38	138	0.4	1.0	**0.5**	0.01	0.06	*C00*
Tongue	755	1.6	5.8	**5.3**	0.45	0.61	58	0.2	0.4	**0.3**	0.02	0.03	*C01-02*
Mouth	799	1.7	6.1	**5.6**	0.49	0.63	110	0.3	0.8	**0.6**	0.04	0.06	*C03-06*
Salivary glands	134	0.3	1.0	**0.9**	0.05	0.10	83	0.2	0.6	**0.4**	0.02	0.04	*C07-08*
Tonsil	471	1.0	3.6	**3.3**	0.29	0.36	58	0.2	0.4	**0.3**	0.03	0.04	*C09*
Other oropharynx	353	0.8	2.7	**2.5**	0.21	0.27	24	0.1	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	109	0.2	0.8	**0.8**	0.06	0.08	43	0.1	0.3	**0.3**	0.02	0.02	*C11*
Hypopharynx	644	1.4	4.9	**4.5**	0.40	0.52	29	0.1	0.2	**0.2**	0.01	0.02	*C12-13*
Pharynx unspecified	30	0.1	0.2	**0.2**	0.02	0.03	11	0.0	0.1	**0.0**	0.00	0.00	*C14*
Oesophagus	1154	2.5	8.8	**8.1**	0.62	0.96	121	0.3	0.9	**0.6**	0.03	0.06	*C15*
Stomach	3307	7.2	25.3	**21.4**	1.00	2.61	2053	5.4	14.9	**9.0**	0.42	1.01	*C16*
Small intestine	113	0.2	0.9	**0.7**	0.04	0.09	89	0.2	0.6	**0.4**	0.02	0.05	*C17*
Colon	3545	7.7	27.2	**23.3**	1.21	2.93	2965	7.8	21.6	**13.9**	0.74	1.66	*C18*
Rectum	3345	7.2	25.6	**22.1**	1.16	2.81	2156	5.7	15.7	**10.1**	0.56	1.19	*C19-20*
Anus	77	0.2	0.6	**0.5**	0.03	0.06	73	0.2	0.5	**0.3**	0.02	0.04	*C21*
Liver	1048	2.3	8.0	**7.0**	0.40	0.88	724	1.9	5.3	**3.4**	0.16	0.38	*C22*
Gallbladder etc.	558	1.2	4.3	**3.6**	0.14	0.43	1409	3.7	10.3	**6.2**	0.26	0.75	*C23-24*
Pancreas	1486	3.2	11.4	**9.9**	0.56	1.23	1185	3.1	8.6	**5.3**	0.24	0.65	*C25*
Nose, sinuses etc.	101	0.2	0.8	**0.7**	0.05	0.08	64	0.2	0.5	**0.3**	0.01	0.03	*C30-31*
Larynx	1539	3.3	11.8	**10.7**	0.84	1.31	75	0.2	0.5	**0.4**	0.03	0.05	*C32*
Trachea, bronchus and lung	10515	22.8	80.6	**71.4**	4.51	9.33	1687	4.4	12.3	**8.2**	0.49	0.95	*C33-34*
Other thoracic organs	111	0.2	0.9	**0.7**	0.04	0.08	74	0.2	0.5	**0.4**	0.02	0.04	*C37-38*
Bone	229	0.5	1.8	**1.6**	0.10	0.17	195	0.5	1.4	**1.1**	0.06	0.10	*C40-41*
Melanoma of skin	718	1.6	5.5	**4.8**	0.30	0.54	938	2.5	6.8	**5.3**	0.39	0.55	*C43*
Other skin	6644		50.9	**43.1**	2.06	5.02	7159		52.1	**33.6**	1.80	3.82	*C44*
Mesothelioma	64	0.1	0.5	**0.4**	0.03	0.05	45	0.1	0.3	**0.2**	0.01	0.03	*C45*
Kaposi sarcoma	27	0.1	0.2	**0.2**	0.01	0.02	8	0.0	0.1	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	258	0.6	2.0	**1.8**	0.12	0.18	252	0.7	1.8	**1.5**	0.10	0.15	*C47+C49*
Breast	62	0.1	0.5	**0.4**	0.03	0.04	7824	20.5	56.9	**42.4**	3.10	4.77	*C50*
Vulva							297	0.8	2.2	**1.3**	0.06	0.17	*C51*
Vagina							92	0.2	0.7	**0.5**	0.03	0.06	*C52*
Cervix uteri							2865	7.5	20.8	**16.9**	1.35	1.68	*C53*
Corpus uteri							3186	8.4	23.2	**17.1**	1.25	2.13	*C54*
Uterus unspecified							38	0.1	0.3	**0.1**	0.00	0.01	*C55*
Ovary							1998	5.2	14.5	**11.1**	0.81	1.23	*C56*
Other female genital organs							87	0.2	0.6	**0.4**	0.02	0.04	*C57*
Placenta							13	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	119	0.3	0.9	**0.8**	0.05	0.09							*C60*
Prostate	3976	8.6	30.5	**24.6**	0.64	2.91							*C61*
Testis	760	1.6	5.8	**5.2**	0.37	0.39							*C62*
Other male genital organs	35	0.1	0.3	**0.2**	0.01	0.03							*C63*
Kidney	1805	3.9	13.8	**12.5**	0.85	1.51	1097	2.9	8.0	**5.8**	0.38	0.73	*C64*
Renal pelvis	109	0.2	0.8	**0.7**	0.05	0.10	107	0.3	0.8	**0.5**	0.03	0.06	*C65*
Ureter	29	0.1	0.2	**0.2**	0.01	0.03	22	0.1	0.2	**0.1**	0.01	0.01	*C66*
Bladder	2226	4.8	17.1	**14.6**	0.69	1.79	647	1.7	4.7	**3.0**	0.16	0.35	*C67*
Other urinary organs	22	0.0	0.2	**0.1**	0.00	0.02	14	0.0	0.1	**0.1**	0.00	0.01	*C68*
Eye	118	0.3	0.9	**0.9**	0.05	0.09	113	0.3	0.8	**0.7**	0.05	0.07	*C69*
Brain, nervous system	889	1.9	6.8	**6.5**	0.44	0.69	750	2.0	5.5	**4.7**	0.32	0.47	*C70-72*
Thyroid	174	0.4	1.3	**1.2**	0.08	0.14	631	1.7	4.6	**3.7**	0.27	0.37	*C73*
Adrenal gland	43	0.1	0.3	**0.3**	0.02	0.03	31	0.1	0.2	**0.2**	0.01	0.02	*C74*
Other endocrine	13	0.0	0.1	**0.1**	0.01	0.01	12	0.0	0.1	**0.1**	0.00	0.01	*C75*
Hodgkin disease	286	0.6	2.2	**2.1**	0.14	0.18	263	0.7	1.9	**1.8**	0.12	0.14	*C81*
Non-Hodgkin lymphoma	876	1.9	6.7	**6.0**	0.37	0.66	755	2.0	5.5	**4.0**	0.25	0.45	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	370	0.8	2.8	**2.4**	0.12	0.31	460	1.2	3.3	**2.2**	0.12	0.27	*C90*
Lymphoid leukaemia	715	1.5	5.5	**5.1**	0.25	0.53	488	1.3	3.6	**2.7**	0.13	0.25	*C91*
Myeloid leukaemia	472	1.0	3.6	**3.2**	0.19	0.34	425	1.1	3.1	**2.3**	0.14	0.24	*C92-94*
Leukaemia unspecified	45	0.1	0.3	**0.3**	0.01	0.03	57	0.1	0.4	**0.3**	0.01	0.03	*C95*
Other and unspecified	1102	2.4	8.4	**7.5**	0.42	0.87	1170	3.1	8.5	**5.2**	0.22	0.55	*O&U*
All sites	52843		405.0	**353.2**	20.12	42.57	45268		329.4	**230.0**	14.37	25.92	*ALL*
All sites but C44	46199	100.0	354.1	**310.1**	18.06	37.55	38109	100.0	277.3	**196.4**	12.57	22.10	*ALLbC44*

Slovenia

Registration area

The Republic of Slovenia covers an area of 20 255 km^2. It shares borders with Italy, Austria and Croatia and lies between latitudes 45° to 46° N and longitudes 13° to 16° E.

The registry covers the entire population of the Republic. In 1997, 17.1% of the population was younger than 15 years and 13.1% were older than 65 years. About 50.1% lived in urban areas, but only 19% in the cities with more then 100 000 inhabitants. According to the 1991 census, 87.8% of the population were Slovenians, 2.8% Croats, 2.4% Serbs, 1.36% Muslims, 0.43% Hungarians, 0.22% Montenegrins, 0.22% Macedonians, 0.18% Albanians, and 0.16% Italians. 54.6% of the male and 44.6% of the female population were economically active. The prevailing religion in Slovenia is Roman Catholic.

Cancer care facilities

Health care in Slovenia is provided by a clinical centre and two specialized institutes in Ljubljana, 12 general and 11 specialized hospitals, and 63 outpatient health care centres. One of the specialized institutes is the Institute of Oncology, which is a comprehensive cancer centre and is affiliated to the University of Ljubljana. It consists of clinical wards (surgery, medical oncology and radiotherapy), pathology and cytology department, tumour biology department, population- and hospital-based cancer registry, epidemiological unit and documentation service. More than 50% of cancer patients in Slovenia are at some time admitted to the Institute of Oncology. Except for skin cancer, radiotherapy and most of the chemotherapy are administered exclusively at this Institute.

Registry structure and methods

The Cancer Registry of Slovenia was founded in 1950 and is located at the Institute of Oncology in Ljubljana, the capital of Slovenia. As such, it is strongly connected to clinical oncology, which enables an active participation in clinical as well as epidemiological studies, better active retrieval of data, and continuous opportunity for consultation with oncological experts.

The head of the registry is a physician specialized in public health and trained in cancer epidemiology. Other full-time staff comprise one engineer in medical informatics, three registrars who are all medical personnel, and a computer operator. The ADP engineer (systems analyst),and one junior researcher are part-time members of staff.

The work in the registry is fully computerized. The data are stored and processed in the registry's database, managed by Oracle 8.05.

In the registry, patients are identified by their personal identification number and a unique registration number. The main data sources are notifications from hospitals (inpatients and outpatients). They are filled in by physicians, nurses, or trained clerks. At the Institute of Oncology, notifications are written by specially trained registered nurses at the hospital-based registry. Other sources of data are autopsy protocols, death certificates, and notifications from health care centres. The registration of cancer patients is compulsory. It is generally passive, except in cases where reporting is incomplete or delayed. Registration is further complemented by checking the hospitals' discharge documents and by stimulating clinicians' interest through publications and workshops. Death certificates are traced back.

Follow-up of registered cancer patients regarding their vital status is performed annually by linkage with the Central Population Register of the Republic of Slovenia.

Data are coded by specially trained registered nurses, supervised by the registry's physician. Regular quality and duplication checks are made during the coding process and input of data. Data protection regulations are strictly respected.

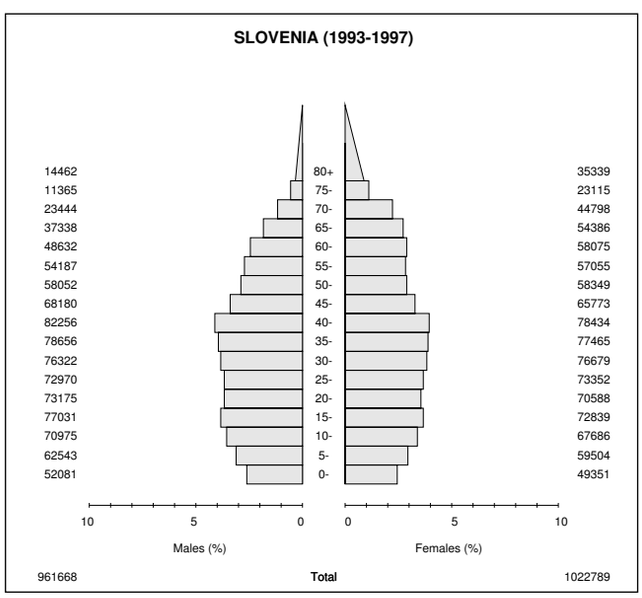
Interpretation of the data

The percentage of new cases reported after the publication of annual reports is low (2.8% for the period 1993–96). The registration of non-melanoma skin cancer as well as of multiple myeloma and chronic lymphatic leukemia is incomplete due to under-reporting of patients treated in out-patient departments.

Use of the data

Annual reports on cancer incidence have been published since 1951. From 1965 onwards, annual reports have been published in Slovenian and English, highlighting trends in cancer incidence and survival. The registry also participates in several national and international research projects including Eurocare and studies on childhood cancer incidence and survival. In 1992 the registry published an atlas of cancer incidence in Slovenia, and in 1995 the publication *Cancer Patient Survival in Slovenia*, 1963-1990.

The registry serves as a base for planning and evaluation of cancer control programmes and epidemiological research and education. The data users are clinicians, epidemiologists, postgraduate students, public health specialists as well as ecologists and journalists.



Source of population

Official number of the population as at 30 June provided by the Statistical Office of the Republic of Slovenia based on the Central Population Register of the Republic of Slovenia.

SLOVENIA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	107	0.6	2.2	**1.7**	0.11	0.18	26	0.2	0.5	**0.2**	0.00	0.02	*C00*
Tongue	183	1.0	3.8	**3.0**	0.24	0.36	32	0.2	0.6	**0.4**	0.03	0.04	*C01-02*
Mouth	296	1.7	6.2	**4.8**	0.39	0.58	52	0.3	1.0	**0.7**	0.05	0.07	*C03-06*
Salivary glands	31	0.2	0.6	**0.5**	0.03	0.05	34	0.2	0.7	**0.4**	0.03	0.04	*C07-08*
Tonsil	99	0.6	2.1	**1.6**	0.14	0.19	9	0.1	0.2	**0.1**	0.01	0.02	*C09*
Other oropharynx	346	2.0	7.2	**5.6**	0.44	0.70	27	0.2	0.5	**0.4**	0.03	0.04	*C10*
Nasopharynx	36	0.2	0.7	**0.6**	0.05	0.06	13	0.1	0.3	**0.2**	0.01	0.02	*C11*
Hypopharynx	243	1.4	5.1	**3.9**	0.34	0.47	11	0.1	0.2	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	4	0.0	0.1	**0.1**	0.00	0.01	1	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	385	2.2	8.0	**6.2**	0.44	0.79	64	0.4	1.3	**0.6**	0.02	0.07	*C15*
Stomach	1487	8.5	30.9	**23.8**	1.13	2.77	1006	6.1	19.7	**10.4**	0.48	1.15	*C16*
Small intestine	24	0.1	0.5	**0.4**	0.03	0.05	24	0.1	0.5	**0.3**	0.02	0.03	*C17*
Colon	1129	6.5	23.5	**18.1**	0.88	2.22	1140	6.9	22.3	**12.2**	0.66	1.41	*C18*
Rectum	1172	6.7	24.4	**18.9**	0.98	2.23	970	5.8	19.0	**10.5**	0.56	1.26	*C19-20*
Anus	30	0.2	0.6	**0.5**	0.02	0.06	34	0.2	0.7	**0.4**	0.02	0.04	*C21*
Liver	263	1.5	5.5	**4.3**	0.23	0.53	156	0.9	3.1	**1.5**	0.06	0.19	*C22*
Gallbladder etc.	204	1.2	4.2	**3.3**	0.13	0.37	367	2.2	7.2	**3.5**	0.12	0.43	*C23-24*
Pancreas	452	2.6	9.4	**7.3**	0.36	0.88	504	3.0	9.9	**4.8**	0.18	0.52	*C25*
Nose, sinuses etc.	61	0.3	1.3	**1.0**	0.07	0.12	41	0.2	0.8	**0.5**	0.02	0.05	*C30-31*
Larynx	481	2.8	10.0	**7.7**	0.57	0.96	48	0.3	0.9	**0.6**	0.05	0.08	*C32*
Trachea, bronchus and lung	4087	23.4	85.0	**66.2**	3.93	8.61	872	5.3	17.1	**10.1**	0.62	1.26	*C33-34*
Other thoracic organs	29	0.2	0.6	**0.5**	0.03	0.05	10	0.1	0.2	**0.2**	0.01	0.01	*C37-38*
Bone	36	0.2	0.7	**0.7**	0.05	0.06	31	0.2	0.6	**0.6**	0.04	0.05	*C40-41*
Melanoma of skin	417	2.4	8.7	**6.8**	0.46	0.75	487	2.9	9.5	**6.8**	0.51	0.69	*C43*
Other skin	1859		38.7	**30.0**	1.33	3.52	2170		42.4	**22.3**	1.07	2.51	*C44*
Mesothelioma	47	0.3	1.0	**0.8**	0.06	0.09	17	0.1	0.3	**0.2**	0.02	0.03	*C45*
Kaposi sarcoma	4	0.0	0.1	**0.1**	0.00	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	69	0.4	1.4	**1.2**	0.07	0.12	76	0.5	1.5	**1.1**	0.07	0.11	*C47+C49*
Breast	45	0.3	0.9	**0.7**	0.04	0.10	3997	24.1	78.2	**51.3**	3.71	5.74	*C50*
Vulva							151	0.9	3.0	**1.6**	0.08	0.18	*C51*
Vagina							41	0.2	0.8	**0.5**	0.02	0.04	*C52*
Cervix uteri							1002	6.0	19.6	**14.7**	1.16	1.42	*C53*
Corpus uteri							1222	7.4	23.9	**14.8**	1.04	1.84	*C54*
Uterus unspecified							66	0.4	1.3	**0.7**	0.04	0.07	*C55*
Ovary							855	5.2	16.7	**11.4**	0.84	1.25	*C56*
Other female genital organs							61	0.4	1.2	**0.7**	0.04	0.09	*C57*
Placenta							2	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	34	0.2	0.7	**0.5**	0.03	0.07							*C60*
Prostate	1663	9.5	34.6	**26.7**	0.60	3.12							*C61*
Testis	323	1.9	6.7	**5.8**	0.43	0.44							*C62*
Other male genital organs	13	0.1	0.3	**0.2**	0.01	0.02							*C63*
Kidney	501	2.9	10.4	**8.3**	0.48	0.99	349	2.1	6.8	**4.4**	0.27	0.53	*C64*
Renal pelvis	34	0.2	0.7	**0.5**	0.02	0.07	26	0.2	0.5	**0.3**	0.02	0.03	*C65*
Ureter	19	0.1	0.4	**0.3**	0.01	0.04	11	0.1	0.2	**0.1**	0.00	0.01	*C66*
Bladder	692	4.0	14.4	**11.1**	0.43	1.37	259	1.6	5.1	**2.5**	0.10	0.29	*C67*
Other urinary organs	8	0.0	0.2	**0.1**	0.00	0.02	6	0.0	0.1	**0.1**	0.00	0.01	*C68*
Eye	47	0.3	1.0	**0.8**	0.04	0.10	31	0.2	0.6	**0.5**	0.03	0.05	*C69*
Brain, nervous system	269	1.5	5.6	**4.9**	0.35	0.49	231	1.4	4.5	**3.6**	0.26	0.37	*C70-72*
Thyroid	77	0.4	1.6	**1.3**	0.09	0.15	253	1.5	4.9	**3.6**	0.26	0.35	*C73*
Adrenal gland	14	0.1	0.3	**0.4**	0.02	0.03	24	0.1	0.5	**0.6**	0.03	0.04	*C74*
Other endocrine	2	0.0	0.0	**0.1**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	106	0.6	2.2	**2.0**	0.13	0.16	89	0.5	1.7	**1.6**	0.10	0.12	*C81*
Non-Hodgkin lymphoma	444	2.5	9.2	**7.5**	0.43	0.77	466	2.8	9.1	**5.7**	0.31	0.61	*C82-85,C96*
Immunoproliferative diseases	1	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	136	0.8	2.8	**2.2**	0.11	0.24	164	1.0	3.2	**1.8**	0.10	0.23	*C90*
Lymphoid leukaemia	258	1.5	5.4	**4.9**	0.22	0.46	193	1.2	3.8	**2.8**	0.14	0.25	*C91*
Myeloid leukaemia	170	1.0	3.5	**2.9**	0.16	0.30	136	0.8	2.7	**1.7**	0.10	0.17	*C92-94*
Leukaemia unspecified	11	0.1	0.2	**0.2**	0.01	0.02	13	0.1	0.3	**0.1**	0.01	0.01	*C95*
Other and unspecified	861	4.9	17.9	**14.0**	0.70	1.64	885	5.3	17.3	**9.2**	0.41	0.98	*O&U*
All sites	19309		401.6	**315.2**	16.83	37.43	18755		366.7	**223.3**	13.80	24.85	*ALL*
All sites but C44	17450	100.0	362.9	**285.2**	15.50	33.91	16585	100.0	324.3	**201.0**	12.73	22.34	*ALLbC44*

Spain, Albacete

Registration area

Albacete is situated in the Central Meseta in the southeast of Spain. The province consists of 86 municipalities, 67.5% of which have less than 2000 inhabitants, with only 5.9% having more than 10 000. The climate is Mediterranean temperate with some continental features. The average total annual rainfall is approximately 275 mm.

The population at the 1996 census was 359 010. The population density (23 inhabitants per km^2) is very low compared to that of the country as a whole. 15.5 % of the population live in rural areas of less than 2000 inhabitants, 24.5% in semi-rural areas of 2000–10 000 inhabitants, and 60.0% in urban areas.

Cancer care facilities

Six hospital centres are located in the province, three of which are private surgical hospitals and three public general hospitals. There is one private pathology laboratory. There are 34 public primary care centres. Almost all of the population is covered by the public health system (INSALUD).

Registry structure and methods

The Cancer Registry of Albacete was created in February 1990 by the Consejería de Salud de la Comunidad Autonoma de Castilla-La Mancha, and it belongs to the Regional Service of Epidemiology with the principal objective of analysing cancer incidence in the province. It is financed by the Comunidad Autonoma.

Data for the registry are obtained from the General Hospital of Albacete (pathology and haematology laboratories, oncological and medical records departments); the Local Hospital of Hellin (pathology and haematology laboratories and medical records); the hospitals Nª Sª de los Llanos, Santa Cristina, Virgen del Rosario and Clinica de Recoletas; the Dr Iñiguez de Onzoño pathology laboratory, the Provincial Office of INSALUD, the regional mortality register and the National Institute of Statistics.

Data collection from these sources of information is active, carried out by the personnel of the registry from lists provided by the sources, and by consulting the files and clinical records concerned. The registry records cases voluntarily notified by physicians in the primary care services.

No active follow-up of cases is carried out. The registry has access to death certificates mentioning cancer for local residents who die in the Autonomous Community. Death certificates are traced back to find further information if the case is not already registered, and if no further information is found the case is registered as death certificate only. There is no personal contact with patients or their families.

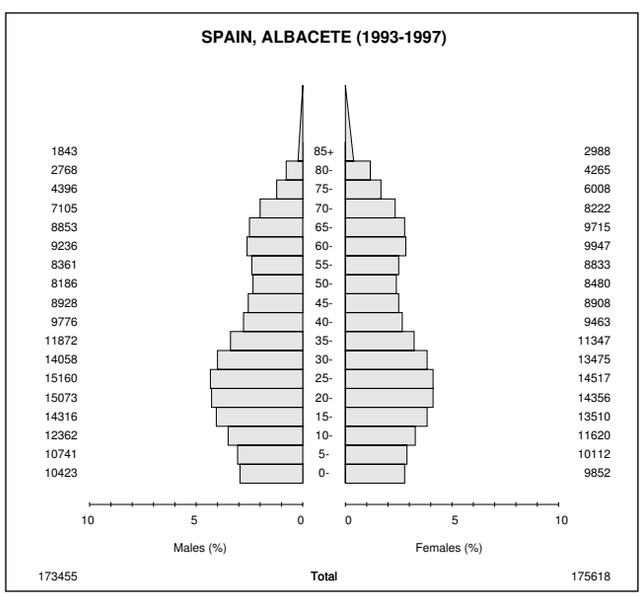
All data are automatically processed using a system which includes checking for duplicate registrations by name, social security number and/or clinical record. The IARC-CHECK program is used to detect errors and discrepancies in the data.

Interpreting the results

It is not possible to estimate how many cancer cases remain undiagnosed, but this probably occurs for elderly subjects in rural areas. INSALUD has a full range of diagnostic facilities, so that it is unlikely that cases referred will be missed. A screening service for breast cancer has been operated by the Asociación Española contra el Cáncer since 1991.

Use of the data

The registry prepares an annual report of cancer incidence by site, sex and age. As the registry was created recently, it is not yet possible to analyse survival or trends.



Source of population

Census: 1991

Estimate: 1992–97 postcensal official estimates.

Notes on the data

† C44 does not include basal cell or squamous cell carcinoma.

SPAIN, ALBACETE (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	149	4.4	17.2	**11.4**	0.72	1.44	19	0.8	2.2	**1.1**	0.06	0.14	*C00*
Tongue	30	0.9	3.5	**2.9**	0.23	0.31	5	0.2	0.6	**0.3**	0.03	0.03	*C01-02*
Mouth	32	0.9	3.7	**2.8**	0.23	0.31	6	0.3	0.7	**0.4**	0.02	0.03	*C03-06*
Salivary glands	8	0.2	0.9	**0.5**	0.04	0.06	4	0.2	0.5	**0.2**	0.02	0.03	*C07-08*
Tonsil	5	0.1	0.6	**0.4**	0.03	0.06	1	0.0	0.1	**0.1**	0.01	0.01	*C09*
Other oropharynx	4	0.1	0.5	**0.4**	0.04	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	14	0.4	1.6	**1.4**	0.11	0.14	3	0.1	0.3	**0.2**	0.01	0.01	*C11*
Hypopharynx	16	0.5	1.8	**1.6**	0.16	0.18	1	0.0	0.1	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	5	0.1	0.6	**0.4**	0.04	0.05	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	50	1.5	5.8	**4.1**	0.30	0.50	5	0.2	0.6	**0.4**	0.03	0.03	*C15*
Stomach	210	6.2	24.2	**14.8**	0.85	1.69	118	5.0	13.4	**6.7**	0.34	0.73	*C16*
Small intestine	2	0.1	0.2	**0.1**	0.00	0.03	3	0.1	0.3	**0.2**	0.01	0.02	*C17*
Colon	214	6.3	24.7	**14.4**	0.69	1.71	190	8.0	21.6	**11.2**	0.59	1.33	*C18*
Rectum	136	4.0	15.7	**9.3**	0.45	0.98	113	4.8	12.9	**6.4**	0.37	0.81	*C19-20*
‡Anus	2	0.1	0.2	**0.1**	0.01	0.01	2	0.1	0.2	**0.1**	0.01	0.02	*C21*
Liver	87	2.6	10.0	**5.7**	0.29	0.77	49	2.1	5.6	**2.2**	0.07	0.23	*C22*
Gallbladder etc.	30	0.9	3.5	**1.8**	0.07	0.24	76	3.2	8.7	**3.8**	0.14	0.43	*C23-24*
Pancreas	74	2.2	8.5	**4.7**	0.20	0.64	68	2.9	7.7	**3.4**	0.14	0.40	*C25*
Nose, sinuses etc.	4	0.1	0.5	**0.4**	0.04	0.05	1	0.0	0.1	**0.0**	0.00	0.01	*C30-31*
Larynx	141	4.2	16.3	**11.1**	0.81	1.39	6	0.3	0.7	**0.3**	0.02	0.03	*C32*
Trachea, bronchus and lung	546	16.1	63.0	**38.2**	2.09	4.99	48	2.0	5.5	**3.2**	0.20	0.36	*C33-34*
Other thoracic organs	3	0.1	0.3	**0.2**	0.01	0.01	2	0.1	0.2	**0.1**	0.00	0.01	*C37-38*
Bone	13	0.4	1.5	**1.3**	0.08	0.11	6	0.3	0.7	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	40	1.2	4.6	**3.2**	0.20	0.32	58	2.4	6.6	**5.0**	0.37	0.49	*C43*
†Other skin	9		1.0	**0.8**	0.05	0.07	6		0.7	**0.3**	0.01	0.02	*C44*
Mesothelioma	4	0.1	0.5	**0.2**	0.00	0.00	2	0.1	0.2	**0.1**	0.00	0.01	*C45*
Kaposi sarcoma	10	0.3	1.2	**0.9**	0.05	0.08	2	0.1	0.2	**0.1**	0.00	0.01	*C46*
Connective and soft tissue	17	0.5	2.0	**1.4**	0.10	0.13	7	0.3	0.8	**0.6**	0.02	0.07	*C47+C49*
Breast	7	0.2	0.8	**0.6**	0.04	0.07	639	27.0	72.8	**53.0**	4.15	5.77	*C50*
Vulva							24	1.0	2.7	**1.1**	0.03	0.13	*C51*
Vagina							5	0.2	0.6	**0.4**	0.02	0.03	*C52*
Cervix uteri							60	2.5	6.8	**5.4**	0.42	0.56	*C53*
Corpus uteri							128	5.4	14.6	**7.6**	0.45	1.06	*C54*
Uterus unspecified							11	0.5	1.3	**0.7**	0.05	0.09	*C55*
Ovary							129	5.4	14.7	**9.8**	0.68	1.12	*C56*
Other female genital organs							1	0.0	0.1	**0.0**	0.00	0.00	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	27	0.8	3.1	**1.8**	0.06	0.24							*C60*
Prostate	489	14.5	56.4	**27.8**	0.72	3.19							*C61*
Testis	27	0.8	3.1	**3.0**	0.20	0.20							*C62*
Other male genital organs	1	0.0	0.1	**0.0**	0.00	0.00							*C63*
Kidney	74	2.2	8.5	**6.0**	0.41	0.74	42	1.8	4.8	**2.6**	0.13	0.32	*C64*
Renal pelvis	0	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.1	**0.1**	0.01	0.01	*C65*
Ureter	5	0.1	0.6	**0.3**	0.01	0.06	1	0.0	0.1	**0.0**	0.00	0.01	*C66*
Bladder	365	10.8	42.1	**24.2**	1.14	2.95	68	2.9	7.7	**3.8**	0.21	0.43	*C67*
Other urinary organs	6	0.2	0.7	**0.3**	0.00	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	8	0.2	0.9	**0.6**	0.04	0.09	7	0.3	0.8	**0.5**	0.03	0.03	*C69*
Brain, nervous system	51	1.5	5.9	**4.4**	0.31	0.51	57	2.4	6.5	**5.4**	0.34	0.49	*C70-72*
Thyroid	12	0.4	1.4	**1.2**	0.10	0.14	46	1.9	5.2	**4.2**	0.33	0.42	*C73*
Adrenal gland	2	0.1	0.2	**0.3**	0.02	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	24	0.7	2.8	**2.5**	0.19	0.23	11	0.5	1.3	**0.9**	0.04	0.08	*C81*
Non-Hodgkin lymphoma	96	2.8	11.1	**8.1**	0.56	0.88	72	3.0	8.2	**5.4**	0.37	0.59	*C82-85,C96*
Immunoproliferative diseases	1	0.0	0.1	**0.1**	0.00	0.01	1	0.0	0.1	**0.1**	0.01	0.01	*C88*
Multiple myeloma	60	1.8	6.9	**3.6**	0.16	0.41	65	2.7	7.4	**3.9**	0.23	0.47	*C90*
Lymphoid leukaemia	63	1.9	7.3	**5.1**	0.23	0.40	29	1.2	3.3	**2.0**	0.09	0.21	*C91*
Myeloid leukaemia	57	1.7	6.6	**4.5**	0.23	0.47	27	1.1	3.1	**2.2**	0.13	0.20	*C92-94*
Leukaemia unspecified	7	0.2	0.8	**0.4**	0.01	0.06	8	0.3	0.9	**0.4**	0.01	0.04	*C95*
Other and unspecified	153	4.5	17.6	**10.2**	0.46	1.03	142	6.0	16.2	**7.5**	0.37	0.83	*O&U*
All sites	3390		390.9	**239.7**	12.78	28.08	2375		270.5	**163.9**	10.63	18.25	*ALL*
All sites but C44	3381	100.0	389.8	**239.0**	12.73	28.02	2369	100.0	269.8	**163.6**	10.61	18.23	*ALLbC44*
	§Includes 13 cases of unknown age ‡50.0% of cases are anorectal tumours						§Includes 10 cases of unknown age ‡50.0% of cases are anorectal tumours						

†See note following population pyramid

Spain, Asturias

Registration area

The area covered by the registry is the Autonomous Community of the Principality of Asturias, a region well defined both geographically and administratively, on the northern coastal strip of the Iberian Peninsula. It is situated between latitudes 42° and 43° N and longitudes 4° and 7° W. Its total area is 10 565 km^2. Asturias is a very hilly region, altitudes ranging from sea level to 2500 m. However, three quarters of its surface lies below 1000 m.

The climate is mild oceanic with abundant rainfall throughout the year, an average annual relative humidity of 80% and average rainfall ranging from 800 to 1800 mm. The average annual temperature is 10° C.

In 1993 the population of Asturias was 1 091 516 inhabitants (48.2% males and 51.8% females), giving an average population density of 103.3 inhabitants per km^2. Most of the population (92%) lives in municipalities of >5000 inhabitants. The occupational distribution by economic sector was: 11% in agriculture and fishing, 26% in industry (mainly iron and steel industry and coal-mining), 11% in building and 52% in services. The population is mainly of the Roman Catholic religion, and ethnically Caucasian.

Cancer care facilities

The health care system in the area covered by the registry is basically public and includes a network of 75 primary health care centres and 10 hospitals that cover the eight health districts. The hospital in the capital (Oviedo) is the regional reference centre for radiotherapy.

Registry structure and methods

The Principality of Asturias Tumour Registry began its activities in 1978, and its first results were published in 1982.

The registry is located in the Dirección General de Salud Pública of the Consejería de Salud y Servicios Sanitarios (regional public health authority), and depends on the Health Information Unit. Permanent staff are two full-time registrars. Financial support is from public funds.

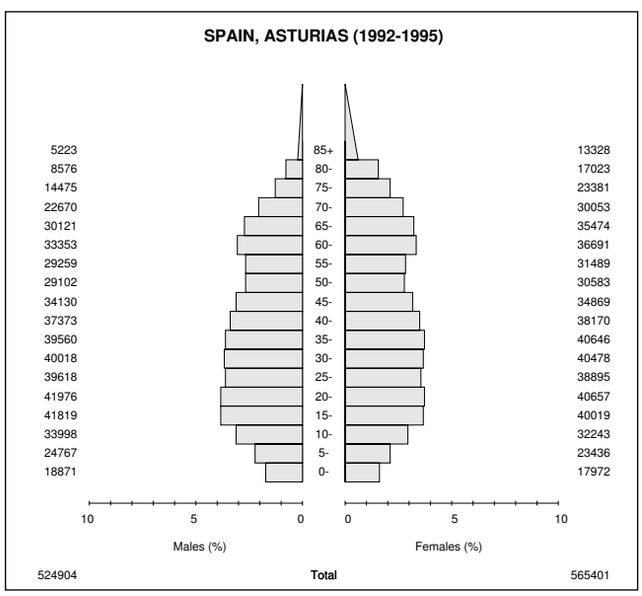
Data collection is actively performed by the registry staff, and all the centres, both public and private, where a tumour can be diagnosed or treated in the region, are information sources for the registry. There is also a hospital-based registry in the reference hospital in the capital, which provides automated data to the registry. Death certificates for all causes are available to the registry. Indicators of quality are evaluated periodically.

Interpreting the results

There were no changes in population, area covered, case definition, coding or known exposures that could influence incidence rates in the period. A screening programme for breast cancer in women in the capital (200 000 inhabitants) was started in 1991.

Use of the data

The registry publishes the annual incidence data periodically. Data of the registry are used to support epidemiological research: a cancer atlas (geographical and time trends analysis) with incidence data from a period of 12 years has been prepared, a study of survival of lung cancer incidence in 1992, the EPIC project, and some other studies on specific sites. The registry also provides information to the public health authority for the evaluation and planning of health services.



Source of population

Intercensal estimates between the 1991 and 1996 censuses.

Notes on the data

† C44 does not include basal cell or squamous cell carcinoma.

SPAIN, ASTURIAS (1992-1995)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	80	0.7	3.8	**2.1**	0.11	0.23	18	0.2	0.8	**0.2**	0.01	0.02	*C00*
Tongue	128	1.2	6.1	**4.2**	0.37	0.47	31	0.4	1.4	**0.6**	0.02	0.08	*C01-02*
Mouth	90	0.8	4.3	**2.8**	0.22	0.33	29	0.4	1.3	**0.7**	0.03	0.06	*C03-06*
Salivary glands	25	0.2	1.2	**0.7**	0.03	0.07	17	0.2	0.8	**0.5**	0.03	0.04	*C07-08*
Tonsil	62	0.6	3.0	**2.0**	0.16	0.24	2	0.0	0.1	**0.0**	0.00	0.00	*C09*
Other oropharynx	69	0.6	3.3	**2.3**	0.19	0.27	2	0.0	0.1	**0.0**	0.00	0.00	*C10*
Nasopharynx	48	0.4	2.3	**1.5**	0.11	0.19	9	0.1	0.4	**0.3**	0.02	0.03	*C11*
Hypopharynx	146	1.3	7.0	**4.9**	0.44	0.57	8	0.1	0.4	**0.2**	0.02	0.02	*C12-13*
Pharynx unspecified	27	0.2	1.3	**0.8**	0.06	0.09	1	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	253	2.3	12.0	**7.5**	0.54	0.91	28	0.4	1.2	**0.5**	0.02	0.05	*C15*
Stomach	717	6.5	34.1	**18.0**	0.83	2.14	463	6.1	20.5	**8.0**	0.35	0.87	*C16*
Small intestine	28	0.3	1.3	**0.8**	0.06	0.10	26	0.3	1.1	**0.5**	0.03	0.07	*C17*
Colon	818	7.4	39.0	**20.4**	0.94	2.47	668	8.8	29.5	**12.3**	0.63	1.41	*C18*
Rectum	468	4.2	22.3	**11.8**	0.54	1.36	321	4.2	14.2	**6.3**	0.35	0.74	*C19-20*
‡Anus	41	0.4	2.0	**1.2**	0.08	0.14	37	0.5	1.6	**0.7**	0.03	0.07	*C21*
Liver	266	2.4	12.7	**7.0**	0.39	0.92	92	1.2	4.1	**1.6**	0.06	0.20	*C22*
Gallbladder etc.	44	0.4	2.1	**1.2**	0.07	0.13	93	1.2	4.1	**1.5**	0.06	0.19	*C23-24*
Pancreas	214	1.9	10.2	**5.4**	0.25	0.64	197	2.6	8.7	**3.0**	0.11	0.34	*C25*
Nose, sinuses etc.	42	0.4	2.0	**1.3**	0.10	0.15	14	0.2	0.6	**0.4**	0.03	0.04	*C30-31*
Larynx	517	4.7	24.6	**15.3**	1.11	1.91	12	0.2	0.5	**0.2**	0.02	0.02	*C32*
Trachea, bronchus and lung	2382	21.5	113.4	**63.4**	3.53	7.89	223	2.9	9.9	**4.5**	0.29	0.51	*C33-34*
Other thoracic organs	19	0.2	0.9	**0.5**	0.02	0.06	10	0.1	0.4	**0.4**	0.02	0.03	*C37-38*
Bone	24	0.2	1.1	**1.1**	0.08	0.08	28	0.4	1.2	**1.1**	0.07	0.09	*C40-41*
Melanoma of skin	94	0.8	4.5	**2.9**	0.20	0.32	171	2.3	7.6	**4.3**	0.28	0.42	*C43*
†Other skin	391		18.6	**9.9**	0.43	1.13	362		16.0	**6.4**	0.32	0.72	*C44*
Mesothelioma	13	0.1	0.6	**0.3**	0.01	0.04	17	0.2	0.8	**0.4**	0.02	0.04	*C45*
Kaposi sarcoma	13	0.1	0.6	**0.5**	0.04	0.04	6	0.1	0.3	**0.1**	0.01	0.01	*C46*
Connective and soft tissue	62	0.6	3.0	**2.1**	0.13	0.20	69	0.9	3.1	**1.9**	0.14	0.21	*C47+C49*
Breast	26	0.2	1.2	**0.7**	0.04	0.09	1895	25.0	83.8	**50.6**	3.91	5.53	*C50*
Vulva							76	1.0	3.4	**1.3**	0.06	0.14	*C51*
Vagina							16	0.2	0.7	**0.3**	0.02	0.04	*C52*
Cervix uteri							277	3.6	12.2	**8.1**	0.63	0.84	*C53*
Corpus uteri							442	5.8	19.5	**10.8**	0.80	1.33	*C54*
Uterus unspecified							31	0.4	1.4	**0.9**	0.06	0.10	*C55*
Ovary							371	4.9	16.4	**9.3**	0.68	1.09	*C56*
Other female genital organs							33	0.4	1.5	**0.7**	0.04	0.07	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	30	0.3	1.4	**0.9**	0.07	0.11							*C60*
Prostate	1067	9.6	50.8	**24.0**	0.72	2.86							*C61*
Testis	49	0.4	2.3	**2.1**	0.15	0.16							*C62*
Other male genital organs	12	0.1	0.6	**0.3**	0.03	0.05							*C63*
Kidney	296	2.7	14.1	**8.3**	0.50	1.08	134	1.8	5.9	**3.3**	0.20	0.35	*C64*
Renal pelvis	18	0.2	0.9	**0.5**	0.04	0.07	6	0.1	0.3	**0.1**	0.00	0.01	*C65*
Ureter	7	0.1	0.3	**0.2**	0.00	0.02	4	0.1	0.2	**0.1**	0.01	0.01	*C66*
Bladder	1150	10.4	54.8	**29.2**	1.39	3.52	216	2.8	9.6	**3.9**	0.19	0.41	*C67*
Other urinary organs	27	0.2	1.3	**0.6**	0.02	0.08	9	0.1	0.4	**0.2**	0.01	0.02	*C68*
Eye	17	0.2	0.8	**0.5**	0.03	0.07	4	0.1	0.2	**0.1**	0.01	0.01	*C69*
Brain, nervous system	151	1.4	7.2	**5.0**	0.39	0.55	142	1.9	6.3	**4.1**	0.28	0.44	*C70-72*
Thyroid	53	0.5	2.5	**1.8**	0.13	0.18	151	2.0	6.7	**4.7**	0.37	0.44	*C73*
Adrenal gland	6	0.1	0.3	**0.3**	0.01	0.02	7	0.1	0.3	**0.2**	0.02	0.02	*C74*
Other endocrine	6	0.1	0.3	**0.2**	0.01	0.02	4	0.1	0.2	**0.1**	0.00	0.01	*C75*
Hodgkin disease	80	0.7	3.8	**3.4**	0.22	0.27	59	0.8	2.6	**2.2**	0.16	0.18	*C81*
Non-Hodgkin lymphoma	295	2.7	14.1	**9.2**	0.54	1.03	285	3.8	12.6	**6.4**	0.35	0.72	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	123	1.1	5.9	**3.2**	0.15	0.38	94	1.2	4.2	**1.7**	0.09	0.18	*C90*
Lymphoid leukaemia	141	1.3	6.7	**4.6**	0.23	0.44	88	1.2	3.9	**1.9**	0.09	0.17	*C91*
Myeloid leukaemia	94	0.8	4.5	**2.9**	0.19	0.31	84	1.1	3.7	**2.3**	0.15	0.21	*C92-94*
Leukaemia unspecified	33	0.3	1.6	**1.3**	0.06	0.11	30	0.4	1.3	**1.0**	0.06	0.08	*C95*
Other and unspecified	723	6.5	34.4	**19.1**	0.95	2.18	543	7.2	24.0	**9.7**	0.45	1.00	*O&U*
All sites	11485		547.0	**309.9**	16.93	36.69	7955		351.7	**180.6**	11.60	19.70	*ALL*
All sites but C44	11094	100.0	528.4	**300.1**	16.49	35.57	7593	100.0	335.7	**174.2**	11.29	18.98	*ALLbC44*
	§Includes 143 cases of unknown age						§Includes 116 cases of unknown age						
	‡78.0% of cases are anorectal tumours						‡54.1% of cases are anorectal tumours						

†See note following population pyramid

Spain, Canary Islands

Registration area

The archipelago of the Canary Islands is one of the autonomous regions of Spain. It is located 100 km east of the African coast and 1500 km from mainland Spain, between latitudes 27° and 30°.

The registry covers the population of the two major islands (Gran Canaria and Tenerife) which are the administrative capitals of the two provinces. Those two islands had a population of 1 379 379 inhabitants in the 1996 census.

The population is almost 100% Catholic, although there are some people from India who have been living for generations in the islands.

The economic activities are 7% agriculture, 3.4% industry and 77.9% services (mainly tourism).

Cancer care facilities

There is a network of primary health care centres and two reference hospitals in each island with services of oncology, radiotherapy, haematology, cancer surgery and chemotherapy.

Registry structure and methods

The registry belongs to the Public Health headquarters and is part of the Epidemiology Service.

Each island has a team of staff for the registry: in Gran Canaria there is one part-time medical doctor, two nurses and one full time clerk, and in Tenerife there are two part-time medical doctors and one full-time clerk.

Data collection is active, looking for cases in the public (pathology, oncology, radiotherapy, haematology, inpatient coded records, breast pathology and hospital cancer registries) and private hospitals, private pathology laboratories, and death certificates. Once the case is collected the medical records in the different hospitals are checked to confirm the incidence date and the site of the tumour. There is no notification of cases from physicians.

Interpreting the results

Although some patients go to other hospitals in Spain for treatment, the diagnosis is almost always made locally, and these patients return to their doctors for follow up. In the event of death the death certificate will be established in the Islands.

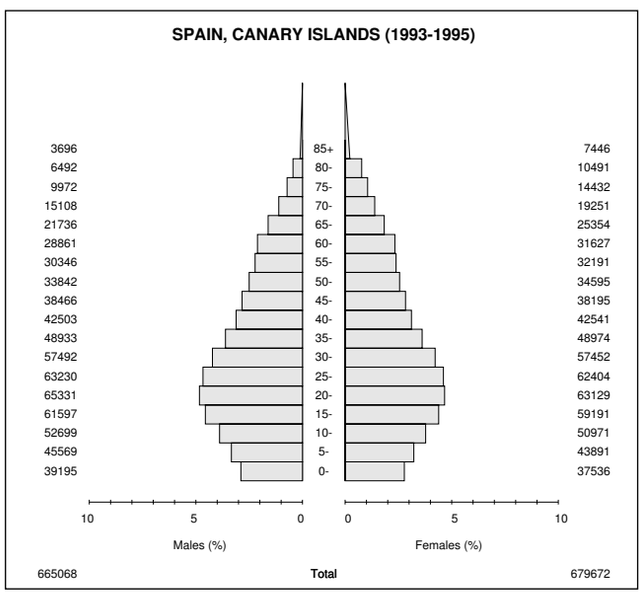
Use of the data

The registry publishes an annual report of incidence, and has carried out some studies on cancer mortality.

The data have been used for the Health Plan of the Canary Islands and have been sent to all the health services in both the public and private sector.

The registration is collaborating in several epidemiological studies, including colorectal cancer and breast cancer in the Canary Islands.

The data will be used to measure the effect of the breast cancer screening programme.



Source of population

Estimated annual populations at 1 July, based on geometric interpolation from the censuses of 1991 and 1996.

Notes on the data

* The data are from the early years of registration and it is difficult to fully evaluate completeness. The proportion of diagnoses based on a death certificate alone is on the high side.

† C44 does not include basal cell or squamous cell carcinoma.

*SPAIN, CANARY ISLANDS (1993-1995)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	138	2.1	6.9	**5.9**	0.30	0.73	20	0.4	1.0	**0.7**	0.03	0.08	*C00*
Tongue	116	1.7	5.8	**5.3**	0.40	0.62	16	0.3	0.8	**0.6**	0.05	0.05	*C01-02*
Mouth	122	1.8	6.1	**5.5**	0.43	0.68	14	0.3	0.7	**0.5**	0.03	0.05	*C03-06*
Salivary glands	25	0.4	1.3	**1.1**	0.06	0.14	18	0.4	0.9	**0.6**	0.04	0.04	*C07-08*
Tonsil	41	0.6	2.1	**1.9**	0.15	0.24	1	0.0	0.0	**0.0**	0.00	0.00	*C09*
Other oropharynx	21	0.3	1.1	**1.0**	0.07	0.12	3	0.1	0.1	**0.1**	0.01	0.02	*C10*
Nasopharynx	15	0.2	0.8	**0.7**	0.04	0.07	7	0.1	0.3	**0.3**	0.03	0.03	*C11*
Hypopharynx	99	1.5	5.0	**4.5**	0.36	0.53	3	0.1	0.1	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	53	0.8	2.7	**2.4**	0.15	0.28	4	0.1	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	182	2.7	9.1	**8.0**	0.53	0.96	28	0.6	1.4	**0.9**	0.03	0.11	*C15*
Stomach	292	4.4	14.6	**12.2**	0.56	1.39	147	2.9	7.2	**4.8**	0.20	0.60	*C16*
Small intestine	14	0.2	0.7	**0.6**	0.04	0.08	7	0.1	0.3	**0.2**	0.01	0.01	*C17*
Colon	386	5.8	19.3	**15.9**	0.67	1.82	378	7.5	18.5	**13.0**	0.72	1.50	*C18*
Rectum	290	4.4	14.5	**12.3**	0.64	1.35	199	3.9	9.8	**6.8**	0.40	0.72	*C19-20*
‡Anus	9	0.1	0.5	**0.4**	0.03	0.07	6	0.1	0.3	**0.2**	0.00	0.02	*C21*
Liver	196	2.9	9.8	**8.1**	0.38	0.97	101	2.0	5.0	**3.3**	0.14	0.44	*C22*
Gallbladder etc.	39	0.6	2.0	**1.7**	0.06	0.18	104	2.1	5.1	**3.2**	0.13	0.38	*C23-24*
Pancreas	180	2.7	9.0	**7.5**	0.36	0.90	149	3.0	7.3	**4.6**	0.15	0.56	*C25*
Nose, sinuses etc.	18	0.3	0.9	**0.7**	0.03	0.09	7	0.1	0.3	**0.2**	0.01	0.02	*C30-31*
Larynx	335	5.0	16.8	**15.1**	1.09	1.88	13	0.3	0.6	**0.5**	0.02	0.05	*C32*
Trachea, bronchus and lung	1221	18.4	61.2	**52.4**	2.75	6.53	168	3.3	8.2	**6.1**	0.35	0.72	*C33-34*
Other thoracic organs	10	0.2	0.5	**0.4**	0.02	0.02	7	0.1	0.3	**0.2**	0.02	0.02	*C37-38*
Bone	17	0.3	0.9	**0.8**	0.04	0.09	15	0.3	0.7	**0.8**	0.05	0.06	*C40-41*
Melanoma of skin	58	0.9	2.9	**2.5**	0.15	0.29	95	1.9	4.7	**3.6**	0.25	0.35	*C43*
†Other skin	14		0.7	**0.6**	0.04	0.05	19		0.9	**0.7**	0.04	0.07	*C44*
Mesothelioma	9	0.1	0.5	**0.4**	0.03	0.05	2	0.0	0.1	**0.1**	0.01	0.01	*C45*
Kaposi sarcoma	52	0.8	2.6	**2.2**	0.18	0.20	6	0.1	0.3	**0.2**	0.01	0.03	*C46*
Connective and soft tissue	48	0.7	2.4	**2.1**	0.11	0.18	43	0.9	2.1	**1.9**	0.11	0.16	*C47+C49*
Breast	15	0.2	0.8	**0.6**	0.02	0.04	1494	29.6	73.3	**58.4**	4.10	6.60	*C50*
Vulva							36	0.7	1.8	**1.1**	0.04	0.12	*C51*
Vagina							7	0.1	0.3	**0.2**	0.02	0.03	*C52*
Cervix uteri							198	3.9	9.7	**7.9**	0.59	0.82	*C53*
Corpus uteri							292	5.8	14.3	**10.8**	0.66	1.40	*C54*
Uterus unspecified							19	0.4	0.9	**0.6**	0.03	0.07	*C55*
Ovary							210	4.2	10.3	**8.1**	0.54	0.89	*C56*
Other female genital organs							18	0.4	0.9	**0.6**	0.03	0.05	*C57*
Placenta							2	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	22	0.3	1.1	**0.9**	0.07	0.11							*C60*
Prostate	838	12.6	42.0	**33.6**	0.84	3.63							*C61*
Testis	28	0.4	1.4	**1.2**	0.08	0.11							*C62*
Other male genital organs	3	0.0	0.2	**0.1**	0.01	0.02							*C63*
Kidney	82	1.2	4.1	**3.6**	0.23	0.44	50	1.0	2.5	**1.9**	0.14	0.21	*C64*
Renal pelvis	21	0.3	1.1	**0.9**	0.04	0.09	2	0.0	0.1	**0.1**	0.01	0.01	*C65*
Ureter	9	0.1	0.5	**0.4**	0.03	0.05	3	0.1	0.1	**0.1**	0.00	0.02	*C66*
Bladder	536	8.1	26.9	**22.2**	0.89	2.65	93	1.8	4.6	**2.9**	0.11	0.34	*C67*
Other urinary organs	13	0.2	0.7	**0.5**	0.02	0.06	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	16	0.2	0.8	**0.8**	0.04	0.07	6	0.1	0.3	**0.2**	0.01	0.01	*C69*
Brain, nervous system	158	2.4	7.9	**7.4**	0.54	0.75	108	2.1	5.3	**4.8**	0.32	0.47	*C70-72*
Thyroid	34	0.5	1.7	**1.5**	0.10	0.18	138	2.7	6.8	**5.7**	0.43	0.56	*C73*
Adrenal gland	2	0.0	0.1	**0.1**	0.01	0.02	5	0.1	0.2	**0.3**	0.01	0.03	*C74*
Other endocrine	2	0.0	0.1	**0.1**	0.01	0.01	2	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	57	0.9	2.9	**2.7**	0.16	0.27	51	1.0	2.5	**2.1**	0.14	0.16	*C81*
Non-Hodgkin lymphoma	277	4.2	13.9	**12.1**	0.74	1.38	262	5.2	12.8	**9.7**	0.55	1.20	*C82-85,C96*
Immunoproliferative diseases	7	0.1	0.4	**0.3**	0.01	0.06	2	0.0	0.1	**0.1**	0.00	0.00	*C88*
Multiple myeloma	64	1.0	3.2	**2.7**	0.13	0.36	66	1.3	3.2	**2.3**	0.12	0.31	*C90*
Lymphoid leukaemia	82	1.2	4.1	**4.1**	0.24	0.36	70	1.4	3.4	**3.3**	0.18	0.29	*C91*
Myeloid leukaemia	70	1.1	3.5	**3.0**	0.18	0.30	95	1.9	4.7	**3.5**	0.22	0.34	*C92-94*
Leukaemia unspecified	9	0.1	0.5	**0.4**	0.02	0.05	9	0.2	0.4	**0.3**	0.01	0.03	*C95*
Other and unspecified	316	4.8	15.8	**13.4**	0.71	1.41	240	4.8	11.8	**7.6**	0.34	0.84	*O&U*
All sites	6661		333.9	**284.9**	14.76	32.88	5058		248.1	**187.2**	11.45	20.95	*ALL*
All sites but C44	6647	100.0	333.1	**284.3**	14.72	32.82	5039	100.0	247.1	**186.6**	11.41	20.87	*ALLbC44*
	§Includes 19 cases of unknown age						§Includes 9 cases of unknown age						
	‡33.3% of cases are anorectal tumours												

†See note following population pyramid

Spain, Cuenca

Registration area

The area covered by the Cancer Registry of Cuenca is Cuenca province, located between 39° and 40° N, an area that corresponds to the Spanish Central Plateau, limited to the south by the province of Albacete.

43% of the population in 1996 lived in a rural area (<2000 inhabitants). 23% is older than 65 years and 15% is under the age of 15 years. The province covers 17 140 km² (238 municipalities), with a density of population of 11.7 inhabitants per km². The service industry accounts for 45.1% of the economic activity, agriculture for 25.2% and industry and construction 29.7%.

Cancer care facilities

There are one public and two private hospitals in the area. 84% of the beds correspond to the public sector. There is also a public network of primary health care centres that covers the entire province.

Registry structure and methods

The Cancer Registry of Cuenca was created in 1993, within the Epidemiology Service of the Health Department of the Autonomous Community of Castilla-La Mancha. The registry follows the methodology developed by the Cancer Registry of Albacete.

The personnel comprise one physician, two nurses and an administrator, all part-time.

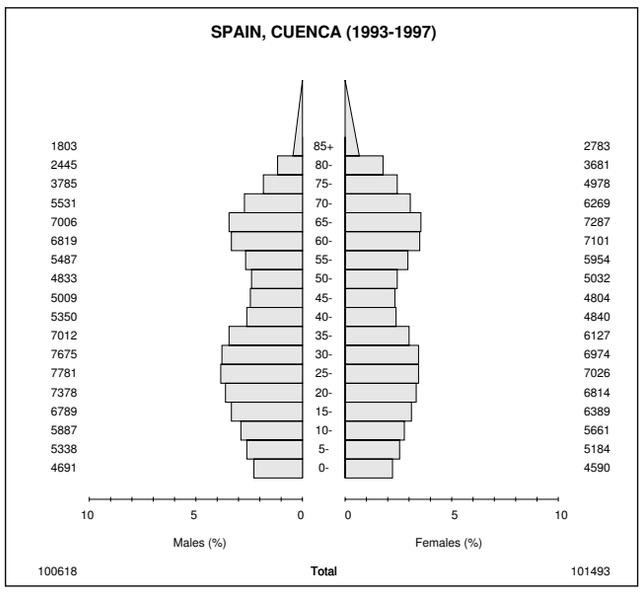
Data collection is carried out actively by the personnel of the registry, through review of the clinical records in the hospitals and/or in the primary health care centres. For this, the different sources of information provide lists of possible cases periodically. The primary care physicians also send individual case information, as do physicians attending cancer patients in the hospitals. The data are complemented by death certificates.

The data are automatically processed using a system which includes checking to avoid duplicates, using surnames, Social Security number and clinical history code. The IARC-CHECK program is used to detect mistakes and inconsistencies between the different variables.

Access to the data is restricted to the personnel of the registry, and securely protected, to guarantee confidentiality.

Use of the data

The principal objectives of the Populational Cancer Registry of Cuenca are to establish the incidence of the cancer in the province, to make geographical comparisons, monitor time trends, and evaluate survival. In addition to epidemiological investigation, the registry is involved in the planning of preventive measures and of facilities for cancer patients.



Source of population

Annual estimates at 1 July, using interpolation applied to a model of exponential growth. The population under one year is calculated at 1 July on the basis of the annual growth rates. The other age-groups are estimated on the basis of the 1991 census (13 March 1991) and the municipal counts of 1996 and 1998.

Ref: Renovación Padronal de 01-05-1996 y Revisión Padronal de 01-05-1998 (www.ine.es)

Notes on the data

† C44 does not include basal cell or squamous cell carcinoma.

SPAIN, CUENCA (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	132	5.5	26.2	**14.3**	0.89	1.85	21	1.3	4.1	**1.0**	0.00	0.09	*C00*
Tongue	15	0.6	3.0	**1.8**	0.13	0.21	4	0.3	0.8	**0.3**	0.02	0.04	*C01-02*
Mouth	11	0.5	2.2	**1.3**	0.11	0.13	0	0.0	0.0	**0.0**	0.00	0.00	*C03-06*
Salivary glands	9	0.4	1.8	**0.9**	0.06	0.09	4	0.3	0.8	**0.2**	0.00	0.03	*C07-08*
Tonsil	8	0.3	1.6	**0.9**	0.07	0.13	1	0.1	0.2	**0.2**	0.02	0.02	*C09*
Other oropharynx	3	0.1	0.6	**0.2**	0.01	0.03	1	0.1	0.2	**0.0**	0.00	0.00	*C10*
Nasopharynx	4	0.2	0.8	**0.6**	0.04	0.08	4	0.3	0.8	**0.8**	0.07	0.07	*C11*
Hypopharynx	4	0.2	0.8	**0.5**	0.05	0.07	1	0.1	0.2	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	5	0.2	1.0	**0.5**	0.04	0.09	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	29	1.2	5.8	**3.0**	0.17	0.33	5	0.3	1.0	**0.5**	0.03	0.03	*C15*
Stomach	221	9.1	43.9	**20.3**	1.12	2.30	131	8.2	25.8	**9.1**	0.46	0.84	*C16*
Small intestine	3	0.1	0.6	**0.2**	0.00	0.01	5	0.3	1.0	**0.4**	0.01	0.03	*C17*
Colon	156	6.5	31.0	**12.6**	0.48	1.53	156	9.8	30.7	**12.1**	0.69	1.33	*C18*
Rectum	100	4.1	19.9	**8.1**	0.42	0.97	64	4.0	12.6	**5.6**	0.37	0.58	*C19-20*
Anus	8	0.3	1.6	**1.1**	0.07	0.14	5	0.3	1.0	**0.4**	0.03	0.06	*C21*
Liver	59	2.4	11.7	**4.8**	0.22	0.58	44	2.8	8.7	**3.3**	0.20	0.30	*C22*
Gallbladder etc.	19	0.8	3.8	**1.3**	0.04	0.13	68	4.3	13.4	**4.1**	0.10	0.59	*C23-24*
Pancreas	49	2.0	9.7	**3.9**	0.18	0.47	49	3.1	9.7	**2.5**	0.04	0.25	*C25*
Nose, sinuses etc.	1	0.0	0.2	**0.2**	0.02	0.02	2	0.1	0.4	**0.5**	0.04	0.04	*C30-31*
Larynx	110	4.6	21.9	**14.3**	1.19	1.68	2	0.1	0.4	**0.4**	0.03	0.03	*C32*
Trachea, bronchus and lung	386	16.0	76.7	**36.6**	2.18	4.46	29	1.8	5.7	**2.1**	0.10	0.23	*C33-34*
Other thoracic organs	3	0.1	0.6	**0.2**	0.01	0.03	1	0.1	0.2	**0.0**	0.00	0.00	*C37-38*
Bone	8	0.3	1.6	**1.3**	0.06	0.10	7	0.4	1.4	**1.3**	0.07	0.11	*C40-41*
Melanoma of skin	25	1.0	5.0	**3.2**	0.26	0.34	37	2.3	7.3	**3.7**	0.22	0.37	*C43*
†Other skin	9		1.8	**0.7**	0.03	0.06	5		1.0	**0.4**	0.02	0.04	*C44*
Mesothelioma	2	0.1	0.4	**0.2**	0.00	0.03	2	0.1	0.4	**0.1**	0.01	0.01	*C45*
Kaposi sarcoma	2	0.1	0.4	**0.4**	0.03	0.03	2	0.1	0.4	**0.1**	0.01	0.01	*C46*
Connective and soft tissue	10	0.4	2.0	**1.1**	0.07	0.08	7	0.4	1.4	**1.7**	0.12	0.12	*C47+C49*
Breast	3	0.1	0.6	**0.2**	0.00	0.05	375	23.6	73.9	**47.3**	3.98	5.16	*C50*
Vulva							20	1.3	3.9	**1.0**	0.03	0.12	*C51*
Vagina							3	0.2	0.6	**0.3**	0.03	0.03	*C52*
Cervix uteri							26	1.6	5.1	**3.4**	0.26	0.33	*C53*
Corpus uteri							90	5.7	17.7	**10.4**	0.79	1.27	*C54*
Uterus unspecified							9	0.6	1.8	**1.1**	0.06	0.09	*C55*
Ovary							78	4.9	15.4	**9.9**	0.76	1.05	*C56*
Other female genital organs							5	0.3	1.0	**0.4**	0.02	0.03	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	13	0.5	2.6	**1.3**	0.07	0.14							*C60*
Prostate	390	16.1	77.5	**26.8**	0.61	2.91							*C61*
Testis	9	0.4	1.8	**1.7**	0.14	0.14							*C62*
Other male genital organs	1	0.0	0.2	**0.1**	0.00	0.02							*C63*
Kidney	40	1.7	8.0	**4.8**	0.37	0.49	30	1.9	5.9	**2.5**	0.16	0.32	*C64*
Renal pelvis	6	0.2	1.2	**0.6**	0.04	0.05	1	0.1	0.2	**0.1**	0.00	0.02	*C65*
Ureter	1	0.0	0.2	**0.1**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	226	9.4	44.9	**18.7**	0.79	2.39	41	2.6	8.1	**2.8**	0.12	0.35	*C67*
Other urinary organs	2	0.1	0.4	**0.2**	0.01	0.01	1	0.1	0.2	**0.1**	0.00	0.01	*C68*
Eye	2	0.1	0.4	**0.1**	0.00	0.01	3	0.2	0.6	**0.5**	0.03	0.05	*C69*
Brain, nervous system	58	2.4	11.5	**7.5**	0.44	0.74	43	2.7	8.5	**4.9**	0.37	0.57	*C70-72*
Thyroid	7	0.3	1.4	**1.4**	0.12	0.12	28	1.8	5.5	**4.1**	0.33	0.39	*C73*
Adrenal gland	2	0.1	0.4	**0.4**	0.04	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	13	0.5	2.6	**2.5**	0.20	0.20	9	0.6	1.8	**1.4**	0.11	0.14	*C81*
Non-Hodgkin lymphoma	49	2.0	9.7	**8.3**	0.57	0.78	27	1.7	5.3	**2.6**	0.16	0.27	*C82-85,C96*
Immunoproliferative diseases	3	0.1	0.6	**0.3**	0.01	0.05	1	0.1	0.2	**0.1**	0.00	0.02	*C88*
Multiple myeloma	36	1.5	7.2	**2.9**	0.12	0.38	26	1.6	5.1	**1.8**	0.08	0.21	*C90*
Lymphoid leukaemia	38	1.6	7.6	**4.1**	0.19	0.35	22	1.4	4.3	**2.4**	0.12	0.21	*C91*
Myeloid leukaemia	23	1.0	4.6	**2.7**	0.17	0.31	21	1.3	4.1	**2.9**	0.21	0.30	*C92-94*
Leukaemia unspecified	6	0.2	1.2	**0.4**	0.01	0.05	6	0.4	1.2	**0.5**	0.02	0.05	*C95*
Other and unspecified	106	4.4	21.1	**8.2**	0.31	0.97	74	4.7	14.6	**4.5**	0.14	0.42	*O&U*
All sites	2425		482.0	**227.5**	12.17	26.18	1596		314.5	**155.6**	10.46	16.68	*ALL*
All sites but C44	2416	100.0	480.2	**226.8**	12.14	26.12	1591	100.0	313.5	**155.2**	10.44	16.64	*ALLbC44*
	§Includes 1 case of unknown age						§Includes 1 case of unknown age						

†See note following population pyramid

Spain, Girona

Registration area

The Girona Cancer Registry covers the population of Girona Health Region. Its total population, according to the 1996 census, is 513 555 inhabitants, 17% of which are aged 65 years or more. The area covered by the registry is divided into 209 municipalities, the largest being Girona city (approximately 70 576 inhabitants). Within this region about 57% of the population live in urban areas (> 5000 inhabitants).

Cancer care facilities

General health care in the region is provided predominantly by the National Health Service, through the district hospitals and a network of primary health care centres. There are nine public hospitals within the Girona area with 1104 beds and three private hospitals with 138 beds (2.11 beds per 1000 inhabitants). 100% of the population is covered by the National Health Service although this is complemented by private general practitioners. Medical specialities concerning the treatment of cancer include radiotherapy, cancer surgery and chemotherapy with the corresponding facilities. Some cancer patients residing in Girona may be diagnosed in hospitals situated in Barcelona (100 km away) and this population is also covered by the registry.

Registry structure and methods

The Girona Cancer Registry began its activities in 1995. It is a project financed by the Servei Català de la Salut of the Catalonia Government and is carried out by the Institut d'Assistència Sanitària.

The registry staff comprises one director (part-time medical officer), a coordinator (part-time medical officer), one epidemiologist (full-time), a technical registrar (full-time) and a clerk (full-time). External collaborators consist of oncologists, haematologists, pathologists, computer scientists and statisticians.

Cancer in Spain is not a notifiable illness and notification is voluntary. Active data collection derives from 21 sources consisting of general hospitals and pathology laboratories. The data are obtained mainly from the admissions services, general history archives, and pathology, oncology and haematology departments. Every year the mortality registry sends in a file of all deaths in the area. The death registration system is adequate and complete. The registry staff visit the sources, where they check the records kept in medical records departments, and registers of individual departments concerned with the diagnosis and treatment of cancers, in order to identify and abstract information on cases of cancer, diagnosed by all methods, among residents of the region covered by the registry. Arrangements have been made with the hospitals situated outside the Girona registration area in order to obtain the registries of those Girona residents whose cancers have been diagnosed and treated outside the Girona area. These registries are then visited once a year in order to review these procedures.

Morphology data are coded according to ICD-O-2 and topography data according to ICD-O-1. The rules used for coding multiple tumours are those proposed by IARC/IACR. Quality control of data is ensured through the IARC-CHECK program.

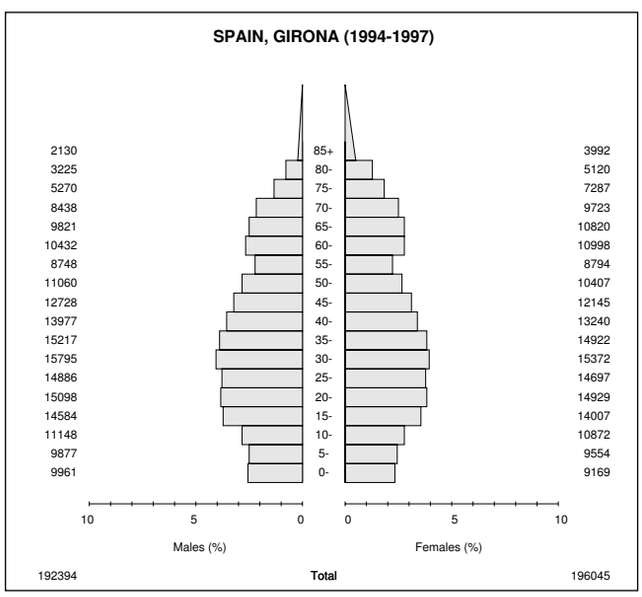
Confidentiality is ensured by the application of the rules proposed by the European Network of Cancer Registries (ENCR).

Interpreting the results

It is not possible to estimate how many cancer cases remain undiagnosed, but this probably occurs for elderly subjects in rural areas. A screening programme for breast cancer was started in the area covered by the registry in 1999 and there are opportunistic screening services for cervical cancer.

Use of the data

The information obtained is used to produce annual incidence reports. Data on cancer incidence serve as a basis for health planning. The registry has carried out and participated in epidemiological studies. Studies on both survival and care of patients with cancer are also being carried out.



Source of population

The 1994 and 1995 populations are intercensal estimates based on the 1991 and 1996 censuses, making allowance for births, deaths and migration. The 1996 and 1997 populations are postcensal estimates, using the same methodology as for 1994 and 1995 without correction based on a later census.

Ref. on methodology: Statistics Canada: Population Estimation Methods. Demography Statistics, Canada, 1987.

SPAIN, GIRONA (1994-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	55	1.3	7.1	**4.2**	0.25	0.49	5	0.2	0.6	**0.2**	0.00	0.01	*C00*
Tongue	36	0.9	4.7	**3.2**	0.25	0.37	10	0.4	1.3	**0.5**	0.02	0.05	*C01-02*
Mouth	39	1.0	5.1	**3.7**	0.34	0.38	10	0.4	1.3	**0.6**	0.04	0.07	*C03-06*
Salivary glands	10	0.2	1.3	**0.7**	0.02	0.06	8	0.3	1.0	**0.4**	0.01	0.05	*C07-08*
Tonsil	15	0.4	1.9	**1.3**	0.08	0.16	1	0.0	0.1	**0.1**	0.01	0.01	*C09*
Other oropharynx	9	0.2	1.2	**1.0**	0.11	0.11	1	0.0	0.1	**0.0**	0.00	0.00	*C10*
Nasopharynx	9	0.2	1.2	**0.9**	0.09	0.10	1	0.0	0.1	**0.1**	0.00	0.01	*C11*
Hypopharynx	32	0.8	4.2	**3.0**	0.28	0.35	1	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	4	0.1	0.5	**0.4**	0.04	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	72	1.8	9.4	**5.9**	0.40	0.67	12	0.4	1.5	**0.7**	0.04	0.06	*C15*
Stomach	202	5.0	26.2	**14.2**	0.64	1.69	114	4.2	14.5	**5.9**	0.25	0.58	*C16*
Small intestine	9	0.2	1.2	**0.7**	0.06	0.07	4	0.1	0.5	**0.3**	0.02	0.03	*C17*
Colon	376	9.2	48.9	**27.2**	1.28	3.16	289	10.8	36.9	**17.9**	0.97	2.12	*C18*
Rectum	207	5.1	26.9	**14.7**	0.66	1.84	111	4.1	14.2	**6.7**	0.34	0.77	*C19-20*
‡Anus	4	0.1	0.5	**0.4**	0.04	0.05	8	0.3	1.0	**0.4**	0.01	0.03	*C21*
Liver	131	3.2	17.0	**9.8**	0.59	1.27	45	1.7	5.7	**2.5**	0.08	0.37	*C22*
Gallbladder etc.	35	0.9	4.5	**2.3**	0.07	0.28	46	1.7	5.9	**2.5**	0.09	0.33	*C23-24*
Pancreas	79	1.9	10.3	**5.7**	0.25	0.66	61	2.3	7.8	**3.9**	0.23	0.43	*C25*
Nose, sinuses etc.	8	0.2	1.0	**0.7**	0.04	0.10	2	0.1	0.3	**0.1**	0.00	0.01	*C30-31*
Larynx	112	2.7	14.6	**9.7**	0.72	1.18	3	0.1	0.4	**0.3**	0.02	0.03	*C32*
Trachea, bronchus and lung	677	16.6	88.0	**50.7**	2.60	6.63	70	2.6	8.9	**4.5**	0.27	0.50	*C33-34*
Other thoracic organs	8	0.2	1.0	**1.0**	0.07	0.08	3	0.1	0.4	**0.5**	0.02	0.02	*C37-38*
Bone	12	0.3	1.6	**1.4**	0.09	0.13	8	0.3	1.0	**0.8**	0.05	0.07	*C40-41*
Melanoma of skin	45	1.1	5.8	**4.1**	0.28	0.45	76	2.8	9.7	**6.4**	0.43	0.67	*C43*
Other skin	983		127.7	**67.4**	2.72	7.39	751		95.8	**45.6**	2.35	5.01	*C44*
Mesothelioma	13	0.3	1.7	**1.0**	0.07	0.11	5	0.2	0.6	**0.3**	0.01	0.04	*C45*
Kaposi sarcoma	11	0.3	1.4	**1.1**	0.10	0.10	2	0.1	0.3	**0.2**	0.01	0.02	*C46*
Connective and soft tissue	27	0.7	3.5	**2.2**	0.16	0.26	18	0.7	2.3	**1.4**	0.09	0.11	*C47+C49*
Breast	9	0.2	1.2	**0.6**	0.03	0.06	782	29.1	99.7	**62.5**	4.49	7.01	*C50*
Vulva							26	1.0	3.3	**1.2**	0.01	0.15	*C51*
Vagina							6	0.2	0.8	**0.4**	0.01	0.06	*C52*
Cervix uteri							81	3.0	10.3	**7.4**	0.58	0.72	*C53*
Corpus uteri							162	6.0	20.7	**11.9**	0.86	1.43	*C54*
Uterus unspecified							7	0.3	0.9	**0.5**	0.04	0.06	*C55*
Ovary							102	3.8	13.0	**7.6**	0.50	0.84	*C56*
Other female genital organs							4	0.1	0.5	**0.3**	0.01	0.02	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	7	0.2	0.9	**0.4**	0.00	0.07							*C60*
Prostate	632	15.5	82.1	**39.5**	1.08	4.65							*C61*
Testis	19	0.5	2.5	**2.3**	0.17	0.18							*C62*
Other male genital organs	0	0.0	0.0	**0.0**	0.00	0.00							*C63*
Kidney	90	2.2	11.7	**7.5**	0.43	0.98	41	1.5	5.2	**2.6**	0.10	0.29	*C64*
Renal pelvis	13	0.3	1.7	**1.0**	0.07	0.10	7	0.3	0.9	**0.2**	0.00	0.03	*C65*
Ureter	2	0.0	0.3	**0.1**	0.01	0.01	3	0.1	0.4	**0.1**	0.01	0.01	*C66*
Bladder	518	12.7	67.3	**37.5**	1.87	4.43	99	3.7	12.6	**5.6**	0.30	0.57	*C67*
Other urinary organs	4	0.1	0.5	**0.2**	0.00	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	4	0.1	0.5	**0.5**	0.04	0.04	8	0.3	1.0	**0.7**	0.06	0.07	*C69*
Brain, nervous system	67	1.6	8.7	**6.3**	0.41	0.66	54	2.0	6.9	**5.3**	0.36	0.52	*C70-72*
Thyroid	21	0.5	2.7	**1.9**	0.13	0.19	42	1.6	5.4	**4.5**	0.35	0.41	*C73*
Adrenal gland	3	0.1	0.4	**0.3**	0.03	0.03	6	0.2	0.8	**1.1**	0.05	0.05	*C74*
Other endocrine	3	0.1	0.4	**0.4**	0.04	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	29	0.7	3.8	**3.4**	0.23	0.25	14	0.5	1.8	**1.6**	0.10	0.11	*C81*
Non-Hodgkin lymphoma	153	3.8	19.9	**13.0**	0.83	1.35	81	3.0	10.3	**5.7**	0.30	0.63	*C82-85,C96*
Immunoproliferative diseases	1	0.0	0.1	**0.1**	0.00	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	33	0.8	4.3	**2.5**	0.16	0.27	35	1.3	4.5	**2.1**	0.12	0.23	*C90*
Lymphoid leukaemia	45	1.1	5.8	**5.0**	0.24	0.40	30	1.1	3.8	**2.6**	0.14	0.23	*C91*
Myeloid leukaemia	37	0.9	4.8	**2.9**	0.17	0.33	25	0.9	3.2	**1.8**	0.09	0.15	*C92-94*
Leukaemia unspecified	15	0.4	1.9	**1.2**	0.04	0.10	16	0.6	2.0	**0.6**	0.01	0.07	*C95*
Other and unspecified	137	3.4	17.8	**10.0**	0.52	1.01	139	5.2	17.7	**6.8**	0.26	0.72	*O&U*
All sites	5062		657.8	**375.5**	18.80	43.39	3435		438.0	**236.3**	14.22	25.83	*ALL*
All sites but C44	4079	100.0	530.0	**308.0**	16.05	35.97	2684	100.0	342.3	**190.5**	11.85	20.80	*ALLbC44*

§Includes 45 cases of unknown age
‡50.0% of cases are anorectal tumours

§Includes 39 cases of unknown age

Spain, Granada

Registration area

The population covered is the province of Granada within the Andalusian Region in the south of Spain. It lies between latitudes 38° and 36° N, and has an area of 12 635 km^2. The province has 71 km of coast along the Mediterranean; a large part of its territory is mountainous and one of the highest summits of Spain is to be found there (Mulhacén, 3481 m).

The population in 1995 was 807 311 inhabitants (395 398 men and 411 913 women), 14% of them aged 65 years or more. The province is divided into 168 municipalities: there is only one urban centre, Granada, with approximately 250 000 inhabitants, and 14 other municipalities have more than 10 000 inhabitants, the rest of the population (40%) living in smaller municipalities. The population is ethnically very homogeneous.

Granada is one of the Spanish provinces with the lowest income per inhabitant, an important factor influencing migratory movements from 1950 to 1970, which have since stabilized. 16% of the economically active population are employed in agriculture, 20% in industry and building, and 53% in services. Industrial activity is limited to light industry, particularly food and wood processing. The rate of unemployment is 11% of the active population.

Cancer care facilities

The area is served by four public (2458 beds) and three private (343 beds) hospitals. 100% of the population has free access to public hospitalization. Private hospitals serve a small part of the population. Diagnosis and treatment of cancer are available within the province, so few cancer cases are diagnosed or treated outside.

Registry structure and methods

The Cancer Registry of Granada was established in 1985. It is supported by the Regional Health Ministry of Andalucìa and run by the Andalusian School of Public Health in Granada.

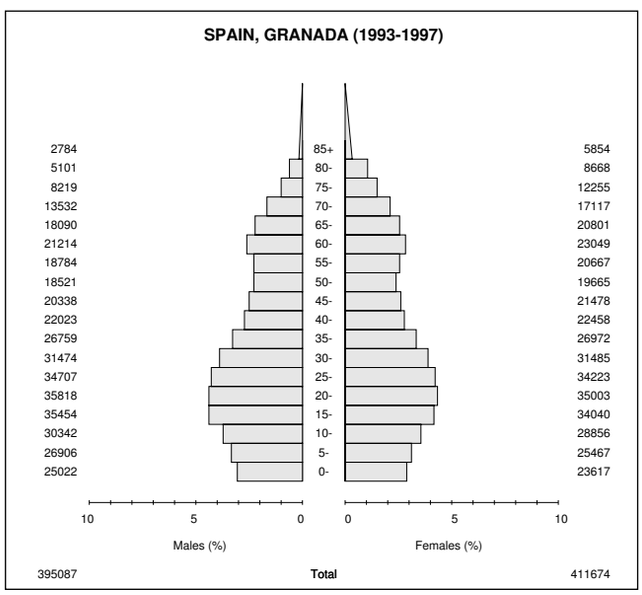
The main registry staff consists of an oncologist as director, two part-time physicians and four clerks for case finding and data processing. In addition, one epidemiologist and one statistician (part-time) collaborate with the registry in research projects.

Cancer notification in Spain is voluntary. The basic information sources include all public and private hospitals of the province. The registry receives the automated discharge files for the public hospitals and the computerized pathological reports from some of the public hospitals. Data collection is mixed: incorporation of the automated hospital systems and active search in hospital records by the registry staff. Information based on primary health care is limited. Due to confidentiality requirements, access to death certificates at the Statistics Institute is not possible and the registry personnel have to collect this information in each of the municipalities. Coverage of this source is about 90%.

Data processing is carried out on a personal computer and quality control of the data is ensured through the IARC-CHECK program and other specific computer programs developed in the registry.

Use of the data

In addition to incidence figures and descriptive studies, some case control studies on lip, skin and oral cavity cancer have been carried out. The registry is also involved in studies on care and survival of patients with cancer within the framework of the EUROCARE study and in the European Prospective Investigation on Nutrition and Cancer (EPIC Project).



Source of population

Official annual estimates based on the 1986 and 1991 censuses, making allowance for births, deaths and migration.

Ref: Un siglo de demografia en Andalucía: la población desde 1900. Sevilla: Instituto de Estadística de Andalucía, 1999.

SPAIN, GRANADA (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	327	4.4	16.6	**12.1**	0.74	1.48	21	0.4	1.0	**0.5**	0.01	0.08	*C00*
Tongue	63	0.8	3.2	**2.5**	0.21	0.30	23	0.5	1.1	**0.7**	0.04	0.06	*C01-02*
Mouth	90	1.2	4.6	**3.5**	0.26	0.44	17	0.3	0.8	**0.5**	0.02	0.05	*C03-06*
Salivary glands	14	0.2	0.7	**0.5**	0.03	0.05	8	0.2	0.4	**0.2**	0.01	0.03	*C07-08*
Tonsil	18	0.2	0.9	**0.8**	0.07	0.09	2	0.0	0.1	**0.1**	0.00	0.00	*C09*
Other oropharynx	19	0.3	1.0	**0.7**	0.07	0.10	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	18	0.2	0.9	**0.8**	0.06	0.09	8	0.2	0.4	**0.2**	0.01	0.02	*C11*
Hypopharynx	70	0.9	3.5	**2.8**	0.21	0.36	1	0.0	0.0	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	6	0.1	0.3	**0.3**	0.02	0.03	1	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	100	1.3	5.1	**3.8**	0.27	0.43	22	0.4	1.1	**0.6**	0.04	0.07	*C15*
Stomach	376	5.1	19.0	**12.7**	0.62	1.56	221	4.3	10.7	**5.2**	0.18	0.58	*C16*
Small intestine	24	0.3	1.2	**0.8**	0.05	0.10	11	0.2	0.5	**0.3**	0.02	0.05	*C17*
Colon	456	6.1	23.1	**15.6**	0.72	1.78	403	7.9	19.6	**10.7**	0.58	1.22	*C18*
Rectum	296	4.0	15.0	**10.2**	0.53	1.20	217	4.3	10.5	**6.1**	0.34	0.73	*C19-20*
Anus	16	0.2	0.8	**0.5**	0.01	0.08	13	0.3	0.6	**0.3**	0.01	0.04	*C21*
Liver	232	3.1	11.7	**7.8**	0.37	1.07	109	2.1	5.3	**2.4**	0.08	0.28	*C22*
Gallbladder etc.	79	1.1	4.0	**2.6**	0.13	0.26	216	4.2	10.5	**5.3**	0.24	0.58	*C23-24*
Pancreas	164	2.2	8.3	**5.8**	0.32	0.66	120	2.4	5.8	**3.0**	0.13	0.34	*C25*
Nose, sinuses etc.	8	0.1	0.4	**0.3**	0.01	0.04	7	0.1	0.3	**0.2**	0.01	0.03	*C30-31*
Larynx	337	4.5	17.1	**12.8**	0.88	1.59	4	0.1	0.2	**0.1**	0.01	0.02	*C32*
Trachea, bronchus and lung	1424	19.2	72.1	**49.7**	2.70	6.27	135	2.7	6.6	**3.9**	0.25	0.41	*C33-34*
Other thoracic organs	9	0.1	0.5	**0.4**	0.02	0.03	5	0.1	0.2	**0.2**	0.01	0.02	*C37-38*
Bone	26	0.4	1.3	**1.3**	0.08	0.10	24	0.5	1.2	**1.1**	0.06	0.08	*C40-41*
Melanoma of skin	98	1.3	5.0	**4.0**	0.27	0.42	167	3.3	8.1	**6.1**	0.42	0.60	*C43*
Other skin	1992		100.8	**68.2**	3.42	8.12	1539		74.8	**42.4**	2.23	4.70	*C44*
Mesothelioma	12	0.2	0.6	**0.4**	0.02	0.06	5	0.1	0.2	**0.2**	0.01	0.02	*C45*
Kaposi sarcoma	24	0.3	1.2	**0.9**	0.06	0.07	4	0.1	0.2	**0.1**	0.01	0.01	*C46*
Connective and soft tissue	51	0.7	2.6	**2.4**	0.16	0.23	37	0.7	1.8	**1.3**	0.08	0.12	*C47+C49*
Breast	6	0.1	0.3	**0.2**	0.01	0.03	1255	24.7	61.0	**45.8**	3.49	4.98	*C50*
Vulva							40	0.8	1.9	**1.0**	0.03	0.12	*C51*
Vagina							4	0.1	0.2	**0.1**	0.00	0.00	*C52*
Cervix uteri							162	3.2	7.9	**6.1**	0.44	0.61	*C53*
Corpus uteri							323	6.4	15.7	**10.2**	0.71	1.31	*C54*
Uterus unspecified							6	0.1	0.3	**0.1**	0.00	0.00	*C55*
Ovary							230	4.5	11.2	**8.1**	0.59	0.90	*C56*
Other female genital organs							5	0.1	0.2	**0.1**	0.00	0.01	*C57*
Placenta							2	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	29	0.4	1.5	**1.1**	0.05	0.14							*C60*
Prostate	742	10.0	37.6	**22.3**	0.55	2.58							*C61*
Testis	39	0.5	2.0	**1.8**	0.12	0.12							*C62*
Other male genital organs	2	0.0	0.1	**0.1**	0.00	0.00							*C63*
Kidney	156	2.1	7.9	**6.0**	0.39	0.71	91	1.8	4.4	**3.2**	0.21	0.34	*C64*
Renal pelvis	25	0.3	1.3	**0.9**	0.07	0.11	8	0.2	0.4	**0.2**	0.00	0.03	*C65*
Ureter	18	0.2	0.9	**0.6**	0.02	0.09	2	0.0	0.1	**0.0**	0.00	0.01	*C66*
Bladder	935	12.6	47.3	**31.1**	1.44	3.76	142	2.8	6.9	**3.5**	0.13	0.41	*C67*
Other urinary organs	18	0.2	0.9	**0.6**	0.03	0.08	2	0.0	0.1	**0.0**	0.00	0.00	*C68*
Eye	22	0.3	1.1	**0.9**	0.04	0.09	8	0.2	0.4	**0.3**	0.02	0.03	*C69*
Brain, nervous system	131	1.8	6.6	**5.5**	0.36	0.54	113	2.2	5.5	**4.1**	0.26	0.43	*C70-72*
Thyroid	21	0.3	1.1	**0.8**	0.05	0.08	148	2.9	7.2	**6.2**	0.47	0.56	*C73*
Adrenal gland	4	0.1	0.2	**0.2**	0.01	0.02	5	0.1	0.2	**0.4**	0.02	0.02	*C74*
Other endocrine	7	0.1	0.4	**0.3**	0.02	0.03	2	0.0	0.1	**0.1**	0.00	0.00	*C75*
Hodgkin disease	39	0.5	2.0	**1.7**	0.12	0.13	36	0.7	1.7	**1.4**	0.10	0.11	*C81*
Non-Hodgkin lymphoma	193	2.6	9.8	**7.6**	0.48	0.83	179	3.5	8.7	**6.0**	0.39	0.61	*C82-85,C96*
Immunoproliferative diseases	7	0.1	0.4	**0.2**	0.01	0.03	2	0.0	0.1	**0.1**	0.00	0.00	*C88*
Multiple myeloma	82	1.1	4.2	**2.7**	0.13	0.30	76	1.5	3.7	**1.9**	0.07	0.27	*C90*
Lymphoid leukaemia	98	1.3	5.0	**3.8**	0.15	0.36	73	1.4	3.5	**2.4**	0.11	0.19	*C91*
Myeloid leukaemia	93	1.3	4.7	**3.5**	0.19	0.38	67	1.3	3.3	**2.3**	0.12	0.20	*C92-94*
Leukaemia unspecified	16	0.2	0.8	**0.5**	0.02	0.04	13	0.3	0.6	**0.3**	0.02	0.04	*C95*
Other and unspecified	376	5.1	19.0	**12.6**	0.57	1.33	288	5.7	14.0	**6.8**	0.26	0.68	*O&U*
All sites	9408		476.2	**329.3**	17.17	38.81	6622		321.7	**202.4**	12.31	22.02	*ALL*
All sites but C44	7416	100.0	375.4	**261.0**	13.75	30.69	5083	100.0	246.9	**160.0**	10.08	17.32	*ALLbC44*

Spain, Mallorca

Registration area

The Mallorca Cancer Registry covers the population of the Mallorca Island, the largest and central island of the Balearic Archipelago, in the Mediterranean Sea, 200 km from the Spanish coast. The island has a maximum length of 96 km from west to east and 76 km from north to south. About 50% of the population live in Palma, the capital, and the rest in urban areas of between 1000 and 25 000 inhabitants. The population increased by about 7% between 1991 and 1996 with an annual immigration of about 6%.

Cancer care facilities

General health care in the region is provided predominantly by the Spanish National Health Service, which provides universal coverage through a network of primary health centres and hospitals. This is supplemented by private practitioners and hospitals. Most of the hospitals (public and private) are located in Palma. Mallorca Island is provided with radiotherapy, cancer surgery and chemotherapy services by the public hospital network. Almost all private hospitals and clinics also provide cancer surgery and chemotherapy, and one of them has radiotherapy facilities.

Registry structure and methods

The registry is located within the Balearic Islands University and is funded by the Autonomous Government (Govern Balear) through a private, non-profit organization: The Colorectal Cancer Study Group. The Spanish League Against Cancer has also provided some funds and voluntary personnel. The registry is staffed by a part-time director, a full-time oncologist, a full-time physician, a full-time epidemiologist, and a part-time secretary.

In Mallorca, cancer is not a notifiable disease. For this reason, the registry practises active case finding from 24 sources of data, mainly pathology and haematology laboratories. The registry staff visit these sources, to identify and abstract information on cases of cancer, diagnosed by all methods, among residents of the region covered by the registry. Lists of cases are received from one private pathology laboratory, one haematology laboratory, two hospital admissions departments and the AIDS population registry.

The registry does not have access to official death statistics for confidentiality reasons. Information on death certificates is actively collected in death registration offices in 52 municipalities. The transcription of causes of death to these documents can result in some errors. For this reason, the cause of death is checked (where possible) against information in the registry and/or clinical records.

The software was provided by the Tarragona Cancer Registry and the Institut Catalá d'Oncologia and performs logical controls to detect possible errors and duplicates. Double-punch is performed for the basic variables.

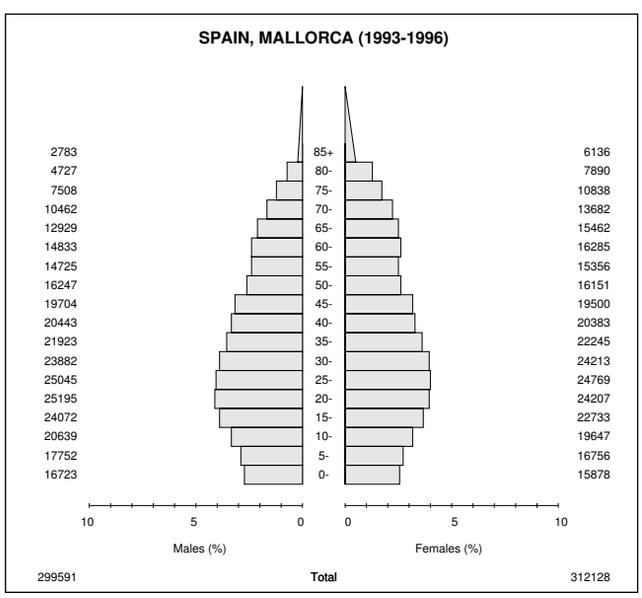
Interpreting the results

It is not possible to estimate how many cancer cases remain undiagnosed, but this probably occurs for elderly subjects. The fact that Mallorca is an island with universal health coverage, should help complete registration.

Opportunistic screening for cervical cancer is operated by the cancer society and by gynaecologists from public and private health services. There is some opportunistic screening for breast and prostate cancer carried out in the area. A pilot screening programme for familial colorectal cancer was carried out in 1994–96. An organized screening programme for breast cancer started at the end of 1997.

Use of the data

The registry has published reports on cancer incidence and several studies in collaboration with other working groups, such as the EUROCARE Study Group. Survival and prognostic factors for colorectal cancer have been analysed and published. Several epidemiological studies on risk factors for adenomatous polyps and cancer of the large bowel have been carried out. The possible association between dietary factors and mutations in tumour genes was also investigated. Increasing trends of bladder cancer have been reported. Geographic analysis has been done in the past for colorectal cancer, and a report is being prepared for the most common cancers. Occupational exposures to carcinogens for bladder cancer and mesotheliomas are being investigated. The registry collaborated actively in the pilot familial colorectal cancer screening programme.



Source of population

1993–95: annual estimates based on the 1991 census and the 1996 Municipal census, making allowance for births, deaths and migration. Data were provided by the Institut Balear d'Estadìstica (non-published data). Older estimates were published in L'esperença de vida a les Balears, and Demografia 1996 and 1997.

SPAIN, MALLORCA (1993-1996)

	MALE						FEMALE						
S I T E	**§No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**§No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	138	2.4	11.5	**7.9**	0.50	0.94	12	0.3	1.0	**0.6**	0.03	0.05	*C00*
Tongue	57	1.0	4.8	**3.3**	0.25	0.34	17	0.5	1.4	**0.8**	0.07	0.10	*C01-02*
Mouth	51	0.9	4.3	**3.3**	0.25	0.36	23	0.6	1.8	**1.1**	0.07	0.13	*C03-06*
Salivary glands	3	0.1	0.3	**0.2**	0.01	0.02	2	0.1	0.2	**0.1**	0.01	0.01	*C07-08*
Tonsil	33	0.6	2.8	**2.2**	0.16	0.27	4	0.1	0.3	**0.1**	0.00	0.03	*C09*
Other oropharynx	17	0.3	1.4	**1.2**	0.11	0.13	1	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	13	0.2	1.1	**0.9**	0.08	0.09	5	0.1	0.4	**0.4**	0.03	0.03	*C11*
Hypopharynx	58	1.0	4.8	**3.8**	0.28	0.45	1	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	12	0.2	1.0	**0.8**	0.07	0.07	1	0.0	0.1	**0.1**	0.01	0.01	*C14*
Oesophagus	108	1.9	9.0	**6.4**	0.44	0.81	16	0.4	1.3	**0.8**	0.05	0.10	*C15*
Stomach	247	4.3	20.6	**13.0**	0.67	1.56	120	3.2	9.6	**5.0**	0.25	0.58	*C16*
Small intestine	11	0.2	0.9	**0.5**	0.01	0.05	7	0.2	0.6	**0.3**	0.01	0.04	*C17*
Colon	457	7.9	38.1	**23.5**	1.10	2.81	378	10.0	30.3	**14.4**	0.74	1.54	*C18*
Rectum	279	4.8	23.3	**14.7**	0.76	1.81	200	5.3	16.0	**8.2**	0.50	0.89	*C19-20*
Anus	24	0.4	2.0	**1.3**	0.10	0.15	19	0.5	1.5	**0.7**	0.04	0.09	*C21*
Liver	138	2.4	11.5	**7.7**	0.43	1.04	78	2.1	6.2	**2.9**	0.13	0.32	*C22*
Gallbladder etc.	47	0.8	3.9	**2.3**	0.07	0.26	87	2.3	7.0	**3.2**	0.14	0.37	*C23-24*
Pancreas	93	1.6	7.8	**4.9**	0.30	0.62	89	2.4	7.1	**3.7**	0.21	0.45	*C25*
Nose, sinuses etc.	6	0.1	0.5	**0.3**	0.02	0.03	2	0.1	0.2	**0.1**	0.01	0.02	*C30-31*
Larynx	226	3.9	18.9	**13.9**	1.06	1.77	9	0.2	0.7	**0.5**	0.05	0.06	*C32*
Trachea, bronchus and lung	1116	19.2	93.1	**61.9**	3.58	7.93	106	2.8	8.5	**4.8**	0.28	0.55	*C33-34*
Other thoracic organs	5	0.1	0.4	**0.4**	0.03	0.03	3	0.1	0.2	**0.2**	0.01	0.01	*C37-38*
Bone	9	0.2	0.8	**0.7**	0.04	0.05	8	0.2	0.6	**0.4**	0.03	0.04	*C40-41*
Melanoma of skin	90	1.6	7.5	**5.3**	0.33	0.52	103	2.7	8.2	**5.5**	0.37	0.55	*C43*
Other skin	1899		158.5	**100.8**	5.34	11.72	1664		133.3	**72.0**	4.21	7.82	*C44*
Mesothelioma	6	0.1	0.5	**0.4**	0.02	0.06	1	0.0	0.1	**0.1**	0.01	0.01	*C45*
Kaposi sarcoma	56	1.0	4.7	**3.9**	0.32	0.37	6	0.2	0.5	**0.3**	0.02	0.02	*C46*
Connective and soft tissue	27	0.5	2.3	**1.7**	0.11	0.16	25	0.7	2.0	**1.5**	0.11	0.15	*C47+C49*
Breast	8	0.1	0.7	**0.5**	0.04	0.05	1049	27.9	84.0	**55.8**	4.27	6.15	*C50*
Vulva							44	1.2	3.5	**1.6**	0.06	0.18	*C51*
Vagina							7	0.2	0.6	**0.4**	0.02	0.04	*C52*
Cervix uteri							198	5.3	15.9	**12.0**	0.90	1.28	*C53*
Corpus uteri							180	4.8	14.4	**9.0**	0.66	1.13	*C54*
Uterus unspecified							13	0.3	1.0	**0.4**	0.02	0.04	*C55*
Ovary							165	4.4	13.2	**8.8**	0.62	1.05	*C56*
Other female genital organs							5	0.1	0.4	**0.1**	0.01	0.01	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	21	0.4	1.8	**1.2**	0.05	0.13							*C60*
Prostate	705	12.1	58.8	**31.5**	0.77	3.57							*C61*
Testis	47	0.8	3.9	**3.5**	0.25	0.26							*C62*
Other male genital organs	1	0.0	0.1	**0.1**	0.00	0.01							*C63*
Kidney	108	1.9	9.0	**6.2**	0.37	0.75	40	1.1	3.2	**1.8**	0.10	0.21	*C64*
Renal pelvis	26	0.4	2.2	**1.4**	0.07	0.17	8	0.2	0.6	**0.3**	0.02	0.05	*C65*
Ureter	11	0.2	0.9	**0.5**	0.00	0.08	6	0.2	0.5	**0.3**	0.02	0.04	*C66*
Bladder	741	12.8	61.8	**39.5**	2.14	4.78	114	3.0	9.1	**4.6**	0.24	0.55	*C67*
Other urinary organs	10	0.2	0.8	**0.6**	0.02	0.07	3	0.1	0.2	**0.1**	0.00	0.02	*C68*
Eye	8	0.1	0.7	**0.6**	0.05	0.05	6	0.2	0.5	**0.3**	0.03	0.04	*C69*
Brain, nervous system	96	1.7	8.0	**6.3**	0.40	0.64	64	1.7	5.1	**3.7**	0.23	0.37	*C70-72*
Thyroid	16	0.3	1.3	**1.1**	0.09	0.10	60	1.6	4.8	**3.8**	0.32	0.36	*C73*
Adrenal gland	5	0.1	0.4	**0.6**	0.02	0.03	4	0.1	0.3	**0.5**	0.02	0.03	*C74*
Other endocrine	1	0.0	0.1	**0.1**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	34	0.6	2.8	**2.7**	0.17	0.19	24	0.6	1.9	**1.6**	0.09	0.13	*C81*
Non-Hodgkin lymphoma	162	2.8	13.5	**10.0**	0.70	0.99	135	3.6	10.8	**6.0**	0.34	0.66	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	57	1.0	4.8	**3.1**	0.14	0.43	45	1.2	3.6	**1.8**	0.09	0.22	*C90*
Lymphoid leukaemia	85	1.5	7.1	**5.5**	0.28	0.50	38	1.0	3.0	**1.9**	0.09	0.20	*C91*
Myeloid leukaemia	68	1.2	5.7	**3.7**	0.19	0.37	49	1.3	3.9	**3.0**	0.21	0.26	*C92-94*
Leukaemia unspecified	12	0.2	1.0	**0.5**	0.01	0.02	9	0.2	0.7	**0.2**	0.01	0.01	*C95*
Other and unspecified	255	4.4	21.3	**13.8**	0.81	1.49	174	4.6	13.9	**5.8**	0.23	0.61	*O&U*
All sites	7703		642.8	**420.2**	23.00	49.15	5427		434.7	**251.9**	15.98	27.64	*ALL*
All sites but C44	5804	100.0	484.3	**319.3**	17.66	37.43	3763	100.0	301.4	**179.8**	11.75	19.80	*ALLbC44*
	§Includes 71 cases of unknown age						§Includes 58 cases of unknown age						

Spain, Murcia

Registration area

The registry covers the whole region of Murcia, one of the 17 autonomous communities of Spain. This region is situated in the southeast, between latitudes 38° to 37° N. and longitudes 3° to 1° E. The total area is 11 317 km^2 with an average density of 97.0 inhabitants per km^2. The region is divided into 45 municipalities. Approximately 53% of the population lives in three municipalities with more than 50 000 inhabitants, while 10% lives in rural areas (less than 10 000 inhabitants). The main cities are Murcia (the capital, 345 759 inhabitants) and Cartagena (170 483).

19.2% of the population are children. 11% of the working population is employed in agriculture, although the proportion has been decreasing during the last few decades, 60% work in services and 29% in industry and construction. The region has an important food-processing industry. Mediterranean diet (high consumption of vegetables, fruits, legumes, olive oil, etc.) is very common among adult Murcian people. The prevalence of smoking in 1997 was 54% in males and 31% in females showing an increasing trend for women and a decreasing one for men. During the 1970s and 80s, the city of Cartagena had severe problems because of air pollution, mostly due to industrial emissions. High prevalence of overweight and obesity as well as low prevalence of leisure time and physical activity have been identified as important public health problems.

Cancer care facilities

Primary health care and hospital treatment are provided free of charge to every member of the population through a National Health Service. The region is divided into six health districts, each with at least one public hospital. There are 11 public and 14 private hospitals, with a total of 3784 beds. The hospital located in the capital has the regional Radiotherapy Unit.

Registry structure and methods

The Murcia Cancer Registry (Registro de Cáncer de Murcia, RCM) was established in 1981 as a project of the Consejería de Sanidad y Consumo of the Region of Murcia, developed by the Department of Epidemiology.

A regional law makes the supply of information compulsory, when required, by professionals and health centres diagnosing, treating and following up cancer patients. Its main objective is to protect those people providing notification from lawsuits related to confidentiality.

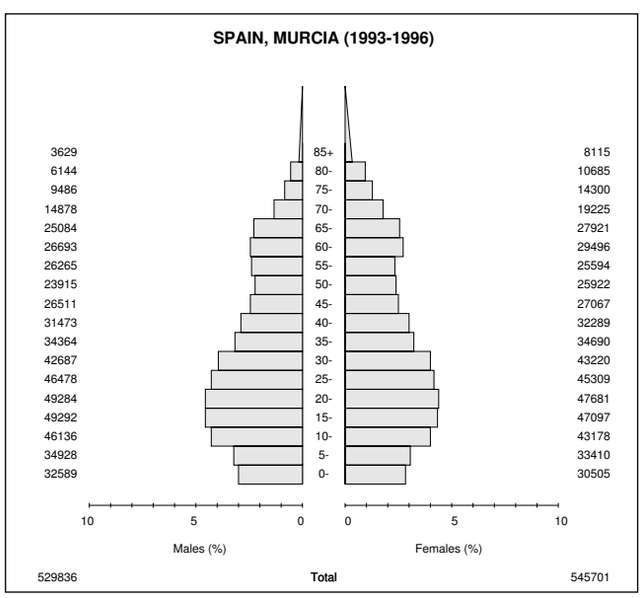
Information is principally collected by registry personnel. The identification of new cases is done mainly through the pathology, haematology, oncology, radiotherapy, outpatient clinics and clinical departments of public hospitals. Registry staff abstract medical records to complete cancer data. In private hospitals, the main sources of information are pathology laboratories and medical record departments. In order to ascertain cancer patients who are treated out of the region, the RCM receives notifications from the National Registry for Childhood Cancer as well as from the social security reimbursement service, which refunds expenses for treatment in hospitals outside the Region of Murcia.

In 1996, a new semi-automated program was developed. All previously registered cases were converted from ICD-O-1 to ICD-O-2 with IARCtools and, in addition, a considerable number were manually reviewed.

When cancer is mentioned on a death certificate and the registry has no information on that case, the main files of the principal hospitals are searched. If the case is not found, the certifying physician is questioned. DCN is used for monitoring completeness as well as DCO.

Use of the data

The main purpose is to estimate cancer incidence in the region. In addition, the RCM is used for planning and evaluation of cancer control programmes as well as for epidemiological studies. The RCM has participated in two multicentric case–control studies, one on HPV and cervical cancer carried out in Colombia and Spain and another on non-melanoma skin cancer in four Mediterranean countries (Helios I Project). Currently it is involved in the European Prospective Investigation on Nutrition and Cancer (EPIC study), coordinated by IARC, as well as in the Helios II Project.



Source of population

The 1993–95 populations are annual estimates: Proyecciones de la Población de derecho en la Región de Murcia, y sus áreas de salud, por edad y sexo. Periodo 1986 al 2000. Murcia: Consejería de Sanidad y Asuntos Sociales, 1995. 1996: Census. Renovación del Padron de Habitantes a 1 de mayo de 1996. Madrid, INE, 1999.

Notes on the data

† C44 does not include basal cell carcinoma.

SPAIN, MURCIA (1993-1996)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	222	2.8	10.5	**7.9**	0.49	0.95	23	0.4	1.1	**0.5**	0.01	0.05	*C00*
Tongue	85	1.1	4.0	**3.3**	0.25	0.39	27	0.5	1.2	**0.7**	0.04	0.08	*C01-02*
Mouth	97	1.2	4.6	**3.7**	0.26	0.47	29	0.5	1.3	**0.9**	0.05	0.09	*C03-06*
Salivary glands	22	0.3	1.0	**0.7**	0.04	0.08	10	0.2	0.5	**0.3**	0.02	0.03	*C07-08*
Tonsil	35	0.4	1.7	**1.5**	0.14	0.17	1	0.0	0.0	**0.1**	0.00	0.00	*C09*
Other oropharynx	13	0.2	0.6	**0.6**	0.05	0.06	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	20	0.3	0.9	**0.8**	0.06	0.09	4	0.1	0.2	**0.2**	0.01	0.02	*C11*
Hypopharynx	52	0.7	2.5	**2.2**	0.19	0.24	2	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	10	0.1	0.5	**0.4**	0.03	0.04	2	0.0	0.1	**0.1**	0.00	0.01	*C14*
Oesophagus	119	1.5	5.6	**4.5**	0.31	0.52	17	0.3	0.8	**0.4**	0.01	0.03	*C15*
Stomach	372	4.7	17.6	**12.7**	0.64	1.52	252	4.6	11.5	**6.4**	0.31	0.66	*C16*
Small intestine	12	0.2	0.6	**0.4**	0.03	0.06	7	0.1	0.3	**0.2**	0.02	0.02	*C17*
Colon	584	7.4	27.6	**19.1**	0.77	2.16	575	10.4	26.3	**15.6**	0.83	1.78	*C18*
Rectum	416	5.3	19.6	**13.8**	0.69	1.57	315	5.7	14.4	**8.4**	0.42	1.02	*C19-20*
Anus	8	0.1	0.4	**0.2**	0.01	0.03	10	0.2	0.5	**0.2**	0.00	0.02	*C21*
Liver	186	2.4	8.8	**6.5**	0.37	0.89	88	1.6	4.0	**2.1**	0.08	0.22	*C22*
Gallbladder etc.	53	0.7	2.5	**1.8**	0.09	0.23	121	2.2	5.5	**2.6**	0.08	0.28	*C23-24*
Pancreas	164	2.1	7.7	**5.5**	0.26	0.63	139	2.5	6.4	**3.3**	0.12	0.36	*C25*
Nose, sinuses etc.	13	0.2	0.6	**0.4**	0.03	0.04	5	0.1	0.2	**0.1**	0.01	0.01	*C30-31*
Larynx	393	5.0	18.5	**14.9**	1.07	1.88	15	0.3	0.7	**0.4**	0.02	0.05	*C32*
Trachea, bronchus and lung	1429	18.1	67.4	**49.5**	2.60	6.26	134	2.4	6.1	**3.8**	0.23	0.45	*C33-34*
Other thoracic organs	16	0.2	0.8	**0.6**	0.03	0.07	5	0.1	0.2	**0.1**	0.01	0.01	*C37-38*
Bone	29	0.4	1.4	**1.3**	0.07	0.11	15	0.3	0.7	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	108	1.4	5.1	**4.1**	0.24	0.44	162	2.9	7.4	**5.4**	0.39	0.56	*C43*
†Other skin	598		28.2	**20.0**	0.92	2.13	411		18.8	**8.4**	0.24	0.69	*C44*
Mesothelioma	19	0.2	0.9	**0.7**	0.04	0.10	8	0.1	0.4	**0.2**	0.01	0.04	*C45*
Kaposi sarcoma	31	0.4	1.5	**1.4**	0.11	0.14	4	0.1	0.2	**0.1**	0.00	0.01	*C46*
Connective and soft tissue	78	1.0	3.7	**3.3**	0.22	0.32	53	1.0	2.4	**1.8**	0.11	0.18	*C47+C49*
Breast	13	0.2	0.6	**0.5**	0.02	0.05	1468	26.5	67.3	**51.9**	4.01	5.75	*C50*
Vulva							49	0.9	2.2	**1.2**	0.06	0.14	*C51*
Vagina							6	0.1	0.3	**0.2**	0.00	0.03	*C52*
Cervix uteri							194	3.5	8.9	**7.4**	0.57	0.75	*C53*
Corpus uteri							379	6.9	17.4	**12.0**	0.86	1.53	*C54*
Uterus unspecified							8	0.1	0.4	**0.3**	0.02	0.02	*C55*
Ovary							215	3.9	9.8	**7.2**	0.47	0.79	*C56*
Other female genital organs							10	0.2	0.5	**0.2**	0.01	0.02	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	34	0.4	1.6	**1.2**	0.06	0.12							*C60*
Prostate	878	11.1	41.4	**26.5**	0.58	2.94							*C61*
Testis	51	0.6	2.4	**2.2**	0.14	0.15							*C62*
Other male genital organs	3	0.0	0.1	**0.1**	0.01	0.01							*C63*
Kidney	111	1.4	5.2	**4.2**	0.23	0.46	58	1.0	2.7	**1.9**	0.11	0.21	*C64*
Renal pelvis	36	0.5	1.7	**1.3**	0.06	0.20	8	0.1	0.4	**0.2**	0.02	0.04	*C65*
Ureter	18	0.2	0.8	**0.6**	0.01	0.07	1	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	1003	12.7	47.3	**34.2**	1.62	4.27	154	2.8	7.1	**3.9**	0.18	0.43	*C67*
Other urinary organs	9	0.1	0.4	**0.4**	0.02	0.03	1	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	14	0.2	0.7	**0.5**	0.02	0.05	10	0.2	0.5	**0.4**	0.02	0.03	*C69*
Brain, nervous system	152	1.9	7.2	**6.4**	0.44	0.64	103	1.9	4.7	**4.1**	0.25	0.40	*C70-72*
Thyroid	37	0.5	1.7	**1.5**	0.11	0.15	127	2.3	5.8	**5.2**	0.41	0.47	*C73*
Adrenal gland	4	0.1	0.2	**0.2**	0.01	0.02	6	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	1	0.0	0.0	**0.1**	0.01	0.01	1	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	57	0.7	2.7	**2.3**	0.15	0.19	31	0.6	1.4	**1.3**	0.09	0.11	*C81*
Non-Hodgkin lymphoma	238	3.0	11.2	**9.3**	0.60	0.93	188	3.4	8.6	**5.8**	0.34	0.67	*C82-85,C96*
Immunoproliferative diseases	2	0.0	0.1	**0.1**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	93	1.2	4.4	**3.1**	0.14	0.38	81	1.5	3.7	**2.3**	0.12	0.26	*C90*
Lymphoid leukaemia	100	1.3	4.7	**3.9**	0.19	0.36	90	1.6	4.1	**3.5**	0.16	0.29	*C91*
Myeloid leukaemia	117	1.5	5.5	**4.2**	0.20	0.44	78	1.4	3.6	**2.7**	0.15	0.24	*C92-94*
Leukaemia unspecified	19	0.2	0.9	**0.7**	0.01	0.05	14	0.3	0.6	**0.4**	0.01	0.03	*C95*
Other and unspecified	319	4.0	15.1	**11.2**	0.53	1.35	227	4.1	10.4	**5.3**	0.21	0.56	*O&U*
All sites	8493		400.7	**296.5**	15.21	34.48	5941		272.2	**180.8**	11.20	19.54	*ALL*
All sites but C44	7895	100.0	372.5	**276.6**	14.29	32.35	5530	100.0	253.3	**172.4**	10.96	18.86	*ALLbC44*
	§Includes 10 cases of unknown age						§Includes 5 cases of unknown age						

†See note following population pyramid

Spain, Navarra

Registration area

The area covered is the Community of Navarra, one of the 17 Autonomous Communities of Spain. Situated in the north of the peninsula, Navarra borders on France to the north (the Pyrenees), the Autonomous Community of Aragón to the east, the Autonomous Community of La Rioja to the south and the Autonomous Community of the Basque Country to the west.

The total area of Navarra is 10 491 km^2. Geographically, the area is very varied, but it can be divided into three main areas: the north Pyrenean zone, the central or pre-Pyrenean area and the region on the banks of the River Ebro. Navarra is scantily populated, with a density of 49.6 inhabitants per km^2, and is the fifth least inhabited Community in Spain.

According to the 1996 census, Navarra had 520 574 inhabitants, of whom approximately 34% lived in Pamplona, the capital of the province (or 50% if the suburbs are included with the city). 14.3% of the population are aged 0–4, and 17.4% are 65 or over.

There has not been much migration of the population during the last decade, although during the period there has been a significant re-distribution with a much greater demographic concentration in Pamplona and its surrounding area.

The birth rate fell from 17.7 in 1975–76 to 8.9 in the period 1995–96. Life expectancy in 1997 was 76.3 for men and 83.4 for women.

Cancer care facilities

The National Health Service covers 95% of the population. Health care in Navarra is composed of basic health regions, which are grouped into three health areas. All inhabitants have access to the health system through the primary level (Health and Consultation Centres), or through the casualty departments at the primary or secondary (specialized) level.

Cancer control activities in the region are based on promotion of health lifestyle (nutrition, physical exercise, tobacco prevention), occupational health checks for people working in production processes related to carcinogenic substances, and vaccination against hepatitis B in the childhood population. There is breast cancer screening in women aged 45–69, cytology screening for cervical cancer among groups considered to be at risk, and *ad hoc* advice to the population. Any patient suspected of having cancer has access to any diagnostic and treatment facilities considered necessary, and is followed by public assistance services and/or by private services.

Registry structure and methods

The Cancer Registry of Navarra was created in 1970, as a result of the collaboration between the Spanish Association Against Cancer and the Public Health Institute of Navarra. The main objective is to study the incidence and principal characteristics of cancers occurring in Navarra, to promote and facilitate epidemiological investigations, and to provide data for planning of health services and preventive activities.

The registry staff includes two part-time epidemiologists, and a full-time nurse and a social assistant who are responsible for case-finding and coding. In addition an administrator records and processes the data.

An active system of case-finding involves systematic collection of information on all cases of cancer diagnosed in the different hospital departments in Navarra. Notification of cancer is voluntary. The principal sources of information are the pathology and haematology laboratories, radiotherapy and oncology departments, as well as the medical records departments of all the hospitals, both public and private. The data on incident cases are completed by data on deaths obtained from the Mortality Registry through a systematic search, mainly for completing the cause and date of death.

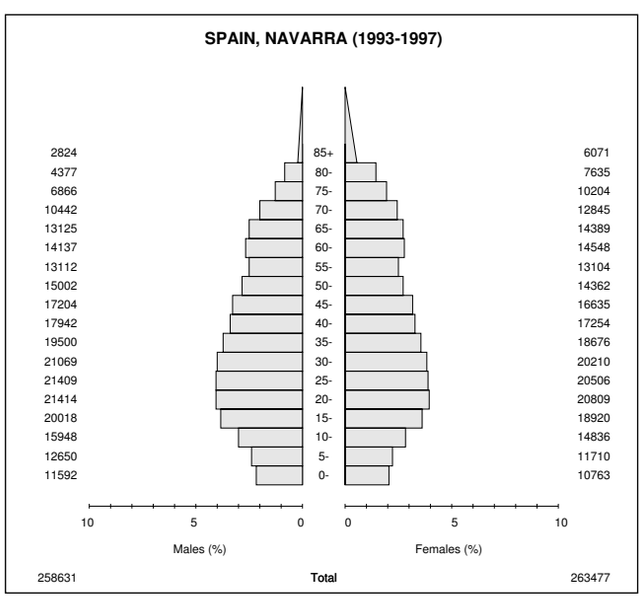
Follow-up of cases is carried out through examination of medical records and death certificates. There is never any personal contact with the patients. The data are recorded on individual notification forms and entered onto computer at a later date. Duplicate and quality control checks are run periodically. The IARC rules are used for multiple primaries. The data are entered onto personal computers with a system of individual access for each staff member of the registry.

Interpreting the results

Since 1990, there has been a breast cancer screening programme in Navarra for women aged 45–64, raised to age 69 from 1998.

Use of the data

The registry produces local reports on cancer incidence in Navarra for biennial and quinquennial periods. It has collaborated in evaluation of the breast cancer screening programme in Navarra. The registry has participated in two case–control studies on cancer of the cervix and of the larynx, and in a study on brain cancer. It is collaborating in the European Prospective Investigation on Nutrition and Cancer (EPIC), as well as in studies of trends and of childhood cancer. The registry participates in the group working on cancer survival in Europe (EUROCARE) and in the group estimating cancer prevalence in Europe (Europreval).



Source of population

1986 and 1996 official population count figures and 1991 census.

SPAIN, NAVARRA (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	136	2.0	10.5	**6.1**	0.39	0.75	10	0.2	0.8	**0.4**	0.02	0.03	*C00*
Tongue	49	0.7	3.8	**2.7**	0.22	0.33	16	0.4	1.2	**0.7**	0.05	0.08	*C01-02*
Mouth	72	1.0	5.6	**3.8**	0.29	0.49	17	0.4	1.3	**0.6**	0.03	0.08	*C03-06*
Salivary glands	14	0.2	1.1	**0.7**	0.05	0.08	9	0.2	0.7	**0.3**	0.01	0.04	*C07-08*
Tonsil	11	0.2	0.9	**0.6**	0.05	0.06	2	0.0	0.2	**0.1**	0.01	0.01	*C09*
Other oropharynx	28	0.4	2.2	**1.6**	0.14	0.19	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	14	0.2	1.1	**0.8**	0.06	0.09	10	0.2	0.8	**0.5**	0.04	0.05	*C11*
Hypopharynx	42	0.6	3.2	**2.3**	0.19	0.25	1	0.0	0.1	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	8	0.1	0.6	**0.5**	0.04	0.06	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	127	1.8	9.8	**6.5**	0.50	0.82	19	0.4	1.4	**0.6**	0.02	0.04	*C15*
Stomach	478	6.9	37.0	**21.6**	1.23	2.36	261	5.8	19.8	**8.5**	0.44	0.87	*C16*
Small intestine	21	0.3	1.6	**1.1**	0.09	0.11	12	0.3	0.9	**0.4**	0.02	0.05	*C17*
Colon	501	7.3	38.7	**21.5**	1.08	2.32	383	8.5	29.1	**12.4**	0.60	1.36	*C18*
Rectum	347	5.0	26.8	**15.2**	0.74	1.86	203	4.5	15.4	**7.2**	0.41	0.82	*C19-20*
‡Anus	8	0.1	0.6	**0.3**	0.02	0.03	8	0.2	0.6	**0.3**	0.02	0.03	*C21*
Liver	196	2.8	15.2	**8.4**	0.42	0.97	85	1.9	6.5	**2.5**	0.08	0.27	*C22*
Gallbladder etc.	74	1.1	5.7	**3.0**	0.10	0.34	131	2.9	9.9	**3.8**	0.16	0.43	*C23-24*
Pancreas	181	2.6	14.0	**8.0**	0.41	0.98	141	3.1	10.7	**4.3**	0.18	0.47	*C25*
Nose, sinuses etc.	10	0.1	0.8	**0.6**	0.04	0.07	5	0.1	0.4	**0.3**	0.02	0.03	*C30-31*
Larynx	264	3.8	20.4	**14.1**	1.11	1.71	10	0.2	0.8	**0.5**	0.05	0.06	*C32*
Trachea, bronchus and lung	1064	15.5	82.3	**49.4**	2.87	6.09	109	2.4	8.3	**4.5**	0.27	0.49	*C33-34*
Other thoracic organs	11	0.2	0.9	**0.7**	0.03	0.05	6	0.1	0.5	**0.4**	0.02	0.05	*C37-38*
Bone	17	0.2	1.3	**1.2**	0.08	0.10	18	0.4	1.4	**1.4**	0.08	0.10	*C40-41*
Melanoma of skin	83	1.2	6.4	**4.5**	0.34	0.46	114	2.5	8.7	**5.8**	0.45	0.57	*C43*
Other skin	1618		125.1	**70.4**	3.51	7.79	1330		101.0	**52.5**	3.23	5.76	*C44*
Mesothelioma	20	0.3	1.5	**0.9**	0.03	0.13	13	0.3	1.0	**0.6**	0.04	0.07	*C45*
Kaposi sarcoma	15	0.2	1.2	**0.8**	0.05	0.08	5	0.1	0.4	**0.2**	0.00	0.01	*C46*
Connective and soft tissue	35	0.5	2.7	**2.1**	0.13	0.18	26	0.6	2.0	**1.5**	0.10	0.13	*C47+C49*
Breast	9	0.1	0.7	**0.5**	0.04	0.07	1227	27.1	93.1	**61.2**	4.77	6.60	*C50*
Vulva							46	1.0	3.5	**1.5**	0.07	0.15	*C51*
Vagina							5	0.1	0.4	**0.2**	0.01	0.02	*C52*
Cervix uteri							72	1.6	5.5	**3.7**	0.27	0.41	*C53*
Corpus uteri							269	5.9	20.4	**12.2**	0.94	1.49	*C54*
Uterus unspecified							8	0.2	0.6	**0.2**	0.01	0.01	*C55*
Ovary							173	3.8	13.1	**8.3**	0.62	0.88	*C56*
Other female genital organs							14	0.3	1.1	**0.5**	0.04	0.04	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	23	0.3	1.8	**1.1**	0.07	0.14							*C60*
Prostate	1077	15.6	83.3	**40.6**	1.06	4.84							*C61*
Testis	24	0.3	1.9	**1.6**	0.12	0.12							*C62*
Other male genital organs	5	0.1	0.4	**0.4**	0.03	0.03							*C63*
Kidney	163	2.4	12.6	**7.4**	0.38	0.99	93	2.1	7.1	**4.0**	0.24	0.43	*C64*
Renal pelvis	27	0.4	2.1	**1.1**	0.04	0.13	8	0.2	0.6	**0.2**	0.01	0.03	*C65*
Ureter	9	0.1	0.7	**0.4**	0.01	0.05	0	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	795	11.5	61.5	**36.0**	1.84	4.56	125	2.8	9.5	**3.9**	0.14	0.44	*C67*
Other urinary organs	15	0.2	1.2	**0.6**	0.04	0.08	1	0.0	0.1	**0.0**	0.00	0.00	*C68*
Eye	10	0.1	0.8	**0.4**	0.01	0.05	7	0.2	0.5	**0.2**	0.01	0.02	*C69*
Brain, nervous system	147	2.1	11.4	**8.5**	0.55	0.90	121	2.7	9.2	**5.8**	0.39	0.65	*C70-72*
Thyroid	41	0.6	3.2	**2.6**	0.20	0.25	132	2.9	10.0	**7.9**	0.61	0.72	*C73*
Adrenal gland	5	0.1	0.4	**0.4**	0.02	0.04	6	0.1	0.5	**0.3**	0.03	0.03	*C74*
Other endocrine	3	0.0	0.2	**0.2**	0.02	0.02	1	0.0	0.1	**0.0**	0.00	0.01	*C75*
Hodgkin disease	45	0.7	3.5	**3.0**	0.22	0.28	37	0.8	2.8	**2.3**	0.15	0.19	*C81*
Non-Hodgkin lymphoma	177	2.6	13.7	**9.3**	0.56	0.96	159	3.5	12.1	**7.3**	0.48	0.78	*C82-85,C96*
Immunoproliferative diseases	4	0.1	0.3	**0.2**	0.01	0.02	1	0.0	0.1	**0.0**	0.00	0.00	*C88*
Multiple myeloma	70	1.0	5.4	**3.0**	0.15	0.35	71	1.6	5.4	**2.1**	0.09	0.24	*C90*
Lymphoid leukaemia	81	1.2	6.3	**5.1**	0.24	0.44	70	1.5	5.3	**3.5**	0.16	0.32	*C91*
Myeloid leukaemia	64	0.9	4.9	**3.0**	0.16	0.30	38	0.8	2.9	**1.6**	0.09	0.18	*C92-94*
Leukaemia unspecified	23	0.3	1.8	**1.1**	0.05	0.13	15	0.3	1.1	**0.6**	0.03	0.03	*C95*
Other and unspecified	241	3.5	18.6	**10.6**	0.52	1.19	211	4.7	16.0	**6.4**	0.26	0.64	*O&U*
All sites	8502		657.5	**386.9**	20.57	44.72	5854		444.4	**244.5**	15.81	26.19	*ALL*
All sites but C44	6884	100.0	532.3	**316.4**	17.05	36.93	4524	100.0	343.4	**192.1**	12.58	20.43	*ALLbC44*

§Includes 1 case of unknown age
‡37.5% of cases are anorectal tumours

§Includes 2 cases of unknown age
‡37.5% of cases are anorectal tumours

Spain, Tarragona

Registration area

The Cancer Registry of Tarragona covers the province of Tarragona, which is located in the south of Catalonia in the northeast of Spain next to the Mediterranean Sea. In July 1995 the population was 569 505. The two largest towns have 111 765 and 90 421 inhabitants respectively. Thirty other towns have 3000 to 30 000 inhabitants and 148 villages less than 3000. Approximately a third of the population was born in other parts of Spain and migrated between the 1950s and 1970s.

Cancer care facilities

Practically all the population is covered by the National Health Service and the majority of them normally use its services. In 1995 the number of physicians was 2031. In the period 1993–97 there were eight public hospitals and six private ones in the area, with a total of 1232 beds. One of the public hospitals has an oncology department with 32 beds which includes medical oncology, radiotherapeutic oncology and palliative care units. Some cancer patients are transferred to specific hospitals in Barcelona (located 100 km from Tarragona), which are also sources of information for the registry.

Registry structure and methods

The registry is administratively part of the Tarragona Cancer League, which receives financial support from the Department of Health of the Catalan Government. The registry also receives funds from the provincial administration.

The staff includes a director, two epidemiologists, a medical officer and two clerks. Several specialists (in oncology, pathology, computer science, epidemiology and others) act as external collaborators.

Notification of cancer is voluntary. Data collection is through passive notification in the majority of sources and by active search in the rest. The main sources of information are the inpatient records, the pathology laboratories, the hospital-based cancer registries and the haematology laboratories. The registry receives copies of all death certificates of people who lived in the province. Cases notified from a death certificate are systematically traced and if no further information is obtained, are registered as death-certificate only cases.

Checking for duplicates is based on name, birth-date, sex, places of birth and residence, personal identity number and social security number. On-line checks are made when entering the data in the computer to detect errors and inconsistencies. The IARC-Check program is used periodically to detect errors and unlikely combinations.

Interpreting the results

A semi-independent case-ascertainment study estimated the overall completeness for the period 1985–89 as 95.2%. Use of some new sources of information, improvements in diagnostic and therapeutic procedures and the favourable evolution of the proportion of DCN cases in the registry, makes it probable that the degree of completeness is now a little higher.

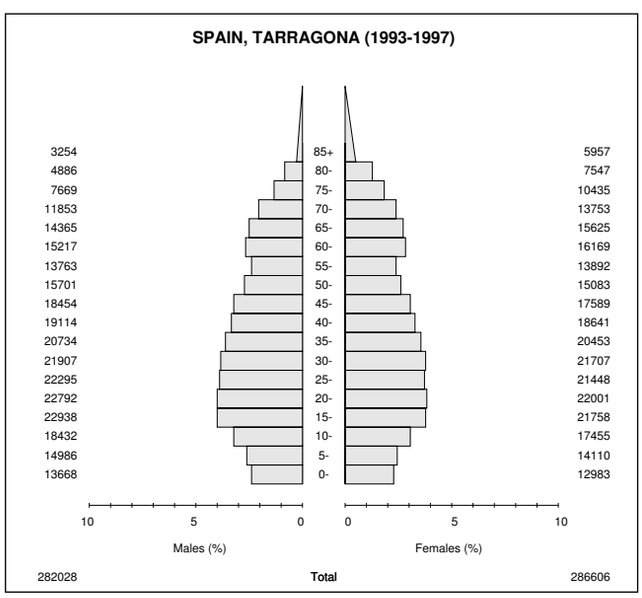
There was no population-based cervical cancer screening programme in the area during the period, but an annual average of approximately 31 000 cytological examinations for cervical cancer were carried out.

Although no organized screening programme was carried out during this period, the number of women undergoing mammography has significantly increased. This is the most probable reason for the large increase in the breast cancer incidence rate in relation to the period 1988–92.

Use of the PSA test has also increased during this period but its influence on the prostate cancer incidence rates in Tarragona is not known.

Use of the data

The registry produces cancer incidence and survival statistics for the area and describes their major epidemiological characteristics and their evolution. It also promotes epidemiological research, assesses current and future needs for cancer care services, supports the implementation of preventive programmes (such as breast cancer screening programmes) and other cancer control activities and evaluates its effects.



Source of population

The intercensal estimates of the population at risk are based on the 1991 and 1996 censuses for the years 1993, 1994 and 1995, making allowance for births, deaths and migration. The estimates of the years 1996 and 1997 are postcensal estimates.

Refs: Cens. De Població de 1981. Estadística de població de Catalunya 1996. Estimacions de població Intercensals, 1991–1995. Estimacions de població Postcensals 1996–9997. Pub: Institut d'Estadística de Catalunya.

SPAIN, TARRAGONA (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	132	2.0	9.4	**5.3**	0.26	0.68	14	0.3	1.0	**0.4**	0.02	0.04	*C00*
Tongue	72	1.1	5.1	**3.5**	0.28	0.39	23	0.5	1.6	**0.8**	0.05	0.09	*C01-02*
Mouth	55	0.8	3.9	**2.6**	0.19	0.32	7	0.1	0.5	**0.3**	0.02	0.02	*C03-06*
Salivary glands	17	0.3	1.2	**0.7**	0.05	0.07	10	0.2	0.7	**0.3**	0.01	0.03	*C07-08*
Tonsil	26	0.4	1.8	**1.3**	0.11	0.16	2	0.0	0.1	**0.1**	0.01	0.01	*C09*
Other oropharynx	26	0.4	1.8	**1.4**	0.12	0.16	1	0.0	0.1	**0.0**	0.00	0.01	*C10*
Nasopharynx	21	0.3	1.5	**1.2**	0.10	0.12	8	0.2	0.6	**0.3**	0.03	0.04	*C11*
Hypopharynx	63	1.0	4.5	**3.3**	0.29	0.39	1	0.0	0.1	**0.1**	0.01	0.01	*C12-13*
Pharynx unspecified	7	0.1	0.5	**0.4**	0.03	0.05	1	0.0	0.1	**0.0**	0.00	0.01	*C14*
Oesophagus	114	1.7	8.1	**5.6**	0.44	0.67	12	0.2	0.8	**0.5**	0.03	0.06	*C15*
Stomach	356	5.4	25.2	**14.1**	0.70	1.62	187	3.9	13.0	**5.3**	0.20	0.54	*C16*
Small intestine	19	0.3	1.3	**0.9**	0.06	0.12	10	0.2	0.7	**0.2**	0.00	0.03	*C17*
Colon	556	8.4	39.4	**21.8**	1.06	2.46	545	11.3	38.0	**17.9**	0.97	1.96	*C18*
Rectum	301	4.5	21.3	**12.2**	0.67	1.47	183	3.8	12.8	**6.3**	0.37	0.77	*C19-20*
‡Anus	12	0.2	0.9	**0.5**	0.03	0.06	12	0.2	0.8	**0.3**	0.01	0.03	*C21*
Liver	157	2.4	11.1	**6.6**	0.41	0.81	85	1.8	5.9	**2.7**	0.14	0.35	*C22*
Gallbladder etc.	58	0.9	4.1	**2.0**	0.06	0.21	97	2.0	6.8	**2.8**	0.11	0.30	*C23-24*
Pancreas	156	2.4	11.1	**6.2**	0.31	0.75	147	3.0	10.3	**4.4**	0.21	0.45	*C25*
Nose, sinuses etc.	13	0.2	0.9	**0.8**	0.06	0.07	9	0.2	0.6	**0.3**	0.02	0.03	*C30-31*
Larynx	250	3.8	17.7	**11.9**	0.89	1.45	11	0.2	0.8	**0.5**	0.03	0.07	*C32*
Trachea, bronchus and lung	1105	16.7	78.4	**46.8**	2.67	5.85	128	2.6	8.9	**4.8**	0.30	0.54	*C33-34*
Other thoracic organs	13	0.2	0.9	**0.6**	0.05	0.07	6	0.1	0.4	**0.3**	0.02	0.03	*C37-38*
Bone	18	0.3	1.3	**1.2**	0.06	0.09	12	0.2	0.8	**1.0**	0.06	0.07	*C40-41*
Melanoma of skin	104	1.6	7.4	**5.3**	0.36	0.57	111	2.3	7.7	**5.4**	0.35	0.53	*C43*
Other skin	1663		117.9	**67.3**	3.34	7.98	1371		95.7	**48.8**	2.85	5.39	*C44*
Mesothelioma	10	0.2	0.7	**0.4**	0.02	0.05	3	0.1	0.2	**0.2**	0.02	0.02	*C45*
Kaposi sarcoma	42	0.6	3.0	**2.3**	0.16	0.21	7	0.1	0.5	**0.3**	0.03	0.03	*C46*
Connective and soft tissue	35	0.5	2.5	**1.6**	0.09	0.16	22	0.5	1.5	**1.1**	0.05	0.09	*C47+C49*
Breast	11	0.2	0.8	**0.5**	0.02	0.07	1342	27.8	93.6	**59.3**	4.51	6.52	*C50*
Vulva							48	1.0	3.3	**1.2**	0.04	0.11	*C51*
Vagina							8	0.2	0.6	**0.3**	0.02	0.04	*C52*
Cervix uteri							174	3.6	12.1	**9.0**	0.73	0.88	*C53*
Corpus uteri							301	6.2	21.0	**12.4**	0.83	1.56	*C54*
Uterus unspecified							10	0.2	0.7	**0.3**	0.01	0.01	*C55*
Ovary							187	3.9	13.0	**8.2**	0.55	0.98	*C56*
Other female genital organs							15	0.3	1.0	**0.6**	0.04	0.07	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	26	0.4	1.8	**1.1**	0.09	0.12							*C60*
Prostate	848	12.8	60.1	**28.1**	0.63	3.28							*C61*
Testis	31	0.5	2.2	**2.0**	0.14	0.15							*C62*
Other male genital organs	4	0.1	0.3	**0.2**	0.01	0.01							*C63*
Kidney	130	2.0	9.2	**6.0**	0.36	0.68	62	1.3	4.3	**2.6**	0.15	0.27	*C64*
Renal pelvis	22	0.3	1.6	**0.9**	0.04	0.12	5	0.1	0.3	**0.1**	0.00	0.02	*C65*
Ureter	16	0.2	1.1	**0.6**	0.03	0.08	4	0.1	0.3	**0.1**	0.01	0.01	*C66*
Bladder	810	12.2	57.4	**32.9**	1.72	3.94	147	3.0	10.3	**4.5**	0.20	0.46	*C67*
Other urinary organs	18	0.3	1.3	**0.6**	0.03	0.04	6	0.1	0.4	**0.1**	0.01	0.01	*C68*
Eye	9	0.1	0.6	**0.6**	0.03	0.05	8	0.2	0.6	**0.5**	0.03	0.05	*C69*
Brain, nervous system	150	2.3	10.6	**7.5**	0.48	0.85	119	2.5	8.3	**5.6**	0.34	0.59	*C70-72*
Thyroid	18	0.3	1.3	**1.1**	0.09	0.10	86	1.8	6.0	**4.8**	0.38	0.45	*C73*
Adrenal gland	5	0.1	0.4	**0.4**	0.03	0.03	4	0.1	0.3	**0.6**	0.03	0.03	*C74*
Other endocrine	5	0.1	0.4	**0.3**	0.02	0.03	1	0.0	0.1	**0.1**	0.00	0.00	*C75*
Hodgkin disease	51	0.8	3.6	**3.1**	0.24	0.26	34	0.7	2.4	**2.1**	0.14	0.15	*C81*
Non-Hodgkin lymphoma	195	2.9	13.8	**9.3**	0.59	0.98	187	3.9	13.0	**7.7**	0.47	0.82	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	2	0.0	0.1	**0.0**	0.00	0.00	*C88*
Multiple myeloma	56	0.8	4.0	**2.2**	0.08	0.30	56	1.2	3.9	**1.9**	0.08	0.27	*C90*
Lymphoid leukaemia	79	1.2	5.6	**4.4**	0.20	0.38	41	0.8	2.9	**1.9**	0.11	0.19	*C91*
Myeloid leukaemia	73	1.1	5.2	**3.4**	0.18	0.35	65	1.3	4.5	**2.9**	0.20	0.27	*C92-94*
Leukaemia unspecified	29	0.4	2.1	**0.9**	0.01	0.10	27	0.6	1.9	**0.7**	0.03	0.05	*C95*
Other and unspecified	307	4.6	21.8	**11.9**	0.56	1.27	239	4.9	16.7	**6.8**	0.31	0.69	*O&U*
All sites	8294		588.2	**345.7**	18.46	40.22	6203		432.9	**240.1**	15.14	26.09	*ALL*
All sites but C44	6631	100.0	470.2	**278.3**	15.10	32.23	4832	100.0	337.2	**191.0**	12.26	20.68	*ALLbC44*

§Includes 89 cases of unknown age

‡33.3% of cases are anorectal tumours

§Includes 98 cases of unknown age

Spain, Zaragoza

Registration area

The registry covers the province of Zaragoza, situated in the northeast of Spain. This province has a surface area of 17 252 km^2. The territory is divided into 298 municipalities and 58 local health zones. The altitude ranges from 75 to 1100 m above sea level.

The population in 1996 consisted of 411 029 males and 431 390 females, with a density of 48.8 inhabitants per km^2. Around 70% of the population was concentrated in the city of Zaragoza and 18.5% was over age 65.

In 1996, 83.9% of the active population (49.2%) was employed, 60.4% in the service sector, 26.0% in industry, 6.6% in building and 7.0% in agriculture.

Cancer care facilities

The majority of the population is covered by the public health system. 11 of the 12 hospital centres (excluding psychiatric institutions) are located in the city of Zaragoza. There are 3124 hospital beds (3.7 per 1000 inhabitants).

Registry structure and methods

The Cancer Registry of Zaragoza was established in 1960 and its first results were published in 1966, referring to the period 1960–64. Since 1985, it has been financially supported by the Health Department of the Government of Aragón.

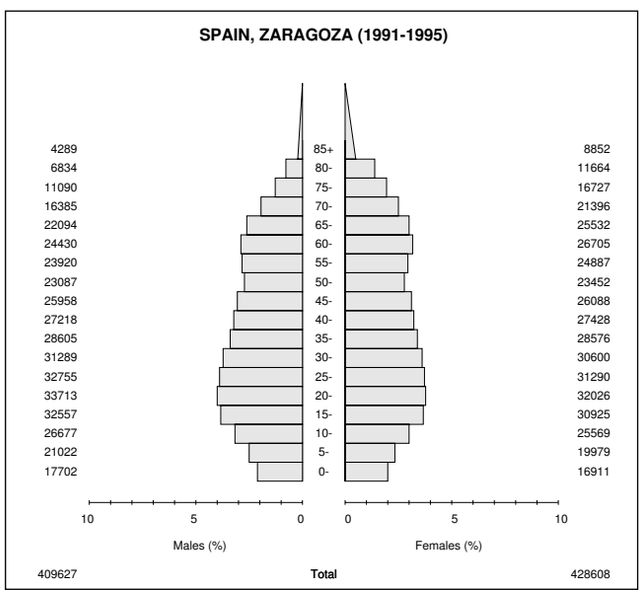
The registry combines elements of both active and passive case finding. In active case-finding, the registry personnel systematically collect all cases of invasive tumours and benign or uncertain behaviour tumours of the intracranial sites occurring in residents of the province of Zaragoza from public and private hospitals (departments of pathology, oncology, haematology, radiotherapy and hospital discharge records). Also the registry staff obtain data on mortality through regular consultation of death certificates from the civil registry of each municipality. The registry receives data on cancer from two hospital-based cancer registries (Miguel Servet Hospital and Provincial Hospital) and some general practitioners through a passive system.

Topography and morphology are coded according to ICD-O-2. The registry follows the IARC/IACR rules for multiple primary tumours and uses the IARC-Check program for checking.

No active follow-up of cancer patients is carried out. Continuous review of all death certificates and hospital discharges records reveals which registered patients have died.

Use of the data

The cancer registry data are used to estimate cancer incidence and to study patterns and trends of cancer in the population of Zaragoza in order to formulate etiological hypotheses as a basis for analytical studies. The registry collaborates with other registries in research projects and it is also involved in public health education and contributes to planning of health services.



Source of population

1991 census and 1996 municipality census.

Notes on the data

* The high proportion of cases registered on the basis of a death certificate alone suggests a degree of under-ascertainment and lack of validity.

*SPAIN, ZARAGOZA (1991-1995)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	225	2.4	11.0	**6.3**	0.33	0.77	14	0.2	0.7	**0.3**	0.02	0.04	*C00*
Tongue	110	1.2	5.4	**3.7**	0.28	0.44	21	0.3	1.0	**0.4**	0.02	0.04	*C01-02*
Mouth	99	1.0	4.8	**3.3**	0.26	0.36	30	0.5	1.4	**0.7**	0.04	0.09	*C03-06*
Salivary glands	28	0.3	1.4	**0.8**	0.04	0.08	9	0.1	0.4	**0.2**	0.01	0.02	*C07-08*
Tonsil	18	0.2	0.9	**0.7**	0.06	0.07	2	0.0	0.1	**0.1**	0.00	0.01	*C09*
Other oropharynx	10	0.1	0.5	**0.3**	0.02	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	22	0.2	1.1	**0.8**	0.07	0.10	9	0.1	0.4	**0.2**	0.01	0.02	*C11*
Hypopharynx	50	0.5	2.4	**1.8**	0.16	0.20	1	0.0	0.0	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	10	0.1	0.5	**0.3**	0.02	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	164	1.7	8.0	**5.2**	0.38	0.61	23	0.3	1.1	**0.4**	0.03	0.05	*C15*
Stomach	625	6.5	30.5	**16.7**	0.77	1.95	406	6.1	18.9	**7.4**	0.31	0.74	*C16*
Small intestine	18	0.2	0.9	**0.6**	0.03	0.08	16	0.2	0.7	**0.4**	0.03	0.04	*C17*
Colon	638	6.7	31.2	**17.2**	0.87	1.97	605	9.1	28.2	**12.7**	0.68	1.42	*C18*
Rectum	468	4.9	22.9	**12.0**	0.50	1.47	304	4.6	14.2	**6.2**	0.33	0.71	*C19-20*
Anus	7	0.1	0.3	**0.2**	0.00	0.02	11	0.2	0.5	**0.2**	0.02	0.02	*C21*
Liver	225	2.4	11.0	**6.1**	0.29	0.77	117	1.8	5.5	**2.3**	0.10	0.25	*C22*
Gallbladder etc.	76	0.8	3.7	**1.9**	0.06	0.23	169	2.6	7.9	**3.1**	0.12	0.39	*C23-24*
Pancreas	200	2.1	9.8	**5.8**	0.34	0.69	193	2.9	9.0	**3.6**	0.15	0.41	*C25*
Nose, sinuses etc.	20	0.2	1.0	**0.6**	0.04	0.08	11	0.2	0.5	**0.3**	0.02	0.02	*C30-31*
Larynx	558	5.8	27.2	**18.0**	1.32	2.20	15	0.2	0.7	**0.4**	0.02	0.04	*C32*
Trachea, bronchus and lung	1776	18.6	86.7	**50.3**	2.77	6.47	166	2.5	7.7	**3.7**	0.21	0.36	*C33-34*
Other thoracic organs	22	0.2	1.1	**0.8**	0.05	0.08	6	0.1	0.3	**0.2**	0.01	0.02	*C37-38*
Bone	32	0.3	1.6	**1.3**	0.07	0.09	21	0.3	1.0	**0.8**	0.05	0.07	*C40-41*
Melanoma of skin	84	0.9	4.1	**2.7**	0.17	0.26	111	1.7	5.2	**3.3**	0.24	0.33	*C43*
Other skin	1462		71.4	**39.8**	1.91	4.44	1037		48.4	**22.5**	1.23	2.35	*C44*
Mesothelioma	27	0.3	1.3	**0.8**	0.06	0.11	8	0.1	0.4	**0.1**	0.00	0.01	*C45*
Kaposi sarcoma	17	0.2	0.8	**0.7**	0.05	0.06	2	0.0	0.1	**0.1**	0.00	0.01	*C46*
Connective and soft tissue	64	0.7	3.1	**2.1**	0.12	0.25	50	0.8	2.3	**1.6**	0.10	0.17	*C47+C49*
Breast	27	0.3	1.3	**0.8**	0.06	0.10	1763	26.6	82.3	**51.8**	4.01	5.65	*C50*
Vulva							89	1.3	4.2	**1.7**	0.08	0.18	*C51*
Vagina							8	0.1	0.4	**0.3**	0.02	0.02	*C52*
Cervix uteri							168	2.5	7.8	**5.6**	0.44	0.57	*C53*
Corpus uteri							416	6.3	19.4	**10.9**	0.76	1.39	*C54*
Uterus unspecified							70	1.1	3.3	**1.6**	0.10	0.17	*C55*
Ovary							314	4.7	14.7	**9.4**	0.68	1.01	*C56*
Other female genital organs							24	0.4	1.1	**0.5**	0.01	0.05	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	31	0.3	1.5	**0.9**	0.05	0.10							*C60*
Prostate	1308	13.7	63.9	**30.7**	0.75	3.65							*C61*
Testis	45	0.5	2.2	**2.2**	0.15	0.15							*C62*
Other male genital organs	7	0.1	0.3	**0.2**	0.00	0.01							*C63*
Kidney	194	2.0	9.5	**6.5**	0.42	0.74	120	1.8	5.6	**3.8**	0.22	0.39	*C64*
Renal pelvis	28	0.3	1.4	**0.8**	0.04	0.12	6	0.1	0.3	**0.1**	0.00	0.01	*C65*
Ureter	13	0.1	0.6	**0.4**	0.03	0.05	2	0.0	0.1	**0.0**	0.00	0.00	*C66*
Bladder	1025	10.7	50.0	**27.9**	1.42	3.39	177	2.7	8.3	**3.4**	0.14	0.38	*C67*
Other urinary organs	17	0.2	0.8	**0.5**	0.03	0.05	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	8	0.1	0.4	**0.2**	0.00	0.03	10	0.2	0.5	**0.2**	0.02	0.02	*C69*
Brain, nervous system	212	2.2	10.4	**8.1**	0.54	0.81	157	2.4	7.3	**4.9**	0.32	0.51	*C70-72*
Thyroid	25	0.3	1.2	**0.9**	0.06	0.09	99	1.5	4.6	**3.3**	0.25	0.31	*C73*
Adrenal gland	11	0.1	0.5	**0.8**	0.04	0.05	3	0.0	0.1	**0.2**	0.01	0.01	*C74*
Other endocrine	1	0.0	0.0	**0.1**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	78	0.8	3.8	**3.2**	0.24	0.28	52	0.8	2.4	**2.2**	0.15	0.17	*C81*
Non-Hodgkin lymphoma	263	2.8	12.8	**8.9**	0.53	1.00	231	3.5	10.8	**6.3**	0.38	0.66	*C82-85,C96*
Immunoproliferative diseases	5	0.1	0.2	**0.1**	0.00	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	103	1.1	5.0	**2.8**	0.14	0.29	82	1.2	3.8	**1.7**	0.08	0.19	*C90*
Lymphoid leukaemia	113	1.2	5.5	**4.6**	0.24	0.37	85	1.3	4.0	**2.6**	0.15	0.23	*C91*
Myeloid leukaemia	81	0.8	4.0	**2.4**	0.12	0.29	79	1.2	3.7	**2.2**	0.13	0.22	*C92-94*
Leukaemia unspecified	14	0.1	0.7	**0.4**	0.01	0.04	24	0.4	1.1	**0.6**	0.04	0.05	*C95*
Other and unspecified	352	3.7	17.2	**9.7**	0.46	1.12	319	4.8	14.9	**6.1**	0.26	0.58	*O&U*
All sites	11016		537.9	**313.9**	16.44	36.74	7655		357.2	**190.5**	12.05	20.47	*ALL*
All sites but C44	9554	100.0	466.5	**273.9**	14.51	32.26	6618	100.0	308.8	**167.7**	10.79	18.09	*ALLbC44*
	§Includes 372 cases of unknown age						§Includes 254 cases of unknown age						

Sweden

Registration area

The Swedish Cancer Registry covers the whole population of Sweden. The mean population in 1995 was 8 826 939. About 24% of the population lives in urban areas (>100 000 inhabitants); the main part of the population is Protestant; approximately 15% are not members of the Church in Sweden.

Cancer care facilities

Cancer care facilities in Sweden are incorporated into the general health-care system. There are oncological centres in each one of the seven medical regions of Sweden. Nearly every cancer case will sooner or later be seen at a hospital. Hospital and forensic pathologists make independent compulsory reports on every cancer diagnosis made from surgical biopsies, cytological specimens and autopsies.

Registry structure and methods

The Swedish Cancer Registry, which was established in 1958, is managed by the Centre for Epidemiology (EpC) at the National Board of Health and Welfare. The Government finances the registry. Six regional cancer registries covering the whole country perform the registration of new cancer reports and the major check-up and correction work. These registries are associated with the oncological centres of Sweden.

The registration of newly detected tumour cases is based on compulsory reporting by all physicians responsible for inpatient and outpatient departments in all public and private establishments for medical treatment. The data in the registry are supplemented with information on cause and date of death by computerized linking with the Cause of Death Registry. The Swedish Cancer Registry does not use information on cancers based on death certificates.

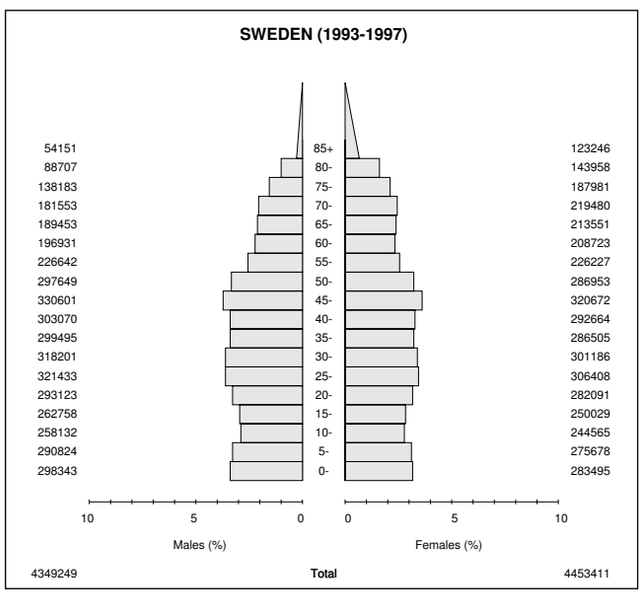
Interpreting the results

There are two main screening programmes in Sweden, for breast and cervix cancer. PSA testing for prostate cancer has become quite common in recent years.

Use of the data

The registry prepares an annual report of cancer incidence, highlighting trends and changes. Since 2000, this is published on the Internet only.

Many researchers in Sweden and in other parts of the world use the registry's data.



Source of population

Mean annual according to official records.

Notes on the data

† C44 does not include basal cell carcinoma.

SWEDEN (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	628	0.6	2.9	**1.4**	0.05	0.17	237	0.2	1.1	**0.5**	0.03	0.05	*C00*
Tongue	372	0.4	1.7	**1.1**	0.07	0.13	229	0.2	1.0	**0.6**	0.04	0.06	*C01-02*
Mouth	529	0.5	2.4	**1.5**	0.09	0.18	442	0.5	2.0	**0.9**	0.05	0.11	*C03-06*
Salivary glands	216	0.2	1.0	**0.6**	0.03	0.07	206	0.2	0.9	**0.5**	0.03	0.05	*C07-08*
Tonsil	285	0.3	1.3	**0.9**	0.07	0.11	113	0.1	0.5	**0.3**	0.02	0.04	*C09*
Other oropharynx	48	0.0	0.2	**0.2**	0.01	0.02	25	0.0	0.1	**0.1**	0.00	0.01	*C10*
Nasopharynx	102	0.1	0.5	**0.3**	0.02	0.03	54	0.1	0.2	**0.1**	0.01	0.01	*C11*
Hypopharynx	244	0.3	1.1	**0.7**	0.04	0.09	63	0.1	0.3	**0.1**	0.01	0.02	*C12-13*
Pharynx unspecified	17	0.0	0.1	**0.1**	0.00	0.01	7	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	1187	1.2	5.5	**3.1**	0.16	0.39	521	0.5	2.3	**0.9**	0.05	0.11	*C15*
Stomach	3750	3.9	17.2	**8.6**	0.34	0.98	2441	2.5	11.0	**4.4**	0.20	0.49	*C16*
Small intestine	559	0.6	2.6	**1.4**	0.07	0.16	482	0.5	2.2	**1.0**	0.06	0.13	*C17*
Colon	7649	7.9	35.2	**17.7**	0.72	2.03	8206	8.5	36.9	**15.0**	0.69	1.76	*C18*
Rectum	4967	5.1	22.8	**12.2**	0.56	1.49	3803	3.9	17.1	**7.6**	0.39	0.92	*C19-20*
Anus	163	0.2	0.7	**0.4**	0.02	0.05	324	0.3	1.5	**0.7**	0.04	0.08	*C21*
Liver	1668	1.7	7.7	**4.1**	0.17	0.49	1240	1.3	5.6	**2.3**	0.11	0.28	*C22*
Gallbladder etc.	857	0.9	3.9	**2.0**	0.09	0.24	1652	1.7	7.4	**3.0**	0.14	0.36	*C23-24*
Pancreas	2486	2.6	11.4	**6.3**	0.32	0.78	2733	2.8	12.3	**5.3**	0.27	0.65	*C25*
Nose, sinuses etc.	167	0.2	0.8	**0.4**	0.02	0.06	129	0.1	0.6	**0.3**	0.02	0.03	*C30-31*
Larynx	814	0.8	3.7	**2.2**	0.13	0.28	123	0.1	0.6	**0.3**	0.02	0.04	*C32*
Trachea, bronchus and lung	8490	8.7	39.0	**22.0**	1.09	2.92	5162	5.3	23.2	**12.9**	0.84	1.66	*C33-34*
Other thoracic organs	58	0.1	0.3	**0.2**	0.01	0.02	34	0.0	0.2	**0.1**	0.01	0.01	*C37-38*
Bone	215	0.2	1.0	**0.9**	0.06	0.07	165	0.2	0.7	**0.7**	0.04	0.06	*C40-41*
Melanoma of skin	3942	4.1	18.1	**11.8**	0.78	1.32	4018	4.2	18.0	**11.9**	0.87	1.20	*C43*
†Other skin	6841		31.5	**14.2**	0.43	1.32	4469		20.1	**6.8**	0.26	0.64	*C44*
Mesothelioma	497	0.5	2.3	**1.3**	0.07	0.16	127	0.1	0.6	**0.3**	0.02	0.04	*C45*
Kaposi sarcoma	164	0.2	0.8	**0.5**	0.03	0.04	36	0.0	0.2	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	784	0.8	3.6	**2.5**	0.13	0.24	689	0.7	3.1	**2.0**	0.12	0.20	*C47+C49*
Breast	180	0.2	0.8	**0.4**	0.02	0.05	28371	29.4	127.4	**76.5**	5.72	8.66	*C50*
Vulva							774	0.8	3.5	**1.4**	0.07	0.15	*C51*
Vagina							207	0.2	0.9	**0.4**	0.02	0.05	*C52*
Cervix uteri							2427	2.5	10.9	**7.7**	0.57	0.77	*C53*
Corpus uteri							5882	6.1	26.4	**14.3**	0.94	1.85	*C54*
Uterus unspecified							493	0.5	2.2	**1.2**	0.08	0.14	*C55*
Ovary							5377	5.6	24.1	**15.2**	1.10	1.74	*C56*
Other female genital organs							223	0.2	1.0	**0.6**	0.04	0.07	*C57*
Placenta							12	0.0	0.1	**0.1**	0.00	0.00	*C58*
Penis	303	0.3	1.4	**0.8**	0.04	0.09							*C60*
Prostate	28920	29.7	133.0	**63.0**	1.78	7.75							*C61*
Testis	1148	1.2	5.3	**5.0**	0.36	0.38							*C62*
Other male genital organs	30	0.0	0.1	**0.1**	0.00	0.01							*C63*
Kidney	2840	2.9	13.1	**7.8**	0.43	0.94	2108	2.2	9.5	**4.8**	0.27	0.58	*C64*
Renal pelvis	322	0.3	1.5	**0.8**	0.05	0.10	256	0.3	1.1	**0.5**	0.03	0.07	*C65*
Ureter	160	0.2	0.7	**0.4**	0.01	0.05	94	0.1	0.4	**0.2**	0.01	0.02	*C66*
Bladder	7436	7.6	34.2	**17.8**	0.75	2.15	2549	2.6	11.4	**4.8**	0.22	0.57	*C67*
Other urinary organs	116	0.1	0.5	**0.3**	0.01	0.03	76	0.1	0.3	**0.1**	0.01	0.02	*C68*
Eye	281	0.3	1.3	**0.9**	0.05	0.09	265	0.3	1.2	**0.8**	0.05	0.07	*C69*
Brain, nervous system	1739	1.8	8.0	**6.6**	0.45	0.64	1320	1.4	5.9	**4.7**	0.32	0.47	*C70-72*
Thyroid	433	0.4	2.0	**1.3**	0.08	0.14	1095	1.1	4.9	**3.5**	0.25	0.33	*C73*
Adrenal gland	61	0.1	0.3	**0.3**	0.01	0.02	55	0.1	0.2	**0.2**	0.01	0.02	*C74*
Other endocrine	21	0.0	0.1	**0.1**	0.00	0.01	18	0.0	0.1	**0.0**	0.00	0.00	*C75*
Hodgkin disease	495	0.5	2.3	**2.0**	0.13	0.17	405	0.4	1.8	**1.7**	0.10	0.13	*C81*
Non-Hodgkin lymphoma	3657	3.8	16.8	**10.1**	0.57	1.10	3146	3.3	14.1	**6.9**	0.39	0.80	*C82-85,C96*
Immunoproliferative diseases	107	0.1	0.5	**0.2**	0.01	0.03	56	0.1	0.3	**0.1**	0.00	0.01	*C88*
Multiple myeloma	1468	1.5	6.8	**3.6**	0.17	0.42	1260	1.3	5.7	**2.4**	0.12	0.29	*C90*
Lymphoid leukaemia	1656	1.7	7.6	**5.3**	0.26	0.52	1103	1.1	5.0	**3.3**	0.16	0.29	*C91*
Myeloid leukaemia	1075	1.1	4.9	**3.1**	0.17	0.33	1006	1.0	4.5	**2.6**	0.15	0.27	*C92-94*
Leukaemia unspecified	123	0.1	0.6	**0.3**	0.01	0.03	95	0.1	0.4	**0.2**	0.01	0.02	*C95*
Other and unspecified	3794	3.9	17.4	**9.2**	0.43	1.07	4626	4.8	20.8	**9.0**	0.45	1.05	*O&U*
All sites	104064		478.5	**257.8**	11.43	29.96	101029		453.7	**242.1**	15.42	27.47	*ALL*
All sites but C44	97223	100.0	447.1	**243.7**	11.00	28.64	96560	100.0	433.6	**235.3**	15.15	26.83	*ALLbC44*

†See note following population pyramid

Switzerland, Basel

Registration area

The registration area is situated in the northwest of Switzerland, bordering France and Germany, at latitude 47° N and longitude 7° E. The area is 465 km², the highest point being 1169 m and the lowest 244 m above sea level.

The population comprises 429 000 residents, 16% of whom are 65 years old or older and 19% less than 20. 19% of the population are foreigners, almost exclusively Caucasian, with the majority coming from Italy, Spain and Germany. 85% of the total population live in the conurbation of Basel. 41% of the inhabitants are Protestants, 30% Roman Catholics, 29% other denominations or of no religion. The employment distribution is: 2% in agriculture and forestry, 30% in industry and 61% in the service sector, 5% unknown and 2% unemployed, according to the 1990 census.

After measurement of the concentration of carcinogenic substances in the air of the Basel area (emission data), the attributable lung cancer cases were estimated as 15% of the total annual incident cases.

Cancer care facilities

Out of the 4129 hospital beds (10 per 1000 residents) 73% are located in nine central hospitals, the rest being distributed among fifteen private hospitals. There is no separate specialized clinic treating cancer patients. Outpatient care is provided by 1119 practising physicians (one per 380 residents).

Registry structure and methods

The Cancer Registry of Basel City and Basel County was established in 1969 by the cancer league of these two cantons. Collection of population-based data started in 1970. The aim was to add a German-speaking predominantly urban region to the association of nine Swiss population-based cancer registries covering 57% of the resident population of Switzerland.

The registry is located in the Department of Pathology of the University of Basel. In addition to a part-time pathologist, the staff comprises two full-time tumour registrars. Computerized registration is undertaken in collaboration with the computer department of the canton of Basel City. Financial support comes from the cantonal governments of Basel City and Basel County, a substantial contribution being supplied by the Federal Government of Switzerland.

Information on new cancers is sent to the registry on a voluntary basis by two pathology departments, two other hospital-based and three additional private pathology laboratories and three haematology laboratories. Treating physicians are asked for additional information routinely (response-rate over 90%).

Some of them use the registry standard form for tumour documentation in their medical records. Linkage of different sources of information is performed manually using an index file containing accession number, name, maiden name, forename, date of birth and place of residence. Since 1987 patient data have been entered directly into a personal computer, the paper document being filed and automated coding performed by the computer. Date of death is supplied by the official population registries. 47% of deceased cancer patients have an autopsy. Death certificates are not used for case finding. The cancer registry personnel have no direct contact with patients. All of the population-based cancer registries in Switzerland have permission from a Central Governmental Commission for Data Protection in Medical Research to receive non-anonymized data on cancer patients.

The data are transferred to standard forms ordered alphabetically (1970–78) or according to the accession number (1979–). Data collected include tumour stage at diagnosis (TNM and pT, pN, pM). For breast cancer, the tumour diameter in mm, the number of axillary nodes and the number of metastatic nodes are recorded. For malignant melanoma the tumour thickness in mm is registered. Checking for duplicate registrations is done by comparing every new item of information manually with the index file. Consistency checks (age–histology, sex–site and histology, site and histology) are performed for selected combinations.

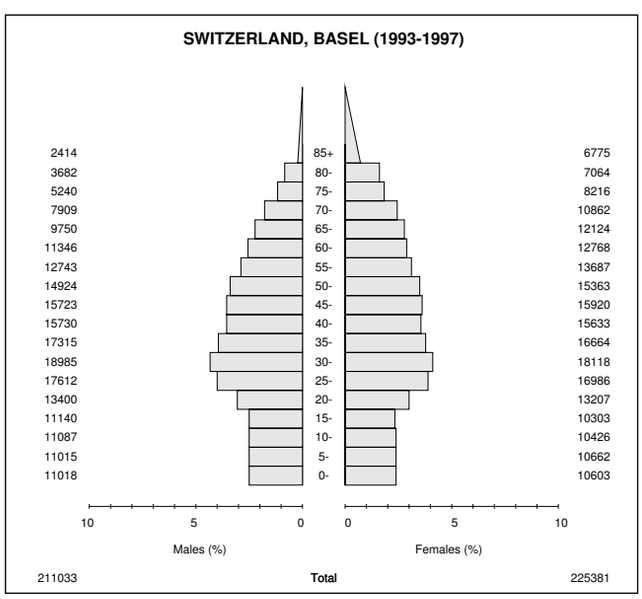
Active follow-up is carried out within the framework of the EUROCARE studies.

Interpreting the results

There is no organized screening in Basel. According to the Swiss Health Survey 1997, 85% of Basel women 15–74 years old have had a cervical smear and 60% of women 50–69 years old have had a mammography.

Use of the data

Annual incidence data by sex, age, site and morphology, as well as comparisons between the data of the nine Swiss cancer registries, are produced routinely. Descriptive epidemiological studies have been undertaken, in collaboration with the Basel Registry for Tumours in Families, the Swiss Association of Cancer Registries, the Swiss Institute for Applied Cancer Research and IARC.



Source of population

1990 Census. Eidgenössische Volkszählung 1990. Bundesamt für Statistik, Schweiz. 1993–97 Projection based on the 1990 census. Kantonale Bevölkerungs-Fortschreibung Statistische emter, Kanton Basel-Stadt, Kanton Basel-Landschaft.

Notes on the data

† C67 does not include non-invasive tumours.

Note: the Swiss mortality data were not available for the full period and are not published in this volume, although they were used as indicators of completeness in the editorial review.

SWITZERLAND, BASEL (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	3	0.1	0.3	**0.2**	0.02	0.02	1	0.0	0.1	**0.0**	0.00	0.01	*C00*
Tongue	41	0.8	3.9	**2.5**	0.21	0.29	16	0.3	1.4	**0.8**	0.07	0.07	*C01-02*
Mouth	62	1.2	5.9	**3.7**	0.30	0.39	31	0.6	2.8	**1.3**	0.09	0.14	*C03-06*
Salivary glands	8	0.2	0.8	**0.4**	0.02	0.05	10	0.2	0.9	**0.6**	0.04	0.05	*C07-08*
Tonsil	22	0.4	2.1	**1.3**	0.11	0.15	11	0.2	1.0	**0.6**	0.04	0.08	*C09*
Other oropharynx	19	0.4	1.8	**1.3**	0.14	0.15	2	0.0	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	9	0.2	0.9	**0.5**	0.03	0.05	5	0.1	0.4	**0.2**	0.01	0.02	*C11*
Hypopharynx	34	0.7	3.2	**2.2**	0.17	0.22	5	0.1	0.4	**0.3**	0.03	0.03	*C12-13*
Pharynx unspecified	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	74	1.4	7.0	**4.3**	0.33	0.52	41	0.9	3.6	**1.6**	0.10	0.21	*C15*
Stomach	187	3.6	17.7	**9.7**	0.41	1.06	149	3.1	13.2	**5.2**	0.28	0.56	*C16*
Small intestine	29	0.6	2.7	**1.6**	0.08	0.18	32	0.7	2.8	**1.4**	0.07	0.17	*C17*
Colon	390	7.5	37.0	**19.4**	0.77	2.12	404	8.5	35.9	**15.5**	0.84	1.74	*C18*
Rectum	270	5.2	25.6	**14.2**	0.63	1.72	246	5.2	21.8	**9.7**	0.56	1.13	*C19-20*
Anus	11	0.2	1.0	**0.7**	0.07	0.09	28	0.6	2.5	**1.2**	0.08	0.12	*C21*
Liver	101	1.9	9.6	**5.5**	0.19	0.72	39	0.8	3.5	**1.6**	0.07	0.18	*C22*
Gallbladder etc.	26	0.5	2.5	**1.4**	0.06	0.17	47	1.0	4.2	**1.4**	0.04	0.16	*C23-24*
Pancreas	109	2.1	10.3	**5.9**	0.29	0.72	107	2.2	9.5	**3.9**	0.16	0.48	*C25*
Nose, sinuses etc.	3	0.1	0.3	**0.2**	0.01	0.01	2	0.0	0.2	**0.1**	0.01	0.02	*C30-31*
Larynx	68	1.3	6.4	**4.2**	0.30	0.53	9	0.2	0.8	**0.5**	0.04	0.07	*C32*
Trachea, bronchus and lung	790	15.2	74.9	**43.0**	2.10	5.52	331	6.9	29.4	**15.0**	1.00	1.84	*C33-34*
Other thoracic organs	7	0.1	0.7	**0.5**	0.03	0.06	4	0.1	0.4	**0.2**	0.01	0.01	*C37-38*
Bone	10	0.2	0.9	**0.8**	0.06	0.07	13	0.3	1.2	**1.4**	0.08	0.10	*C40-41*
Melanoma of skin	196	3.8	18.6	**11.3**	0.67	1.27	185	3.9	16.4	**9.4**	0.72	0.93	*C43*
Other skin	1623		153.8	**85.7**	4.17	9.78	1540		136.7	**60.9**	3.40	6.81	*C44*
Mesothelioma	34	0.7	3.2	**1.8**	0.07	0.21	5	0.1	0.4	**0.2**	0.02	0.02	*C45*
Kaposi sarcoma	19	0.4	1.8	**1.4**	0.11	0.12	2	0.0	0.2	**0.1**	0.01	0.01	*C46*
Connective and soft tissue	43	0.8	4.1	**2.6**	0.15	0.25	37	0.8	3.3	**1.9**	0.12	0.17	*C47+C49*
Breast	6	0.1	0.6	**0.4**	0.01	0.03	1485	31.1	131.8	**72.9**	5.23	8.37	*C50*
Vulva							34	0.7	3.0	**1.0**	0.04	0.10	*C51*
Vagina							6	0.1	0.5	**0.1**	0.00	0.01	*C52*
Cervix uteri							73	1.5	6.5	**4.1**	0.30	0.42	*C53*
Corpus uteri							282	5.9	25.0	**12.4**	0.82	1.60	*C54*
Uterus unspecified							11	0.2	1.0	**0.6**	0.05	0.07	*C55*
Ovary							181	3.8	16.1	**9.0**	0.61	1.04	*C56*
Other female genital organs							6	0.1	0.5	**0.3**	0.02	0.04	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	15	0.3	1.4	**0.8**	0.02	0.10							*C60*
Prostate	1290	24.9	122.3	**61.6**	1.61	7.29							*C61*
Testis	107	2.1	10.1	**8.4**	0.64	0.67							*C62*
Other male genital organs	3	0.1	0.3	**0.2**	0.01	0.02							*C63*
Kidney	170	3.3	16.1	**9.5**	0.49	1.10	102	2.1	9.1	**4.4**	0.27	0.48	*C64*
Renal pelvis	15	0.3	1.4	**0.8**	0.02	0.10	17	0.4	1.5	**0.7**	0.03	0.12	*C65*
Ureter	12	0.2	1.1	**0.6**	0.02	0.07	8	0.2	0.7	**0.3**	0.02	0.05	*C66*
†Bladder	248	4.8	23.5	**12.4**	0.45	1.44	97	2.0	8.6	**3.2**	0.15	0.32	*C67*
Other urinary organs	2	0.0	0.2	**0.1**	0.00	0.01	1	0.0	0.1	**0.0**	0.00	0.00	*C68*
Eye	9	0.2	0.9	**0.7**	0.04	0.06	12	0.3	1.1	**0.7**	0.04	0.06	*C69*
Brain, nervous system	89	1.7	8.4	**6.3**	0.45	0.63	80	1.7	7.1	**4.6**	0.26	0.51	*C70-72*
Thyroid	31	0.6	2.9	**1.9**	0.10	0.19	92	1.9	8.2	**5.3**	0.35	0.52	*C73*
Adrenal gland	3	0.1	0.3	**0.2**	0.01	0.01	3	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	2	0.0	0.2	**0.1**	0.02	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	44	0.8	4.2	**3.8**	0.24	0.28	23	0.5	2.0	**2.0**	0.12	0.15	*C81*
Non-Hodgkin lymphoma	236	4.6	22.4	**14.3**	0.85	1.52	221	4.6	19.6	**10.1**	0.62	1.07	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	82	1.6	7.8	**4.4**	0.20	0.53	53	1.1	4.7	**2.0**	0.08	0.27	*C90*
Lymphoid leukaemia	68	1.3	6.4	**4.5**	0.25	0.44	43	0.9	3.8	**2.7**	0.14	0.22	*C91*
Myeloid leukaemia	89	1.7	8.4	**5.4**	0.29	0.60	70	1.5	6.2	**3.7**	0.20	0.42	*C92-94*
Leukaemia unspecified	2	0.0	0.2	**0.3**	0.01	0.01	8	0.2	0.7	**0.5**	0.02	0.03	*C95*
Other and unspecified	93	1.8	8.8	**5.4**	0.31	0.67	101	2.1	9.0	**3.6**	0.16	0.44	*O&U*
All sites	6804		644.8	**368.3**	17.52	42.22	6311		560.0	**279.5**	17.43	31.51	*ALL*
All sites but C44	5181	100.0	491.0	**282.6**	13.35	32.44	4771	100.0	423.4	**218.6**	14.04	24.70	*ALLbC44*

†See note following population pyramid

Switzerland, Geneva

Registration area

The Canton of Geneva is situated at the extreme west of Switzerland. It has a total area of 282 km^2, of which Lake Leman occupies 36 km^2. The climate is temperate with average temperatures varying from 0.3° C in January to 22° C in August, and the annual rainfall amounts to 932 mm (1997). Air quality is fairly good: the highest annual average pollutant concentrations observed are 11 µg/m^3 for $S0_2$, 53 µg/m^3 for NO, 53 µg/m^3 for NO_2, 29 µg/m^3 for 03 and 1.0 mg/m^3 for CO (1997).

At 31 December 1997, the population of the canton was 400 860 of whom 14.1% were aged 65 and more and only 21.7% younger than 20. This structure is due not only to the joint effects of a low fertility rate and an increase in life expectancy, but also reflects a fairly heavy immigration (often temporary) at the ages of economic activity. This immigration comes traditionally from Latin countries. Due to a restrictive policy in granting Swiss nationality, the proportion of the resident population considered as foreign remains high, at 37.6%, of which 7.1% were Portuguese, 6.3% were Italian, 4.8% Spanish and 4.5% French.

The majority of the population is Christian, with 45.2% Roman Catholics and 21.3% Protestants.

The active population is concentrated in the administrative and service sectors (82.4%) with production workers comprising most of the remaining population (16.3%); agricultural workers are few (<2%), due to the small amount of cultivated land and the high degree of agricultural mechanization (1995 figures).

Cancer care facilities

The hospital facilities for acute illness comprise one general public university hospital with 1267 beds (1997) and some smaller private hospitals and clinics. Cancer patients are also treated at two other university hospitals, namely a geriatric institution (300 beds) and a hospital for chronic affections (300 beds). No hospital, either public or private, has beds reserved specifically for cancer patients.

Registry structure and methods

The Geneva Cancer Registry was founded in 1969 and started recording cases in 1970. In 1991, the registry was attached directly to the Public Health Service of the Canton of Geneva. Since 1999, it has been attached to the University of Geneva for financial reasons, and this institute provides most of the funding. Additional funds are obtained from the Federal Ministry of Health, through the Swiss Association of Cancer Registries, which aims at standardizing definitions, codes and procedures as well as conducting collaborative studies, mainly descriptive.

Biopsies are mainly carried out at the central laboratory or in other specialized services of the public hospital. There are three private pathology laboratories which provide records to the registry or permit systematic consultation of their records. Haematological examinations are carried out in several private laboratories. Autopsies are performed at the university hospitals and the necropsy rate is estimated at 19% of the deceased residents.

Data collection for the registry is undertaken by examining the university hospital records of the various services concerned, as well as by a questionnaire sent to private practitioners. The response rate of the latter is more than 90%.

The registry has access to all death certificates in the Canton which permits a continuous follow-up. In addition to this passive follow-up, the registry undertakes annual active follow-up of all cases on a five-year basis from the date of diagnosis. This follow-up is facilitated by direct access to the Cantonal Population Office. In the case of death, the primary cause is recorded and re-examined, as well as the possible presence of a tumour, clinical or confirmed, at the time of death.

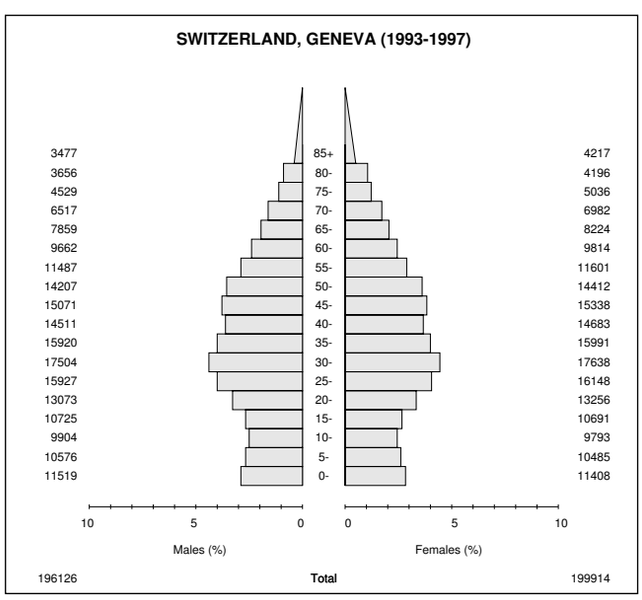
Interpretation of the results

As an indicator of reliability of the data, a very low percentage of cases (<1%, 1993–97) is recorded from death certificates only. In addition, the low rate of cases found at autopsy (1.2%, 1993–97) compared with the total number of cases confirmed histologically, suggests that most cases are identified during the lifetime of the patient.

There were no screening programmes during the period. The breast cancer screening programme only began in 1999. Mean annual rates for spontaneous cervical cancer screening were about 40%, and for breast cancer screening around 20% (1991–95 data).

Use of the data

In addition to the processing and publication of routine incidence and survival data, the registry initiates or participates in analytical epidemiological investigations. Several case–control and cohort studies have been undertaken.



Source of population

Annual intercensal estimates, provided by the Office of Cantonal Population.

Notes on the data

Note: the Swiss mortality data were not available for the full period and are not published in this volume, although they were used as indicators of completeness in the editorial review.

SWITZERLAND, GENEVA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	14	0.3	1.4	**0.9**	0.05	0.12	5	0.1	0.5	**0.2**	0.01	0.02	*C00*
Tongue	41	0.9	4.2	**2.9**	0.23	0.36	16	0.4	1.6	**1.2**	0.11	0.13	*C01-02*
Mouth	54	1.1	5.5	**3.8**	0.31	0.45	27	0.6	2.7	**1.8**	0.12	0.22	*C03-06*
Salivary glands	8	0.2	0.8	**0.5**	0.02	0.06	9	0.2	0.9	**0.6**	0.04	0.09	*C07-08*
Tonsil	50	1.1	5.1	**3.5**	0.23	0.48	26	0.6	2.6	**1.8**	0.15	0.21	*C09*
Other oropharynx	25	0.5	2.5	**1.8**	0.14	0.20	9	0.2	0.9	**0.6**	0.03	0.10	*C10*
Nasopharynx	8	0.2	0.8	**0.5**	0.04	0.05	3	0.1	0.3	**0.2**	0.01	0.01	*C11*
Hypopharynx	50	1.1	5.1	**3.6**	0.26	0.45	5	0.1	0.5	**0.3**	0.02	0.04	*C12-13*
Pharynx unspecified	1	0.0	0.1	**0.1**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	98	2.1	10.0	**6.4**	0.42	0.79	52	1.2	5.2	**2.8**	0.17	0.32	*C15*
Stomach	130	2.8	13.3	**7.8**	0.47	0.92	101	2.2	10.1	**5.1**	0.20	0.58	*C16*
Small intestine	13	0.3	1.3	**0.7**	0.02	0.08	10	0.2	1.0	**0.4**	0.00	0.06	*C17*
Colon	369	7.8	37.6	**22.7**	1.24	2.98	381	8.5	38.1	**18.2**	0.79	2.01	*C18*
Rectum	158	3.4	16.1	**9.5**	0.49	1.19	132	2.9	13.2	**7.4**	0.42	0.86	*C19-20*
Anus	16	0.3	1.6	**1.1**	0.07	0.12	47	1.0	4.7	**2.3**	0.12	0.22	*C21*
Liver	143	3.0	14.6	**9.0**	0.49	1.18	43	1.0	4.3	**2.2**	0.09	0.24	*C22*
Gallbladder etc.	33	0.7	3.4	**2.0**	0.12	0.23	50	1.1	5.0	**2.1**	0.08	0.19	*C23-24*
Pancreas	123	2.6	12.5	**7.3**	0.34	0.94	133	3.0	13.3	**6.6**	0.31	0.75	*C25*
Nose, sinuses etc.	15	0.3	1.5	**1.1**	0.07	0.09	11	0.2	1.1	**0.7**	0.04	0.08	*C30-31*
Larynx	102	2.2	10.4	**6.8**	0.46	0.80	18	0.4	1.8	**1.3**	0.11	0.16	*C32*
Trachea, bronchus and lung	703	14.9	71.7	**43.6**	2.41	5.62	293	6.5	29.3	**17.2**	0.99	2.11	*C33-34*
Other thoracic organs	10	0.2	1.0	**0.8**	0.03	0.08	7	0.2	0.7	**0.4**	0.03	0.06	*C37-38*
Bone	8	0.2	0.8	**0.8**	0.05	0.08	16	0.4	1.6	**1.6**	0.09	0.11	*C40-41*
Melanoma of skin	227	4.8	23.1	**15.5**	0.96	1.76	191	4.2	19.1	**13.1**	0.91	1.33	*C43*
Other skin	1797		183.2	**105.9**	5.46	12.38	1830		183.1	**102.7**	6.04	11.56	*C44*
Mesothelioma	16	0.3	1.6	**1.1**	0.08	0.14	7	0.2	0.7	**0.4**	0.01	0.04	*C45*
Kaposi sarcoma	53	1.1	5.4	**3.9**	0.30	0.35	3	0.1	0.3	**0.2**	0.01	0.04	*C46*
Connective and soft tissue	25	0.5	2.5	**1.9**	0.10	0.19	17	0.4	1.7	**1.2**	0.08	0.12	*C47+C49*
Breast	8	0.2	0.8	**0.5**	0.01	0.06	1516	33.7	151.7	**97.0**	7.12	10.96	*C50*
Vulva							27	0.6	2.7	**1.1**	0.06	0.09	*C51*
Vagina							7	0.2	0.7	**0.2**	0.01	0.01	*C52*
Cervix uteri							86	1.9	8.6	**5.5**	0.36	0.53	*C53*
Corpus uteri							210	4.7	21.0	**12.6**	0.68	1.73	*C54*
Uterus unspecified							4	0.1	0.4	**0.2**	0.00	0.01	*C55*
Ovary							195	4.3	19.5	**11.8**	0.75	1.36	*C56*
Other female genital organs							16	0.4	1.6	**0.9**	0.06	0.12	*C57*
Placenta							1	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	16	0.3	1.6	**0.8**	0.05	0.07							*C60*
Prostate	914	19.4	93.2	**52.4**	1.85	7.11							*C61*
Testis	74	1.6	7.5	**6.5**	0.47	0.50							*C62*
Other male genital organs	1	0.0	0.1	**0.0**	0.00	0.00							*C63*
Kidney	120	2.5	12.2	**7.9**	0.51	0.99	83	1.8	8.3	**4.8**	0.24	0.56	*C64*
Renal pelvis	20	0.4	2.0	**1.1**	0.03	0.14	11	0.2	1.1	**0.6**	0.00	0.06	*C65*
Ureter	6	0.1	0.6	**0.3**	0.02	0.02	5	0.1	0.5	**0.2**	0.01	0.01	*C66*
Bladder	430	9.1	43.8	**25.9**	1.37	3.30	155	3.4	15.5	**7.4**	0.30	0.78	*C67*
Other urinary organs	0	0.0	0.0	**0.0**	0.00	0.00	2	0.0	0.2	**0.1**	0.01	0.01	*C68*
Eye	12	0.3	1.2	**0.9**	0.04	0.05	12	0.3	1.2	**1.0**	0.05	0.10	*C69*
Brain, nervous system	87	1.8	8.9	**7.2**	0.50	0.70	54	1.2	5.4	**3.7**	0.22	0.42	*C70-72*
Thyroid	19	0.4	1.9	**1.5**	0.09	0.16	70	1.6	7.0	**4.5**	0.32	0.47	*C73*
Adrenal gland	0	0.0	0.0	**0.0**	0.00	0.00	2	0.0	0.2	**0.4**	0.02	0.02	*C74*
Other endocrine	6	0.1	0.6	**0.4**	0.04	0.06	4	0.1	0.4	**0.3**	0.02	0.04	*C75*
Hodgkin disease	38	0.8	3.9	**3.8**	0.23	0.31	27	0.6	2.7	**2.2**	0.15	0.20	*C81*
Non-Hodgkin lymphoma	163	3.5	16.6	**11.7**	0.72	1.19	135	3.0	13.5	**7.8**	0.44	0.84	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	53	1.1	5.4	**3.1**	0.16	0.36	36	0.8	3.6	**1.6**	0.03	0.20	*C90*
Lymphoid leukaemia	74	1.6	7.5	**5.5**	0.28	0.47	60	1.3	6.0	**3.5**	0.11	0.34	*C91*
Myeloid leukaemia	51	1.1	5.2	**3.2**	0.16	0.37	50	1.1	5.0	**2.7**	0.13	0.23	*C92-94*
Leukaemia unspecified	8	0.2	0.8	**0.4**	0.02	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C95*
Other and unspecified	118	2.5	12.0	**6.8**	0.34	0.78	115	2.6	11.5	**4.9**	0.19	0.43	*O&U*
All sites	6508		663.7	**405.4**	21.75	48.79	6325		632.8	**367.6**	22.27	41.18	*ALL*
All sites but C44	4711	100.0	480.4	**299.5**	16.30	36.40	4495	100.0	449.7	**265.0**	16.23	29.62	*ALLbC44*

Switzerland, Graubünden and Glarus

Registration area

The Cancer Registry of Graubünden and Glarus covers the population of the two corresponding cantons in the eastern part of Switzerland. The canton Glarus has 29 communities and Graubünden 213.

The population at the official census 1990 was 38 508 for Glarus and 173 890 for Graubünden. About 15% of the population of Glarus live in the capital of Glarus, while 19% of the population of Graubünden have their residence in the capital of Chur. In both cantons about 40% are Catholics and 50% are Protestants. The Glarus canton has a relatively high proportion of foreigners at 22%, while in Graubünden 14% of the population is foreign.

Cancer care facilities

In Glarus there is only one main hospital (in the capital Glarus) providing cancer surgery and chemotherapy services without radiotherapy and without neurosurgery. 38 practitioners help to complete the malignancy report when necessary.

In Graubünden cancer care is provided by the main hospital in Chur (capital) with cancer surgery, chemotherapy services and radiotherapy. Ten further hospitals and about 300 practitioners supplement this care. Some 5% of patients are referred to the main hospitals in of the cantons of St Gall, Zürich or Ticino.

Registry structure and methods

The registry is located within the department of pathology at the main hospital in Chur, and is funded partly by the health department of the cantons of Glarus and Graubünden, and partly by the Federal Government of Switzerland.

A part-time pathologist and a full-time registrar are responsible for the registration of new cancers.

About 80% of the new cancer cases are notified directly through the pathology network, the remainder being found by active case finding (scrutinizing a large number of medical documents) in 30 departments of the 12 hospitals of both cantons. Death certificates are provided by the Federal Office of Statistics by special contract. More and more pre-coded data are available from different clinical departments, which facilitates registration considerably.

The cancer registries of Zürich, St Gall and Ticino complete the data-set with information about patients hospitalized outside the registration area.

As an active member of the Swiss Association of Cancer Registries the registry has permission from a Central Commission for Data Protection in Medical Research of the Swiss Government to receive non-anonymized data on cancer patients (cancer is not a notifiable disease).

Periodically quality control and plausibility procedures are performed partly by the registry itself and partly by the Swiss Association of Cancer Registries.

Interpreting the results

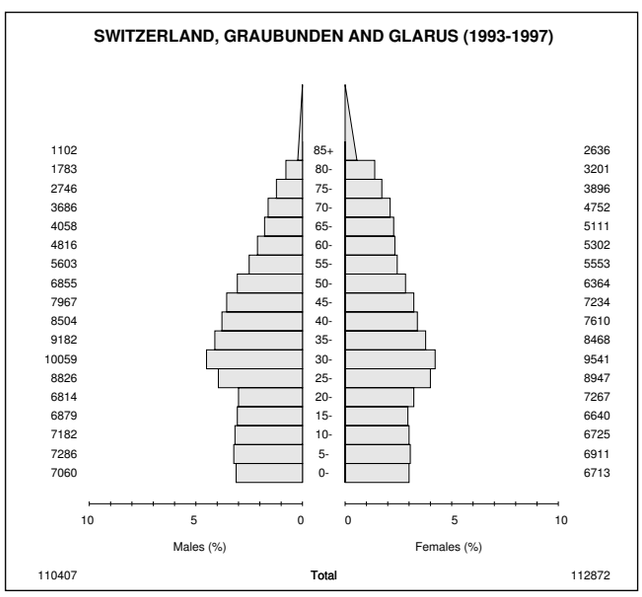
Because neither of these cantons has a university and because a large proportion of the population lives in rural areas, it is probable that there are cancer cases which remain undiagnosed. However, the cooperation of the neighbouring registries in St Gall, Ticino and Zürich ensures that cases treated outside the region are captured.

There is no organized screening for cervical cancer, but spontaneous screening is relatively well accepted in the female population.

Use of the data

The main objective of the registry is to make the data on cancer incidence available to the Swiss Association of Cancer Registries for publication and dissemination.

Since 1998 the registry has played an active role in establishing a screening programme for breast cancer (women aged 50–70).



Source of population

Annual inter-censal estimates, provided by the Office of Cantonal Population.

Notes on the data

Note: the Swiss mortality data were not available for the full period and are not published in this volume, although they were used as indicators of completeness in the editorial review.

SWITZERLAND, GRAUBUNDEN AND GLARUS (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	26	1.1	4.7	**2.8**	0.12	0.30	2	0.1	0.4	**0.1**	0.00	0.00	*C00*
Tongue	22	0.9	4.0	**2.8**	0.18	0.36	3	0.1	0.5	**0.4**	0.03	0.03	*C01-02*
Mouth	25	1.0	4.5	**3.0**	0.24	0.35	9	0.4	1.6	**1.0**	0.07	0.13	*C03-06*
Salivary glands	12	0.5	2.2	**1.6**	0.12	0.15	4	0.2	0.7	**0.5**	0.03	0.07	*C07-08*
Tonsil	6	0.2	1.1	**0.8**	0.08	0.08	5	0.2	0.9	**0.7**	0.07	0.09	*C09*
Other oropharynx	11	0.5	2.0	**1.4**	0.13	0.13	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	4	0.2	0.7	**0.5**	0.05	0.05	2	0.1	0.4	**0.3**	0.03	0.03	*C11*
Hypopharynx	16	0.7	2.9	**2.2**	0.13	0.29	5	0.2	0.9	**0.6**	0.05	0.07	*C12-13*
Pharynx unspecified	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	50	2.1	9.1	**6.2**	0.30	0.76	18	0.9	3.2	**1.6**	0.09	0.19	*C15*
Stomach	116	4.8	21.0	**12.4**	0.54	1.44	89	4.4	15.8	**6.4**	0.26	0.62	*C16*
Small intestine	5	0.2	0.9	**0.5**	0.01	0.09	5	0.2	0.9	**0.3**	0.02	0.02	*C17*
Colon	208	8.5	37.7	**22.9**	0.98	2.62	157	7.8	27.8	**12.4**	0.55	1.41	*C18*
Rectum	112	4.6	20.3	**13.8**	0.76	1.67	75	3.7	13.3	**6.3**	0.34	0.73	*C19-20*
Anus	4	0.2	0.7	**0.3**	0.00	0.02	7	0.3	1.2	**0.7**	0.06	0.06	*C21*
Liver	45	1.8	8.2	**5.5**	0.25	0.67	24	1.2	4.3	**2.1**	0.06	0.26	*C22*
Gallbladder etc.	20	0.8	3.6	**2.5**	0.16	0.29	28	1.4	5.0	**2.5**	0.14	0.32	*C23-24*
Pancreas	76	3.1	13.8	**8.1**	0.31	0.98	73	3.6	12.9	**5.2**	0.18	0.59	*C25*
Nose, sinuses etc.	2	0.1	0.4	**0.2**	0.01	0.01	4	0.2	0.7	**0.5**	0.03	0.05	*C30-31*
Larynx	43	1.8	7.8	**5.6**	0.46	0.65	0	0.0	0.0	**0.0**	0.00	0.00	*C32*
Trachea, bronchus and lung	388	15.9	70.3	**47.9**	2.58	6.30	101	5.0	17.9	**9.8**	0.60	1.16	*C33-34*
Other thoracic organs	8	0.3	1.4	**1.0**	0.03	0.11	1	0.0	0.2	**0.1**	0.00	0.02	*C37-38*
Bone	4	0.2	0.7	**0.8**	0.06	0.06	4	0.2	0.7	**0.6**	0.04	0.04	*C40-41*
Melanoma of skin	64	2.6	11.6	**8.3**	0.56	0.87	104	5.2	18.4	**11.8**	0.79	1.20	*C43*
Other skin	671		121.6	**73.9**	3.19	7.98	634		112.3	**53.5**	2.90	5.75	*C44*
Mesothelioma	24	1.0	4.3	**2.8**	0.16	0.38	9	0.4	1.6	**0.6**	0.03	0.05	*C45*
Kaposi sarcoma	3	0.1	0.5	**0.4**	0.02	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	14	0.6	2.5	**1.7**	0.07	0.19	10	0.5	1.8	**1.7**	0.09	0.13	*C47+C49*
Breast	2	0.1	0.4	**0.2**	0.00	0.05	595	29.7	105.4	**67.3**	4.74	7.54	*C50*
Vulva							15	0.7	2.7	**1.3**	0.07	0.11	*C51*
Vagina							4	0.2	0.7	**0.4**	0.01	0.03	*C52*
Cervix uteri							73	3.6	12.9	**9.6**	0.76	0.96	*C53*
Corpus uteri							113	5.6	20.0	**11.8**	0.69	1.61	*C54*
Uterus unspecified							10	0.5	1.8	**0.8**	0.05	0.09	*C55*
Ovary							113	5.6	20.0	**11.2**	0.59	1.45	*C56*
Other female genital organs							4	0.2	0.7	**0.2**	0.00	0.04	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	5	0.2	0.9	**0.4**	0.00	0.03							*C60*
Prostate	517	21.2	93.7	**51.7**	1.18	6.19							*C61*
Testis	45	1.8	8.2	**7.1**	0.55	0.55							*C62*
Other male genital organs	1	0.0	0.2	**0.3**	0.01	0.01							*C63*
Kidney	71	2.9	12.9	**9.0**	0.57	1.06	34	1.7	6.0	**3.5**	0.11	0.37	*C64*
Renal pelvis	6	0.2	1.1	**0.6**	0.02	0.08	2	0.1	0.4	**0.3**	0.01	0.03	*C65*
Ureter	5	0.2	0.9	**0.7**	0.00	0.13	3	0.1	0.5	**0.4**	0.04	0.06	*C66*
Bladder	136	5.6	24.6	**14.5**	0.56	1.69	43	2.1	7.6	**3.9**	0.25	0.47	*C67*
Other urinary organs	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	3	0.1	0.5	**0.3**	0.02	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C69*
Brain, nervous system	43	1.8	7.8	**6.4**	0.37	0.63	29	1.4	5.1	**3.9**	0.22	0.43	*C70-72*
Thyroid	11	0.5	2.0	**1.3**	0.09	0.17	27	1.3	4.8	**3.7**	0.25	0.35	*C73*
Adrenal gland	3	0.1	0.5	**0.4**	0.01	0.06	0	0.0	0.0	**0.0**	0.00	0.00	*C74*
Other endocrine	1	0.0	0.2	**0.3**	0.01	0.01	1	0.0	0.2	**0.1**	0.00	0.02	*C75*
Hodgkin disease	15	0.6	2.7	**2.2**	0.19	0.22	7	0.3	1.2	**1.2**	0.07	0.09	*C81*
Non-Hodgkin lymphoma	76	3.1	13.8	**9.4**	0.46	1.14	75	3.7	13.3	**7.6**	0.36	0.90	*C82-85,C96*
Immunoproliferative diseases	1	0.0	0.2	**0.1**	0.01	0.01	4	0.2	0.7	**0.2**	0.00	0.00	*C88*
Multiple myeloma	42	1.7	7.6	**4.9**	0.35	0.51	22	1.1	3.9	**2.2**	0.13	0.25	*C90*
Lymphoid leukaemia	48	2.0	8.7	**6.4**	0.35	0.69	16	0.8	2.8	**2.1**	0.09	0.15	*C91*
Myeloid leukaemia	25	1.0	4.5	**3.5**	0.22	0.35	22	1.1	3.9	**2.9**	0.18	0.26	*C92-94*
Leukaemia unspecified	1	0.0	0.2	**0.1**	0.00	0.00	2	0.1	0.4	**0.1**	0.00	0.02	*C95*
Other and unspecified	72	3.0	13.0	**7.1**	0.24	0.72	49	2.4	8.7	**3.7**	0.18	0.36	*O&U*
All sites	3108		563.0	**356.8**	16.74	41.12	2636		467.1	**258.2**	15.28	28.65	*ALL*
All sites but C44	2437	100.0	441.5	**282.9**	13.55	33.14	2002	100.0	354.7	**204.6**	12.38	22.90	*ALLbC44*

Switzerland, Neuchâtel

Registration area

The registry, which covers the whole of the canton of Neuchâtel (800 km² with about 165 000 inhabitants), is located in the western part of Switzerland sharing half of its frontier with France. The canton is a mainly rural region with only two cities with approximately 35 000 inhabitants. In the absence of heavy industry, watchmaking and the micro-technical industry are the main activities.

Almost all the population is of Caucasian origin; 45% are Protestant, 36% are Catholic, and foreigners, predominantly of Mediterranean origin, currently account for about 20% of residents. In 1995, the main occupational sectors in the canton of Neuch,tel were: industry 36%, agriculture 5%, and services 59%.

Cancer care facilities

In 1996, the region covered by the registry had around 1200 hospital beds available for diagnosis and treatment (i.e., about seven beds per 1000 population). In the same year there were about 450 practising physicians (one medical doctor per 370 population).

Registry structure and methods

The Cancer Registry of the Swiss French-speaking canton of Neuchâtel, the Registre Neuchâtelois des Tumeurs (RNT), was established in 1972. Costs are shared between the local Public Health department and the League against Cancer, a contribution also being supplied by the Swiss Federal Government. Based on an inter-cantonal collaboration agreement, since 1992 the scientific direction of the RNT has been shared with that of the neighbouring registry of Vaud, although the RNT maintains structural and administrative independence. The first task of this collaboration was to set up and integrate the Neuchâtel data-file in a uniform and structured database, with the support and expertise of the Department of Informatics at the University of Neuchâtel.

The bulk of information is provided by the local Institute of Pathology (INAP) through biopsy, cytology and autopsy reports. Notification is based on voluntary agreement between the recording medical institutions of the canton and the registry. Other sources of information are the departments of oncology and haematology, which also centralize diagnostic and therapeutic procedures for malignant haematological disorders.

Moreover, information on residents diagnosed or treated outside hospital, elsewhere in Switzerland, or in other countries, is provided by the neighbouring cantonal tumour registries of Vaud and Geneva (mostly upper aero-digestive tract, skin and childhood cancer cases) and by general practitioners.

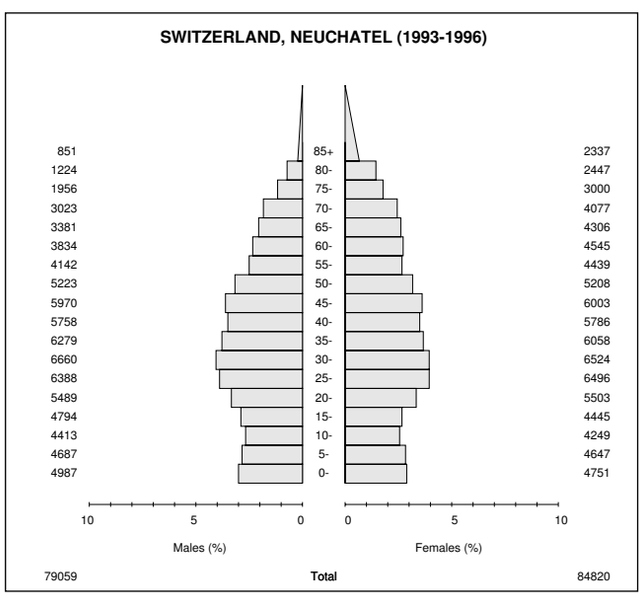
Further information is abstracted and systematically checked by the registry staff from hospital charts. A specificity and strength of the registry is the routine integration of an abstract of the medical record in the registry data-file. All death certificates are checked annually against the registry files. This constitutes a process of passive follow-up, each subsequent item of information being used to complete the record of an already registered case.

All relevant information is manually scrutinized before being interactively introduced into the computer of the Department for Informatics and Statistics of the University of Neuchâtel. Additional more sophisticated automated verifications and analyses are also performed on stored data in batch mode using *ad hoc* programs by the Vaud Cancer Registry on the computer of the University of Lausanne (UNIL).

Use of the data

The registry provides routine statistical annual incidence and mortality data by sex, age and primary site, and data for local planning purposes. It is also engaged in (mostly) descriptive epidemiological studies in collaboration with the Vaud Cancer Registry and the six other Swiss population-based registries which belong to the Swiss Institute for Applied Cancer Research (SIAK).

Among the research opportunities offered by the operating structure within the collaboration agreement with the Registry of the Canton of Vaud is the definition of risk of second neoplasms for patients registered with a defined primary (basal and squamous cell carcinoma of skin and melanoma, and prostate carcinoma).



Source of population

Estimate: Estimates from the Cantonal Office of Statistics; resident populations by sex and five-year age group on December 31st.

Sources: Office fédéral de la statistique (OFS), Berne; Service cantonal de statistique. Annuaires statistiques du canton de Neuchâtel, Neuchâtel, 1993–97.

Notes on the data

† C67 does not include non-invasive tumours.

Note: the Swiss mortality data were not available for the full period and are not published in this volume, although they were used as indicators of completeness in the editorial review.

SWITZERLAND, NEUCHATEL (1993-1996)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	3	0.2	0.9	**0.5**	0.03	0.03	1	0.1	0.3	**0.1**	0.00	0.00	*C00*
Tongue	11	0.7	3.5	**2.5**	0.20	0.29	7	0.5	2.1	**1.1**	0.06	0.09	*C01-02*
Mouth	16	1.1	5.1	**3.5**	0.31	0.39	7	0.5	2.1	**1.3**	0.12	0.12	*C03-06*
Salivary glands	1	0.1	0.3	**0.2**	0.03	0.03	4	0.3	1.2	**0.7**	0.07	0.07	*C07-08*
Tonsil	7	0.5	2.2	**1.7**	0.15	0.19	7	0.5	2.1	**1.5**	0.12	0.14	*C09*
Other oropharynx	6	0.4	1.9	**1.4**	0.14	0.19	1	0.1	0.3	**0.2**	0.03	0.03	*C10*
Nasopharynx	3	0.2	0.9	**0.7**	0.06	0.06	2	0.1	0.6	**0.4**	0.03	0.06	*C11*
Hypopharynx	23	1.5	7.3	**5.4**	0.45	0.63	1	0.1	0.3	**0.2**	0.03	0.03	*C12-13*
Pharynx unspecified	4	0.3	1.3	**0.8**	0.05	0.09	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	41	2.7	13.0	**9.3**	0.79	1.14	21	1.6	6.2	**3.0**	0.21	0.33	*C15*
Stomach	64	4.3	20.2	**11.8**	0.52	1.31	37	2.8	10.9	**4.4**	0.16	0.46	*C16*
Small intestine	7	0.5	2.2	**1.4**	0.09	0.17	5	0.4	1.5	**0.9**	0.08	0.11	*C17*
Colon	117	7.8	37.0	**21.6**	0.79	2.67	120	9.0	35.4	**14.8**	0.76	1.82	*C18*
Rectum	81	5.4	25.6	**14.3**	0.65	1.70	49	3.7	14.4	**7.2**	0.45	0.87	*C19-20*
‡Anus	6	0.4	1.9	**1.3**	0.06	0.22	16	1.2	4.7	**2.2**	0.15	0.24	*C21*
Liver	43	2.9	13.6	**8.6**	0.41	1.08	19	1.4	5.6	**2.1**	0.10	0.22	*C22*
Gallbladder etc.	11	0.7	3.5	**2.0**	0.08	0.19	17	1.3	5.0	**2.2**	0.11	0.29	*C23-24*
Pancreas	40	2.7	12.6	**7.4**	0.25	0.95	39	2.9	11.5	**5.3**	0.28	0.71	*C25*
Nose, sinuses etc.	6	0.4	1.9	**1.3**	0.07	0.15	2	0.1	0.6	**0.3**	0.03	0.03	*C30-31*
Larynx	24	1.6	7.6	**5.1**	0.27	0.66	3	0.2	0.9	**0.3**	0.00	0.06	*C32*
Trachea, bronchus and lung	280	18.6	88.5	**56.9**	3.13	7.57	91	6.8	26.8	**15.8**	0.93	1.91	*C33-34*
Other thoracic organs	0	0.0	0.0	**0.0**	0.00	0.00	1	0.1	0.3	**0.2**	0.03	0.03	*C37-38*
Bone	2	0.1	0.6	**0.6**	0.03	0.03	3	0.2	0.9	**1.1**	0.07	0.07	*C40-41*
Melanoma of skin	60	4.0	19.0	**13.7**	0.81	1.40	55	4.1	16.2	**12.3**	0.96	1.05	*C43*
Other skin	490		154.9	**92.1**	4.29	10.59	498		146.8	**71.2**	4.08	8.06	*C44*
Mesothelioma	4	0.3	1.3	**0.7**	0.05	0.05	1	0.1	0.3	**0.2**	0.03	0.03	*C45*
Kaposi sarcoma	7	0.5	2.2	**1.4**	0.10	0.14	1	0.1	0.3	**0.2**	0.02	0.02	*C46*
Connective and soft tissue	10	0.7	3.2	**2.8**	0.22	0.22	5	0.4	1.5	**1.1**	0.05	0.11	*C47+C49*
Breast	3	0.2	0.9	**0.6**	0.00	0.07	456	34.0	134.4	**80.4**	6.11	9.01	*C50*
Vulva							7	0.5	2.1	**0.6**	0.02	0.02	*C51*
Vagina							2	0.1	0.6	**0.2**	0.00	0.03	*C52*
Cervix uteri							34	2.5	10.0	**6.9**	0.56	0.71	*C53*
Corpus uteri							66	4.9	19.5	**10.2**	0.64	1.27	*C54*
Uterus unspecified							1	0.1	0.3	**0.2**	0.00	0.03	*C55*
Ovary							55	4.1	16.2	**9.5**	0.72	1.02	*C56*
Other female genital organs							2	0.1	0.6	**0.3**	0.02	0.02	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	8	0.5	2.5	**1.5**	0.04	0.25							*C60*
Prostate	288	19.2	91.1	**49.7**	1.35	6.27							*C61*
Testis	24	1.6	7.6	**6.5**	0.47	0.47							*C62*
Other male genital organs	0	0.0	0.0	**0.0**	0.00	0.00							*C63*
Kidney	38	2.5	12.0	**7.4**	0.54	0.78	27	2.0	8.0	**4.1**	0.26	0.44	*C64*
Renal pelvis	5	0.3	1.6	**0.7**	0.00	0.04	5	0.4	1.5	**0.7**	0.02	0.08	*C65*
Ureter	3	0.2	0.9	**0.6**	0.00	0.12	2	0.1	0.6	**0.2**	0.00	0.03	*C66*
†Bladder	87	5.8	27.5	**16.0**	0.70	1.93	22	1.6	6.5	**2.6**	0.12	0.31	*C67*
Other urinary organs	0	0.0	0.0	**0.0**	0.00	0.00	1	0.1	0.3	**0.1**	0.00	0.00	*C68*
Eye	2	0.1	0.6	**0.4**	0.03	0.03	3	0.2	0.9	**0.5**	0.03	0.09	*C69*
Brain, nervous system	18	1.2	5.7	**4.2**	0.21	0.49	18	1.3	5.3	**3.4**	0.17	0.33	*C70-72*
Thyroid	6	0.4	1.9	**1.1**	0.05	0.18	9	0.7	2.7	**1.9**	0.16	0.22	*C73*
Adrenal gland	1	0.1	0.3	**0.6**	0.03	0.03	1	0.1	0.3	**0.6**	0.03	0.03	*C74*
Other endocrine	1	0.1	0.3	**0.1**	0.00	0.00	1	0.1	0.3	**0.2**	0.02	0.02	*C75*
Hodgkin disease	7	0.5	2.2	**1.8**	0.12	0.17	8	0.6	2.4	**2.6**	0.19	0.19	*C81*
Non-Hodgkin lymphoma	68	4.5	21.5	**15.0**	0.76	1.79	29	2.2	8.5	**5.0**	0.34	0.56	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	6	0.4	1.9	**1.1**	0.06	0.14	9	0.7	2.7	**1.0**	0.00	0.15	*C90*
Lymphoid leukaemia	12	0.8	3.8	**4.2**	0.22	0.37	14	1.0	4.1	**3.7**	0.17	0.26	*C91*
Myeloid leukaemia	14	0.9	4.4	**3.0**	0.19	0.27	14	1.0	4.1	**2.5**	0.16	0.28	*C92-94*
Leukaemia unspecified	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C95*
Other and unspecified	35	2.3	11.1	**6.6**	0.33	0.77	39	2.9	11.5	**4.4**	0.25	0.49	*O&U*
All sites	1993		630.2	**390.0**	19.18	46.30	1838		541.7	**292.2**	18.97	32.52	*ALL*
All sites but C44	1503	100.0	475.3	**297.9**	14.88	35.71	1340	100.0	395.0	**220.9**	14.89	24.46	*ALLbC44*

‡33.3% of cases are anorectal tumours

†See note following population pyramid

Switzerland, St Gall-Appenzell

Registration area

The registry covers the three cantons of St Gall, Appenzell AR and Appenzell IR in the northeastern part of Switzerland, a total area of 2430 km^2. It extends between latitudes 46° and 47° N; the lowest point is 396 m and the highest 3247 m above sea level.

The registry covers the entire resident population, amounting to 510 000 in mid-1995. Of this total, 87% belong to the canton of St Gall. Major parts of the area are rural. There is one city with 70 000 inhabitants. Important industries are metal machines and vehicles, and construction, which are relatively broadly distributed over much of the region. In 1997 the per capita income was 86% of the Swiss average in St Gall, 81% in Appenzell AR and 87% in Appenzell IR. Five sixths of the population are Swiss, the others mainly of other European origin.

Cancer care facilities

In 1995 there were 1138 active physicians (1 per 450 inhabitants). About 1750 hospital beds are available in public acute hospitals. The central hospital in the city of St Gall has a special clinic for oncology as well as for radio-oncology, and a public outpatient clinic for cancer patients that takes care of patients referred by general practitioners and other clinics. In addition, there are some five consultant oncologists. For inpatient care patients are usually referred to a hospital within their region. Most cancer patients are treated at the central hospital or in one of the peripheral acute hospitals within the region at least once during their disease. For neoplasms of the central nervous system, patients may be referred to the neighbouring canton of Zürich, and neoplasms of the haematological system are often diagnosed and treated outside hospital. Some people in areas adjacent to the urbanized canton of Zürich seek care there.

Registry structure and methods

The cancer registry was founded by the Regional Cancer League in 1960 at the department of pathology in the central hospital of St Gall. It was hospital-based until 1980, when it became population-based. The sponsoring bodies are the Regional Cancer League and the three cantons covered by the registry, and it is also subsidized by the Federal Government. At present the registry has 3.7 full-time positions. In addition it has access to external data management resources.

Reporting of cancer cases is voluntary. The most important data source is passive collection of reports from the central pathology laboratory. In addition, the registry staff actively collect data in other selected pathology laboratories and in all regional acute hospitals. In the central hospital, the departments of oncology, haematology, radiotherapy, neurosurgery, paediatrics and the geriatric clinic are actively scrutinized. There is a routine exchange of information with cancer registries covering two neighbouring cantons (Zürich and Graubünden). Active case ascertainment has also been organized with consultant oncologists in the region. Finally, all death certificates with a cancer diagnosis are scrutinized, and further information is sought on those patients identified from the certificates, whenever possible. Follow-up, as for survival, is carried out systematically at 5 and 10 years after diagnosis.

Reports are usually checked within a few days after receipt. Names and dates of birth are checked in order to find duplicates. In case of doubt, a physician is asked for advice. Six months after receipt of the first report additional information is sought if necessary by mailed questionnaire or in the case notes of hospitals. Addresses are checked with official population control offices. Cases are finally coded and closed by a physician only about two years after onset.

Several logical checks are automatically made by the computer system. The coding is visually checked on the screen and, after completion of a case, on the case printout. Additional systematic checks on duplicate registrations are done after completion of a registration year. Checks on consistency of site, morphology and age are done through the Association of Swiss Cancer Registries.

Interpretation of the results

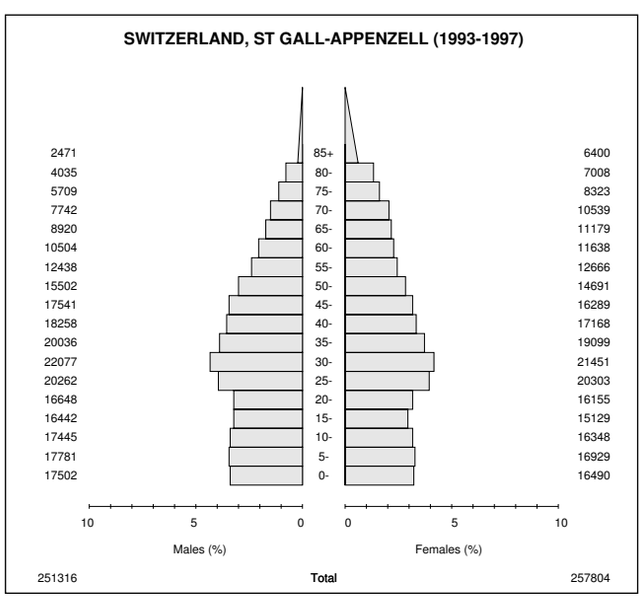
There are no population-based cancer screening programmes in this region. Screening is performed as an individual initiative and seems to be popular and effective for cervical cancer. More than 80% of cervical cancers registered were *in situ* carcinomas. Early detection of breast cancer, on the other hand, could be much improved. Only 4% of breast cancers registered in 50 to 69 year old women during 1993–97 were non-invasive.

Use of the data

The registry regularly prepares routine reports on cancer incidence including five-year periods. Analyses such as time trends of cancer incidence and mortality, survival and stage distribution in selected cancer sites are also carried out. *Ad hoc* analyses are done on request.

The registry's data have been included in joint studies of the Association of Swiss Cancer Registries, e.g., on time trends of incidence of lung cancer, incidence of cancer in childhood, and the risk of cancer by occupation.

The registry takes part in some international studies (ECLIS, case–control study on risk of second tumours after breast cancer – Eurodeucatam).



Source of population

Annual estimates of permanently resident population at mid-year, based on the 1990 census and taking into account births, deaths and migration. Source: Federal Office of Statistics, Switzerland.

Note: the Swiss mortality data were not available for the full period and are not published in this volume, although they were used as indicators of completeness in the editorial review.

SWITZERLAND, ST GALL-APPENZELL (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	29	0.6	2.3	**1.6**	0.10	0.15	7	0.2	0.5	**0.4**	0.02	0.03	*C00*
Tongue	30	0.6	2.4	**1.9**	0.13	0.22	11	0.2	0.9	**0.7**	0.06	0.07	*C01-02*
Mouth	29	0.6	2.3	**1.8**	0.12	0.25	11	0.2	0.9	**0.5**	0.04	0.06	*C03-06*
Salivary glands	16	0.3	1.3	**0.8**	0.01	0.11	6	0.1	0.5	**0.4**	0.03	0.03	*C07-08*
Tonsil	26	0.5	2.1	**1.7**	0.16	0.20	2	0.0	0.2	**0.1**	0.01	0.02	*C09*
Other oropharynx	23	0.4	1.8	**1.4**	0.10	0.15	4	0.1	0.3	**0.2**	0.01	0.04	*C10*
Nasopharynx	7	0.1	0.6	**0.5**	0.04	0.05	1	0.0	0.1	**0.0**	0.00	0.01	*C11*
Hypopharynx	25	0.5	2.0	**1.5**	0.09	0.17	4	0.1	0.3	**0.2**	0.02	0.02	*C12-13*
Pharynx unspecified	9	0.2	0.7	**0.5**	0.04	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	81	1.6	6.4	**4.6**	0.30	0.59	15	0.3	1.2	**0.6**	0.04	0.06	*C15*
Stomach	221	4.3	17.6	**11.7**	0.67	1.33	126	2.8	9.8	**4.7**	0.25	0.58	*C16*
Small intestine	18	0.3	1.4	**0.9**	0.02	0.12	12	0.3	0.9	**0.6**	0.05	0.08	*C17*
Colon	390	7.5	31.0	**19.7**	0.89	2.23	328	7.2	25.4	**12.1**	0.56	1.48	*C18*
Rectum	280	5.4	22.3	**14.9**	0.83	1.82	180	4.0	14.0	**7.6**	0.47	0.91	*C19-20*
‡Anus	5	0.1	0.4	**0.3**	0.01	0.04	20	0.4	1.6	**1.0**	0.07	0.10	*C21*
Liver	89	1.7	7.1	**5.2**	0.34	0.63	38	0.8	2.9	**1.3**	0.06	0.14	*C22*
Gallbladder etc.	41	0.8	3.3	**2.1**	0.08	0.26	101	2.2	7.8	**3.0**	0.07	0.32	*C23-24*
Pancreas	144	2.8	11.5	**7.3**	0.31	0.80	162	3.6	12.6	**5.4**	0.19	0.66	*C25*
Nose, sinuses etc.	8	0.2	0.6	**0.5**	0.02	0.05	8	0.2	0.6	**0.5**	0.03	0.04	*C30-31*
Larynx	62	1.2	4.9	**3.6**	0.23	0.40	13	0.3	1.0	**0.7**	0.07	0.08	*C32*
Trachea, bronchus and lung	740	14.3	58.9	**40.7**	2.07	5.28	213	4.7	16.5	**10.3**	0.69	1.30	*C33-34*
Other thoracic organs	6	0.1	0.5	**0.3**	0.02	0.05	3	0.1	0.2	**0.3**	0.02	0.02	*C37-38*
Bone	11	0.2	0.9	**0.8**	0.05	0.07	8	0.2	0.6	**0.5**	0.03	0.05	*C40-41*
Melanoma of skin	215	4.1	17.1	**12.7**	0.85	1.40	197	4.3	15.3	**10.0**	0.73	1.04	*C43*
Other skin	1769		140.8	**88.1**	3.90	9.59	1543		119.7	**60.4**	3.24	6.64	*C44*
Mesothelioma	38	0.7	3.0	**2.2**	0.13	0.27	8	0.2	0.6	**0.2**	0.01	0.02	*C45*
Kaposi sarcoma	8	0.2	0.6	**0.5**	0.04	0.04	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	40	0.8	3.2	**2.4**	0.16	0.21	40	0.9	3.1	**2.0**	0.12	0.21	*C47+C49*
Breast	10	0.2	0.8	**0.5**	0.03	0.04	1258	27.7	97.6	**60.9**	4.29	6.77	*C50*
Vulva							41	0.9	3.2	**1.4**	0.06	0.10	*C51*
Vagina							16	0.4	1.2	**0.7**	0.03	0.07	*C52*
Cervix uteri							155	3.4	12.0	**8.9**	0.66	0.87	*C53*
Corpus uteri							281	6.2	21.8	**13.5**	0.88	1.73	*C54*
Uterus unspecified							14	0.3	1.1	**0.3**	0.01	0.02	*C55*
Ovary							322	7.1	25.0	**16.3**	1.18	1.78	*C56*
Other female genital organs							18	0.4	1.4	**0.8**	0.04	0.09	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	17	0.3	1.4	**1.0**	0.05	0.12							*C60*
Prostate	1286	24.8	102.3	**59.9**	1.47	6.99							*C61*
Testis	138	2.7	11.0	**9.5**	0.72	0.72							*C62*
Other male genital organs	1	0.0	0.1	**0.0**	0.00	0.00							*C63*
Kidney	153	2.9	12.2	**9.2**	0.59	1.16	83	1.8	6.4	**4.2**	0.25	0.42	*C64*
Renal pelvis	18	0.3	1.4	**1.1**	0.08	0.17	11	0.2	0.9	**0.4**	0.02	0.04	*C65*
Ureter	9	0.2	0.7	**0.5**	0.02	0.08	4	0.1	0.3	**0.1**	0.00	0.00	*C66*
Bladder	233	4.5	18.5	**11.5**	0.41	1.33	77	1.7	6.0	**2.5**	0.12	0.26	*C67*
Other urinary organs	3	0.1	0.2	**0.1**	0.00	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C68*
Eye	13	0.3	1.0	**0.9**	0.04	0.07	5	0.1	0.4	**0.3**	0.03	0.03	*C69*
Brain, nervous system	95	1.8	7.6	**6.2**	0.40	0.58	65	1.4	5.0	**4.0**	0.25	0.44	*C70-72*
Thyroid	35	0.7	2.8	**2.1**	0.13	0.20	109	2.4	8.5	**6.2**	0.46	0.62	*C73*
Adrenal gland	1	0.0	0.1	**0.1**	0.01	0.01	4	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	2	0.0	0.2	**0.2**	0.01	0.01	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	31	0.6	2.5	**2.3**	0.16	0.18	37	0.8	2.9	**2.6**	0.17	0.20	*C81*
Non-Hodgkin lymphoma	176	3.4	14.0	**9.9**	0.58	1.02	178	3.9	13.8	**8.0**	0.46	0.89	*C82-85,C96*
Immunoproliferative diseases	5	0.1	0.4	**0.2**	0.01	0.02	1	0.0	0.1	**0.1**	0.00	0.01	*C88*
Multiple myeloma	79	1.5	6.3	**4.2**	0.23	0.46	74	1.6	5.7	**3.0**	0.13	0.36	*C90*
Lymphoid leukaemia	73	1.4	5.8	**4.7**	0.25	0.42	57	1.3	4.4	**2.9**	0.15	0.25	*C91*
Myeloid leukaemia	57	1.1	4.5	**3.0**	0.17	0.28	49	1.1	3.8	**2.3**	0.14	0.20	*C92-94*
Leukaemia unspecified	4	0.1	0.3	**0.1**	0.00	0.01	4	0.1	0.3	**0.3**	0.01	0.01	*C95*
Other and unspecified	162	3.1	12.9	**8.4**	0.37	0.87	163	3.6	12.6	**5.5**	0.22	0.61	*O&U*
All sites	6961		554.0	**365.7**	17.42	41.30	6087		472.2	**269.0**	16.45	29.81	*ALL*
All sites but C44	5192	100.0	413.2	**277.6**	13.53	31.71	4544	100.0	352.5	**208.6**	13.21	23.17	*ALLbC44*

‡80.0% of cases are anorectal tumours

Switzerland, Ticino

Registration area

The Canton of Ticino is situated at the southern extremity of Switzerland. It has a total area of 2812 km^2 and is bordered on the north by the Canton of Uri, on the east by the Canton of Graubünden and Italy and on the south and west by Italy. The highest point is 3402 m and the lowest 194m above sea level. The climate is temperate, with average temperatures ranging between 4.0° C in January and 21.8° C in August; the annual rainfall amounts to 1564 mm (1997). The quality of the air has been measured in Ticino since 1990: the annual average pollutant concentrations observed are 13 µg/m^3 for SO2, 44 µg/m^3 for NO_2 and 218 µg/m^3 for O_3 (city of Lugano, 1996).

In 1997, 19.6% of the population were younger than 20 years and 16.8% were aged 65 or more. The age composition reflects the immigration of individuals of working age. 73% of the population are Swiss citizens and 27% are foreigners, mainly from Italy and ex-Yugoslavia. The majority of the population is Christian, with 84% Roman Catholics. The official language is Italian. Employment distribution is: 1.7% in agriculture and forestry, 24.8% in industry and 71.8% in the service sector (1990 census).

Cancer care facilities

In 1997, there were five public regional hospitals and four district hospitals, for a total of 1042 beds and 695 physicians (hospital-based and private practitioners) in the canton.

The Cancer Registry of Ticino was founded in 1995 by the local government. Collection of population-based data began in 1996. The Cantone Ticino provides most of the budget; additional funds are obtained from the Federal Ministry of Health, through the Swiss Association of Cancer Registries.

It is located in the Cantonal Institute of Pathology. A physician and a data manager are responsible for active collection and coding of data. Reporting of cancer cases is done on a voluntary basis. About 80% of cases are reported by the Cantonal Institute of Pathology and Cytology. Additional cases come from the main hospitals, the radiotherapy and oncology centres, the haematology laboratory, oncologists, general practitioners and from the Cancer Registries of Geneva, Vaud, Basel, Zürich and St Gall (mostly skin cancer). Autopsies are performed on 5% of all deaths. Death certificates with a diagnosis of cancer are scrutinized and additional information is found by mailing a questionnaire to the physician or by looking at the hospital chart. Online checking of the inhabitants of the canton is performed on the terminal of the Cantonal Population Registry office.

Information collected includes date of symptom onset and stage (TNM and pTNM, Breslow and Clark for skin tumours, diameter in mm and axillary nodes for breast cancer).

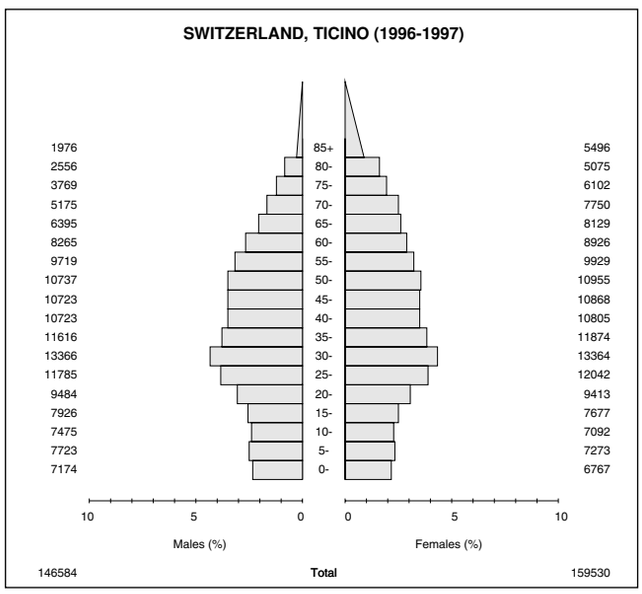
All information is manually checked and coded by the registry staff before entry into the computer. The computers run a preliminary validity test upon entry of the data and a second check is performed daily by the staff. Over 200 consistency checks are performed monthly, in addition to the IARC-Check program.

Interpretation of the data

There are no population-based screening programmes in the Canton of Ticino. Spontaneous screening is well accepted by the population, for both breast and cervical cancer.

Use of the data

It is planned to undertake active follow-up of selected tumours within the context of the EUROCARE European project on survival.



Source of population

1990 Census. Censimento federale della popolazione svizzera, Popolazione residente secondo il sesso e l'età Annuario statistico ticinese, Ufficio cantonale di statistica, 1997, pp. 40–41. 1996–97 estimates: Popolazione permanente per seso e per età, Annuario statistico ticinese, Ufficio cantonale di statistica, 1997, pp. 50–51 (method based on official numbers of births, deaths and migration).

Notes on the data

* The data are from the first years of registration and may include prevalent cases.

† C44 does not include basal cell carcinomas.

Note: the Swiss mortality data were not available for the full period and are not published in this volume, although they were used as indicators of completeness in the editorial review.

*SWITZERLAND, TICINO (1996-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	2	0.1	0.7	**0.4**	0.00	0.04	1	0.1	0.3	**0.2**	0.00	0.03	*C00*
Tongue	12	0.8	4.1	**2.6**	0.26	0.31	3	0.2	0.9	**0.5**	0.02	0.05	*C01-02*
Mouth	16	1.1	5.5	**3.6**	0.28	0.42	2	0.1	0.6	**0.3**	0.02	0.02	*C03-06*
Salivary glands	2	0.1	0.7	**0.3**	0.03	0.03	4	0.3	1.3	**0.7**	0.05	0.08	*C07-08*
Tonsil	9	0.6	3.1	**1.7**	0.12	0.21	0	0.0	0.0	**0.0**	0.00	0.00	*C09*
Other oropharynx	6	0.4	2.0	**1.4**	0.07	0.16	0	0.0	0.0	**0.0**	0.00	0.00	*C10*
Nasopharynx	1	0.1	0.3	**0.2**	0.00	0.04	1	0.1	0.3	**0.0**	0.00	0.00	*C11*
Hypopharynx	11	0.8	3.8	**2.5**	0.25	0.29	0	0.0	0.0	**0.0**	0.00	0.00	*C12-13*
Pharynx unspecified	3	0.2	1.0	**0.7**	0.05	0.09	0	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	41	2.9	14.0	**8.4**	0.50	1.00	7	0.5	2.2	**0.8**	0.05	0.12	*C15*
Stomach	78	5.5	26.6	**14.4**	0.76	1.69	58	4.3	18.2	**6.5**	0.25	0.82	*C16*
Small intestine	4	0.3	1.4	**0.9**	0.00	0.17	8	0.6	2.5	**1.5**	0.11	0.23	*C17*
Colon	129	9.0	44.0	**23.1**	0.90	2.63	117	8.7	36.7	**15.0**	0.69	1.73	*C18*
Rectum	56	3.9	19.1	**10.7**	0.54	1.44	50	3.7	15.7	**7.5**	0.43	1.09	*C19-20*
Anus	1	0.1	0.3	**0.1**	0.00	0.00	10	0.7	3.1	**1.2**	0.07	0.10	*C21*
Liver	59	4.1	20.1	**12.5**	0.62	1.66	11	0.8	3.4	**1.4**	0.10	0.14	*C22*
Gallbladder etc.	14	1.0	4.8	**2.8**	0.21	0.35	13	1.0	4.1	**1.9**	0.10	0.26	*C23-24*
Pancreas	39	2.7	13.3	**8.2**	0.47	0.98	39	2.9	12.2	**5.2**	0.29	0.67	*C25*
Nose, sinuses etc.	3	0.2	1.0	**0.7**	0.00	0.13	1	0.1	0.3	**0.2**	0.02	0.02	*C30-31*
Larynx	35	2.5	11.9	**7.5**	0.58	1.02	6	0.4	1.9	**1.2**	0.07	0.16	*C32*
Trachea, bronchus and lung	229	16.0	78.1	**46.5**	2.09	6.67	72	5.3	22.6	**12.6**	0.79	1.65	*C33-34*
Other thoracic organs	2	0.1	0.7	**0.4**	0.03	0.06	3	0.2	0.9	**0.3**	0.00	0.03	*C37-38*
Bone	3	0.2	1.0	**0.9**	0.03	0.07	2	0.1	0.6	**0.3**	0.03	0.03	*C40-41*
Melanoma of skin	56	3.9	19.1	**12.1**	0.80	1.21	51	3.8	16.0	**10.7**	0.71	1.02	*C43*
†Other skin	276		94.1	**51.7**	2.34	5.73	233		73.0	**32.0**	1.76	3.53	*C44*
Mesothelioma	7	0.5	2.4	**1.5**	0.13	0.13	5	0.4	1.6	**0.6**	0.00	0.06	*C45*
Kaposi sarcoma	10	0.7	3.4	**2.3**	0.14	0.27	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	8	0.6	2.7	**1.5**	0.04	0.12	6	0.4	1.9	**1.7**	0.11	0.14	*C47+C49*
Breast	4	0.3	1.4	**0.7**	0.03	0.12	407	30.1	127.6	**72.3**	5.35	8.09	*C50*
Vulva							13	1.0	4.1	**1.7**	0.13	0.16	*C51*
Vagina							1	0.1	0.3	**0.2**	0.02	0.02	*C52*
Cervix uteri							32	2.4	10.0	**6.4**	0.51	0.67	*C53*
Corpus uteri							63	4.7	19.7	**10.4**	0.84	1.22	*C54*
Uterus unspecified							19	1.4	6.0	**2.6**	0.18	0.24	*C55*
Ovary							67	5.0	21.0	**12.2**	0.77	1.30	*C56*
Other female genital organs							7	0.5	2.2	**1.2**	0.07	0.14	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	4	0.3	1.4	**0.8**	0.05	0.05							*C60*
Prostate	221	15.5	75.4	**37.1**	0.87	4.32							*C61*
Testis	24	1.7	8.2	**6.9**	0.51	0.56							*C62*
Other male genital organs	1	0.1	0.3	**0.1**	0.00	0.00							*C63*
Kidney	38	2.7	13.0	**8.1**	0.48	0.89	24	1.8	7.5	**3.4**	0.17	0.40	*C64*
Renal pelvis	1	0.1	0.3	**0.2**	0.03	0.03	0	0.0	0.0	**0.0**	0.00	0.00	*C65*
Ureter	4	0.3	1.4	**0.9**	0.09	0.13	0	0.0	0.0	**0.0**	0.00	0.00	*C66*
Bladder	89	6.2	30.4	**15.9**	0.36	2.01	23	1.7	7.2	**3.3**	0.13	0.48	*C67*
Other urinary organs	2	0.1	0.7	**0.4**	0.02	0.02	1	0.1	0.3	**0.2**	0.00	0.03	*C68*
Eye	4	0.3	1.4	**2.1**	0.12	0.12	2	0.1	0.6	**1.0**	0.04	0.07	*C69*
Brain, nervous system	15	1.1	5.1	**3.7**	0.32	0.40	21	1.6	6.6	**5.9**	0.46	0.52	*C70-72*
Thyroid	8	0.6	2.7	**1.7**	0.09	0.23	26	1.9	8.1	**4.9**	0.33	0.55	*C73*
Adrenal gland	3	0.2	1.0	**0.7**	0.05	0.09	1	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	1	0.1	0.3	**0.6**	0.03	0.03	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	9	0.6	3.1	**2.4**	0.15	0.15	9	0.7	2.8	**3.0**	0.19	0.19	*C81*
Non-Hodgkin lymphoma	76	5.3	25.9	**16.3**	1.05	1.95	77	5.7	24.1	**12.9**	0.81	1.37	*C82-85,C96*
Immunoproliferative diseases	1	0.1	0.3	**0.1**	0.00	0.00	2	0.1	0.6	**0.2**	0.00	0.03	*C88*
Multiple myeloma	16	1.1	5.5	**3.3**	0.18	0.44	23	1.7	7.2	**2.5**	0.05	0.24	*C90*
Lymphoid leukaemia	11	0.8	3.8	**2.7**	0.13	0.35	9	0.7	2.8	**1.7**	0.10	0.19	*C91*
Myeloid leukaemia	17	1.2	5.8	**3.3**	0.21	0.32	14	1.0	4.4	**2.1**	0.10	0.29	*C92-94*
Leukaemia unspecified	1	0.1	0.3	**0.2**	0.03	0.03	3	0.2	0.9	**0.6**	0.05	0.08	*C95*
Other and unspecified	42	2.9	14.3	**7.4**	0.24	0.83	36	2.7	11.3	**3.5**	0.17	0.34	*O&U*
All sites	1704		581.2	**335.0**	16.26	40.00	1583		496.1	**254.7**	16.15	28.62	*ALL*
All sites but C44	1428	100.0	487.1	**283.3**	13.92	34.27	1350	100.0	423.1	**222.7**	14.39	25.09	*ALLbC44*

†See note following population pyramid

Switzerland, Valais

Registration area

The canton of Valais covers an area of 5225 km , with a population of 273 000 at the end of 1997. 36% of the population is urban, the majority living in a rural area or in the mountainous region of the Alpine range. The Valais Alps, a non-productive area, account for 53.6% of the land surface. The climate is drier and sunnier than in the rest of northern Switzerland. The German-speaking Haut Valais, 29.5% of the canton, is distinguished from French-speaking Valais Central and Bas Valais not only by language but also by culture.

The population is largely of Caucasian origin, the majority are Roman Catholics (88.5%). 16.6% of the population are of foreign origin, principally Italian and Iberian (i.e., Spanish and Portuguese). The structure is that of an ageing population, although the age-groups 0–19 and 20–39 are proportionately greater than the Swiss average. One of the features of this population is its great stability, the genetic structure being more homogeneous than is general in the country – a fact demonstrated by the studies on genetic predisposition to colorectal cancer.

63.8% of the economically active population works in the services and tourism sector, 32.7% in industry (construction, chemical, metallurgical, wood) and 3.5% in agriculture. Valais is an important producer of wine, fruit and vegetables. From the viewpoint of potential occupational risk factors, there are three industrial centres, each with more than 1000 employees, producing plastics, colorants, agrochemical products, aluminium (exposure to fluor and asbestos), solvents and products derived from cyanide.

Cancer care facilities

There are 17 physicians per 10 000 inhabitants. The health system centres around six public hospitals, a specialist respiratory centre and one private clinic, a total of 997 beds, excluding several geriatric and chronic care institutions. There is no specialized oncological service, but five oncological specialists consult in the public hospitals and in private. They supervise chemotherapeutic treatments and coordinate treatment in collaboration with a centralized radiotherapy service, directed by two specialists. Some cases require additional facilities and are treated in university centres such as Lausanne, Geneva, Berne, Zürich or Basel.

Registry structure and methods

The registry is attached administratively to the pathology department of the canton, situated in the capital Sion. The registry is located there and shares the computer network of the Central Institute of Valais Hospitals. The registry is largely financed by the State of Valais; the Swiss Confederation contributes 10–15% of the budget.

The staff consist of a medical director, who is also in charge of the pathology department, a consultant epidemiologist (10% of one post), a physician responsible for registration (80% of one post) and two part-time secretaries.

The principal source is the pathology department, which transmits copies of histological or cytological reports concerning cancer to the registry and notifies 80% of the cases registered. Other sources comprise registries situated in the university centres of other cantons, the medical records of the hospitals (notifications are made on the basis of computerized lists of hospitalization with diagnoses coded to the ICD), oncological specialists who send a copy of their consultation reports, and a computerized listing of deaths.

Notification is essentially passive, but a questionnaire is sent to the treating physician for the majority of registered cases, and demographic data are verified through the municipalities, again by questionnaire.

Access to death certificates is authorized for DCN cases through a contract with the Federal Office of Statistics, Neuchâtel, so guaranteeing confidentiality.

Notification of cancer is voluntary. Physicians are authorized to transmit data if their patient has not specifically refused such communication, which had never happened by the end of 1997. An expert Commission on professional secrecy and medical research gave an authorization in 1995 which regulated for medical confidentiality throughout the process of data collection, storage and processing of data.

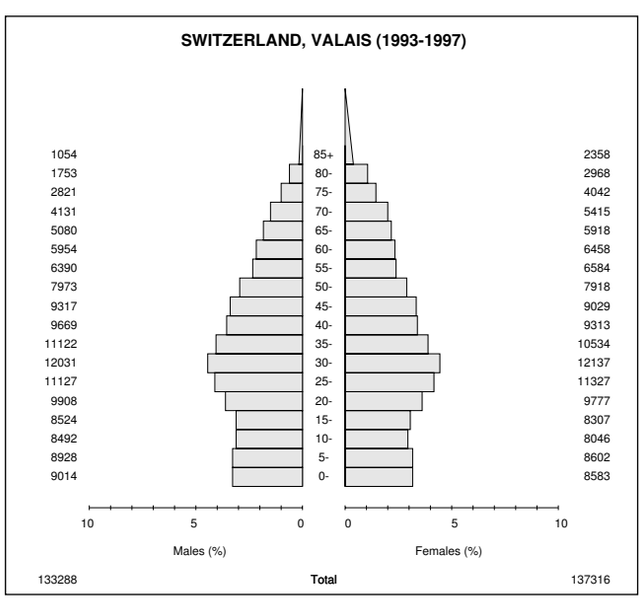
The data are validated by different programs, including IARC-Check. Quality control of data notified electronically is carried out by the suppliers.

Interpreting the results

Most demographic factors have remained stable, but immigration increased rapidly from 1993 due to economic recession. The population movement diminished from 1995.

Use of the data

The incidence data are used to inform the public health planners about cancer in the population. The results of the first five years of registration have permitted the recommendation of appropriate measures for cancer control in this population. A study of survival between 1989 and 1993 is in progress. The registry serves as a source of three studies on familial cancers of the digestive system, breast and prostate. It will also participate in the evaluation of a breast cancer screening programme for women aged 50–70, which started in autumn 1999.



Source of population

1990 census. Eidgenössische Volkszählung 1990. Bundesamt für Statistik, Schweiz. 1993–97 Projection based on the 1990 census. Kantonale Bevölkerungs-Fortschreibung Statistische Amter, Kanton Basel-Stadt, Kanton Basel-Landschaft.

Notes on the data

† C67 does not include non-invasive tumours.

Note: the Swiss mortality data were not available for the full period and are not published in this volume, although they were used as indicators of completeness in the editorial review.

SWITZERLAND, VALAIS (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	10	0.3	1.5	**1.1**	0.07	0.11	6	0.3	0.9	**0.4**	0.00	0.05	*C00*
Tongue	28	0.9	4.2	**3.3**	0.28	0.34	10	0.4	1.5	**0.7**	0.04	0.07	*C01-02*
Mouth	31	1.0	4.7	**3.8**	0.33	0.45	12	0.5	1.7	**1.1**	0.10	0.14	*C03-06*
Salivary glands	6	0.2	0.9	**0.7**	0.05	0.07	3	0.1	0.4	**0.2**	0.02	0.03	*C07-08*
Tonsil	28	0.9	4.2	**3.4**	0.29	0.42	5	0.2	0.7	**0.5**	0.04	0.08	*C09*
Other oropharynx	23	0.8	3.5	**2.7**	0.21	0.31	2	0.1	0.3	**0.3**	0.03	0.03	*C10*
Nasopharynx	5	0.2	0.8	**0.6**	0.03	0.07	2	0.1	0.3	**0.2**	0.01	0.03	*C11*
Hypopharynx	44	1.5	6.6	**5.0**	0.39	0.57	3	0.1	0.4	**0.4**	0.04	0.04	*C12-13*
Pharynx unspecified	2	0.1	0.3	**0.2**	0.01	0.01	2	0.1	0.3	**0.1**	0.00	0.02	*C14*
Oesophagus	77	2.6	11.6	**8.5**	0.57	0.95	19	0.8	2.8	**1.7**	0.11	0.16	*C15*
Stomach	147	5.0	22.1	**14.7**	0.68	1.64	95	4.1	13.8	**6.2**	0.20	0.53	*C16*
Small intestine	14	0.5	2.1	**1.6**	0.13	0.17	6	0.3	0.9	**0.7**	0.06	0.07	*C17*
Colon	230	7.8	34.5	**23.4**	1.02	2.82	172	7.4	25.1	**13.0**	0.60	1.35	*C18*
Rectum	104	3.5	15.6	**10.7**	0.44	1.25	68	2.9	9.9	**5.8**	0.31	0.72	*C19-20*
‡Anus	2	0.1	0.3	**0.2**	0.00	0.02	6	0.3	0.9	**0.7**	0.07	0.07	*C21*
Liver	135	4.6	20.3	**14.7**	0.79	2.06	24	1.0	3.5	**1.8**	0.04	0.23	*C22*
Gallbladder etc.	21	0.7	3.2	**2.2**	0.11	0.26	27	1.2	3.9	**1.6**	0.04	0.17	*C23-24*
Pancreas	72	2.4	10.8	**7.2**	0.30	0.87	70	3.0	10.2	**5.5**	0.30	0.60	*C25*
Nose, sinuses etc.	8	0.3	1.2	**0.9**	0.05	0.12	1	0.0	0.1	**0.1**	0.01	0.01	*C30-31*
Larynx	55	1.9	8.3	**6.2**	0.42	0.80	12	0.5	1.7	**1.2**	0.09	0.13	*C32*
Trachea, bronchus and lung	432	14.6	64.8	**46.8**	2.67	6.21	130	5.6	18.9	**12.8**	0.89	1.53	*C33-34*
Other thoracic organs	5	0.2	0.8	**0.6**	0.05	0.07	1	0.0	0.1	**0.2**	0.01	0.01	*C37-38*
Bone	6	0.2	0.9	**0.8**	0.04	0.09	5	0.2	0.7	**0.8**	0.04	0.05	*C40-41*
Melanoma of skin	79	2.7	11.9	**9.1**	0.63	0.89	97	4.2	14.1	**9.9**	0.68	0.96	*C43*
Other skin	764		114.6	**79.2**	3.86	9.58	708		103.1	**59.6**	3.40	6.79	*C44*
Mesothelioma	12	0.4	1.8	**1.2**	0.05	0.14	4	0.2	0.6	**0.4**	0.03	0.04	*C45*
Kaposi sarcoma	8	0.3	1.2	**1.0**	0.08	0.08	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	24	0.8	3.6	**3.0**	0.16	0.34	18	0.8	2.6	**1.9**	0.13	0.20	*C47+C49*
Breast	14	0.5	2.1	**1.6**	0.13	0.20	751	32.3	109.4	**77.1**	6.00	8.44	*C50*
Vulva							12	0.5	1.7	**0.9**	0.06	0.12	*C51*
Vagina							3	0.1	0.4	**0.3**	0.03	0.05	*C52*
Cervix uteri							45	1.9	6.6	**4.9**	0.32	0.49	*C53*
Corpus uteri							128	5.5	18.6	**12.1**	0.86	1.45	*C54*
Uterus unspecified							2	0.1	0.3	**0.1**	0.00	0.00	*C55*
Ovary							117	5.0	17.0	**11.6**	0.87	1.35	*C56*
Other female genital organs							3	0.1	0.4	**0.3**	0.02	0.03	*C57*
Placenta							0	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	4	0.1	0.6	**0.4**	0.02	0.02							*C60*
Prostate	634	21.4	95.1	**61.8**	1.85	7.98							*C61*
Testis	58	2.0	8.7	**7.4**	0.56	0.56							*C62*
Other male genital organs	1	0.0	0.2	**0.1**	0.00	0.00							*C63*
Kidney	78	2.6	11.7	**8.5**	0.56	1.09	62	2.7	9.0	**5.9**	0.36	0.66	*C64*
Renal pelvis	9	0.3	1.4	**1.0**	0.08	0.15	5	0.2	0.7	**0.4**	0.02	0.05	*C65*
Ureter	1	0.0	0.2	**0.1**	0.02	0.02	1	0.0	0.1	**0.1**	0.02	0.02	*C66*
†Bladder	155	5.2	23.3	**15.9**	0.65	2.14	37	1.6	5.4	**2.8**	0.12	0.35	*C67*
Other urinary organs	0	0.0	0.0	**0.0**	0.00	0.00	2	0.1	0.3	**0.2**	0.02	0.02	*C68*
Eye	5	0.2	0.8	**0.6**	0.03	0.09	3	0.1	0.4	**0.4**	0.03	0.03	*C69*
Brain, nervous system	48	1.6	7.2	**6.5**	0.45	0.65	31	1.3	4.5	**3.4**	0.19	0.37	*C70-72*
Thyroid	15	0.5	2.3	**1.8**	0.16	0.25	48	2.1	7.0	**5.3**	0.42	0.48	*C73*
Adrenal gland	2	0.1	0.3	**0.4**	0.01	0.03	1	0.0	0.1	**0.1**	0.01	0.01	*C74*
Other endocrine	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	29	1.0	4.4	**4.2**	0.27	0.30	19	0.8	2.8	**2.7**	0.17	0.23	*C81*
Non-Hodgkin lymphoma	90	3.0	13.5	**10.2**	0.71	1.09	67	2.9	9.8	**6.4**	0.41	0.73	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	28	0.9	4.2	**3.0**	0.15	0.39	36	1.5	5.2	**2.7**	0.17	0.29	*C90*
Lymphoid leukaemia	42	1.4	6.3	**4.9**	0.23	0.49	26	1.1	3.8	**3.0**	0.20	0.27	*C91*
Myeloid leukaemia	43	1.5	6.5	**5.0**	0.32	0.54	24	1.0	3.5	**2.1**	0.14	0.19	*C92-94*
Leukaemia unspecified	2	0.1	0.3	**0.1**	0.00	0.00	2	0.1	0.3	**0.1**	0.00	0.02	*C95*
Other and unspecified	91	3.1	13.7	**9.2**	0.35	1.16	100	4.3	14.6	**6.4**	0.17	0.60	*O&U*
All sites	3721		558.3	**395.7**	20.23	47.85	3033		441.8	**277.1**	17.90	30.37	*ALL*
All sites but C44	2957	100.0	443.7	**316.4**	16.36	38.27	2325	100.0	338.6	**217.4**	14.49	23.58	*ALLbC44*

‡100.0% of cases are anorectal tumours

†See note following population pyramid

Switzerland, Vaud

Registration area

The registry covers the canton of Vaud, which, is the fourth largest of the 26 cantons in the Swiss Confederation (surface area 3212 km^2), and third in number of inhabitants (about 602 000 in 1995). It is situated between latitude 46° and 46° N, and longitude 7° and 6° E. The density of population (188 per km^2) slightly exceeds the mean for the whole country. In 1995, foreigners accounted for about 25% of residents. Since 1974 the number of resident workers has remained stable. In 1995, the main occupations were industry 23%, agriculture and fishing 4%, and services 73%.

In December 1995, only 22% of the Vaud population was 0–19 years old, while 18% was aged 65 years and older. Although the capital Lausanne and its suburbs represent only 4% (115 km^2) of the whole canton in area, about a third of the total population resides there.

Cancer care facilities

In 1995, about 3800 public and private hospital beds (about six hospital beds per 1000 population) were available for diagnosis and treatment. In the same year there were about 2700 hospital medical doctors and private practitioners (one medical doctor per 220 population). The health care system is insurance-based, but practically the whole of the population enjoys access to medical care.

Registry structure and methods

The Registre Vaudois des Tumeurs (RVT) began in January 1972 and population-based data have been available since 1974. The registry is a constituent part of the Cancer Epidemiology Unit at the Social and Preventive Medicine Institute (IUMSP), University of Lausanne. The majority of the financial support for its basic activities comes from the Public Health Department of the Canton of Vaud and from the Swiss Federal Government. Additional *ad hoc* funds are supplied by the Swiss and Vaud Cancer Leagues and the Swiss Research Foundation (FNSRS), which support several studies in the fields of descriptive and analytical epidemiology.

In addition to the director, the staff comprises one part-time medical associate, one part-time computer programmer, and 3.5 clerks. The director is also in charge of the administrative and scientific supervision of the cantonal Registry of Neuchâtel.

Notification is based on a voluntary agreement between the recording medical institutions of the canton and the registry. All hospitals, pathology laboratories and most practitioners are asked to report all new or past cases of cancer. The main sources are the cantonal University Pathology Department of Lausanne and three other major private pathology laboratories which perform the majority of the histological examinations for the population covered by the registry. Most cases are registered repeatedly and from different institutions, thus ensuring completeness and accuracy of notification. Cancer cases are listed alphabetically according to a chronological registration numerical index.

All relevant information is checked manually by the registry staff and subsequently coded before being interactively introduced into the computer of the University Hospital of Lausanne (CHUV). A first series of automatic checks on data is run whenever new information or modifications are added. For the incidence period 1993–97, the Data Processing Centre at the CHUV assisted in incidence file management and hospital data inclusion. Data are transferred to the computer of the University of Lausanne (UNIL) where more specialized checks and analyses are performed.

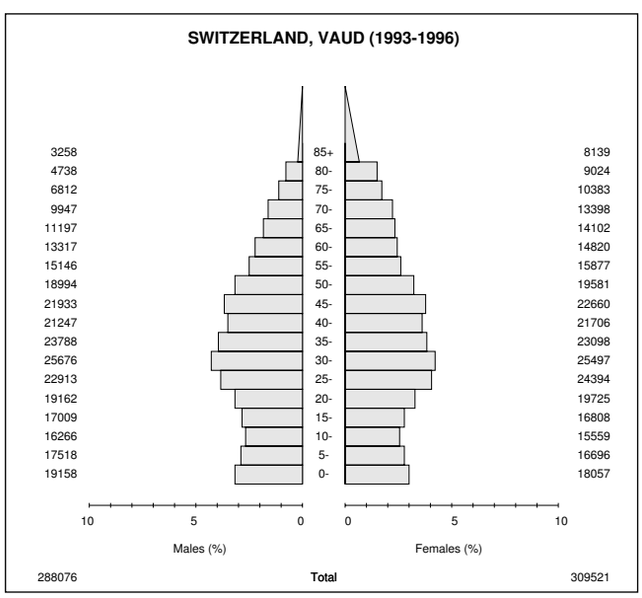
Passive and active follow-up information is recorded. Identification data on all deaths in the canton of Vaud as well as on cancer deaths are available.

Interpreting the results

A pilot study for breast-cancer screening was conducted between 1993 and 1999 on 15 000 women aged 50–69. Spontaneous screening for cervical cancer is common (at least two thirds of women aged 20 or older report at least one examination).

Use of the data

Annual incidence data by sex, age, site and morphology are routinely provided. The registry is also engaged in research in both descriptive and analytical epidemiology. Features of the registry include good registration of non-melanoma skin, since traditionally the large majority of cutaneous lesions are surgically resected and examined by a pathologist; linkage of selected pre-neoplastic conditions to the cancer registry data-file in order to study subsequent cancer risk; risk of second neoplasms for patients registered with a defined primary, and systematic analyses of trends in survival. The registry cooperates with clinicians, and is used for population-based case–control studies on ENT, colorectal, breast, endometrial and thyroid cancers. It also serves to evaluate the pilot breast cancer screening programme.



Source of population

Average mid-year annual 1993–96.

Estimate: Cantonal Office of Statistics (SCRIS) for each calendar year and five-year age group, based on official numbers of births, deaths, immigrations and emigrations, on December 31st.

Sources: Office fédéral de la statistique, Berne; Service Cantonal de Recherche et d'Information Statistiques (SCRIS). Annuaires statistiques du canton de Vaud, Lausanne, 1993–97.

Notes on the data

† C67 does not include non-invasive tumours.

Note: the Swiss mortality data were not available for the full period and are not published in this volume, although they were used as indicators of completeness in the editorial review.

SWITZERLAND, VAUD (1993-1996)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	14	0.2	1.2	**0.7**	0.03	0.09	5	0.1	0.4	**0.1**	0.00	0.02	*C00*
Tongue	70	1.2	6.1	**4.3**	0.30	0.54	18	0.4	1.5	**0.8**	0.07	0.09	*C01-02*
Mouth	68	1.2	5.9	**4.3**	0.36	0.50	34	0.7	2.7	**1.7**	0.15	0.20	*C03-06*
Salivary glands	9	0.2	0.8	**0.5**	0.03	0.05	15	0.3	1.2	**0.7**	0.04	0.05	*C07-08*
Tonsil	49	0.9	4.3	**3.2**	0.29	0.37	17	0.3	1.4	**1.0**	0.07	0.12	*C09*
Other oropharynx	26	0.5	2.3	**1.7**	0.14	0.21	7	0.1	0.6	**0.4**	0.04	0.05	*C10*
Nasopharynx	4	0.1	0.3	**0.3**	0.03	0.03	6	0.1	0.5	**0.4**	0.03	0.03	*C11*
Hypopharynx	80	1.4	6.9	**5.1**	0.45	0.56	13	0.3	1.1	**0.7**	0.06	0.07	*C12-13*
Pharynx unspecified	8	0.1	0.7	**0.5**	0.03	0.07	2	0.0	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	159	2.8	13.8	**9.1**	0.61	1.07	46	0.9	3.7	**1.8**	0.10	0.21	*C15*
Stomach	170	3.0	14.8	**8.9**	0.40	1.05	98	2.0	7.9	**3.1**	0.13	0.32	*C16*
Small intestine	18	0.3	1.6	**0.9**	0.03	0.14	14	0.3	1.1	**0.7**	0.05	0.10	*C17*
Colon	359	6.3	31.2	**18.7**	0.90	2.08	365	7.3	29.5	**12.7**	0.62	1.40	*C18*
Rectum	276	4.8	24.0	**15.4**	0.82	1.95	183	3.7	14.8	**7.6**	0.43	0.94	*C19-20*
‡Anus	14	0.2	1.2	**0.6**	0.02	0.07	42	0.8	3.4	**1.7**	0.08	0.20	*C21*
Liver	132	2.3	11.5	**7.5**	0.45	0.94	45	0.9	3.6	**1.9**	0.09	0.20	*C22*
Gallbladder etc.	40	0.7	3.5	**2.2**	0.13	0.24	54	1.1	4.4	**1.8**	0.08	0.21	*C23-24*
Pancreas	159	2.8	13.8	**8.8**	0.47	1.03	165	3.3	13.3	**5.4**	0.21	0.61	*C25*
Nose, sinuses etc.	11	0.2	1.0	**0.7**	0.03	0.06	8	0.2	0.6	**0.4**	0.02	0.03	*C30-31*
Larynx	104	1.8	9.0	**6.5**	0.48	0.82	10	0.2	0.8	**0.5**	0.04	0.05	*C32*
Trachea, bronchus and lung	944	16.5	81.9	**53.9**	2.98	7.03	344	6.9	27.8	**15.6**	0.95	1.93	*C33-34*
Other thoracic organs	8	0.1	0.7	**0.5**	0.03	0.05	3	0.1	0.2	**0.1**	0.00	0.02	*C37-38*
Bone	15	0.3	1.3	**1.2**	0.08	0.10	11	0.2	0.9	**0.8**	0.04	0.07	*C40-41*
Melanoma of skin	234	4.1	20.3	**14.0**	0.97	1.57	244	4.9	19.7	**13.4**	1.02	1.39	*C43*
Other skin	1873		162.5	**99.4**	5.00	11.22	1969		159.0	**81.6**	4.87	9.05	*C44*
Mesothelioma	18	0.3	1.6	**1.0**	0.05	0.15	5	0.1	0.4	**0.2**	0.01	0.02	*C45*
Kaposi sarcoma	34	0.6	3.0	**2.4**	0.20	0.20	3	0.1	0.2	**0.2**	0.02	0.02	*C46*
Connective and soft tissue	41	0.7	3.6	**3.1**	0.19	0.23	48	1.0	3.9	**2.7**	0.19	0.25	*C47+C49*
Breast	11	0.2	1.0	**0.5**	0.01	0.06	1560	31.2	126.0	**79.3**	6.10	8.98	*C50*
Vulva							44	0.9	3.6	**1.7**	0.11	0.20	*C51*
Vagina							13	0.3	1.1	**0.5**	0.04	0.06	*C52*
Cervix uteri							134	2.7	10.8	**7.0**	0.52	0.70	*C53*
Corpus uteri							265	5.3	21.4	**12.0**	0.72	1.52	*C54*
Uterus unspecified							3	0.1	0.2	**0.0**	0.00	0.00	*C55*
Ovary							195	3.9	15.8	**9.2**	0.59	1.03	*C56*
Other female genital organs							12	0.2	1.0	**0.5**	0.02	0.05	*C57*
Placenta							1	0.0	0.1	**0.1**	0.01	0.01	*C58*
Penis	18	0.3	1.6	**0.9**	0.03	0.09							*C60*
Prostate	1280	22.3	111.1	**62.3**	1.83	7.48							*C61*
Testis	127	2.2	11.0	**9.6**	0.70	0.73							*C62*
Other male genital organs	4	0.1	0.3	**0.2**	0.01	0.02							*C63*
Kidney	134	2.3	11.6	**8.1**	0.51	0.97	88	1.8	7.1	**4.5**	0.28	0.56	*C64*
Renal pelvis	19	0.3	1.6	**1.1**	0.05	0.15	17	0.3	1.4	**0.6**	0.02	0.10	*C65*
Ureter	9	0.2	0.8	**0.6**	0.03	0.08	6	0.1	0.5	**0.2**	0.01	0.04	*C66*
†Bladder	284	5.0	24.6	**15.0**	0.74	1.83	104	2.1	8.4	**4.0**	0.20	0.46	*C67*
Other urinary organs	6	0.1	0.5	**0.3**	0.02	0.05	3	0.1	0.2	**0.1**	0.01	0.01	*C68*
Eye	11	0.2	1.0	**0.8**	0.05	0.08	8	0.2	0.6	**0.4**	0.04	0.04	*C69*
Brain, nervous system	102	1.8	8.9	**7.2**	0.44	0.73	66	1.3	5.3	**3.6**	0.23	0.39	*C70-72*
Thyroid	22	0.4	1.9	**1.4**	0.09	0.15	79	1.6	6.4	**4.9**	0.34	0.46	*C73*
Adrenal gland	1	0.0	0.1	**0.2**	0.01	0.01	5	0.1	0.4	**0.4**	0.02	0.03	*C74*
Other endocrine	1	0.0	0.1	**0.1**	0.00	0.00	2	0.0	0.2	**0.1**	0.00	0.00	*C75*
Hodgkin disease	37	0.6	3.2	**2.7**	0.19	0.24	29	0.6	2.3	**2.2**	0.14	0.16	*C81*
Non-Hodgkin lymphoma	254	4.4	22.0	**15.3**	0.92	1.70	219	4.4	17.7	**9.6**	0.50	1.04	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	74	1.3	6.4	**4.1**	0.21	0.53	80	1.6	6.5	**3.1**	0.16	0.34	*C90*
Lymphoid leukaemia	63	1.1	5.5	**4.4**	0.22	0.41	37	0.7	3.0	**2.2**	0.10	0.16	*C91*
Myeloid leukaemia	54	0.9	4.7	**3.5**	0.22	0.41	52	1.0	4.2	**2.8**	0.17	0.27	*C92-94*
Leukaemia unspecified	6	0.1	0.5	**0.3**	0.01	0.02	2	0.0	0.2	**0.1**	0.01	0.01	*C95*
Other and unspecified	151	2.6	13.1	**7.7**	0.33	0.86	164	3.3	13.2	**5.3**	0.22	0.53	*O&U*
All sites	7605		660.0	**421.7**	22.10	49.04	6962		562.3	**312.4**	19.97	34.81	*ALL*
All sites but C44	5732	100.0	497.4	**322.3**	17.10	37.82	4993	100.0	403.3	**230.8**	15.10	25.76	*ALLbC44*
	‡57.1% of cases are anorectal tumours						‡50.0% of cases are anorectal tumours						

†See note following population pyramid

Switzerland, Zürich

Registration area

The canton of Zürich is located in the German-speaking part of the Swiss Mittelland plateau, where more than half of the Swiss population live, between latitudes 47° and 47° N and longitudes 8° and 8° E, with an area of 1729 km^2 and altitudes ranging from 332 to 1293 m above sea level.

Air pollution is generally not serious, except for NO_2 and ozone. Mean annual levels of NO_2 reached a maximum in 1986 and have decreased since, but in 1995 the recommended limit of 30 µg/m^3 was still exceeded in industrial and densely populated areas of the canton, while ozone levels exceed the recommended maximum (100 µg/m^3) in the whole canton during the summer months.

The population of the canton is slowly increasing (by 0.4% yearly from 1992 to 1995); at the end of 1995 it comprised 16.8% of the Swiss population. The population is almost completely Caucasian; foreigners accounted for 21% (mostly Italian and from ex-Yugoslavia). In 1995, 29% of the cantonal population lived in the city of Zürich (among them 27% foreigners), and another 7% in Winterthur, a focus of the dwindling Swiss machine industry.

Among the workforce, the industrial sector is decreasing (26% in 1990), while services are on the increase (67%).

Cancer care facilities

The medical system is well developed. The number of physicians is increasing (by about 3% per year) and attained 2493 in 1997 (1 physician per 475 population). In 1995 there were about 6000 beds for acute care in 28 public and 7 private hospitals; affiliated to these hospitals were 19 long-term care departments with nearly 1000 beds. Another 2900 beds were located in 29 long-term care facilities. In addition there were about 2600 beds in psychiatric hospitals, many dedicated to elderly people. There are special departments of oncology and radio-oncology in the three main hospitals within the canton. In addition there were ten oncologists/haematologists in free practice in 1995.

Registry structure and methods

The cancer registry of the canton of Zürich was founded in 1980 with the primary aim of establishing the incidence of cancer in the canton and to serve as a basis for epidemiological and clinical research. It is affiliated to the Department of Pathology and to the Institute of Social and Preventive Medicine of the University of Zürich. Funding is provided by the Canton, the Cantonal Cancer Society and a Swiss Federal grant to the Association of Swiss Cancer Registries.

A medical epidemiologist, a second physician, four registrars and a part-time programmer form the staff of the registry. Analysis of the data is handled by the medical epidemiologist, using the SQL facility of the data-acquisition software and SAS on the local PC-network of the registry.

The main sources of information are the histology, cytology and autopsy records of the four public pathology institutes (including the section of dermatopathology) and the four privately owned histopathology laboratories). Microscopic diagnoses are also provided by the haematological and oncological departments. The medical records of the public hospitals are an additional source of information. Most of these files are abstracted in an active manner by the staff of the registry. Additional information is obtained through questionnaires sent to private practitioners. Unclear diagnoses are discussed and reviewed with the help of the contributing pathologists. The autopsy rate is decreasing. All autopsy records from the pathological institutes and from the institute of legal medicine are checked by the registry for mention of tumours.

Each patient has a unique identification number; and each tumour is separately recorded. New information on registered cases is systematically used for correcting and updating demographic and diagnostic variables.

Interpreting the results

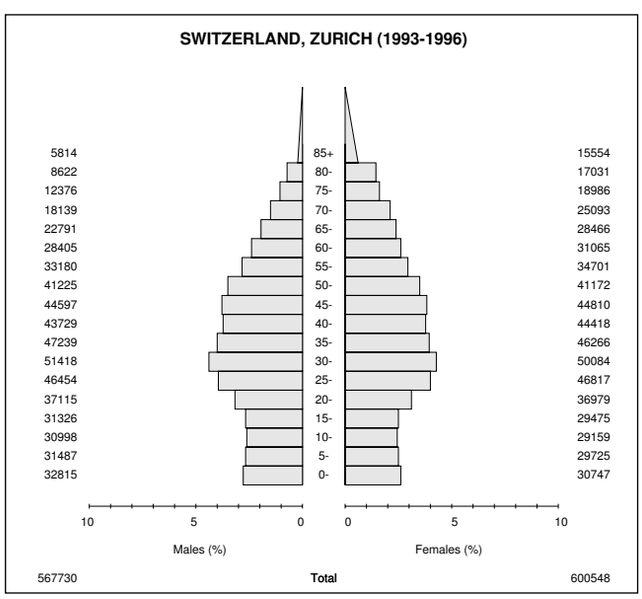
Coverage is estimated to be high (95% in Zürich city and 90% of the rest of the canton).

There are no population-based cancer screening programmes in this canton. This is reflected by the low percentage of carcinoma *in situ* of the breast in relation to the invasive cases.

Use of the data

This registry covers the biggest population among the Swiss registries; its database is under-used in terms of epidemiological research. In the future, establishing survival rates will be given priority.

Special studies have been carried out based on the registry data for selected sites, e.g., melanoma. A comprehensive study on the survival of glioma patients has been launched under the direction of Professor Paul Kleihues.



Source of population

Average mid-year annual 1993–96, provided by the Federal Office of Statistics.

Notes on the data

† C44 does not include basal cell and squamous cell carcinomas.

Note: the Swiss mortality data were not available for the full period and are not published in this volume, although they were used as indicators of completeness in the editorial review.

SWITZERLAND, ZURICH (1993-1996)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	51	0.4	2.2	**1.4**	0.07	0.16	30	0.3	1.2	**0.5**	0.03	0.05	*C00*
Tongue	72	0.6	3.2	**2.2**	0.15	0.28	44	0.4	1.8	**1.1**	0.08	0.12	*C01-02*
Mouth	75	0.7	3.3	**2.3**	0.18	0.25	44	0.4	1.8	**1.0**	0.08	0.11	*C03-06*
Salivary glands	18	0.2	0.8	**0.5**	0.02	0.08	19	0.2	0.8	**0.5**	0.03	0.05	*C07-08*
Tonsil	57	0.5	2.5	**1.8**	0.13	0.20	20	0.2	0.8	**0.5**	0.04	0.05	*C09*
Other oropharynx	29	0.3	1.3	**0.9**	0.09	0.10	7	0.1	0.3	**0.2**	0.01	0.02	*C10*
Nasopharynx	8	0.1	0.4	**0.2**	0.02	0.03	11	0.1	0.5	**0.3**	0.02	0.02	*C11*
Hypopharynx	67	0.6	3.0	**2.0**	0.14	0.27	11	0.1	0.5	**0.3**	0.01	0.04	*C12-13*
Pharynx unspecified	0	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.0	**0.0**	0.00	0.00	*C14*
Oesophagus	139	1.2	6.1	**4.0**	0.22	0.49	56	0.6	2.3	**1.2**	0.08	0.15	*C15*
Stomach	377	3.3	16.6	**10.1**	0.46	1.20	281	2.8	11.7	**5.1**	0.25	0.54	*C16*
Small intestine	33	0.3	1.5	**1.0**	0.04	0.12	36	0.4	1.5	**0.8**	0.03	0.12	*C17*
Colon	744	6.6	32.8	**19.7**	0.89	2.22	700	7.0	29.1	**13.1**	0.64	1.44	*C18*
Rectum	460	4.1	20.3	**12.9**	0.70	1.55	408	4.1	17.0	**8.4**	0.47	1.00	*C19-20*
Anus	17	0.1	0.7	**0.5**	0.03	0.05	61	0.6	2.5	**1.3**	0.08	0.16	*C21*
Liver	211	1.9	9.3	**6.0**	0.34	0.73	73	0.7	3.0	**1.5**	0.08	0.19	*C22*
Gallbladder etc.	79	0.7	3.5	**2.1**	0.08	0.28	137	1.4	5.7	**2.1**	0.07	0.21	*C23-24*
Pancreas	256	2.3	11.3	**7.1**	0.34	0.86	242	2.4	10.1	**4.4**	0.20	0.53	*C25*
Nose, sinuses etc.	17	0.1	0.7	**0.5**	0.03	0.05	17	0.2	0.7	**0.4**	0.02	0.04	*C30-31*
Larynx	135	1.2	5.9	**4.0**	0.25	0.50	16	0.2	0.7	**0.4**	0.03	0.05	*C32*
Trachea, bronchus and lung	1562	13.8	68.8	**43.7**	2.25	5.47	551	5.5	22.9	**12.6**	0.83	1.52	*C33-34*
Other thoracic organs	23	0.2	1.0	**0.8**	0.06	0.08	17	0.2	0.7	**0.4**	0.02	0.05	*C37-38*
Bone	19	0.2	0.8	**0.9**	0.05	0.06	15	0.2	0.6	**0.6**	0.03	0.05	*C40-41*
Melanoma of skin	478	4.2	21.0	**14.3**	0.90	1.56	533	5.4	22.2	**15.1**	1.09	1.51	*C43*
†Other skin	48		2.1	**1.3**	0.06	0.13	61		2.5	**1.4**	0.08	0.12	*C44*
Mesothelioma	64	0.6	2.8	**1.8**	0.10	0.22	17	0.2	0.7	**0.4**	0.02	0.05	*C45*
Kaposi sarcoma	121	1.1	5.3	**4.0**	0.33	0.35	4	0.0	0.2	**0.2**	0.01	0.01	*C46*
Connective and soft tissue	84	0.7	3.7	**2.5**	0.13	0.24	71	0.7	3.0	**1.7**	0.09	0.19	*C47+C49*
Breast	15	0.1	0.7	**0.4**	0.02	0.04	3004	30.2	125.1	**74.5**	5.48	8.41	*C50*
Vulva							57	0.6	2.4	**1.0**	0.05	0.12	*C51*
Vagina							20	0.2	0.8	**0.4**	0.02	0.04	*C52*
Cervix uteri							265	2.7	11.0	**7.4**	0.56	0.71	*C53*
Corpus uteri							578	5.8	24.1	**13.3**	0.82	1.74	*C54*
Uterus unspecified							16	0.2	0.7	**0.2**	0.00	0.01	*C55*
Ovary							474	4.8	19.7	**11.9**	0.80	1.36	*C56*
Other female genital organs							22	0.2	0.9	**0.4**	0.01	0.06	*C57*
Placenta							4	0.0	0.2	**0.1**	0.01	0.01	*C58*
Penis	31	0.3	1.4	**0.9**	0.04	0.11							*C60*
Prostate	3017	26.6	132.9	**77.5**	2.19	9.68							*C61*
Testis	283	2.5	12.5	**10.1**	0.77	0.80							*C62*
Other male genital organs	10	0.1	0.4	**0.3**	0.01	0.04							*C63*
Kidney	272	2.4	12.0	**7.9**	0.46	0.97	165	1.7	6.9	**3.9**	0.23	0.42	*C64*
Renal pelvis	44	0.4	1.9	**1.2**	0.06	0.16	36	0.4	1.5	**0.7**	0.03	0.10	*C65*
Ureter	16	0.1	0.7	**0.4**	0.02	0.04	10	0.1	0.4	**0.2**	0.01	0.01	*C66*
Bladder	917	8.1	40.4	**24.8**	1.03	3.06	320	3.2	13.3	**6.4**	0.37	0.77	*C67*
Other urinary organs	11	0.1	0.5	**0.3**	0.01	0.04	3	0.0	0.1	**0.1**	0.01	0.01	*C68*
Eye	20	0.2	0.9	**0.6**	0.04	0.06	19	0.2	0.8	**0.7**	0.03	0.06	*C69*
Brain, nervous system	176	1.6	7.8	**6.0**	0.39	0.62	132	1.3	5.5	**4.1**	0.27	0.41	*C70-72*
Thyroid	72	0.6	3.2	**2.3**	0.16	0.25	198	2.0	8.2	**5.6**	0.39	0.54	*C73*
Adrenal gland	7	0.1	0.3	**0.3**	0.01	0.03	5	0.1	0.2	**0.2**	0.01	0.01	*C74*
Other endocrine	5	0.0	0.2	**0.3**	0.02	0.02	1	0.0	0.0	**0.1**	0.00	0.00	*C75*
Hodgkin disease	62	0.5	2.7	**2.4**	0.16	0.19	55	0.6	2.3	**2.2**	0.16	0.17	*C81*
Non-Hodgkin lymphoma	484	4.3	21.3	**14.4**	0.83	1.55	441	4.4	18.4	**9.9**	0.61	1.10	*C82-85,C96*
Immunoproliferative diseases	21	0.2	0.9	**0.5**	0.02	0.04	14	0.1	0.6	**0.3**	0.02	0.03	*C88*
Multiple myeloma	164	1.4	7.2	**4.4**	0.22	0.49	145	1.5	6.0	**2.7**	0.10	0.35	*C90*
Lymphoid leukaemia	112	1.0	4.9	**4.2**	0.19	0.35	74	0.7	3.1	**2.1**	0.10	0.15	*C91*
Myeloid leukaemia	139	1.2	6.1	**4.5**	0.23	0.43	110	1.1	4.6	**2.5**	0.13	0.25	*C92-94*
Leukaemia unspecified	2	0.0	0.1	**0.0**	0.00	0.00	1	0.0	0.0	**0.0**	0.00	0.00	*C95*
Other and unspecified	270	2.4	11.9	**7.2**	0.33	0.79	346	3.5	14.4	**6.0**	0.27	0.64	*O&U*
All sites	11394		501.7	**319.2**	15.27	37.27	9998		416.2	**232.5**	14.90	25.87	*ALL*
All sites but C44	11346	100.0	499.6	**317.9**	15.21	37.14	9937	100.0	413.7	**231.0**	14.82	25.75	*ALLbC44*

†See note following population pyramid

UK, England

Registration area

England lies between latitudes 49° and 55° N and longitudes 60° W and 10° E, and has an area of 150 400 km^2. The population lives mainly at low altitudes – the highest point is just under 1000 m above sea level.

The registry covers a population of just under 50 million; registrations are included in the present data-set only for residents of England. About 35% of the population live in metropolitan areas, with a further 34% in smaller urban districts (cities, industrial areas, new towns, resort and retirement areas), and 20% in mixed urban/rural areas. Data from the 1991 census indicated that 94% of the population described themselves as white, 1.7% as Indian, 1.2% as either Pakistani or Bangladeshi, 0.3% as Chinese (with 0.4% in other Asian groups), 1% as black Caribbean. 0.4% as black Africans (with 0.4% in other black groups), and 0.6% belonged to other ethnic groups.

The most common occupations in the male population are: craft and related occupations (24%), managers and administrators (19%), and plant and machine operators (15%). Among females, the most common occupations are clerical and secretarial (28%), personal and protective services (13%) and managers and administrators (12%).

Registry structure and methods

Cancer registration in England during 1993–97 was conducted by nine independent regional registries. They collected data on cancers diagnosed in residents of their areas, and submitted notification of registrations, with a standard data-set, to the National Cancer Intelligence Centre at the Office of National Statistics (ONS, formerly the Office of Population Censuses and Surveys). A national registry has existed since 1945, although it did not then cover the whole of England. Complete geographical national coverage (but not 100% completeness of registration) was achieved in 1962. The current person-based database at ONS holds data from 1971 onwards.

Cancer registration in England was voluntary until 1993, when a compulsory (but not statutory) minimum data-set was established by the National Health Service. There is close co-operation with the private sector through the Independent Healthcare Association. The methods of registration and the completeness and accuracy or registration vary between regional registries. Each registry has, since 1971, received notification from the national death registration system (at ONS) of all deaths in residents of their region where the death certificate mentioned cancer, enabling the registry to identify cases not previously known to them or to update their records with date and cause of death. Most of the registries use hospital records staff to collect data (some of which is transmitted electronically to the registry) and some registries use specially employed peripatetic data collectors. Registries obtain information from other sources including coroners, pathology laboratories and private nursing homes.

The registries supply to ONS most or all of the minimum data-set including identifying code, date of birth, sex, usual residence, primary tumour site, histology, incidence date and date of death (if the patient is dead). Some registries collect many other items of information which are not forwarded to ONS. At ONS, data quality checks are undertaken, the results of which are fed back to the registries which submit the necessary corrections to ONS.

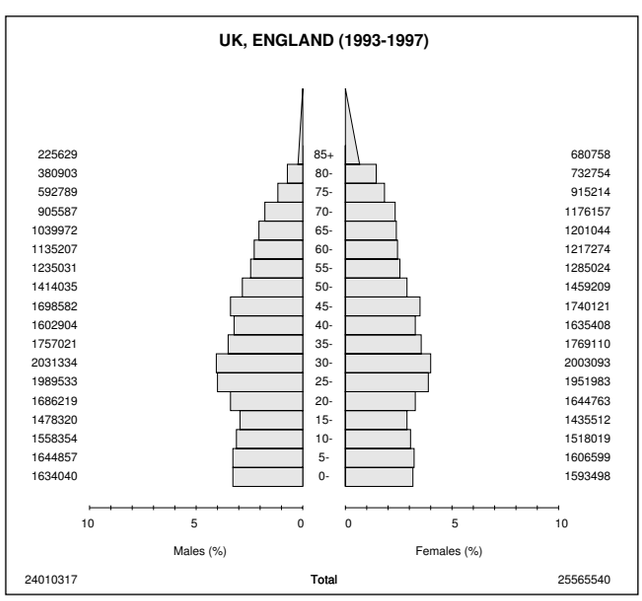
Since 1971, cancer registrations have been recorded in the National Health Service Central Register (NHS CR), maintained by ONS, which includes almost all of the population of England (and Wales). Deaths in England (and Wales) are also recorded in this register, and linkage of cancer registrations and deaths allows routine follow up of survival of cancer patients (one registry also conducts direct patient follow up). The process of recording cancers at NHSCR also enables elimination of duplicate registrations from the national database and confirmation of multiple primary tumours.

Interpretation of the results

A review of the operation of national cancer registration and its future direction was carried out in 1990. Key recommendations were for the formation of a national steering committee and clearer responsibility in the National Health Service for provision of registration data, for national measures to improve registration of private patients (an increasing difficulty), for computerized links to pathology laboratories in all regions, for an increased range of data items to be collected, and for improved quality control and access to the data for users. Much progress was made in implementing these recommendations and ONS redeveloped its computer system to provide efficient processing and a person-based database (covering data from 1971).

Use of the data

ONS publishes routinely data on annual cancer registrations in England and periodically on survival. *Ad hoc* analyses of the data are also performed by ONS and by other researchers, and are published in scientific journals or in ONS publications. Data are also used to answer enquiries from Parliament, the public, health administrators, etc., and are supplied to specialist registries such as that at the Childhood Cancer Research Group in Oxford. In addition, recording of cancer registrations enables cohort studies to be undertaken with cancer as a study outcome; some 200 such studies are now in progress.



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

Notes on the data

* Differing registration practices for coding basis of diagnosis make it difficult to interpret the quality indicators MV% (which is known to be genuinely low in comparison with most other western European countries) and DCO.

† C44 is registered variably across the country.

*UK, ENGLAND (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	813	0.2	0.7	**0.4**	0.02	0.05	306	0.1	0.2	**0.1**	0.00	0.01	*C00*
Tongue	2322	0.4	1.9	**1.3**	0.09	0.16	1415	0.3	1.1	**0.6**	0.04	0.07	*C01-02*
Mouth	2710	0.5	2.3	**1.6**	0.11	0.18	1826	0.3	1.4	**0.8**	0.05	0.09	*C03-06*
Salivary glands	1061	0.2	0.9	**0.6**	0.03	0.06	883	0.2	0.7	**0.4**	0.03	0.04	*C07-08*
Tonsil	1086	0.2	0.9	**0.7**	0.05	0.08	432	0.1	0.3	**0.2**	0.02	0.03	*C09*
Other oropharynx	434	0.1	0.4	**0.3**	0.02	0.03	168	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	637	0.1	0.5	**0.4**	0.03	0.04	304	0.1	0.2	**0.2**	0.01	0.02	*C11*
Hypopharynx	1151	0.2	1.0	**0.6**	0.04	0.08	578	0.1	0.5	**0.2**	0.01	0.03	*C12-13*
Pharynx unspecified	556	0.1	0.5	**0.3**	0.02	0.04	278	0.1	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	16669	3.2	13.9	**8.4**	0.41	1.02	11059	2.1	8.7	**3.5**	0.14	0.40	*C15*
Stomach	27209	5.2	22.7	**13.1**	0.52	1.54	16159	3.1	12.6	**4.9**	0.19	0.54	*C16*
Small intestine	1166	0.2	1.0	**0.6**	0.03	0.07	1090	0.2	0.9	**0.4**	0.02	0.05	*C17*
Colon	41947	7.9	34.9	**20.6**	0.88	2.41	44528	8.4	34.8	**15.0**	0.69	1.74	*C18*
Rectum	28005	5.3	23.3	**14.3**	0.70	1.75	19761	3.7	15.5	**7.1**	0.36	0.84	*C19-20*
Anus	1127	0.2	0.9	**0.6**	0.04	0.07	1659	0.3	1.3	**0.7**	0.04	0.08	*C21*
Liver	4676	0.9	3.9	**2.5**	0.12	0.29	3176	0.6	2.5	**1.2**	0.05	0.13	*C22*
Gallbladder etc.	2191	0.4	1.8	**1.1**	0.04	0.12	3198	0.6	2.5	**1.1**	0.05	0.12	*C23-24*
Pancreas	13551	2.6	11.3	**6.7**	0.31	0.78	14655	2.8	11.5	**4.8**	0.21	0.56	*C25*
Nose, sinuses etc.	968	0.2	0.8	**0.5**	0.03	0.06	683	0.1	0.5	**0.3**	0.02	0.03	*C30-31*
Larynx	7529	1.4	6.3	**4.1**	0.24	0.52	1711	0.3	1.3	**0.7**	0.04	0.10	*C32*
Trachea, bronchus and lung	104901	19.9	87.4	**51.2**	2.08	6.39	57382	10.9	44.9	**22.0**	1.04	2.89	*C33-34*
Other thoracic organs	925	0.2	0.8	**0.5**	0.03	0.06	632	0.1	0.5	**0.3**	0.02	0.03	*C37-38*
Bone	1090	0.2	0.9	**0.8**	0.05	0.07	857	0.2	0.7	**0.6**	0.04	0.05	*C40-41*
Melanoma of skin	9624	1.8	8.0	**5.8**	0.40	0.62	13791	2.6	10.8	**7.4**	0.54	0.75	*C43*
†Other skin	93990		78.3	**46.7**	2.16	5.27	84431		66.1	**31.1**	1.67	3.43	*C44*
Mesothelioma	5041	1.0	4.2	**2.7**	0.15	0.35	846	0.2	0.7	**0.4**	0.02	0.05	*C45*
Kaposi sarcoma	672	0.1	0.6	**0.5**	0.04	0.04	68	0.0	0.1	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	3001	0.6	2.5	**1.8**	0.11	0.18	2600	0.5	2.0	**1.4**	0.09	0.13	*C47+C49*
Breast	1036	0.2	0.9	**0.5**	0.03	0.06	150322	28.4	117.6	**74.4**	5.67	8.23	*C50*
Vulva							4016	0.8	3.1	**1.3**	0.06	0.14	*C51*
Vagina							898	0.2	0.7	**0.4**	0.02	0.04	*C52*
Cervix uteri							14294	2.7	11.2	**8.2**	0.62	0.79	*C53*
Corpus uteri							19469	3.7	15.2	**8.9**	0.63	1.10	*C54*
Uterus unspecified							1366	0.3	1.1	**0.6**	0.03	0.06	*C55*
Ovary							25932	4.9	20.3	**12.4**	0.86	1.45	*C56*
Other female genital organs							584	0.1	0.5	**0.3**	0.02	0.03	*C57*
Placenta							39	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	1487	0.3	1.2	**0.8**	0.05	0.08							*C60*
Prostate	89532	17.0	74.6	**39.6**	0.99	4.41							*C61*
Testis	6976	1.3	5.8	**5.1**	0.38	0.40							*C62*
Other male genital organs	331	0.1	0.3	**0.2**	0.01	0.02							*C63*
Kidney	12119	2.3	10.1	**6.7**	0.39	0.80	7349	1.4	5.7	**3.3**	0.20	0.37	*C64*
Renal pelvis	688	0.1	0.6	**0.4**	0.02	0.04	504	0.1	0.4	**0.2**	0.01	0.02	*C65*
Ureter	606	0.1	0.5	**0.3**	0.01	0.04	321	0.1	0.3	**0.1**	0.01	0.01	*C66*
Bladder	45726	8.7	38.1	**22.3**	0.93	2.63	17795	3.4	13.9	**6.1**	0.27	0.72	*C67*
Other urinary organs	561	0.1	0.5	**0.3**	0.01	0.03	277	0.1	0.2	**0.1**	0.01	0.01	*C68*
Eye	1025	0.2	0.9	**0.7**	0.04	0.07	969	0.2	0.8	**0.6**	0.03	0.05	*C69*
Brain, nervous system	10006	1.9	8.3	**6.5**	0.43	0.68	7749	1.5	6.1	**4.5**	0.29	0.45	*C70-72*
Thyroid	1262	0.2	1.1	**0.8**	0.05	0.08	3383	0.6	2.6	**1.9**	0.14	0.18	*C73*
Adrenal gland	357	0.1	0.3	**0.3**	0.02	0.02	349	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	219	0.0	0.2	**0.2**	0.01	0.01	158	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	3084	0.6	2.6	**2.3**	0.16	0.19	2323	0.4	1.8	**1.7**	0.11	0.13	*C81*
Non-Hodgkin lymphoma	17476	3.3	14.6	**10.0**	0.60	1.10	15225	2.9	11.9	**6.6**	0.40	0.75	*C82-85,C96*
Immunoproliferative diseases	257	0.0	0.2	**0.1**	0.00	0.01	151	0.0	0.1	**0.1**	0.00	0.01	*C88*
Multiple myeloma	6832	1.3	5.7	**3.4**	0.16	0.40	6523	1.2	5.1	**2.3**	0.11	0.27	*C90*
Lymphoid leukaemia	7370	1.4	6.1	**4.6**	0.22	0.43	5259	1.0	4.1	**2.6**	0.12	0.22	*C91*
Myeloid leukaemia	6616	1.3	5.5	**3.7**	0.19	0.37	5877	1.1	4.6	**2.6**	0.15	0.26	*C92-94*
Leukaemia unspecified	572	0.1	0.5	**0.3**	0.01	0.03	545	0.1	0.4	**0.2**	0.01	0.02	*C95*
Other and unspecified	32466	6.2	27.0	**15.6**	0.61	1.73	36697	6.9	28.7	**11.9**	0.51	1.32	*O&U*
All sites	621656		517.8	**313.3**	14.08	35.97	612850		479.4	**257.1**	15.70	28.92	*ALL*
All sites but C44	527666	100.0	439.5	**266.6**	11.92	30.70	528419	100.0	413.4	**226.0**	14.03	25.49	*ALLbC44*

†See note following population pyramid

UK, England, East Anglia

Registration area

The East Anglian Cancer Registry was established in 1989 through the amalgamation of the cancer registration bureaux of Cambridge, Ipswich and Norwich. The registry holds cancer incidence data from 1961 for the current health authorities of Cambridgeshire, Suffolk and Norfolk, and additionally from 1996 for Bedfordshire health authority. In 1997, the total population was approximately 2.7 million.

Cancer care facilities

Patients are referred by general practitioners to local hospitals for investigation. Most patients' care is managed within hospitals visited by registry staff. Cancer services in East Anglia are available in all major hospitals but more specialized services are concentrated in networks based on Cambridge (Addenbrooke's Hospital), Norwich (Norfolk and Norwich Hospital), and Ipswich (Heath Road Hospital).

Registry structure and methods

Most registry staff are based in Addenbrooke's Hospital in Cambridge, although some continue to work in the original bureaux in Ipswich and Norwich, and the research staff of the Cancer Intelligence Unit are based in the university department of Public Health and Primary Care.

The general director and the medical director of the registry are part-time. There is a full time manager and deputy manager, and 10 whole time equivalent data registrars and clerks. There are two full time computer staff and 2.8 whole time equivalent research staff. The cancer registry is funded by the National Health Service, the unit cost being approximately £20 per cancer registered.

The three bureaux are located alongside radiotherapy units, and other hospitals at which cancer patients are treated are visited. Most data are extracted from medical records by trained clerks, but additional data are sought, primarily from private hospitals, and general practitioners. Most tumours are identified through paper reports from pathology laboratories. The deaths of registered patients, and the deaths of East Anglian residents who have cancer mentioned on the death certificate are notified by the Office of National Statistics. After initial registration, patients are actively followed to determine vital status at three years and thereafter every five years until death.

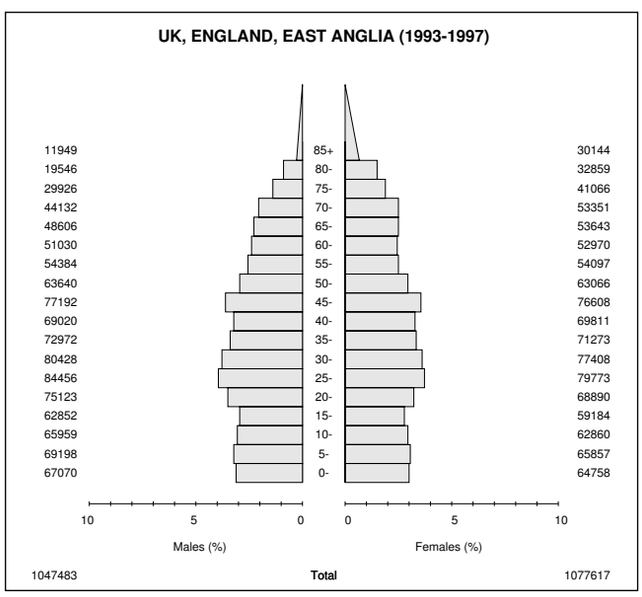
Registration data are recorded on a paper form, and transferred to a computer database when complete. Registrations are stored electronically from 1971. The current data-set includes all items on the National Minimum Dataset, plus information on stage for 12 main cancer sites, vital status at follow up, and cause of death.

Interpreting the results

High levels of case ascertainment are aided by a stable local population, local availability of specialist cancer centres, and high levels of staff retainment.

Use of the data

An annual incidence report is produced. The data are used to inform policies for cancer service provision, and in studies conducted by staff of the Cancer Intelligence Unit, and others. In addition to its programme of primary epidemiological research, the Unit provides extraction, analysis and interpretation of regional cancer statistics in response to *ad hoc* queries from health professionals, researchers, national organizations and the public.



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

UK, ENGLAND, EAST ANGLIA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	143	0.6	2.7	**1.5**	0.07	0.19	35	0.1	0.6	**0.2**	0.01	0.03	*C00*
Tongue	74	0.3	1.4	**0.9**	0.07	0.11	70	0.3	1.3	**0.7**	0.05	0.08	*C01-02*
Mouth	99	0.4	1.9	**1.2**	0.08	0.14	83	0.4	1.5	**0.7**	0.04	0.09	*C03-06*
Salivary glands	44	0.2	0.8	**0.5**	0.02	0.05	41	0.2	0.8	**0.5**	0.03	0.05	*C07-08*
Tonsil	46	0.2	0.9	**0.6**	0.05	0.08	13	0.1	0.2	**0.2**	0.01	0.02	*C09*
Other oropharynx	12	0.0	0.2	**0.1**	0.01	0.02	8	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	24	0.1	0.5	**0.3**	0.02	0.03	10	0.0	0.2	**0.1**	0.01	0.01	*C11*
Hypopharynx	31	0.1	0.6	**0.4**	0.02	0.05	25	0.1	0.5	**0.3**	0.02	0.03	*C12-13*
Pharynx unspecified	9	0.0	0.2	**0.1**	0.00	0.02	7	0.0	0.1	**0.1**	0.00	0.00	*C14*
Oesophagus	752	3.1	14.4	**7.7**	0.35	0.91	463	2.0	8.6	**3.3**	0.13	0.37	*C15*
Stomach	1179	4.9	22.5	**11.4**	0.44	1.26	536	2.3	9.9	**3.4**	0.11	0.35	*C16*
Small intestine	51	0.2	1.0	**0.5**	0.03	0.07	65	0.3	1.2	**0.6**	0.03	0.08	*C17*
Colon	2053	8.5	39.2	**20.6**	0.88	2.38	2193	9.4	40.7	**16.5**	0.76	1.89	*C18*
Rectum	1268	5.2	24.2	**13.4**	0.67	1.67	887	3.8	16.5	**7.3**	0.38	0.84	*C19-20*
Anus	43	0.2	0.8	**0.5**	0.02	0.05	87	0.4	1.6	**0.8**	0.04	0.09	*C21*
Liver	129	0.5	2.5	**1.5**	0.07	0.19	105	0.4	1.9	**0.9**	0.04	0.09	*C22*
Gallbladder etc.	108	0.4	2.1	**1.0**	0.03	0.13	133	0.6	2.5	**0.9**	0.03	0.10	*C23-24*
Pancreas	623	2.6	11.9	**6.5**	0.32	0.75	644	2.8	12.0	**4.5**	0.17	0.53	*C25*
Nose, sinuses etc.	55	0.2	1.1	**0.6**	0.04	0.08	30	0.1	0.6	**0.3**	0.02	0.03	*C30-31*
Larynx	290	1.2	5.5	**3.3**	0.19	0.41	51	0.2	0.9	**0.5**	0.03	0.07	*C32*
Trachea, bronchus and lung	4128	17.0	78.8	**40.8**	1.53	4.99	2078	8.9	38.6	**16.8**	0.72	2.17	*C33-34*
Other thoracic organs	28	0.1	0.5	**0.4**	0.03	0.04	14	0.1	0.3	**0.2**	0.01	0.02	*C37-38*
Bone	37	0.2	0.7	**0.6**	0.04	0.05	37	0.2	0.7	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	510	2.1	9.7	**6.6**	0.45	0.68	750	3.2	13.9	**9.6**	0.71	0.98	*C43*
Other skin	7449		142.2	**76.8**	3.56	8.59	6053		112.3	**51.4**	2.86	5.67	*C44*
Mesothelioma	242	1.0	4.6	**2.6**	0.14	0.33	32	0.1	0.6	**0.3**	0.02	0.03	*C45*
Kaposi sarcoma	14	0.1	0.3	**0.2**	0.02	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	129	0.5	2.5	**1.7**	0.10	0.16	126	0.5	2.3	**1.4**	0.09	0.14	*C47+C49*
Breast	43	0.2	0.8	**0.5**	0.03	0.05	6985	29.9	129.6	**79.7**	6.19	8.83	*C50*
Vulva							193	0.8	3.6	**1.4**	0.06	0.15	*C51*
Vagina							34	0.1	0.6	**0.3**	0.01	0.03	*C52*
Cervix uteri							547	2.3	10.2	**7.2**	0.54	0.68	*C53*
Corpus uteri							1114	4.8	20.7	**11.3**	0.79	1.40	*C54*
Uterus unspecified							18	0.1	0.3	**0.2**	0.01	0.02	*C55*
Ovary							1257	5.4	23.3	**14.0**	1.00	1.63	*C56*
Other female genital organs							17	0.1	0.3	**0.2**	0.01	0.02	*C57*
Placenta							1	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	63	0.3	1.2	**0.7**	0.05	0.08							*C60*
Prostate	4854	20.0	92.7	**43.2**	1.01	4.78							*C61*
Testis	323	1.3	6.2	**5.5**	0.43	0.44							*C62*
Other male genital organs	12	0.0	0.2	**0.1**	0.01	0.02							*C63*
Kidney	493	2.0	9.4	**5.7**	0.33	0.68	247	1.1	4.6	**2.5**	0.16	0.28	*C64*
Renal pelvis	55	0.2	1.1	**0.6**	0.02	0.07	39	0.2	0.7	**0.3**	0.01	0.03	*C65*
Ureter	24	0.1	0.5	**0.3**	0.01	0.03	12	0.1	0.2	**0.1**	0.00	0.01	*C66*
Bladder	2255	9.3	43.1	**22.4**	0.92	2.61	759	3.2	14.1	**5.8**	0.24	0.68	*C67*
Other urinary organs	16	0.1	0.3	**0.2**	0.01	0.02	6	0.0	0.1	**0.0**	0.00	0.01	*C68*
Eye	54	0.2	1.0	**0.7**	0.04	0.07	47	0.2	0.9	**0.6**	0.03	0.06	*C69*
Brain, nervous system	511	2.1	9.8	**7.0**	0.44	0.74	350	1.5	6.5	**4.5**	0.30	0.48	*C70-72*
Thyroid	72	0.3	1.4	**1.0**	0.07	0.11	171	0.7	3.2	**2.1**	0.15	0.19	*C73*
Adrenal gland	19	0.1	0.4	**0.5**	0.02	0.03	13	0.1	0.2	**0.3**	0.02	0.02	*C74*
Other endocrine	7	0.0	0.1	**0.1**	0.01	0.01	1	0.0	0.0	**0.0**	0.00	0.00	*C75*
Hodgkin disease	140	0.6	2.7	**2.4**	0.17	0.20	122	0.5	2.3	**2.0**	0.15	0.17	*C81*
Non-Hodgkin lymphoma	850	3.5	16.2	**10.0**	0.58	1.10	713	3.1	13.2	**6.8**	0.41	0.79	*C82-85,C96*
Immunoproliferative diseases	14	0.1	0.3	**0.1**	0.00	0.02	5	0.0	0.1	**0.0**	0.00	0.00	*C88*
Multiple myeloma	350	1.4	6.7	**3.6**	0.16	0.41	290	1.2	5.4	**2.2**	0.10	0.25	*C90*
Lymphoid leukaemia	314	1.3	6.0	**4.2**	0.22	0.39	196	0.8	3.6	**2.2**	0.12	0.20	*C91*
Myeloid leukaemia	302	1.2	5.8	**3.5**	0.16	0.39	247	1.1	4.6	**2.5**	0.15	0.26	*C92-94*
Leukaemia unspecified	16	0.1	0.3	**0.2**	0.00	0.02	23	0.1	0.4	**0.1**	0.01	0.01	*C95*
Other and unspecified	1320	5.4	25.2	**12.6**	0.45	1.35	1443	6.2	26.8	**10.7**	0.47	1.14	*O&U*
All sites	31677		604.8	**327.6**	14.39	37.06	29426		546.1	**279.3**	17.34	31.18	*ALL*
All sites but C44	24228	100.0	462.6	**250.8**	10.82	28.47	23373	100.0	433.8	**227.8**	14.48	25.51	*ALLbC44*

UK, England, Merseyside and Cheshire

Registration area

Since 1974, the registry has collected data on all cancers occurring in residents of Merseyside and Cheshire wherever treated, and on residents of other regions treated in Merseyside and Cheshire hospitals. The registry also collects data on Isle of Man residents.

Population centres in the area include the city of Liverpool; industrial towns such as Birkenhead (previously shipbuilding), Runcorn (chemicals), St Helens (glass); the retirement coastal town of Southport; and the rural towns of Cheshire. There has been a fall in the population living in the predominantly urban Health Authorities in Merseyside, which contrasts with an increase in the population of more rural authorities within Cheshire.

Cancer care facilities

Local cancer services are being reorganized into networks with a specialist cancer centre (containing full radiotherapy and oncology facilities) and cancer units in a 'hub and spoke' arrangement, to achieve the most effective concentration of expertise and also obtain the closer involvement of primary care.

Registry structure and methods

The registry was founded in 1944 as the Liverpool Clinical Cancer Registry, with the primary objective of registering all cases of malignancy occurring in the area served by the Liverpool Radium Institute. It extended its coverage to the surrounding area in 1974. The registry is part of the National Health Service and is funded by the local Health Authorities.

Registry staff comprises a medical director, deputy director/manager, epidemiologist, systems manager, two information officers, a secretary, two deputy managers, and six cancer registration officers. In addition, project work is undertaken by students studying for higher degrees and professional examinations.

The most important source of notifications is pathology reports, copies of which are routinely sent to the registry. All cases are followed up by trained registration officers who abstract relevant clinical information from hospital case records. Notifications are also received from the Office for National Statistics, about death certificates for people who have died of cancer. Full registration information for these cases is then sought by Merseyside and Cheshire Cancer Registry from the hospital or certifying doctor. The local specialist centres for oncology also supply notifications. Details of Merseyside and Cheshire residents whose cancers are diagnosed elsewhere are supplied by the local registry. Cases registered during life are flagged at the National Health Service Central Register so that the cancer registry is informed when these cases die.

Registry data are held on a dedicated relational person-based system. Each tumour is allocated a unique tumour number in addition to the patient's unique identifier. Validation checks within the system were extended in 1994 to improve the quality of data inputting. The registry has a rolling programme of quality assurance focussing on the ascertainment, completeness, timeliness and validity of data. All postgraduate researchers contribute to data 'housekeeping', and several projects have explored different aspects of data quality. Data are coded in ICD-O-2, kept securely and released in a controlled manner, in accordance with ethical and data protection conventions. Regular back-ups are taken of the data and kept both locally and off-site.

Interpreting the results

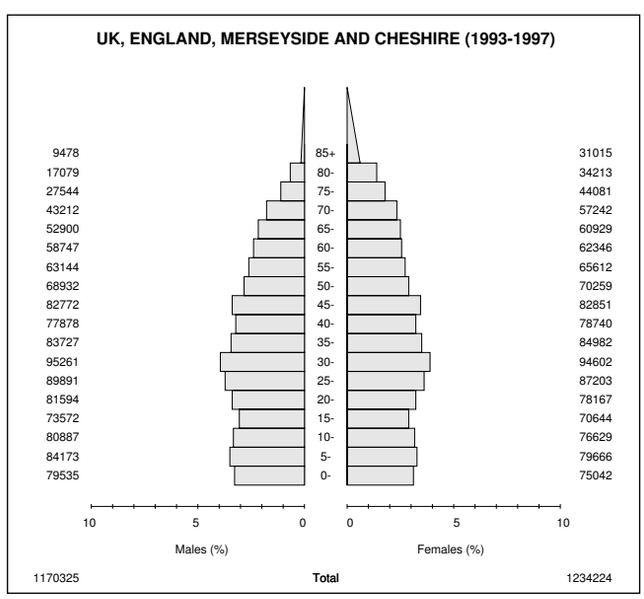
There have been no coding or registration practice changes that affect the interpretation of the data in this report compared with earlier volumes.

Organized screening programmes are in place for breast and cervical tumours. In 1988 a national breast screening programme was introduced, through which women aged 50–64 years are routinely invited to be screened for breast cancer every three years; women above 64 years are screened if they, or their general practitioners, request a test. A similar screening programme for cervical cancer was introduced in 1964, whereby all women aged 20–64 are screened, currently every three or five years depending on their local health authority of residence and their age.

The increasing use of opportunistic PSA testing within Merseyside and Cheshire coincides with an increase in the number of prostate cancer cases registered locally.

Use of the data

Publications include specialist reports on geographical variations (1990), lung cancer (1993), breast cancer (1994) and skin cancer (1994), in addition to the regular five-year incidence reports. Other output includes responding to over 60 *ad hoc* enquiries annually; responding to genetic counselling service enquiries; contributions to the regional public health report; analyses to support the planning of local cancer services; and regular talks to specialist groups including Marie Curie and Macmillan nurses.



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

UK, ENGLAND, MERSEYSIDE AND CHESHIRE (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	20	0.1	0.3	**0.2**	0.01	0.02	6	0.0	0.1	**0.0**	0.00	0.00	*C00*
Tongue	130	0.5	2.2	**1.6**	0.13	0.20	71	0.3	1.2	**0.6**	0.04	0.08	*C01-02*
Mouth	186	0.7	3.2	**2.2**	0.16	0.25	96	0.3	1.6	**0.8**	0.04	0.10	*C03-06*
Salivary glands	59	0.2	1.0	**0.7**	0.04	0.08	34	0.1	0.6	**0.3**	0.02	0.03	*C07-08*
Tonsil	65	0.2	1.1	**0.8**	0.05	0.09	30	0.1	0.5	**0.3**	0.02	0.04	*C09*
Other oropharynx	56	0.2	1.0	**0.7**	0.06	0.09	14	0.1	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	47	0.2	0.8	**0.6**	0.04	0.06	11	0.0	0.2	**0.1**	0.01	0.01	*C11*
Hypopharynx	86	0.3	1.5	**1.0**	0.07	0.12	23	0.1	0.4	**0.2**	0.01	0.02	*C12-13*
Pharynx unspecified	37	0.1	0.6	**0.4**	0.03	0.04	19	0.1	0.3	**0.2**	0.01	0.02	*C14*
Oesophagus	920	3.3	15.7	**9.8**	0.51	1.17	654	2.3	10.6	**4.5**	0.20	0.55	*C15*
Stomach	1626	5.8	27.8	**16.8**	0.74	2.00	967	3.5	15.7	**6.3**	0.27	0.69	*C16*
Small intestine	68	0.2	1.2	**0.8**	0.05	0.10	52	0.2	0.8	**0.4**	0.02	0.05	*C17*
Colon	2305	8.3	39.4	**23.7**	1.04	2.85	2359	8.5	38.2	**16.8**	0.77	1.97	*C18*
Rectum	1468	5.3	25.1	**15.6**	0.79	1.93	998	3.6	16.2	**7.3**	0.37	0.87	*C19-20*
Anus	51	0.2	0.9	**0.5**	0.03	0.05	74	0.3	1.2	**0.7**	0.04	0.08	*C21*
Liver	242	0.9	4.1	**2.6**	0.12	0.33	184	0.7	3.0	**1.4**	0.07	0.17	*C22*
Gallbladder etc.	96	0.3	1.6	**1.0**	0.04	0.09	174	0.6	2.8	**1.3**	0.06	0.15	*C23-24*
Pancreas	670	2.4	11.4	**7.0**	0.32	0.81	747	2.7	12.1	**5.1**	0.23	0.61	*C25*
Nose, sinuses etc.	56	0.2	1.0	**0.7**	0.03	0.08	36	0.1	0.6	**0.3**	0.01	0.04	*C30-31*
Larynx	460	1.6	7.9	**5.2**	0.31	0.68	117	0.4	1.9	**1.1**	0.08	0.14	*C32*
Trachea, bronchus and lung	6370	22.8	108.9	**65.8**	2.86	8.29	3965	14.2	64.3	**32.0**	1.55	4.31	*C33-34*
Other thoracic organs	43	0.2	0.7	**0.5**	0.02	0.05	31	0.1	0.5	**0.3**	0.02	0.03	*C37-38*
Bone	51	0.2	0.9	**0.8**	0.04	0.06	42	0.2	0.7	**0.5**	0.03	0.05	*C40-41*
Melanoma of skin	457	1.6	7.8	**5.8**	0.44	0.62	725	2.6	11.7	**8.4**	0.62	0.84	*C43*
Other skin	6943		118.7	**72.7**	3.48	8.33	6748		109.3	**52.0**	2.84	5.73	*C44*
Mesothelioma	296	1.1	5.1	**3.2**	0.16	0.41	45	0.2	0.7	**0.4**	0.02	0.05	*C45*
Kaposi sarcoma	20	0.1	0.3	**0.3**	0.02	0.03	2	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	158	0.6	2.7	**2.0**	0.13	0.19	124	0.4	2.0	**1.4**	0.09	0.13	*C47+C49*
Breast	61	0.2	1.0	**0.6**	0.02	0.08	7244	26.0	117.4	**74.0**	5.62	8.14	*C50*
Vulva							212	0.8	3.4	**1.3**	0.05	0.13	*C51*
Vagina							63	0.2	1.0	**0.5**	0.02	0.05	*C52*
Cervix uteri							863	3.1	14.0	**10.3**	0.77	1.00	*C53*
Corpus uteri							915	3.3	14.8	**8.4**	0.56	1.04	*C54*
Uterus unspecified							86	0.3	1.4	**0.7**	0.04	0.09	*C55*
Ovary							1286	4.6	20.8	**12.9**	0.91	1.47	*C56*
Other female genital organs							16	0.1	0.3	**0.2**	0.01	0.02	*C57*
Placenta							1	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	82	0.3	1.4	**0.9**	0.06	0.11							*C60*
Prostate	4222	15.1	72.2	**39.5**	0.97	4.44							*C61*
Testis	342	1.2	5.8	**5.2**	0.40	0.41							*C62*
Other male genital organs	11	0.0	0.2	**0.1**	0.00	0.01							*C63*
Kidney	606	2.2	10.4	**7.0**	0.42	0.82	399	1.4	6.5	**3.6**	0.22	0.41	*C64*
Renal pelvis	31	0.1	0.5	**0.3**	0.01	0.04	24	0.1	0.4	**0.2**	0.01	0.03	*C65*
Ureter	35	0.1	0.6	**0.4**	0.02	0.05	20	0.1	0.3	**0.1**	0.00	0.02	*C66*
Bladder	2344	8.4	40.1	**23.7**	0.94	2.84	923	3.3	15.0	**6.8**	0.33	0.83	*C67*
Other urinary organs	22	0.1	0.4	**0.2**	0.01	0.02	7	0.0	0.1	**0.1**	0.01	0.01	*C68*
Eye	66	0.2	1.1	**0.8**	0.05	0.10	55	0.2	0.9	**0.6**	0.04	0.05	*C69*
Brain, nervous system	462	1.7	7.9	**6.3**	0.43	0.67	366	1.3	5.9	**4.5**	0.29	0.44	*C70-72*
Thyroid	58	0.2	1.0	**0.8**	0.05	0.08	181	0.6	2.9	**2.3**	0.16	0.21	*C73*
Adrenal gland	13	0.0	0.2	**0.3**	0.01	0.02	15	0.1	0.2	**0.2**	0.01	0.01	*C74*
Other endocrine	13	0.0	0.2	**0.2**	0.01	0.02	8	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	127	0.5	2.2	**1.9**	0.14	0.16	113	0.4	1.8	**1.6**	0.11	0.13	*C81*
Non-Hodgkin lymphoma	808	2.9	13.8	**9.6**	0.59	1.06	748	2.7	12.1	**6.8**	0.42	0.78	*C82-85,C96*
Immunoproliferative diseases	7	0.0	0.1	**0.1**	0.00	0.01	2	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	263	0.9	4.5	**2.7**	0.12	0.33	279	1.0	4.5	**2.0**	0.10	0.24	*C90*
Lymphoid leukaemia	264	0.9	4.5	**3.3**	0.14	0.29	190	0.7	3.1	**2.0**	0.09	0.16	*C91*
Myeloid leukaemia	284	1.0	4.9	**3.2**	0.17	0.32	257	0.9	4.2	**2.4**	0.13	0.23	*C92-94*
Leukaemia unspecified	32	0.1	0.5	**0.4**	0.01	0.03	30	0.1	0.5	**0.2**	0.01	0.02	*C95*
Other and unspecified	1705	6.1	29.1	**17.1**	0.65	1.95	1971	7.1	31.9	**13.1**	0.55	1.44	*O&U*
All sites	34844		595.5	**367.7**	16.97	42.87	34622		561.0	**298.0**	17.98	33.76	*ALL*
All sites but C44	27901	100.0	476.8	**294.9**	13.49	34.54	27874	100.0	451.7	**246.1**	15.13	28.03	*ALLbC44*

§Includes 1 case of unknown age

UK, England, North Western

Registration area

The North Western Regional Cancer Registry collects data on all residents of the North Western Health Region who develop cancer. The region comprises the counties of Greater Manchester and Lancashire, South Cumbria and a small part of Derbyshire. It covers an area of 4500 km^2 and has a population of four million. Sixty-five per cent of the population resides in the conurbation of Greater Manchester, which is almost entirely urban. The remainder of the region is of mixed urban-industrial and rural character. Eleven per cent of the population lives in areas adjoining the coast, which are characterized by a high proportion of elderly retired residents.

Registry structure and methods

The North Western Registry was founded in 1962. It is part of the Centre for Cancer Epidemiology at the Christie Hospital, which is the principal cancer centre serving the Region.

The vast majority of patients receive their hospital care in National Health Service hospitals but the private sector is growing. All NTIS and private hospitals notify the registry on a special form of all cases of cancer diagnosed in patients admitted to their hospital. The registries of other regions notify the registry of residents of the region who are treated in hospitals outside the region. The registry also receives information from the Ovarian Tumour and Mesothelioma Register. The registry now has links with all pathology laboratories in the Region so that copies of pathology reports can be sent directly to the registry. The registry receives copies of death certificates of all regional residents whose certificate mentions cancer. The registry collects further information on cases identified by a death certificate that have not already been registered.

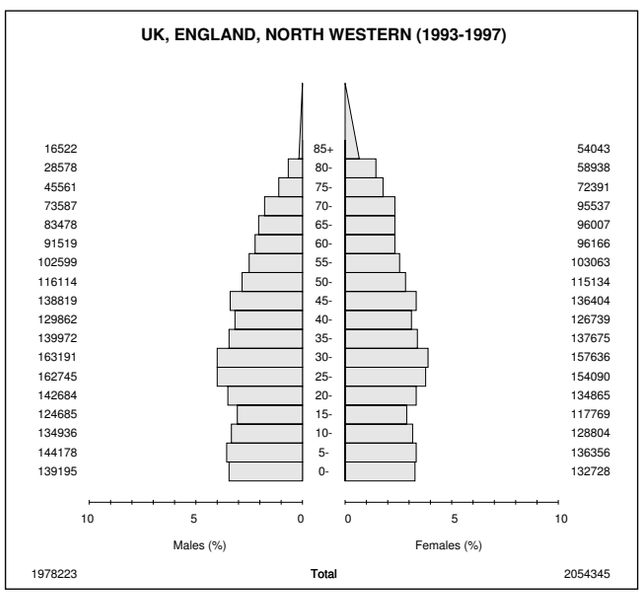
Cases are followed up through the statutory registration of deaths. All registered patients are flagged at the National Health Service Central Register and the Office of National Statistics informs the registry of patients who have previously been flagged as having developed cancer.

All addresses are assigned post-codes and all information is put on computer and submitted to validation and consistency checks. Diagnostic details are entered on the computer, which then automatically codes them to ICD-O.

Use of the data

A number of reports have been published which have used registry data to examine variations in cancer incidence and survival within the North Western Region. Registry data are used to plan and evaluate cancer services, including the breast and cervical screening programmes. Several research studies, both national and international, have used the data. These include studies on second malignancies after treatment for a first malignancy, studies on familial cancers and lymphoid malignancies.

The Centre for Cancer Epidemiology has now undertaken a stream of population-based surveys of the management of different malignancies, which has also provided the means and opportunity to confirm the completeness and quality of cancer registration.



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

UK, ENGLAND, NORTH WESTERN (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	71	0.2	0.7	**0.5**	0.02	0.06	34	0.1	0.3	**0.1**	0.01	0.01	*C00*
Tongue	233	0.5	2.4	**1.7**	0.12	0.20	132	0.3	1.3	**0.7**	0.05	0.08	*C01-02*
Mouth	315	0.7	3.2	**2.3**	0.16	0.27	171	0.4	1.7	**0.9**	0.06	0.11	*C03-06*
Salivary glands	87	0.2	0.9	**0.6**	0.03	0.06	88	0.2	0.9	**0.6**	0.04	0.06	*C07-08*
Tonsil	122	0.3	1.2	**0.9**	0.07	0.10	46	0.1	0.4	**0.3**	0.02	0.04	*C09*
Other oropharynx	55	0.1	0.6	**0.4**	0.03	0.05	24	0.1	0.2	**0.2**	0.01	0.02	*C10*
Nasopharynx	55	0.1	0.6	**0.4**	0.03	0.05	40	0.1	0.4	**0.3**	0.02	0.03	*C11*
Hypopharynx	119	0.3	1.2	**0.8**	0.05	0.09	66	0.1	0.6	**0.4**	0.03	0.05	*C12-13*
Pharynx unspecified	64	0.1	0.6	**0.4**	0.03	0.05	25	0.1	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	1451	3.1	14.7	**9.4**	0.49	1.12	1033	2.2	10.1	**4.3**	0.19	0.50	*C15*
Stomach	2670	5.7	27.0	**16.5**	0.67	1.91	1684	3.6	16.4	**6.4**	0.24	0.70	*C16*
Small intestine	102	0.2	1.0	**0.7**	0.04	0.07	94	0.2	0.9	**0.5**	0.02	0.05	*C17*
Colon	3605	7.7	36.4	**22.4**	0.96	2.67	3792	8.2	36.9	**16.2**	0.74	1.88	*C18*
Rectum	2404	5.2	24.3	**15.3**	0.73	1.91	1671	3.6	16.3	**7.5**	0.38	0.89	*C19-20*
Anus	84	0.2	0.8	**0.6**	0.04	0.07	146	0.3	1.4	**0.8**	0.05	0.08	*C21*
Liver	461	1.0	4.7	**3.1**	0.15	0.37	351	0.8	3.4	**1.7**	0.09	0.19	*C22*
Gallbladder etc.	146	0.3	1.5	**0.9**	0.03	0.10	261	0.6	2.5	**1.1**	0.05	0.14	*C23-24*
Pancreas	1054	2.3	10.7	**6.7**	0.31	0.77	1192	2.6	11.6	**5.0**	0.22	0.59	*C25*
Nose, sinuses etc.	68	0.1	0.7	**0.5**	0.02	0.05	66	0.1	0.6	**0.4**	0.03	0.04	*C30-31*
Larynx	818	1.8	8.3	**5.6**	0.34	0.71	176	0.4	1.7	**1.0**	0.06	0.12	*C32*
Trachea, bronchus and lung	10010	21.5	101.2	**62.7**	2.70	7.79	5676	12.2	55.3	**28.5**	1.50	3.80	*C33-34*
Other thoracic organs	56	0.1	0.6	**0.4**	0.02	0.05	52	0.1	0.5	**0.4**	0.02	0.04	*C37-38*
Bone	106	0.2	1.1	**1.0**	0.07	0.08	57	0.1	0.6	**0.5**	0.03	0.04	*C40-41*
Melanoma of skin	705	1.5	7.1	**5.3**	0.35	0.54	1172	2.5	11.4	**8.2**	0.60	0.82	*C43*
Other skin	9769		98.8	**61.9**	2.94	6.94	10409		101.3	**47.1**	2.49	5.18	*C44*
Mesothelioma	348	0.7	3.5	**2.3**	0.14	0.29	75	0.2	0.7	**0.4**	0.02	0.05	*C45*
Kaposi sarcoma	55	0.1	0.6	**0.5**	0.03	0.04	2	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	209	0.4	2.1	**1.6**	0.09	0.16	195	0.4	1.9	**1.4**	0.09	0.13	*C47+C49*
Breast	67	0.1	0.7	**0.4**	0.02	0.05	12151	26.2	118.3	**76.3**	5.88	8.45	*C50*
Vulva							390	0.8	3.8	**1.7**	0.09	0.17	*C51*
Vagina							93	0.2	0.9	**0.5**	0.02	0.05	*C52*
Cervix uteri							1611	3.5	15.7	**11.7**	0.89	1.13	*C53*
Corpus uteri							1460	3.1	14.2	**8.6**	0.62	1.06	*C54*
Uterus unspecified							125	0.3	1.2	**0.6**	0.04	0.06	*C55*
Ovary							2319	5.0	22.6	**14.5**	1.01	1.66	*C56*
Other female genital organs							35	0.1	0.3	**0.2**	0.02	0.03	*C57*
Placenta							3	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	138	0.3	1.4	**0.9**	0.05	0.10							*C60*
Prostate	7547	16.2	76.3	**42.8**	1.07	4.77							*C61*
Testis	584	1.3	5.9	**5.3**	0.40	0.41							*C62*
Other male genital organs	32	0.1	0.3	**0.2**	0.01	0.02							*C63*
Kidney	1074	2.3	10.9	**7.5**	0.45	0.91	676	1.5	6.6	**3.8**	0.23	0.45	*C64*
Renal pelvis	58	0.1	0.6	**0.4**	0.02	0.05	68	0.1	0.7	**0.3**	0.02	0.05	*C65*
Ureter	60	0.1	0.6	**0.4**	0.01	0.05	40	0.1	0.4	**0.2**	0.01	0.02	*C66*
Bladder	4194	9.0	42.4	**26.2**	1.14	3.14	1796	3.9	17.5	**8.0**	0.37	0.96	*C67*
Other urinary organs	27	0.1	0.3	**0.2**	0.01	0.02	14	0.0	0.1	**0.0**	0.00	0.01	*C68*
Eye	71	0.2	0.7	**0.6**	0.03	0.05	94	0.2	0.9	**0.7**	0.04	0.06	*C69*
Brain, nervous system	773	1.7	7.8	**6.2**	0.42	0.65	592	1.3	5.8	**4.4**	0.27	0.44	*C70-72*
Thyroid	111	0.2	1.1	**0.9**	0.06	0.09	298	0.6	2.9	**2.1**	0.16	0.20	*C73*
Adrenal gland	28	0.1	0.3	**0.3**	0.02	0.02	29	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	20	0.0	0.2	**0.2**	0.01	0.01	9	0.0	0.1	**0.1**	0.00	0.01	*C75*
Hodgkin disease	278	0.6	2.8	**2.6**	0.19	0.21	204	0.4	2.0	**1.9**	0.13	0.15	*C81*
Non-Hodgkin lymphoma	1198	2.6	12.1	**8.4**	0.52	0.93	1041	2.2	10.1	**5.7**	0.34	0.65	*C82-85,C96*
Immunoproliferative diseases	18	0.0	0.2	**0.1**	0.00	0.01	11	0.0	0.1	**0.0**	0.00	0.00	*C88*
Multiple myeloma	598	1.3	6.0	**3.8**	0.17	0.44	554	1.2	5.4	**2.5**	0.13	0.31	*C90*
Lymphoid leukaemia	570	1.2	5.8	**4.3**	0.21	0.40	402	0.9	3.9	**2.5**	0.11	0.19	*C91*
Myeloid leukaemia	529	1.1	5.3	**3.7**	0.20	0.38	449	1.0	4.4	**2.6**	0.16	0.25	*C92-94*
Leukaemia unspecified	198	0.4	2.0	**1.4**	0.08	0.14	186	0.4	1.8	**1.0**	0.06	0.12	*C95*
Other and unspecified	2982	6.4	30.1	**18.4**	0.77	2.10	3444	7.4	33.5	**14.3**	0.62	1.61	*O&U*
All sites	56397		570.2	**360.5**	16.52	41.56	56824		553.2	**299.2**	18.30	33.76	*ALL*
All sites but C44	46628	100.0	471.4	**298.6**	13.58	34.62	46415	100.0	451.9	**252.1**	15.82	28.58	*ALLbC44*

UK, England, Oxford Region

Registration area

The Oxford Region consists of the counties of Berkshire, Buckinghamshire, Northamptonshire and Oxfordshire and covers a population of about 2.7 million people. The female population is slightly higher than the male, with most of the extra 9200 women being in the 75+ age bracket. Around 13% of the population are aged under 10, about 15% are aged between 20 and 30 and 6% are 75 or over. Berkshire has the highest population with 797 500, Buckinghamshire is second with 677 500, Oxfordshire has 610 800 and Northamptonshire 610 300. Northamptonshire has the highest proportion of elderly residents with 14.3% being 65 or over. Buckinghamshire has 12.5%, Oxfordshire's figure is 13.9% and Berkshire 13.2%. Berkshire has more residents from black (African, Caribbean or other), Indian, Pakistani, Bangladeshi, Chinese, Asian or other minority groups, than the other counties, accounting for 7.6% of its population. Buckinghamshire has 5.3% black, and ethnic minority citizens, Northamptonshire 3.5% and Oxfordshire 3.3%.

In general, the population of the Oxford Region is healthier and less deprived than those living in many other parts of England. There are, however, pockets of deprivation in some parts of the Region and there are higher rates of diseases (e.g. breast cancer) associated with a higher social class distribution

Registry structure and methods

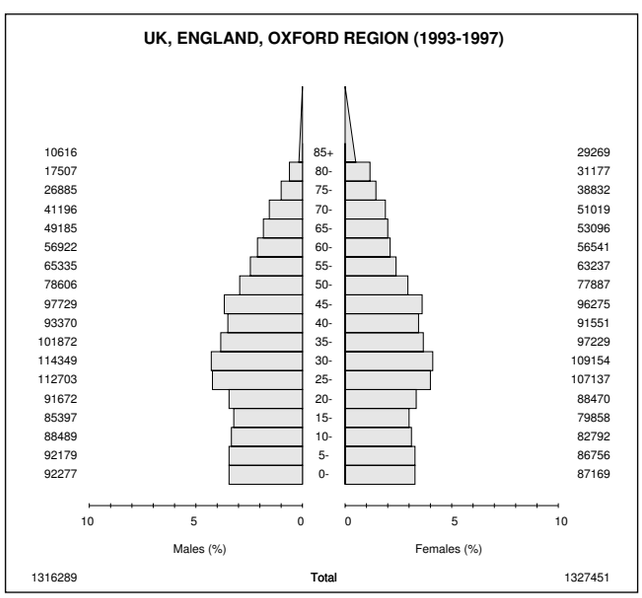
Cancer registration data have been collected on a regional basis since 1952. Data are collected on patients who are resident in or treated in the area covered by the region. Cases are notified to the registry by histopathology and cytopathology laboratories and medical records departments. Death certificates relating to the resident population, where cancer is mentioned, are also passed to the registry from the Office for National Statistics (ONS). In addition, all registered cancer patients are flagged on the NHS Central Register to ensure that the local registry is informed of deaths among the registered population, including those from causes other than cancer and those occurring outside the region. There is collaboration with specialist registers (e.g., Childhood Cancer Research Group, Oxford Regional Leukaemia Register) and directly with clinicians to collect certain types of data.

The registry collects data on all malignant tumours, *in situ* neoplasms and certain benign tumours. An abstract of each tumour record is passed to ONS for inclusion in the National Cancer Registration Scheme. Information on non-residents treated within the Oxford Region is passed to the appropriate regional registry and is part of a reciprocal arrangement.

Until 1992, the process of registration was entirely manual. In September 1992, a Hewlett Packard 9000 RISC minicomputer system was installed running Unix, Informix, SQL and the C-CRIS 1 Cancer Registration System. Initially, the registry continued to receive paper copies of histopathology and cytopathology reports from contributing hospitals and all data were manually entered on the system. Currently electronic versions of pathology reports (abstracted by identifying all cancer SNOMED codes) with demographic details separately identified are received from all laboratories. Electronic downloads from Casemix/Patient Administration Systems are received from all provider sites. Ox-link record matching software is used to distinguish new registrations from amendments or non-registrable cases. Demographic details of new registrations are added automatically to the file. Clerks then add the diagnosis and treatment details.

Use of the data

The Oxford Cancer Registry is now part of the Oxford Cancer Intelligence Unit (OCIU). OCIU is responsible not only for the cancer registration function, but also for providing a cancer information service, managing the work on quality assurance and evaluation of the breast and cervical screening programmes in the Region and undertaking and contributing to programmes of clinical audit and research.



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

UK, ENGLAND, OXFORD REGION (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	71	0.3	1.1	**0.7**	0.04	0.08	28	0.1	0.4	**0.2**	0.01	0.03	*C00*
Tongue	97	0.4	1.5	**1.1**	0.07	0.12	82	0.3	1.2	**0.8**	0.06	0.09	*C01-02*
Mouth	118	0.5	1.8	**1.4**	0.10	0.17	73	0.3	1.1	**0.6**	0.05	0.07	*C03-06*
Salivary glands	68	0.3	1.0	**0.7**	0.04	0.07	58	0.2	0.9	**0.6**	0.03	0.06	*C07-08*
Tonsil	55	0.2	0.8	**0.6**	0.05	0.08	17	0.1	0.3	**0.2**	0.02	0.02	*C09*
Other oropharynx	17	0.1	0.3	**0.2**	0.02	0.02	12	0.0	0.2	**0.1**	0.00	0.01	*C10*
Nasopharynx	33	0.1	0.5	**0.4**	0.03	0.05	16	0.1	0.2	**0.2**	0.02	0.02	*C11*
Hypopharynx	40	0.2	0.6	**0.4**	0.03	0.06	15	0.1	0.2	**0.1**	0.01	0.03	*C12-13*
Pharynx unspecified	33	0.1	0.5	**0.4**	0.02	0.04	19	0.1	0.3	**0.2**	0.01	0.02	*C14*
Oesophagus	787	3.1	12.0	**8.1**	0.36	0.98	471	1.8	7.1	**3.2**	0.13	0.34	*C15*
Stomach	1078	4.2	16.4	**10.7**	0.42	1.21	619	2.3	9.3	**4.0**	0.14	0.42	*C16*
Small intestine	55	0.2	0.8	**0.6**	0.04	0.08	56	0.2	0.8	**0.5**	0.03	0.06	*C17*
Colon	2004	7.9	30.4	**20.5**	0.89	2.39	2158	8.1	32.5	**16.5**	0.78	1.88	*C18*
Rectum	1314	5.2	20.0	**13.7**	0.68	1.63	1001	3.8	15.1	**8.1**	0.43	0.95	*C19-20*
Anus	49	0.2	0.7	**0.5**	0.02	0.06	84	0.3	1.3	**0.7**	0.04	0.08	*C21*
Liver	185	0.7	2.8	**2.0**	0.10	0.25	122	0.5	1.8	**1.0**	0.05	0.11	*C22*
Gallbladder etc.	96	0.4	1.5	**0.9**	0.03	0.10	132	0.5	2.0	**0.9**	0.04	0.09	*C23-24*
Pancreas	640	2.5	9.7	**6.6**	0.30	0.74	698	2.6	10.5	**5.0**	0.21	0.55	*C25*
Nose, sinuses etc.	57	0.2	0.9	**0.6**	0.04	0.07	30	0.1	0.5	**0.3**	0.01	0.03	*C30-31*
Larynx	318	1.2	4.8	**3.4**	0.17	0.41	77	0.3	1.2	**0.7**	0.04	0.09	*C32*
Trachea, bronchus and lung	4401	17.3	66.9	**44.3**	1.72	5.49	2374	8.9	35.8	**19.5**	0.83	2.55	*C33-34*
Other thoracic organs	16	0.1	0.2	**0.2**	0.01	0.02	18	0.1	0.3	**0.2**	0.01	0.02	*C37-38*
Bone	56	0.2	0.9	**0.7**	0.05	0.07	52	0.2	0.8	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	651	2.6	9.9	**7.6**	0.54	0.80	922	3.5	13.9	**10.4**	0.77	1.05	*C43*
Other skin	9179		139.5	**95.0**	4.64	10.69	7762		116.9	**65.3**	3.73	7.21	*C44*
Mesothelioma	263	1.0	4.0	**2.8**	0.15	0.38	47	0.2	0.7	**0.5**	0.04	0.06	*C45*
Kaposi sarcoma	22	0.1	0.3	**0.3**	0.02	0.02	1	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	179	0.7	2.7	**2.2**	0.13	0.22	149	0.6	2.2	**1.6**	0.11	0.15	*C47+C49*
Breast	51	0.2	0.8	**0.5**	0.02	0.06	8268	31.1	124.6	**85.2**	6.44	9.49	*C50*
Vulva							179	0.7	2.7	**1.3**	0.06	0.12	*C51*
Vagina							33	0.1	0.5	**0.3**	0.02	0.03	*C52*
Cervix uteri							558	2.1	8.4	**6.2**	0.47	0.58	*C53*
Corpus uteri							1016	3.8	15.3	**10.1**	0.73	1.27	*C54*
Uterus unspecified							24	0.1	0.4	**0.2**	0.01	0.01	*C55*
Ovary							1452	5.5	21.9	**15.1**	1.07	1.75	*C56*
Other female genital organs							13	0.0	0.2	**0.1**	0.01	0.02	*C57*
Placenta							3	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	64	0.3	1.0	**0.7**	0.04	0.08							*C60*
Prostate	4670	18.3	71.0	**44.4**	1.11	5.11							*C61*
Testis	457	1.8	6.9	**6.0**	0.45	0.47							*C62*
Other male genital organs	8	0.0	0.1	**0.1**	0.00	0.01							*C63*
Kidney	607	2.4	9.2	**7.0**	0.41	0.79	371	1.4	5.6	**3.6**	0.22	0.41	*C64*
Renal pelvis	65	0.3	1.0	**0.7**	0.03	0.10	42	0.2	0.6	**0.4**	0.02	0.05	*C65*
Ureter	31	0.1	0.5	**0.3**	0.01	0.04	23	0.1	0.3	**0.2**	0.00	0.02	*C66*
Bladder	2247	8.8	34.1	**22.8**	0.95	2.67	814	3.1	12.3	**6.1**	0.27	0.72	*C67*
Other urinary organs	11	0.0	0.2	**0.1**	0.00	0.02	4	0.0	0.1	**0.0**	0.00	0.00	*C68*
Eye	61	0.2	0.9	**0.8**	0.06	0.08	65	0.2	1.0	**0.9**	0.06	0.08	*C69*
Brain, nervous system	548	2.2	8.3	**6.8**	0.45	0.73	415	1.6	6.3	**4.7**	0.29	0.47	*C70-72*
Thyroid	72	0.3	1.1	**0.9**	0.06	0.09	210	0.8	3.2	**2.4**	0.18	0.24	*C73*
Adrenal gland	23	0.1	0.3	**0.4**	0.02	0.03	18	0.1	0.3	**0.2**	0.01	0.02	*C74*
Other endocrine	13	0.1	0.2	**0.2**	0.01	0.01	14	0.1	0.2	**0.2**	0.01	0.01	*C75*
Hodgkin disease	200	0.8	3.0	**2.8**	0.21	0.23	134	0.5	2.0	**2.0**	0.13	0.15	*C81*
Non-Hodgkin lymphoma	958	3.8	14.6	**10.8**	0.63	1.23	892	3.4	13.4	**8.2**	0.50	0.92	*C82-85,C96*
Immunoproliferative diseases	52	0.2	0.8	**0.5**	0.02	0.06	26	0.1	0.4	**0.2**	0.01	0.03	*C88*
Multiple myeloma	418	1.6	6.4	**4.3**	0.19	0.48	362	1.4	5.5	**2.9**	0.15	0.34	*C90*
Lymphoid leukaemia	469	1.8	7.1	**5.7**	0.28	0.54	356	1.3	5.4	**3.8**	0.18	0.37	*C91*
Myeloid leukaemia	402	1.6	6.1	**4.4**	0.21	0.46	350	1.3	5.3	**3.2**	0.17	0.31	*C92-94*
Leukaemia unspecified	21	0.1	0.3	**0.2**	0.01	0.02	28	0.1	0.4	**0.2**	0.01	0.02	*C95*
Other and unspecified	1308	5.1	19.9	**13.0**	0.49	1.43	1606	6.0	24.2	**11.4**	0.51	1.21	*O&U*
All sites	34638		526.3	**360.4**	16.33	41.04	34369		517.8	**311.1**	19.16	34.69	*ALL*
All sites but C44	25459	100.0	386.8	**265.4**	11.70	30.34	26607	100.0	400.9	**245.8**	15.42	27.48	*ALLbC44*

UK, England, South Thames

Registration area

The registry was founded in 1958 as the South Metropolitan Cancer Registry, became population-based in 1960 and was renamed the South Thames Cancer Registry in 1974. Until 1984 it covered the South East and South West Thames Regional Health Authority areas, with a population of 6 780 000. In 1985 the registry expanded to include the North Thames Health Regions, becoming the Thames Cancer Registry and covering, in 2000, a population of 14.3 million. Data in this volume, as in previous volumes, cover the South Thames regions only.

Although there is little heavy industry in the registration area, most of the population lives in urban areas. The most common occupations are in local and national government, finance and commerce. A wide variety of races is represented in the population of the area, especially in Greater London. While the registry population includes some of the most affluent in the United Kingdom, there are pockets of poverty, especially in the Greater London area.

Cancer care facilities

The majority of cancer patients are treated within the National Health Service, but an increasing number receive at least part of their care in the private sector. It is believed that most private patients with cancer are registered, but the level of detail obtained may be lower than that for NHS patients.

Registry structure and methods

The Thames Cancer Registry is funded by the Health Authorities which constitute the old North and South Thames Health Regions. The registry moved location in 1996 and is now situated on the Guys Hospital campus at London Bridge, and is managed by King's College London.

Data are collected by a team of tumour registrars employed by the registry, who abstract details from hospital medical records. Various sources of information are used, including hospital information systems, medical secretaries, outpatient departments, pathology departments and radiotherapy units. Information on new cancer cases is increasingly sent directly to the registry on magnetic media from various hospitals.

The registry installed a new computer system in October 1994, based on special software developed by a commercial company and designed to increase the accessibility of the database, which now holds records of 2 million tumours. This system retained the previous one's user-friendly interface for manual data input from registration forms, and added a much improved patient search, and numerous cross-field validation checks. It continues the automatic coding system introduced at the registry in 1982.

Data-entry operators enter text and this is coded by the computer from dictionary tables. SNOMED2 terms and codes are used by the system to store the diagnosis, and these are translated to the relevant version of ICD. A wide range of consistency checks between data items is carried out by the computer system at the time of data entry. Quality assurance procedures are currently being extended, to include regular retrospective checks on the quality of the data stored and regular checks on the quality and consistency of the work of all staff involved in collecting and processing the data.

Each patient registered has a unique identification number. This number has a subscript which indicates how many primary cancers the patient has. The registry uses the rules for registering multiple primaries agreed between the Registries of England and Wales and the Office for National Statistics.

The registry does not carry out active follow-up. All patients registered are flagged on the NHS Central Register (NHSCR) so that the registry is notified if they die. The registry is also notified of all cancer deaths occurring within its area, whether the patients are flagged at NHSCR or not.

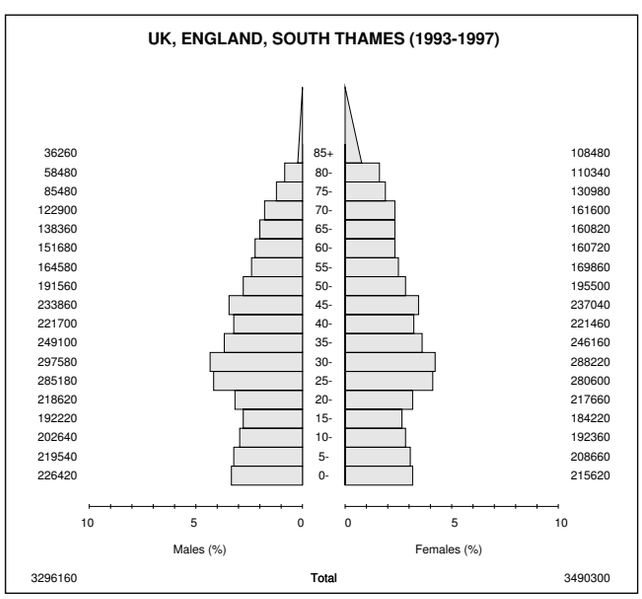
Registrations based on a death certificate only (DCOs) are created if the patients' case notes cannot be traced. The proportion of DCO registrations went out of control and reached 15–20% at the beginning of the 1990s when trace-back of these cases was stopped. The current figure is 7% which can be further reduced to about 2% when trace-back is fully re-implemented.

Interpreting the results

Completeness of ascertainment, calculated using an empirical method developed at the registry, is estimated at 92% within five years of the initial diagnosis. There is considerable variation across cancer sites with ascertainment of fatal cancers such as lung cancer being more complete than for those (such as breast cancer or melanoma) which have a better prognosis.

Use of the data

The reorganization of the NHS and of cancer services in particular has increased substantially the demand for the cancer information service. The registry now employs four full-time staff to handle the production of reports and answer queries from medical staff and researchers both within the region, nationally and internationally.



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

Notes on the data

* The proportion of cases registered on the basis of a death certificate alone and of cases with unspecified primary site, and the low level of morphological confirmation, indicate under-ascertainment.

† C44 does not include basal cell carcinomas.

*UK, ENGLAND, SOUTH THAMES (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	31	0.0	0.2	**0.1**	0.01	0.01	32	0.0	0.2	**0.1**	0.00	0.01	*C00*
Tongue	290	0.4	1.8	**1.2**	0.08	0.15	223	0.3	1.3	**0.7**	0.04	0.08	*C01-02*
Mouth	380	0.5	2.3	**1.6**	0.12	0.19	268	0.4	1.5	**0.8**	0.05	0.09	*C03-06*
Salivary glands	163	0.2	1.0	**0.6**	0.03	0.06	116	0.2	0.7	**0.4**	0.02	0.04	*C07-08*
Tonsil	170	0.2	1.0	**0.8**	0.06	0.09	57	0.1	0.3	**0.2**	0.02	0.03	*C09*
Other oropharynx	59	0.1	0.4	**0.3**	0.02	0.03	21	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	81	0.1	0.5	**0.4**	0.03	0.04	40	0.1	0.2	**0.2**	0.01	0.02	*C11*
Hypopharynx	136	0.2	0.8	**0.5**	0.03	0.07	73	0.1	0.4	**0.2**	0.02	0.03	*C12-13*
Pharynx unspecified	68	0.1	0.4	**0.3**	0.02	0.03	28	0.0	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	2338	3.2	14.2	**8.4**	0.40	1.00	1511	2.0	8.7	**3.4**	0.15	0.39	*C15*
Stomach	3350	4.6	20.3	**11.4**	0.44	1.34	1974	2.6	11.3	**4.0**	0.14	0.42	*C16*
Small intestine	139	0.2	0.8	**0.5**	0.03	0.06	135	0.2	0.8	**0.4**	0.02	0.04	*C17*
Colon	5464	7.6	33.2	**19.1**	0.83	2.18	6488	8.6	37.2	**15.3**	0.70	1.76	*C18*
Rectum	3500	4.9	21.2	**12.8**	0.63	1.56	2790	3.7	16.0	**7.0**	0.35	0.82	*C19-20*
Anus	180	0.2	1.1	**0.7**	0.05	0.08	258	0.3	1.5	**0.8**	0.04	0.09	*C21*
Liver	577	0.8	3.5	**2.3**	0.12	0.26	361	0.5	2.1	**0.9**	0.05	0.11	*C22*
Gallbladder etc.	310	0.4	1.9	**1.1**	0.05	0.11	423	0.6	2.4	**1.0**	0.04	0.12	*C23-24*
Pancreas	2102	2.9	12.8	**7.5**	0.35	0.89	2279	3.0	13.1	**5.2**	0.23	0.58	*C25*
Nose, sinuses etc.	153	0.2	0.9	**0.6**	0.03	0.07	111	0.1	0.6	**0.4**	0.02	0.04	*C30-31*
Larynx	945	1.3	5.7	**3.7**	0.21	0.47	213	0.3	1.2	**0.6**	0.03	0.08	*C32*
Trachea, bronchus and lung	13635	18.9	82.7	**46.8**	1.84	5.70	7880	10.5	45.2	**20.7**	0.93	2.67	*C33-34*
Other thoracic organs	123	0.2	0.7	**0.5**	0.03	0.06	95	0.1	0.5	**0.3**	0.02	0.04	*C37-38*
Bone	179	0.2	1.1	**1.1**	0.06	0.08	120	0.2	0.7	**0.6**	0.04	0.05	*C40-41*
Melanoma of skin	1393	1.9	8.5	**6.0**	0.42	0.64	1866	2.5	10.7	**7.0**	0.51	0.72	*C43*
†Other skin	2628		15.9	**8.2**	0.26	0.79	1648		9.4	**3.2**	0.12	0.31	*C44*
Mesothelioma	658	0.9	4.0	**2.6**	0.14	0.34	118	0.2	0.7	**0.4**	0.02	0.04	*C45*
Kaposi sarcoma	213	0.3	1.3	**1.0**	0.08	0.09	25	0.0	0.1	**0.1**	0.01	0.01	*C46*
Connective and soft tissue	415	0.6	2.5	**1.9**	0.12	0.18	349	0.5	2.0	**1.3**	0.08	0.13	*C47+C49*
Breast	140	0.2	0.8	**0.5**	0.02	0.06	22336	29.7	128.0	**79.4**	6.05	8.82	*C50*
Vulva							461	0.6	2.6	**1.0**	0.05	0.10	*C51*
Vagina							126	0.2	0.7	**0.4**	0.03	0.04	*C52*
Cervix uteri							1709	2.3	9.8	**6.9**	0.52	0.68	*C53*
Corpus uteri							2817	3.7	16.1	**9.2**	0.64	1.15	*C54*
Uterus unspecified							62	0.1	0.4	**0.2**	0.01	0.02	*C55*
Ovary							3502	4.6	20.1	**11.8**	0.81	1.39	*C56*
Other female genital organs							64	0.1	0.4	**0.2**	0.02	0.02	*C57*
Placenta							5	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	177	0.2	1.1	**0.7**	0.04	0.07							*C60*
Prostate	13676	19.0	83.0	**43.3**	1.19	4.93							*C61*
Testis	1031	1.4	6.3	**5.4**	0.41	0.42							*C62*
Other male genital organs	19	0.0	0.1	**0.1**	0.00	0.01							*C63*
Kidney	1693	2.3	10.3	**6.9**	0.39	0.81	983	1.3	5.6	**3.1**	0.18	0.35	*C64*
Renal pelvis	63	0.1	0.4	**0.2**	0.02	0.03	48	0.1	0.3	**0.1**	0.01	0.02	*C65*
Ureter	87	0.1	0.5	**0.3**	0.02	0.04	38	0.1	0.2	**0.1**	0.00	0.01	*C66*
Bladder	4898	6.8	29.7	**16.5**	0.64	1.87	2013	2.7	11.5	**4.5**	0.18	0.50	*C67*
Other urinary organs	45	0.1	0.3	**0.1**	0.00	0.02	13	0.0	0.1	**0.0**	0.00	0.00	*C68*
Eye	153	0.2	0.9	**0.7**	0.04	0.07	165	0.2	0.9	**0.8**	0.05	0.07	*C69*
Brain, nervous system	1440	2.0	8.7	**6.8**	0.47	0.72	1126	1.5	6.5	**4.8**	0.32	0.48	*C70-72*
Thyroid	171	0.2	1.0	**0.8**	0.05	0.08	477	0.6	2.7	**1.9**	0.14	0.18	*C73*
Adrenal gland	48	0.1	0.3	**0.3**	0.02	0.02	46	0.1	0.3	**0.3**	0.01	0.02	*C74*
Other endocrine	34	0.0	0.2	**0.2**	0.01	0.02	32	0.0	0.2	**0.1**	0.01	0.01	*C75*
Hodgkin disease	425	0.6	2.6	**2.3**	0.16	0.19	327	0.4	1.9	**1.7**	0.11	0.13	*C81*
Non-Hodgkin lymphoma	2712	3.8	16.5	**11.2**	0.69	1.23	2386	3.2	13.7	**7.4**	0.45	0.85	*C82-85,C96*
Immunoproliferative diseases	0	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	980	1.4	5.9	**3.6**	0.18	0.43	879	1.2	5.0	**2.2**	0.11	0.26	*C90*
Lymphoid leukaemia	1087	1.5	6.6	**4.8**	0.24	0.46	836	1.1	4.8	**2.9**	0.12	0.26	*C91*
Myeloid leukaemia	1000	1.4	6.1	**3.9**	0.19	0.39	958	1.3	5.5	**2.9**	0.16	0.29	*C92-94*
Leukaemia unspecified	69	0.1	0.4	**0.2**	0.01	0.03	89	0.1	0.5	**0.2**	0.01	0.02	*C95*
Other and unspecified	5146	7.1	31.2	**17.3**	0.66	1.91	5975	7.9	34.2	**13.4**	0.58	1.47	*O&U*
All sites	74774		453.7	**267.9**	11.92	30.38	76975		441.1	**230.9**	14.25	25.88	*ALL*
All sites but C44	72146	100.0	437.8	**259.7**	11.65	29.59	75327	100.0	431.6	**227.6**	14.13	25.57	*ALLbC44*

†See note following population pyramid

UK, South and West Regions

Registration area

The catchment area of the South West Cancer Intelligence Service spans two regional Government Office boundaries: the South West Region and the South East Region. This covers the counties of Gloucestershire, Avon, Somerset, Devon, Cornwall, Dorset, Wiltshire, Hampshire and the Isle of Wight. The area is approximately 28 000 km^2 with a population of 6 716 000. The population is predominantly Caucasian, with an approximate 60/40% split between urban/suburban and rural residents.

23% of the population is retired, with 8.3% aged over 75. This age group is concentrated in certain areas, the Isle of Wight having 11.3% and Dorset 10.9% of residents over age 75.

Cancer care facilities

The area is served by 42 primary care trusts and 25 acute hospitals including seven designated specialist cancer centres. Cancer services are organized into five networks comprising primary, secondary, tertiary and quaternary levels of care. Health care is predominantly state-funded, though there is some private health care

Registry structure and methods

The South West Cancer Intelligence Service (SWCIS) collects data on all cancers in the South Western area of England. The SWCIS was formed from the merger of three organizations: the South Western and Wessex registries, and the Regional Cancer Organisation (an audit facility). There are two offices, in Bristol and Winchester, which are networked to support access to data from either site. The SWCIS is resourced by the NHS and Department of Health.

There are four principal data sources; national contract data-sets for patients (Clearnet), Hospital Patient Administration Systems (PAS), pathology laboratory reporting systems and the national death database. Ninety-five per cent of data arrives electronically. This is subject to a 'Mark-up' process, whereby data is cleaned, validated, and delimited ready for electronic processing. Clearnet and cancer deaths have the highest automated processing rate using complex patient and tumour matching algorithms. Pathology and PAS data, on the other hand, undergo partial automatic processing, but require much manual intervention by registration officers to resolve apparent ambiguities in patient and tumour matching. Additional sources of data include private hospitals, military hospitals, hospices, screening centres, audit databases, other cancer registries, and treatment databases.

Interpreting the results

The wide coverage provided by the above range of sources and audit carried out in NHS Trusts on a regular basis indicate that coverage is above 99%.

Use of the data

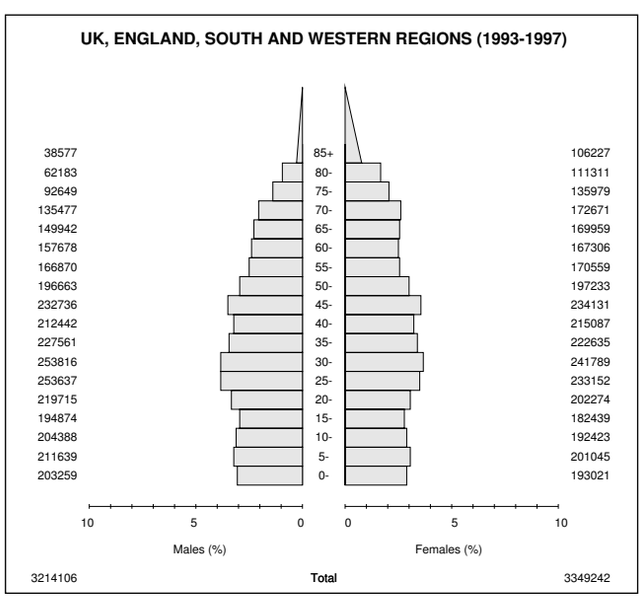
The SWCIS places considerable emphasis on dissemination of information related to cancer. It is required to provide a regular download of new and updated registrations to the National Cancer Registry at the Office for National Statistics for Government publication.

The SWCIS information team responds to queries from a wide range of interested parties, such as Strategic Health Authorities, Primary Care Trusts, Cancer Networks, consultants, medical students, medical audit, research bodies and the media. Queries take from one day to two weeks to process, depending on complexity. SWCIS has established a web site at www.theswcis.nhs.uk, which provides information about the organization as well as statistics on cancer epidemiology. Publications include an annual report, reports on specific cancer sites, patterns of treatment and health service facility usage.

SWCIS regularly engages in research and audit on a variety of topics. The SWCIS audit team remit is to work with clinicians to improve standards in cancer care and 12 multi-disciplinary tumour panels have been developed covering most cancer sites. Current work includes prospective and retrospective audits as well as snapshot audits and surveys. The SWCIS endeavours to integrate in its audits the monitoring of standards set by the government. It supports the Cancer Networks in the reorganization of cancer services. The results of the SWCIS audits are disseminated among health professionals to promote implementation of changes and improve cancer services.

SWCIS also supports the Quality Assurance Reference Centre (QARC) for the breast screening and cervical screening programmes. Current work includes a collaborative pilot study between SWCIS and BSQARC, which will look at the feasibility and methodology required to establish accurate recording and analysis of all data pertinent to interval cancers. The study will examine the information sources and flows available to both organisations.

The SWCIS also collaborates with the Public Health Observatory (surveillance of non-communicable diseases), particularly to examine deprivation issues and access to services.



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

Notes on the data

* The low level of morphological confirmation suggests a degree of under-registration, or a lack of validity in the diagnoses.

† C44 was not registered for half of the population.

*UK, ENGLAND, SOUTH AND WESTERN REGIONS (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	158	0.2	1.0	**0.5**	0.03	0.06	51	0.1	0.3	**0.1**	0.01	0.01	*C00*
Tongue	328	0.4	2.0	**1.3**	0.09	0.16	227	0.3	1.4	**0.7**	0.05	0.08	*C01-02*
Mouth	314	0.4	2.0	**1.2**	0.08	0.15	292	0.4	1.7	**0.8**	0.05	0.09	*C03-06*
Salivary glands	192	0.2	1.2	**0.7**	0.04	0.07	125	0.2	0.7	**0.4**	0.03	0.05	*C07-08*
Tonsil	123	0.2	0.8	**0.5**	0.04	0.06	48	0.1	0.3	**0.2**	0.01	0.02	*C09*
Other oropharynx	31	0.0	0.2	**0.1**	0.01	0.01	18	0.0	0.1	**0.1**	0.00	0.01	*C10*
Nasopharynx	102	0.1	0.6	**0.5**	0.03	0.05	47	0.1	0.3	**0.2**	0.01	0.02	*C11*
Hypopharynx	133	0.2	0.8	**0.5**	0.03	0.06	83	0.1	0.5	**0.2**	0.01	0.03	*C12-13*
Pharynx unspecified	74	0.1	0.5	**0.3**	0.02	0.03	44	0.1	0.3	**0.1**	0.01	0.01	*C14*
Oesophagus	2472	3.0	15.4	**8.5**	0.42	1.03	1765	2.1	10.5	**3.7**	0.15	0.40	*C15*
Stomach	3445	4.2	21.4	**10.8**	0.40	1.28	2054	2.5	12.3	**4.3**	0.17	0.46	*C16*
Small intestine	212	0.3	1.3	**0.8**	0.04	0.09	202	0.2	1.2	**0.5**	0.03	0.06	*C17*
Colon	6787	8.4	42.2	**22.1**	0.95	2.55	7467	9.1	44.6	**17.3**	0.81	1.99	*C18*
Rectum	4201	5.2	26.1	**14.3**	0.72	1.76	2999	3.7	17.9	**7.4**	0.37	0.85	*C19-20*
Anus	180	0.2	1.1	**0.6**	0.04	0.07	270	0.3	1.6	**0.7**	0.04	0.09	*C21*
Liver	729	0.9	4.5	**2.6**	0.12	0.30	541	0.7	3.2	**1.3**	0.06	0.15	*C22*
Gallbladder etc.	293	0.4	1.8	**0.9**	0.04	0.11	437	0.5	2.6	**1.0**	0.04	0.12	*C23-24*
Pancreas	2018	2.5	12.6	**6.6**	0.29	0.76	2204	2.7	13.2	**4.9**	0.21	0.56	*C25*
Nose, sinuses etc.	143	0.2	0.9	**0.6**	0.04	0.06	97	0.1	0.6	**0.3**	0.02	0.03	*C30-31*
Larynx	895	1.1	5.6	**3.2**	0.18	0.40	193	0.2	1.2	**0.5**	0.03	0.07	*C32*
Trachea, bronchus and lung	13246	16.3	82.4	**42.8**	1.70	5.25	6873	8.4	41.0	**17.7**	0.84	2.27	*C33-34*
Other thoracic organs	188	0.2	1.2	**0.7**	0.04	0.09	122	0.1	0.7	**0.4**	0.03	0.05	*C37-38*
Bone	186	0.2	1.2	**1.0**	0.06	0.09	145	0.2	0.9	**0.7**	0.05	0.05	*C40-41*
Melanoma of skin	2110	2.6	13.1	**8.9**	0.63	0.97	3022	3.7	18.0	**11.8**	0.86	1.22	*C43*
†Other skin	15501		96.5	**50.9**	2.29	5.66	13227		79.0	**33.5**	1.82	3.65	*C44*
Mesothelioma	865	1.1	5.4	**3.2**	0.17	0.41	107	0.1	0.6	**0.3**	0.02	0.04	*C45*
Kaposi sarcoma	40	0.0	0.2	**0.2**	0.02	0.02	4	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	527	0.6	3.3	**2.2**	0.12	0.22	431	0.5	2.6	**1.6**	0.09	0.15	*C47+C49*
Breast	205	0.3	1.3	**0.7**	0.04	0.08	24133	29.4	144.1	**83.5**	6.29	9.23	*C50*
Vulva							633	0.8	3.8	**1.4**	0.06	0.15	*C51*
Vagina							142	0.2	0.8	**0.4**	0.03	0.05	*C52*
Cervix uteri							1859	2.3	11.1	**7.9**	0.60	0.75	*C53*
Corpus uteri							3110	3.8	18.6	**9.9**	0.68	1.25	*C54*
Uterus unspecified							331	0.4	2.0	**0.9**	0.05	0.09	*C55*
Ovary							3970	4.8	23.7	**13.2**	0.90	1.53	*C56*
Other female genital organs							226	0.3	1.3	**0.7**	0.05	0.09	*C57*
Placenta							9	0.0	0.1	**0.1**	0.00	0.00	*C58*
Penis	252	0.3	1.6	**0.9**	0.05	0.09							*C60*
Prostate	15881	19.5	98.8	**45.2**	1.07	4.91							*C61*
Testis	1084	1.3	6.7	**6.1**	0.45	0.48							*C62*
Other male genital organs	131	0.2	0.8	**0.4**	0.02	0.04							*C63*
Kidney	1890	2.3	11.8	**7.2**	0.43	0.85	1105	1.3	6.6	**3.7**	0.23	0.41	*C64*
Renal pelvis	113	0.1	0.7	**0.4**	0.02	0.05	68	0.1	0.4	**0.2**	0.01	0.02	*C65*
Ureter	116	0.1	0.7	**0.4**	0.02	0.05	53	0.1	0.3	**0.1**	0.01	0.02	*C66*
Bladder	7339	9.0	45.7	**23.9**	0.98	2.80	2774	3.4	16.6	**6.7**	0.32	0.80	*C67*
Other urinary organs	300	0.4	1.9	**1.0**	0.05	0.12	161	0.2	1.0	**0.5**	0.02	0.05	*C68*
Eye	167	0.2	1.0	**0.8**	0.05	0.08	162	0.2	1.0	**0.7**	0.04	0.06	*C69*
Brain, nervous system	1577	1.9	9.8	**7.3**	0.49	0.76	1212	1.5	7.2	**5.3**	0.35	0.51	*C70-72*
Thyroid	207	0.3	1.3	**0.9**	0.06	0.09	504	0.6	3.0	**2.1**	0.14	0.20	*C73*
Adrenal gland	62	0.1	0.4	**0.4**	0.03	0.03	77	0.1	0.5	**0.5**	0.03	0.04	*C74*
Other endocrine	52	0.1	0.3	**0.3**	0.02	0.03	29	0.0	0.2	**0.1**	0.01	0.01	*C75*
Hodgkin disease	444	0.5	2.8	**2.4**	0.17	0.21	364	0.4	2.2	**2.1**	0.14	0.16	*C81*
Non-Hodgkin lymphoma	3211	4.0	20.0	**12.7**	0.75	1.40	2804	3.4	16.7	**8.4**	0.48	0.95	*C82-85,C96*
Immunoproliferative diseases	69	0.1	0.4	**0.2**	0.01	0.02	50	0.1	0.3	**0.1**	0.00	0.01	*C88*
Multiple myeloma	1253	1.5	7.8	**4.1**	0.19	0.47	1220	1.5	7.3	**2.9**	0.13	0.36	*C90*
Lymphoid leukaemia	1285	1.6	8.0	**5.4**	0.25	0.49	931	1.1	5.6	**3.2**	0.15	0.27	*C91*
Myeloid leukaemia	1184	1.5	7.4	**4.5**	0.23	0.45	996	1.2	5.9	**3.1**	0.17	0.29	*C92-94*
Leukaemia unspecified	108	0.1	0.7	**0.4**	0.02	0.04	84	0.1	0.5	**0.2**	0.01	0.02	*C95*
Other and unspecified	4352	5.4	27.1	**14.0**	0.57	1.56	5234	6.4	31.3	**12.0**	0.53	1.35	*O&U*
All sites	96775		602.2	**326.2**	14.57	36.86	95336		569.3	**280.9**	17.27	31.21	*ALL*
All sites but C44	81274	100.0	505.7	**275.3**	12.28	31.20	82109	100.0	490.3	**247.4**	15.45	27.56	*ALLbC44*

†See note following population pyramid

UK, England, Trent

Registration area

The Trent region covers the counties of Derbyshire (except its north-west tip), Leicestershire, Lincolnshire, Nottinghamshire and South Yorkshire, an area of 14 700 km² with a resident population of 5 million.

The majority of the population is concentrated on the western side of the region in a spine running from north to south, and over 80% of the population live in the fairly densely populated urban areas. Despite a contraction in the steel and mining industries in recent years, over the period covered the majority of the working population were engaged in heavy industry and manufacturing. In the more sparsely populated eastern side of the region the main occupations are farming, fishing and associated activities, with large numbers of holiday-makers during the summer months.

Taking the region as a whole, its health needs are comparable with national averages. Likewise, despite variations across the region, overall its social mix and employment levels at the 1991 census were not dissimilar to those of England as a whole. The age structure of the population is broadly similar to that of England and Wales, although there is a slightly higher proportion of residents aged 65 to 74. There are sizeable numbers of people from black and ethnic minority groups, most notably Pakistani and black Caribbean. Variations in population health closely mirror variations in socioeconomic conditions, with demonstrable health inequalities across 947 electoral wards in the region.

Cancer care facilities

The region is served by 44 trusts, 881 primary care practices and three medical schools.

Registry structure and methods

Cancer registration in the Trent Region began in 1955 under the auspices of the then Sheffield Regional Hospital Board which was succeeded by the Trent Regional Health Authority under National Health Service re-organization in 1974.

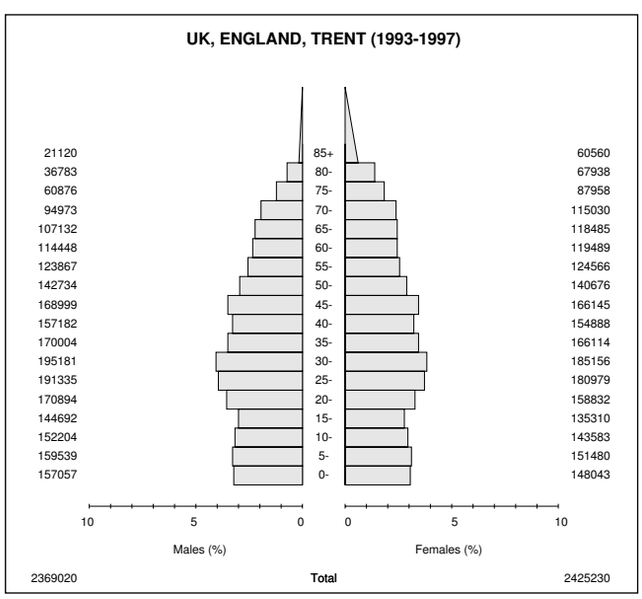
Initially separate cancer registers were operated by each of the five radiotherapy centres in the region. The scheme was centralized at the then Regional Hospital Board Headquarters in 1961, with sub-centres remaining in Lincoln, Leicester, Derby and Nottingham. In the autumn of 1994, following a fundamental review of the registry's activities, products and services, a comprehensive programme of change began. The registry transferred to new accommodation at Weston Park Hospital in Sheffield in 1995 and a new software system was implemented. The registry's services have been commissioned according to a national core contract with national quality standards since April 1996. This established Trent Cancer Registry as a viable organization, enabled the database to be updated and ensured that the products and services could be of direct benefit to the planning and delivery of healthcare to cancer patients across Trent.

The current database holds data from 1966 comprising more than 700 000 individual registrations. Cases diagnosed in hospitals (inpatient and outpatient) are notified to the registry electronically, including details taken from pathology reports. Other cancer registries notify the registry of Trent residents treated outside the region. Notifications are also received from Breast Screening Units and hospices. Copies of death certificates are routinely received from the Office for National Statistics for all cases where cancer is a cause of death. When the cause of death is not cancer related, the registry is notified by the National Health Service Central Register, where all registered cancer patients are flagged.

On receipt, data are validated using extensive edit procedures (incorporating those of the Office for National Statistics), and checked for duplicate registrations and identification of patients with multiple primaries. Approximately 24 000 new registrations are made in Trent each year. At intervals, new registrations are abstracted and sent to the Office for National Statistics to update the national system.

Use of the data

Some statistics, and more details, also about reports and other publications, can be found on the registry's web site: http://www.trentcancer.prestel.co.uk



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

UK, ENGLAND, TRENT (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	61	0.1	0.5	**0.3**	0.02	0.03	16	0.0	0.1	**0.0**	0.00	0.01	*C00*
Tongue	253	0.5	2.1	**1.5**	0.10	0.17	127	0.2	1.0	**0.6**	0.04	0.07	*C01-02*
Mouth	267	0.5	2.3	**1.5**	0.11	0.17	167	0.3	1.4	**0.7**	0.05	0.09	*C03-06*
Salivary glands	83	0.2	0.7	**0.5**	0.03	0.05	70	0.1	0.6	**0.4**	0.02	0.04	*C07-08*
Tonsil	82	0.2	0.7	**0.5**	0.04	0.05	38	0.1	0.3	**0.2**	0.02	0.02	*C09*
Other oropharynx	37	0.1	0.3	**0.2**	0.02	0.03	18	0.0	0.1	**0.1**	0.01	0.01	*C10*
Nasopharynx	60	0.1	0.5	**0.4**	0.04	0.04	23	0.0	0.2	**0.1**	0.01	0.01	*C11*
Hypopharynx	108	0.2	0.9	**0.6**	0.03	0.07	57	0.1	0.5	**0.3**	0.02	0.03	*C12-13*
Pharynx unspecified	60	0.1	0.5	**0.3**	0.02	0.04	34	0.1	0.3	**0.2**	0.01	0.02	*C14*
Oesophagus	1769	3.4	14.9	**8.9**	0.42	1.10	1081	2.1	8.9	**3.6**	0.15	0.42	*C15*
Stomach	2893	5.5	24.4	**13.7**	0.55	1.57	1703	3.3	14.0	**5.4**	0.19	0.59	*C16*
Small intestine	130	0.2	1.1	**0.7**	0.04	0.08	106	0.2	0.9	**0.4**	0.02	0.05	*C17*
Colon	4004	7.7	33.8	**19.3**	0.81	2.28	4094	8.0	33.8	**14.4**	0.65	1.65	*C18*
Rectum	3031	5.8	25.6	**15.1**	0.71	1.86	2059	4.0	17.0	**7.6**	0.37	0.87	*C19-20*
Anus	111	0.2	0.9	**0.6**	0.03	0.07	133	0.3	1.1	**0.6**	0.04	0.06	*C21*
Liver	421	0.8	3.6	**2.2**	0.10	0.26	326	0.6	2.7	**1.2**	0.05	0.15	*C22*
Gallbladder etc.	224	0.4	1.9	**1.1**	0.04	0.13	324	0.6	2.7	**1.1**	0.06	0.12	*C23-24*
Pancreas	1348	2.6	11.4	**6.6**	0.31	0.77	1481	2.9	12.2	**5.3**	0.23	0.62	*C25*
Nose, sinuses etc.	95	0.2	0.8	**0.5**	0.02	0.06	47	0.1	0.4	**0.2**	0.01	0.02	*C30-31*
Larynx	733	1.4	6.2	**3.9**	0.23	0.50	187	0.4	1.5	**0.9**	0.06	0.12	*C32*
Trachea, bronchus and lung	11266	21.5	95.1	**54.3**	2.19	6.77	5507	10.8	45.4	**22.2**	1.04	2.99	*C33-34*
Other thoracic organs	90	0.2	0.8	**0.5**	0.03	0.06	63	0.1	0.5	**0.3**	0.02	0.04	*C37-38*
Bone	87	0.2	0.7	**0.7**	0.04	0.05	82	0.2	0.7	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	832	1.6	7.0	**5.1**	0.36	0.52	1167	2.3	9.6	**6.6**	0.48	0.66	*C43*
Other skin	10449		88.2	**51.9**	2.45	5.87	9345		77.1	**36.2**	1.92	4.02	*C44*
Mesothelioma	413	0.8	3.5	**2.2**	0.13	0.28	59	0.1	0.5	**0.3**	0.02	0.04	*C45*
Kaposi sarcoma	19	0.0	0.2	**0.1**	0.01	0.01	1	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	286	0.5	2.4	**1.7**	0.10	0.17	247	0.5	2.0	**1.4**	0.08	0.13	*C47+C49*
Breast	100	0.2	0.8	**0.5**	0.02	0.06	13839	27.2	114.1	**70.8**	5.32	7.76	*C50*
Vulva							456	0.9	3.8	**1.6**	0.07	0.17	*C51*
Vagina							85	0.2	0.7	**0.3**	0.02	0.04	*C52*
Cervix uteri							1362	2.7	11.2	**8.2**	0.62	0.78	*C53*
Corpus uteri							1974	3.9	16.3	**9.5**	0.69	1.17	*C54*
Uterus unspecified							198	0.4	1.6	**0.9**	0.06	0.10	*C55*
Ovary							2673	5.3	22.0	**13.3**	0.92	1.55	*C56*
Other female genital organs							39	0.1	0.3	**0.2**	0.02	0.02	*C57*
Placenta							4	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	148	0.3	1.2	**0.8**	0.05	0.09							*C60*
Prostate	7859	15.0	66.3	**34.2**	0.83	3.68							*C61*
Testis	625	1.2	5.3	**4.7**	0.35	0.37							*C62*
Other male genital organs	25	0.0	0.2	**0.1**	0.01	0.01							*C63*
Kidney	1229	2.3	10.4	**6.6**	0.36	0.77	788	1.5	6.5	**3.6**	0.21	0.43	*C64*
Renal pelvis	90	0.2	0.8	**0.5**	0.02	0.06	73	0.1	0.6	**0.3**	0.02	0.04	*C65*
Ureter	74	0.1	0.6	**0.4**	0.01	0.05	30	0.1	0.2	**0.1**	0.00	0.01	*C66*
Bladder	4589	8.8	38.7	**22.3**	0.96	2.66	1798	3.5	14.8	**6.6**	0.30	0.78	*C67*
Other urinary organs	19	0.0	0.2	**0.1**	0.00	0.01	14	0.0	0.1	**0.1**	0.00	0.01	*C68*
Eye	157	0.3	1.3	**0.9**	0.06	0.10	141	0.3	1.2	**0.8**	0.04	0.08	*C69*
Brain, nervous system	1071	2.0	9.0	**7.0**	0.45	0.73	823	1.6	6.8	**4.8**	0.31	0.49	*C70-72*
Thyroid	106	0.2	0.9	**0.6**	0.05	0.06	276	0.5	2.3	**1.7**	0.13	0.16	*C73*
Adrenal gland	45	0.1	0.4	**0.4**	0.02	0.03	40	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	18	0.0	0.2	**0.1**	0.01	0.01	9	0.0	0.1	**0.1**	0.00	0.00	*C75*
Hodgkin disease	272	0.5	2.3	**2.0**	0.14	0.17	178	0.3	1.5	**1.4**	0.10	0.11	*C81*
Non-Hodgkin lymphoma	1674	3.2	14.1	**9.4**	0.57	1.01	1463	2.9	12.1	**6.5**	0.40	0.75	*C82-85,C96*
Immunoproliferative diseases	35	0.1	0.3	**0.2**	0.01	0.02	23	0.0	0.2	**0.1**	0.00	0.01	*C88*
Multiple myeloma	709	1.4	6.0	**3.5**	0.16	0.40	675	1.3	5.6	**2.5**	0.12	0.29	*C90*
Lymphoid leukaemia	724	1.4	6.1	**4.6**	0.21	0.43	481	0.9	4.0	**2.3**	0.11	0.20	*C91*
Myeloid leukaemia	661	1.3	5.6	**3.6**	0.18	0.36	556	1.1	4.6	**2.5**	0.13	0.25	*C92-94*
Leukaemia unspecified	44	0.1	0.4	**0.2**	0.01	0.02	44	0.1	0.4	**0.2**	0.01	0.01	*C95*
Other and unspecified	3295	6.3	27.8	**15.6**	0.59	1.73	3617	7.1	29.8	**12.4**	0.53	1.37	*O&U*
All sites	62781		530.0	**313.1**	14.05	35.87	60221		496.6	**262.2**	15.75	29.51	*ALL*
All sites but C44	52332	100.0	441.8	**261.2**	11.60	30.00	50876	100.0	419.6	**226.0**	13.82	25.49	*ALLbC44*

UK, England, West Midlands Region

Registration area

The registration area covered in 1995 a population of 5 200 000 people (just over 10% of the total population of England). There are marked differences in population density across the region, with very densely populated urban areas such as the Birmingham/Black Country conurbation, Coventry and Stoke on Trent, contrasting markedly with more sparsely populated rural areas in Hereford, Shropshire and parts of Worcestershire and South Staffordshire. The region includes a sizeable portion of members of ethnic groups other than the indigenous English and Irish, due to immigration from the Indian subcontinent and Africa of Asians, and of West Indians from the Caribbean. The 1991 census provided for the first time, information about the ethnic composition of the population in terms of self assessed definition of ethnic group, as opposed to the country of origin data collected previously. These data indicate that non-white residents make up 8% of the total West Midlands population and that, of these, 24% are black Caribbean, African or other black origin, 23% are of Pakistani origin and 10% are of other Asian origin. Some districts within the West Midlands have a high proportion of ethnic minority groups. For example in Birmingham over 11% of the population is black Caribbean, 14% Indian, nearly 7% Pakistani and 3% Bangladeshi. Other districts with large ethnic minorities include Wolverhampton, Sandwell and Coventry.

The outer boundaries of the West Midlands region remained unchanged during a major reorganization of local government areas in 1974 and reorganization of health authority boundaries accompanying the replacement of Regional Health Authorities with Regional Offices in April 1996. The region spans an area of 13 014 km^2 and lies between latitudes 52° and 53° N and longitudes 1° and 3° W.

Registry structure and methods

Cancer registration in Birmingham dates back to 1936. Based originally on a single hospital in the city, its scope was gradually extended until by 1957 it included the whole region.

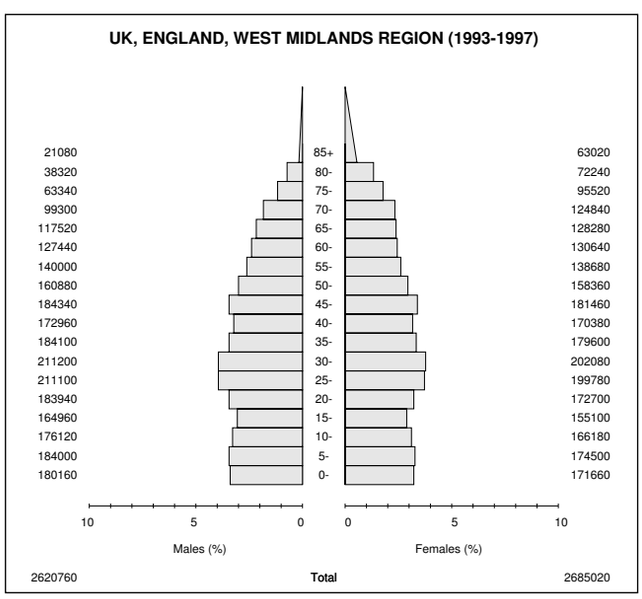
Cancer registration is not a legal requirement in the UK at the present time. However, regulations passed under section 60 of the Health and Social Care Act 2002 permit cancer registries to collect identifiable patient data assuming the implicit consent of the data subjects. During 1993–97 cases were registered by the WMCIU mainly following receipt of notification forms onto which clerical staff at individual hospitals extract specified items from hospital inpatient and outpatient records, radiotherapy notes and histopathology reports. These forms are usually sent to the WMCIU accompanied by copies of relevant histopathology reports and clinical case notes, such as radiotherapy reports. The information collected includes patient demographic details (name, date of birth, sex, residence, etc), tumour characteristics (size, extent, nodes, metastases, stage, etc.) and details of the clinicians and hospitals involved in diagnosis and treatment and the nature of the treatment given. Copies of death certificates are routinely received from the Office for National Statistics (ONS) for all cases where cancer is mentioned either as a cause of death or as present at the time of death. If no further information is received after six months, additional details are sought from Health Authority medical records departments (to whom all general practitioner records are returned after a patientís death) and hospitals are contacted to obtain relevant admission and treatment details. Non-cancer deaths are provided routinely by the National Health Service Central Register where all registered cancer patients are flagged. Active follow-up of patients is carried out for specific research studies but not on a routine basis.

In 1994, the WMCIU's existing tumour-based records were converted to a patient-based system in which all patients have a unique identifier and individual patients can have several tumours each with a unique tumour number. This increased the ease and speed with which registrations can be made and has facilitated the implementation of more complex validation and data-quality checks in line with those recommended by IARC and ONS.

Use of the data

The WMCIU's database is used for routine data provision and for clinical audit and research purposes. Studies are undertaken by the in-house research and information team together with external collaborators from hospitals, teaching establishments, cancer networks and health authorities. Since the publication of the Calman-Hine report on the reorganization of cancer services in 1995, data collected by the WMCIU have been used increasingly to assist in planning and monitoring the efficacy and cost-effectiveness of the diagnostic and therapeutic services provided to cancer patients. The WMCIU is also involved in the EUROCARE study of cancer survival and contributes data to EUROCIM. The incorporation of the NHS Breast and Cervical Screening Quality Assurance Services within the existing structure in April 1996 has facilitated the synergistic combination of cancer registration and screening databases. The first major outcome of this has been the establishment of routine systems for obtaining breast screening histories for all women in the screening age band, including the determination of interval cancer rates and rates in non-attenders. The merger also led to a change of name for the registry, which became the West Midlands Cancer Intelligence Unit.

In 2001, the WMCIU launched its new electronic Cancer Information Service (CIS). This provides a powerful tool to enable health workers who are connected to the NHS Net to access cancer data from their own desktop PC. The modules available include cancer incidence, mortality and survival data, analyses of cancer registration data quality and outcome measures relevant to the quality assurance of the NHS Breast and Cervical Screening Programmes. The WMCIU has also recently established a web site at www.wmpho.org.uk/wmciu/.



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

Notes on the data

* ICD morphology codes were not recorded for all cases during the period, so that the calculated level of morphological verification is lower than in reality.

*UK, ENGLAND, WEST MIDLANDS REGION (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	50	0.1	0.4	**0.2**	0.01	0.02	16	0.0	0.1	**0.1**	0.00	0.01	*C00*
Tongue	258	0.4	2.0	**1.3**	0.09	0.15	130	0.2	1.0	**0.6**	0.04	0.07	*C01-02*
Mouth	277	0.5	2.1	**1.5**	0.10	0.17	214	0.4	1.6	**0.9**	0.05	0.10	*C03-06*
Salivary glands	102	0.2	0.8	**0.5**	0.03	0.06	92	0.2	0.7	**0.4**	0.03	0.04	*C07-08*
Tonsil	130	0.2	1.0	**0.7**	0.05	0.08	46	0.1	0.3	**0.2**	0.01	0.02	*C09*
Other oropharynx	49	0.1	0.4	**0.3**	0.02	0.03	10	0.0	0.1	**0.0**	0.00	0.00	*C10*
Nasopharynx	48	0.1	0.4	**0.3**	0.02	0.03	33	0.1	0.2	**0.2**	0.01	0.02	*C11*
Hypopharynx	158	0.3	1.2	**0.8**	0.04	0.09	67	0.1	0.5	**0.2**	0.01	0.03	*C12-13*
Pharynx unspecified	47	0.1	0.4	**0.2**	0.02	0.03	29	0.1	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	1842	3.1	14.1	**8.5**	0.38	0.99	1203	2.1	9.0	**3.7**	0.15	0.41	*C15*
Stomach	3210	5.5	24.5	**14.3**	0.54	1.67	1911	3.4	14.2	**5.4**	0.18	0.58	*C16*
Small intestine	131	0.2	1.0	**0.6**	0.04	0.07	146	0.3	1.1	**0.6**	0.03	0.06	*C17*
Colon	4848	8.3	37.0	**21.8**	0.89	2.46	4714	8.3	35.1	**15.2**	0.67	1.71	*C18*
Rectum	3469	5.9	26.5	**16.1**	0.76	1.95	2217	3.9	16.5	**7.6**	0.39	0.89	*C19-20*
Anus	107	0.2	0.8	**0.5**	0.03	0.06	140	0.2	1.0	**0.5**	0.03	0.06	*C21*
Liver	415	0.7	3.2	**2.0**	0.10	0.24	197	0.3	1.5	**0.7**	0.03	0.09	*C22*
Gallbladder etc.	371	0.6	2.8	**1.7**	0.06	0.19	495	0.9	3.7	**1.6**	0.07	0.18	*C23-24*
Pancreas	1354	2.3	10.3	**6.1**	0.26	0.69	1452	2.6	10.8	**4.5**	0.18	0.51	*C25*
Nose, sinuses etc.	107	0.2	0.8	**0.6**	0.03	0.06	80	0.1	0.6	**0.3**	0.02	0.04	*C30-31*
Larynx	857	1.5	6.5	**4.3**	0.26	0.55	186	0.3	1.4	**0.8**	0.04	0.10	*C32*
Trachea, bronchus and lung	11356	19.4	86.7	**50.6**	1.94	6.30	5380	9.5	40.1	**19.2**	0.86	2.51	*C33-34*
Other thoracic organs	141	0.2	1.1	**0.7**	0.04	0.09	74	0.1	0.6	**0.3**	0.02	0.04	*C37-38*
Bone	134	0.2	1.0	**1.0**	0.06	0.08	118	0.2	0.9	**0.9**	0.05	0.06	*C40-41*
Melanoma of skin	933	1.6	7.1	**5.2**	0.36	0.54	1369	2.4	10.2	**7.1**	0.53	0.72	*C43*
Other skin	13038		99.5	**60.0**	2.74	6.74	11977		89.2	**42.5**	2.24	4.64	*C44*
Mesothelioma	365	0.6	2.8	**1.8**	0.10	0.23	67	0.1	0.5	**0.3**	0.01	0.03	*C45*
Kaposi sarcoma	37	0.1	0.3	**0.2**	0.02	0.02	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	343	0.6	2.6	**2.0**	0.12	0.19	287	0.5	2.1	**1.6**	0.10	0.14	*C47+C49*
Breast	115	0.2	0.9	**0.6**	0.03	0.06	15801	28.0	117.7	**73.9**	5.63	8.12	*C50*
Vulva							475	0.8	3.5	**1.6**	0.07	0.18	*C51*
Vagina							95	0.2	0.7	**0.4**	0.02	0.04	*C52*
Cervix uteri							1776	3.1	13.2	**10.1**	0.77	0.96	*C53*
Corpus uteri							2302	4.1	17.1	**10.0**	0.72	1.23	*C54*
Uterus unspecified							177	0.3	1.3	**0.7**	0.04	0.07	*C55*
Ovary							2794	4.9	20.8	**13.0**	0.91	1.49	*C56*
Other female genital organs							84	0.1	0.6	**0.4**	0.02	0.04	*C57*
Placenta							8	0.0	0.1	**0.1**	0.00	0.00	*C58*
Penis	201	0.3	1.5	**1.0**	0.06	0.11							*C60*
Prostate	9732	16.6	74.3	**39.9**	0.91	4.30							*C61*
Testis	785	1.3	6.0	**5.3**	0.40	0.41							*C62*
Other male genital organs	39	0.1	0.3	**0.2**	0.01	0.02							*C63*
Kidney	1365	2.3	10.4	**7.0**	0.42	0.83	752	1.3	5.6	**3.2**	0.19	0.36	*C64*
Renal pelvis	134	0.2	1.0	**0.6**	0.03	0.08	95	0.2	0.7	**0.3**	0.02	0.04	*C65*
Ureter	72	0.1	0.5	**0.3**	0.01	0.04	41	0.1	0.3	**0.1**	0.01	0.01	*C66*
Bladder	4740	8.1	36.2	**21.3**	0.85	2.48	1764	3.1	13.1	**5.8**	0.25	0.69	*C67*
Other urinary organs	46	0.1	0.4	**0.2**	0.01	0.02	28	0.0	0.2	**0.1**	0.00	0.01	*C68*
Eye	76	0.1	0.6	**0.5**	0.03	0.05	50	0.1	0.4	**0.3**	0.01	0.02	*C69*
Brain, nervous system	1073	1.8	8.2	**6.3**	0.39	0.68	808	1.4	6.0	**4.4**	0.28	0.45	*C70-72*
Thyroid	147	0.3	1.1	**0.8**	0.06	0.09	348	0.6	2.6	**1.9**	0.13	0.18	*C73*
Adrenal gland	29	0.0	0.2	**0.2**	0.01	0.02	33	0.1	0.2	**0.2**	0.01	0.02	*C74*
Other endocrine	12	0.0	0.1	**0.1**	0.00	0.01	13	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	334	0.6	2.5	**2.3**	0.16	0.20	225	0.4	1.7	**1.6**	0.11	0.13	*C81*
Non-Hodgkin lymphoma	1863	3.2	14.2	**9.7**	0.58	1.06	1519	2.7	11.3	**6.3**	0.38	0.69	*C82-85,C96*
Immunoproliferative diseases	21	0.0	0.2	**0.1**	0.00	0.01	10	0.0	0.1	**0.0**	0.00	0.01	*C88*
Multiple myeloma	741	1.3	5.7	**3.3**	0.15	0.38	695	1.2	5.2	**2.4**	0.12	0.28	*C90*
Lymphoid leukaemia	763	1.3	5.8	**4.4**	0.20	0.40	521	0.9	3.9	**2.5**	0.12	0.21	*C91*
Myeloid leukaemia	671	1.1	5.1	**3.4**	0.17	0.34	643	1.1	4.8	**2.8**	0.16	0.28	*C92-94*
Leukaemia unspecified	77	0.1	0.6	**0.3**	0.01	0.03	65	0.1	0.5	**0.2**	0.01	0.02	*C95*
Other and unspecified	4495	7.7	34.3	**20.1**	0.79	2.25	4664	8.3	34.7	**15.5**	0.71	1.77	*O&U*
All sites	71708		547.2	**331.9**	14.35	37.65	68436		509.8	**273.4**	16.50	30.37	*ALL*
All sites but C44	58670	100.0	447.7	**271.9**	11.61	30.91	56459	100.0	420.5	**230.9**	14.26	25.72	*ALLbC44*
	§Includes 22 cases of unknown age						§Includes 15 cases of unknown age						

UK, England, Yorkshire

Registration area

The area covered by Yorkshire is approximately 13 700 km^2, extending from the northern edge of the North Yorkshire Moors to the borders of Lincolnshire in the south, Flamborough Head in the east and the Pennines in the west. It comprises seven Health Authorities and the resident population of 3.6 million constitutes 7.2% of the population of England and Wales. There are marked differences in population density, with some 60% of the population living in 15% of the area. The latter area includes the densely populated urban areas of Leeds and Bradford, while North Yorkshire and East Yorkshire are relatively sparsely populated. Indian, Pakistani and Bangladeshi ethnic groups form 3.5% of the total population (1991 census).

The age structure is not significantly different from that of England and Wales as a whole. However, the percentage of 0–4 year olds is slightly higher and that of males over 65 years is lower.

Traditional industries include shipping, fishing, textile and clothing manufacture, steel production and coal mining.

Cancer care facilities

The vast majority of patients receive their hospital care in National Health Service (NHS) hospitals. A major national reorganization of cancer services has taken place since 1995, following the report of an Expert Advisory Group on Cancer to the Chief Medical Officers of England and Wales. Cancer centres have been established nationwide, serving populations of between 1 and 2 million. There are two such centres in Yorkshire, based in Leeds and Hull, which, together with their associated local units, provide the cancer services for their populations.

Registry structure and methods

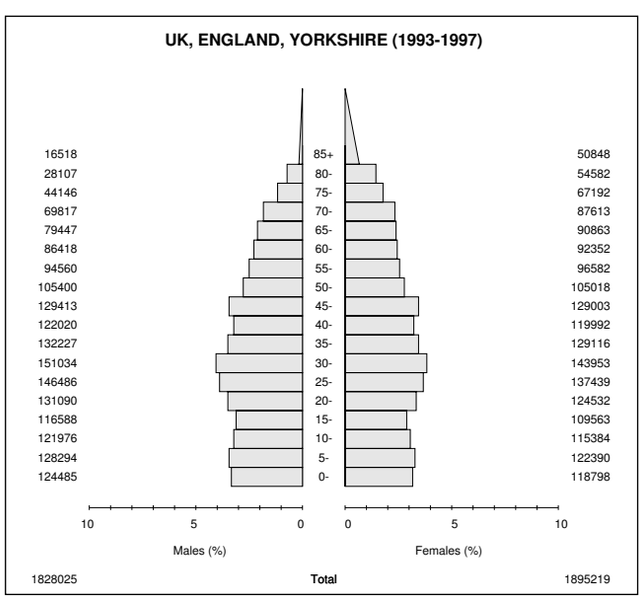
The Northern and Yorkshire Cancer Registry and Information Service (NYCRIS) was set up in 1997 to integrate the two separate regional cancer registries of Northern and Yorkshire. In view of the quality of earlier Northern data, only Yorkshire cases are reported in this volume and the geographical coverage is identical to that for the former Yorkshire Cancer Registry reported in previous volumes. NYCRIS is based in Leeds, adjacent to Cookridge Hospital, which is part of the Leeds Cancer Centre. It currently employs 40.5 staff, of whom approximately 60% are involved in data collection and validation and 20% in information, audit and research; these staff do, however, cover the whole of the Northern and Yorkshire area.

Cancer registration in the UK is a mandatory requirement and cases diagnosed in hospitals (inpatient and outpatient) are notified directly to NYCRIS. All pathology laboratories throughout the region routinely send copies of pathology reports and these act as a cross-reference to information received directly. Yorkshire residents treated outside the region are notified by other cancer registries. Notification also comes from Breast Screening Units and hospices. Cases are registered by registry staff who visit the hospitals and abstract treatment details from the hospital case notes following primary notification. Copies of death certificates are routinely received from National Statistics for all cases where cancer is a cause of death. When this information is the first notification of cancer, the registry traces the death to search for further information. When the cause of death is non-malignant, the registry is notified by the National Health Service Central Register, where all registered cancer patients are flagged.

The cancer registration processes are still largely manual, with data being entered onto the system by the trained registry staff. Records of existing registrations are updated with new information, new cases being assigned an accession number by the computer. All data items are encoded by the computer. The system also automatically generates a general practitioner's enquiry letter, a cancer registration document and a follow-up enquiry letter where necessary. At the point of entry, data are validated using the National Statistics edit procedures. For the period in question, the system was tumour-based, with a record link allowing automatic identification of patients with multiple primaries. Following a major software upgrade, the system is now patient-based. Data are regularly exchanged with local specialist tumour registers to ensure complete ascertainment.

Use of the data

In addition to providing a responsive information service, NYCRIS regularly produces data and reports in a variety of media and actively promotes the use of its data. Summary statistical information is contained in its CD-ROM based information system, QuickData; this data and all of its published reports are available on its web site (www.nycris.org.uk). In addition, NYCRIS conducts a series of regional audit projects on important issues related to cancer service delivery. Current in-house research projects include an analysis of variation in the patterns of cancer care and the effect of such variation on survival, an examination of methods to improve the registration of skin cancer and analyses of patient waiting times before receiving treatment.



Source of population

Annual estimates based on the last census and taking into account births, deaths and migration.

UK, ENGLAND, YORKSHIRE (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	132	0.3	1.4	**0.9**	0.04	0.09	63	0.2	0.7	**0.3**	0.01	0.03	*C00*
Tongue	166	0.4	1.8	**1.3**	0.08	0.15	91	0.2	1.0	**0.5**	0.03	0.06	*C01-02*
Mouth	222	0.6	2.4	**1.6**	0.11	0.19	168	0.4	1.8	**0.9**	0.06	0.11	*C03-06*
Salivary glands	66	0.2	0.7	**0.5**	0.02	0.05	69	0.2	0.7	**0.4**	0.03	0.05	*C07-08*
Tonsil	70	0.2	0.8	**0.6**	0.04	0.06	43	0.1	0.5	**0.3**	0.02	0.03	*C09*
Other oropharynx	29	0.1	0.3	**0.2**	0.02	0.03	7	0.0	0.1	**0.0**	0.00	0.01	*C10*
Nasopharynx	43	0.1	0.5	**0.4**	0.03	0.04	16	0.0	0.2	**0.1**	0.01	0.01	*C11*
Hypopharynx	112	0.3	1.2	**0.8**	0.05	0.09	39	0.1	0.4	**0.2**	0.01	0.02	*C12-13*
Pharynx unspecified	40	0.1	0.4	**0.3**	0.02	0.03	17	0.0	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	1153	2.9	12.6	**7.6**	0.34	0.89	746	1.9	7.9	**3.2**	0.14	0.38	*C15*
Stomach	2257	5.6	24.7	**14.5**	0.59	1.75	1384	3.4	14.6	**5.9**	0.25	0.67	*C16*
Small intestine	104	0.3	1.1	**0.7**	0.04	0.09	90	0.2	0.9	**0.5**	0.04	0.06	*C17*
Colon	3039	7.6	33.2	**19.6**	0.85	2.32	3221	8.0	34.0	**14.4**	0.65	1.67	*C18*
Rectum	2330	5.8	25.5	**15.7**	0.75	1.97	1633	4.1	17.2	**7.8**	0.39	0.93	*C19-20*
Anus	81	0.2	0.9	**0.6**	0.04	0.06	137	0.3	1.4	**0.8**	0.05	0.09	*C21*
Liver	342	0.9	3.7	**2.3**	0.11	0.29	219	0.5	2.3	**1.0**	0.04	0.11	*C22*
Gallbladder etc.	133	0.3	1.5	**0.9**	0.04	0.11	189	0.5	2.0	**0.9**	0.04	0.11	*C23-24*
Pancreas	955	2.4	10.4	**6.2**	0.28	0.72	1092	2.7	11.5	**5.0**	0.22	0.60	*C25*
Nose, sinuses etc.	81	0.2	0.9	**0.6**	0.03	0.07	62	0.2	0.7	**0.3**	0.02	0.04	*C30-31*
Larynx	584	1.5	6.4	**4.2**	0.24	0.52	155	0.4	1.6	**0.9**	0.05	0.13	*C32*
Trachea, bronchus and lung	8251	20.5	90.3	**53.8**	2.23	6.79	4844	12.1	51.1	**25.4**	1.26	3.34	*C33-34*
Other thoracic organs	38	0.1	0.4	**0.3**	0.02	0.03	36	0.1	0.4	**0.3**	0.02	0.03	*C37-38*
Bone	70	0.2	0.8	**0.8**	0.05	0.06	29	0.1	0.3	**0.3**	0.01	0.02	*C40-41*
Melanoma of skin	603	1.5	6.6	**4.8**	0.34	0.51	904	2.3	9.5	**6.9**	0.51	0.66	*C43*
Other skin	8279		90.6	**54.4**	2.47	6.18	8245		87.0	**40.3**	2.10	4.45	*C44*
Mesothelioma	404	1.0	4.4	**2.8**	0.15	0.38	95	0.2	1.0	**0.5**	0.03	0.07	*C45*
Kaposi sarcoma	13	0.0	0.1	**0.1**	0.01	0.01	2	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	245	0.6	2.7	**2.0**	0.13	0.20	173	0.4	1.8	**1.2**	0.07	0.11	*C47+C49*
Breast	68	0.2	0.7	**0.4**	0.02	0.04	10356	25.8	109.3	**70.5**	5.41	7.78	*C50*
Vulva							326	0.8	3.4	**1.5**	0.07	0.15	*C51*
Vagina							66	0.2	0.7	**0.4**	0.02	0.04	*C52*
Cervix uteri							1387	3.5	14.6	**10.8**	0.81	1.06	*C53*
Corpus uteri							1354	3.4	14.3	**8.4**	0.60	1.06	*C54*
Uterus unspecified							152	0.4	1.6	**0.9**	0.06	0.10	*C55*
Ovary							2003	5.0	21.1	**13.2**	0.94	1.51	*C56*
Other female genital organs							20	0.0	0.2	**0.1**	0.01	0.02	*C57*
Placenta							1	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	102	0.3	1.1	**0.7**	0.04	0.07							*C60*
Prostate	6426	16.0	70.3	**37.6**	0.88	4.26							*C61*
Testis	502	1.2	5.5	**5.0**	0.37	0.39							*C62*
Other male genital organs	20	0.0	0.2	**0.1**	0.00	0.01							*C63*
Kidney	929	2.3	10.2	**6.9**	0.41	0.82	657	1.6	6.9	**3.9**	0.24	0.43	*C64*
Renal pelvis	57	0.1	0.6	**0.4**	0.01	0.05	49	0.1	0.5	**0.2**	0.01	0.03	*C65*
Ureter	56	0.1	0.6	**0.3**	0.01	0.04	43	0.1	0.5	**0.2**	0.00	0.03	*C66*
Bladder	3786	9.4	41.4	**24.6**	1.07	2.89	1576	3.9	16.6	**7.3**	0.34	0.88	*C67*
Other urinary organs	19	0.0	0.2	**0.1**	0.00	0.01	9	0.0	0.1	**0.0**	0.00	0.01	*C68*
Eye	54	0.1	0.6	**0.5**	0.02	0.04	44	0.1	0.5	**0.3**	0.02	0.03	*C69*
Brain, nervous system	696	1.7	7.6	**6.0**	0.41	0.64	522	1.3	5.5	**4.3**	0.29	0.43	*C70-72*
Thyroid	100	0.2	1.1	**0.8**	0.06	0.09	233	0.6	2.5	**2.0**	0.15	0.18	*C73*
Adrenal gland	33	0.1	0.4	**0.4**	0.02	0.03	21	0.1	0.2	**0.2**	0.01	0.01	*C74*
Other endocrine	15	0.0	0.2	**0.1**	0.01	0.01	13	0.0	0.1	**0.1**	0.01	0.01	*C75*
Hodgkin disease	253	0.6	2.8	**2.5**	0.17	0.21	194	0.5	2.0	**1.8**	0.11	0.15	*C81*
Non-Hodgkin lymphoma	1109	2.8	12.1	**8.2**	0.48	0.94	972	2.4	10.3	**5.6**	0.32	0.65	*C82-85,C96*
Immunoproliferative diseases	2	0.0	0.0	**0.0**	0.00	0.00	1	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	490	1.2	5.4	**3.3**	0.16	0.40	518	1.3	5.5	**2.5**	0.12	0.30	*C90*
Lymphoid leukaemia	815	2.0	8.9	**6.2**	0.30	0.63	606	1.5	6.4	**3.7**	0.20	0.35	*C91*
Myeloid leukaemia	448	1.1	4.9	**3.3**	0.18	0.32	432	1.1	4.6	**2.6**	0.14	0.25	*C92-94*
Leukaemia unspecified	24	0.1	0.3	**0.1**	0.00	0.01	29	0.1	0.3	**0.1**	0.00	0.01	*C95*
Other and unspecified	2662	6.6	29.1	**17.0**	0.71	1.95	3031	7.6	32.0	**13.4**	0.58	1.48	*O&U*
All sites	48508		530.7	**323.1**	14.43	37.56	48384		510.6	**272.7**	16.53	30.77	*ALL*
All sites but C44	40229	100.0	440.1	**268.7**	11.96	31.39	40139	100.0	423.6	**232.3**	14.44	26.32	*ALLbC44*

UK, Northern Ireland

Registration area

Northern Ireland consists of the six counties in the north of the island of Ireland and is part of the United Kingdom. The population of Northern Ireland was 157 836 at the last census year of 1991. Whereas most of the population is rural, there are two major urban areas situated around the cities of Belfast and Londonderry. Most of the heavy industry is located in the two urban areas. The population is relatively racially homogeneous with only a few small ethnic minorities.

Cancer care faciliities

Most cancer patients are treated within the National Health Service system and even most private patients receive some of their treatment in National Health Service hospitals. There are 13 separate hospital trusts which treat cancer patients among the four regional Health Boards. The vast majority of patients receive all their care within the region.

Registry structure and methods

The current Northern Ireland Cancer Registry was established in 1994 to provide information on cancers occurring in the Northern Ireland population for the purposes of research, education and the planning of services. The new registry replaced an existing Department of Health and Social Services (DHSS) Registry that began in 1959. This old registry relied on clinicians completing registration cards on each patient and, as a consequence, ascertainment of cases was incomplete.

The registry uses an automated electronic system using multiple sources for notification of patients with cancer. The main source for this is the Patient Administration System (PAS) which is used by all the hospital trusts. From PAS the registry obtains demographic information on individual patients along with data on their length of stay in the hospital and basic tumour information on the site and behaviour of the tumour as an ICD-10 code. The PAS information includes limited treatment information on surgical procedures. The tumour information is supplemented by electronic downloads from histopathology and cytopathology laboratories which gives additional information on the morphology of the tumour and generally provides a more accurate incidence date for the tumour.

Information on deaths from all causes in the region is received from the Registrar General in Northern Ireland. These are matched with the registry database. In addition there are three disease specific registries in Northern Ireland with which the registry data are compared. These were set up independently from the cancer registry and contain information on specific sites – colorectal cancers and leukaemia and lymphomas. An independent malignant melanoma register is now part of the main registry.

The registry collects information on all neoplasms diagnosed in Northern Ireland. In addition some cancer-related conditions such as Barrett's oesophagus, hydatidiform moles and CIN-I and CIN-II of the cervix are recorded.

The registry recognizes that cases with a notification from a single electronic source may not be as reliable as cases that have multiple sources. As a result, a major focus of the registry's operation is on the verification of information from either a single death certificate (death-initiated cases), a single hospital admission or a single histopathology report. Trained registry staff examine general practitioners' notes for patients who have died from cancer and for whom there is no registration. The staff also examines hospital records for cases without histology or cytology. Histopathology reports are also checked when there is conflicting information or other possible errors.

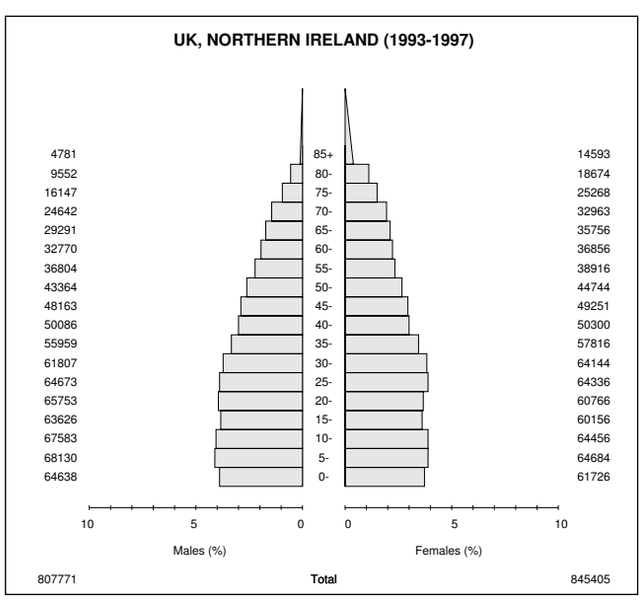
The registry does not routinely receive staging information on tumours, but it is possible to extract some staging information from the written histopathology reports. At present pathological staging is carried out on selected sites only – breast, colon, rectum, cervix, melanoma, bladder, testis and ovary.

Interpretation of the results

Population-based breast screening has been offered to all women aged 50–64 since 1993. The programme operates a three-yearly recall system. Cervical screening has been available population wide to all women over 20 since the late 1980s. Before then cervical screening was carried out, but not on an organized population basis.

Use of the data

The new registry has responsibility not only for the registration of all cancers in the region, but also provides a cancer information service for the region and has close connection with the breast and cervical screening services. In addition the registry has been involved in work with the Regional Advisory Committee on Cancer to examine the provision of care for patients with cancer.



Source of population

Census: The Northern Ireland Census 1991: Summary Report, Registrar General Northern Ireland. Belfast: HMSO 1993.
The 2001 data were provided by the above office.

UK, NORTHERN IRELAND (1993-1997)

SITE	MALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	FEMALE §No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world	Cum. rates 0-64 (percent)	0-74	ICD-10
Lip	104	0.7	2.6	**1.9**	0.09	0.22	23	0.1	0.5	**0.3**	0.01	0.03	*C00*
Tongue	99	0.6	2.5	**1.9**	0.12	0.24	51	0.3	1.2	**0.8**	0.04	0.08	*C01-02*
Mouth	113	0.7	2.8	**2.3**	0.15	0.29	72	0.4	1.7	**1.0**	0.06	0.11	*C03-06*
Salivary glands	48	0.3	1.2	**1.0**	0.05	0.11	32	0.2	0.8	**0.5**	0.03	0.05	*C07-08*
Tonsil	32	0.2	0.8	**0.7**	0.04	0.08	7	0.0	0.2	**0.1**	0.01	0.02	*C09*
Other oropharynx	16	0.1	0.4	**0.3**	0.02	0.05	3	0.0	0.1	**0.0**	0.00	0.00	*C10*
Nasopharynx	22	0.1	0.5	**0.5**	0.04	0.04	17	0.1	0.4	**0.3**	0.02	0.03	*C11*
Hypopharynx	39	0.3	1.0	**0.8**	0.07	0.11	25	0.2	0.6	**0.4**	0.02	0.05	*C12-13*
Pharynx unspecified	36	0.2	0.9	**0.7**	0.04	0.09	20	0.1	0.5	**0.3**	0.02	0.04	*C14*
Oesophagus	512	3.3	12.7	**9.8**	0.56	1.18	323	2.0	7.6	**3.8**	0.16	0.44	*C15*
Stomach	804	5.2	19.9	**14.7**	0.65	1.78	498	3.1	11.8	**6.1**	0.28	0.66	*C16*
Small intestine	64	0.4	1.6	**1.2**	0.06	0.16	52	0.3	1.2	**0.7**	0.05	0.08	*C17*
Colon	1519	9.9	37.6	**27.4**	1.15	3.13	1592	9.8	37.7	**20.4**	1.04	2.31	*C18*
Rectum	838	5.4	20.7	**15.5**	0.77	1.90	649	4.0	15.4	**8.4**	0.45	0.93	*C19-20*
Anus	22	0.1	0.5	**0.4**	0.02	0.05	42	0.3	1.0	**0.6**	0.04	0.07	*C21*
Liver	149	1.0	3.7	**2.8**	0.15	0.29	137	0.8	3.2	**1.6**	0.06	0.20	*C22*
Gallbladder etc.	78	0.5	1.9	**1.4**	0.06	0.16	135	0.8	3.2	**1.7**	0.06	0.20	*C23-24*
Pancreas	372	2.4	9.2	**6.6**	0.26	0.79	385	2.4	9.1	**4.7**	0.21	0.55	*C25*
Nose, sinuses etc.	36	0.2	0.9	**0.7**	0.04	0.08	27	0.2	0.6	**0.4**	0.02	0.04	*C30-31*
Larynx	270	1.8	6.7	**5.4**	0.34	0.70	64	0.4	1.5	**1.0**	0.06	0.13	*C32*
Trachea, bronchus and lung	2838	18.4	70.3	**52.1**	2.33	6.67	1569	9.7	37.1	**22.7**	1.19	3.03	*C33-34*
Other thoracic organs	43	0.3	1.1	**0.8**	0.04	0.10	7	0.0	0.2	**0.1**	0.01	0.01	*C37-38*
Bone	49	0.3	1.2	**1.1**	0.07	0.10	28	0.2	0.7	**0.5**	0.03	0.05	*C40-41*
Melanoma of skin	362	2.4	9.0	**7.5**	0.53	0.76	569	3.5	13.5	**10.4**	0.74	0.99	*C43*
Other skin	5606		138.8	**102.5**	4.87	11.38	5753		136.1	**74.4**	3.73	8.13	*C44*
Mesothelioma	112	0.7	2.8	**2.1**	0.11	0.28	12	0.1	0.3	**0.2**	0.02	0.03	*C45*
Kaposi sarcoma	1	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	134	0.9	3.3	**2.9**	0.21	0.28	95	0.6	2.2	**1.7**	0.11	0.16	*C47+C49*
Breast	35	0.2	0.9	**0.6**	0.02	0.07	4196	25.9	99.3	**73.5**	5.78	8.07	*C50*
Vulva							118	0.7	2.8	**1.5**	0.07	0.15	*C51*
Vagina							54	0.3	1.3	**0.8**	0.04	0.10	*C52*
Cervix uteri							407	2.5	9.6	**7.9**	0.62	0.77	*C53*
Corpus uteri							523	3.2	12.4	**8.5**	0.64	1.05	*C54*
Uterus unspecified							91	0.6	2.2	**1.3**	0.09	0.14	*C55*
Ovary							798	4.9	18.9	**13.8**	1.00	1.58	*C56*
Other female genital organs							21	0.1	0.5	**0.3**	0.02	0.03	*C57*
Placenta							1	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	62	0.4	1.5	**1.2**	0.08	0.13							*C60*
Prostate	2260	14.7	56.0	**37.2**	0.82	3.88							*C61*
Testis	247	1.6	6.1	**5.6**	0.42	0.43							*C62*
Other male genital organs	12	0.1	0.3	**0.2**	0.01	0.02							*C63*
Kidney	367	2.4	9.1	**7.4**	0.41	0.86	265	1.6	6.3	**4.3**	0.27	0.50	*C64*
Renal pelvis	32	0.2	0.8	**0.6**	0.03	0.07	15	0.1	0.4	**0.2**	0.01	0.03	*C65*
Ureter	34	0.2	0.8	**0.6**	0.03	0.09	16	0.1	0.4	**0.2**	0.00	0.02	*C66*
Bladder	732	4.8	18.1	**13.0**	0.49	1.53	319	2.0	7.5	**3.9**	0.15	0.48	*C67*
Other urinary organs	91	0.6	2.3	**1.7**	0.06	0.22	22	0.1	0.5	**0.3**	0.02	0.03	*C68*
Eye	36	0.2	0.9	**0.8**	0.04	0.08	32	0.2	0.8	**0.6**	0.03	0.05	*C69*
Brain, nervous system	312	2.0	7.7	**6.9**	0.47	0.70	238	1.5	5.6	**4.9**	0.32	0.46	*C70-72*
Thyroid	69	0.4	1.7	**1.4**	0.11	0.14	178	1.1	4.2	**3.4**	0.25	0.32	*C73*
Adrenal gland	24	0.2	0.6	**0.6**	0.03	0.05	18	0.1	0.4	**0.5**	0.03	0.03	*C74*
Other endocrine	25	0.2	0.6	**0.5**	0.03	0.06	26	0.2	0.6	**0.5**	0.03	0.05	*C75*
Hodgkin disease	122	0.8	3.0	**2.7**	0.18	0.24	84	0.5	2.0	**1.8**	0.13	0.15	*C81*
Non-Hodgkin lymphoma	609	4.0	15.1	**12.0**	0.70	1.30	574	3.5	13.6	**8.6**	0.49	1.04	*C82-85,C96*
Immunoproliferative diseases	6	0.0	0.1	**0.1**	0.00	0.01	3	0.0	0.1	**0.0**	0.00	0.00	*C88*
Multiple myeloma	248	1.6	6.1	**4.5**	0.18	0.53	219	1.4	5.2	**2.8**	0.12	0.33	*C90*
Lymphoid leukaemia	217	1.4	5.4	**4.7**	0.22	0.38	149	0.9	3.5	**2.8**	0.13	0.23	*C91*
Myeloid leukaemia	198	1.3	4.9	**3.8**	0.17	0.38	153	0.9	3.6	**2.6**	0.16	0.24	*C92-94*
Leukaemia unspecified	28	0.2	0.7	**0.6**	0.03	0.05	28	0.2	0.7	**0.4**	0.03	0.05	*C95*
Other and unspecified	922	6.0	22.8	**16.3**	0.60	1.84	1208	7.5	28.6	**14.6**	0.61	1.62	*O&U*
All sites	21006		520.1	**388.5**	17.95	44.09	21943		519.1	**323.5**	19.52	35.96	*ALL*
All sites but C44	15400	100.0	381.3	**285.9**	13.08	32.71	16190	100.0	383.0	**249.1**	15.79	27.83	*ALLbC44*

§Includes 2 cases of unknown age

§Includes 1 case of unknown age

UK, Scotland

Registration area

The Scottish Cancer Registry covers the whole of Scotland, which has a population of just over five million. The majority 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 of this. In 1991, 34% of the employed population worked in public administration and other services, 9.8% in manufacturing, 21.2% in distribution, hotels and catering, 7.6% in metal goods, engineering and vehicles industries, 10.4% in banking, finance and insurance, 5.8% in construction, 5.6% in transport and communication, 2.9% in energy and water supplies, 1.9% in metals, minerals and chemicals, and 1.4% in agriculture, forestry and fishing.

The majority (90%) of the population was born in Scotland, but 7% were born elsewhere in the United Kingdom (England, Wales or Northern Ireland). A relatively small percentage (0.6%) were born elsewhere in Europe, 0.2% in India or Bangladesh, 0.2% in Africa or the Caribbean, and 2.2% in the rest of the world.

Cancer care facilities

The National Health Service in Scotland is funded mainly through taxation and is mostly free at the point of use. Access to hospital care is controlled by a well developed system of primary care. Radiotherapy facilities are provided at five main centres (Inverness, Aberdeen, Dundee, Edinburgh, and Glasgow), but many patients with cancer are diagnosed and receive their primary therapy at district general hospitals. The private health care sector in Scotland is relatively small.

Registry structure and methods

The Scottish Cancer Registry forms part of the Scottish Cancer Intelligence Unit (SCIU) located within the Information & Statistics Division of the National Health Service in Scotland. The core registration function is funded by the Scottish Executive Health Department. Until 1997, registration was carried out by five regional cancer registries and the role of the national registry was limited to coordination, data collation, analysis and publication. Beginning in 1997, the national registry assumed responsibility for all aspects of registration and established a network of outposted, peripatetic cancer registration officers based in the main hospitals. Currently the registry is staffed by a medical director, a national coordinator, five central registry staff (four part-time), and 23 outposted staff (six part-time).

Cancer is not a notifiable disease in Scotland. Until 1997, the regional registries relied mainly on hospital in-patient sources, pathology records and death records to identify registrations. Since reorganization, potential registrations are identified from four main computerized sources: hospital discharge records; oncology records; pathology records; and death records. Information from these and other, non-computerized sources is linked to create provisional registrations which are made available to the outposted cancer registration officers. By referring to medical records, the outposted staff are able to validate the provisional registration and abstract additional information which cannot currently be collected electronically.

The registry has an active programme of quality assurance and the results of many of its studies in this field have been published.

Interpreting the results

The registry data-set was expanded in 1997 to include most valid basis of diagnosis.

Cervical screening began in parts of Scotland in the early 1960s, but coverage was uneven until a computerized call-recall system was introduced in the late I980s. A national breast screening programme was phased in during the late 1980s and offers mammography to all women aged 50–64 years every three years, and to older women three yearly on demand.

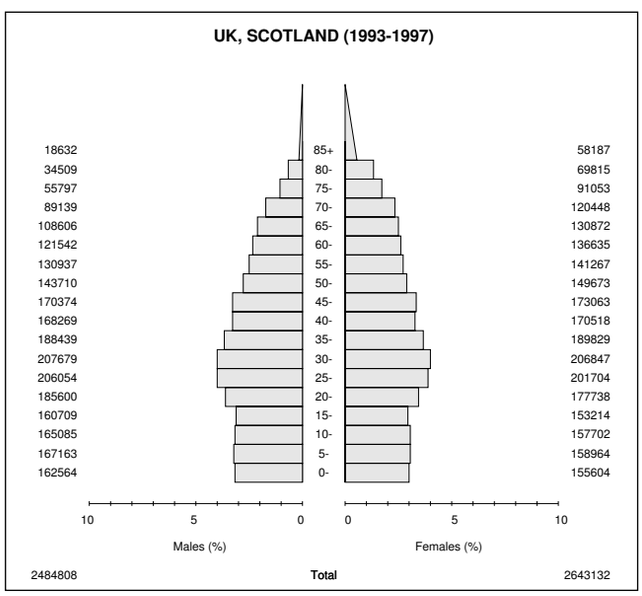
There is increasing disparity in incidence of prostate cancer in the different regions since the advent of PSA testing.

In interpreting risk of cancers of the uterus and cervix, it is noteworthy that the (European) age-standardized hysterectomy rate is reported to have increased from 150.7 per 100 000 per year in 1961–65 to 288.5 in 1991–95.

In adults, the prevalence of smoking is estimated to have fallen from 46% in 1976 to 32% in 1996. There is evidence that alcohol consumption has increased greatly in Scotland since the 1950s. The diet in Scotland is widely regarded as unhealthy and there is no evidence of any substantial change in fresh fruit or vegetable consumption since the early 1950s.

Use of the data

SCIU publishes data regularly on incidence, and periodically on survival. Information is available on the Internet (http://www.show.scot.nhs.uk/isd). *Ad hoc* analyses of the data are carried out in response to many requests for information from a wide variety of data users. SCIU is involved in several major studies, both in-house and collaborative. The use of the data includes public health surveillance, needs assessment, planning and commissioning of cancer services, evaluating the impact of interventions, clinical audit and health services research, epidemiological studies, and providing information for a range of functions including health education.



Source of population

Official mid-year estimates for Scotland are supplied by the General Register Office for Scotland.

UK, SCOTLAND (1993-1997)

	MALE						FEMALE						
S I T E	**No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**§No. cases**	**Freq. (%)**	**Crude rate (per 100,000)**	**ASR world**	**Cum. rates 0-64 (percent)**	**0-74**	**ICD-10**
Lip	205	0.3	1.7	**1.0**	0.04	0.10	92	0.1	0.7	**0.3**	0.01	0.03	*C00*
Tongue	362	0.6	2.9	**2.1**	0.16	0.25	220	0.3	1.7	**0.9**	0.06	0.11	*C01-02*
Mouth	578	0.9	4.7	**3.3**	0.23	0.40	337	0.5	2.6	**1.4**	0.09	0.16	*C03-06*
Salivary glands	115	0.2	0.9	**0.6**	0.04	0.07	106	0.2	0.8	**0.4**	0.03	0.05	*C07-08*
Tonsil	152	0.2	1.2	**0.9**	0.07	0.11	67	0.1	0.5	**0.3**	0.03	0.04	*C09*
Other oropharynx	79	0.1	0.6	**0.5**	0.04	0.06	37	0.1	0.3	**0.2**	0.01	0.02	*C10*
Nasopharynx	72	0.1	0.6	**0.4**	0.03	0.05	35	0.1	0.3	**0.2**	0.01	0.02	*C11*
Hypopharynx	233	0.4	1.9	**1.3**	0.09	0.16	92	0.1	0.7	**0.4**	0.02	0.04	*C12-13*
Pharynx unspecified	107	0.2	0.9	**0.6**	0.04	0.07	50	0.1	0.4	**0.2**	0.01	0.03	*C14*
Oesophagus	2235	3.6	18.0	**11.6**	0.61	1.42	1708	2.6	12.9	**5.5**	0.22	0.65	*C15*
Stomach	2958	4.7	23.8	**14.8**	0.63	1.77	2068	3.2	15.6	**6.8**	0.27	0.77	*C16*
Small intestine	137	0.2	1.1	**0.7**	0.04	0.09	136	0.2	1.0	**0.5**	0.03	0.06	*C17*
Colon	5244	8.4	42.2	**26.2**	1.15	3.01	5835	9.0	44.2	**19.7**	0.91	2.25	*C18*
Rectum	3051	4.9	24.6	**15.7**	0.76	1.92	2274	3.5	17.2	**8.1**	0.41	0.97	*C19-20*
Anus	141	0.2	1.1	**0.7**	0.04	0.09	177	0.3	1.3	**0.7**	0.04	0.08	*C21*
Liver	677	1.1	5.4	**3.6**	0.19	0.43	412	0.6	3.1	**1.5**	0.07	0.17	*C22*
Gallbladder etc.	287	0.5	2.3	**1.4**	0.05	0.16	435	0.7	3.3	**1.5**	0.07	0.17	*C23-24*
Pancreas	1418	2.3	11.4	**7.2**	0.34	0.84	1605	2.5	12.1	**5.3**	0.24	0.61	*C25*
Nose, sinuses etc.	94	0.2	0.8	**0.5**	0.03	0.06	86	0.1	0.7	**0.4**	0.03	0.04	*C30-31*
Larynx	1137	1.8	9.2	**6.3**	0.42	0.79	311	0.5	2.4	**1.4**	0.10	0.18	*C32*
Trachea, bronchus and lung	14310	23.0	115.2	**71.6**	3.09	8.97	9397	14.5	71.1	**35.5**	1.73	4.66	*C33-34*
Other thoracic organs	65	0.1	0.5	**0.4**	0.02	0.04	51	0.1	0.4	**0.2**	0.01	0.02	*C37-38*
Bone	121	0.2	1.0	**0.9**	0.05	0.08	106	0.2	0.8	**0.7**	0.04	0.05	*C40-41*
Melanoma of skin	1184	1.9	9.5	**7.1**	0.49	0.72	1872	2.9	14.2	**9.9**	0.72	0.97	*C43*
Other skin	13368		107.6	**68.3**	3.27	7.69	13014		98.5	**47.3**	2.49	5.19	*C44*
Mesothelioma	652	1.0	5.2	**3.4**	0.16	0.43	120	0.2	0.9	**0.5**	0.03	0.06	*C45*
Kaposi sarcoma	30	0.0	0.2	**0.2**	0.01	0.02	3	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	353	0.6	2.8	**2.2**	0.13	0.20	293	0.5	2.2	**1.6**	0.10	0.15	*C47+C49*
Breast	78	0.1	0.6	**0.4**	0.02	0.04	15698	24.3	118.8	**75.6**	5.84	8.32	*C50*
Vulva							451	0.7	3.4	**1.7**	0.09	0.18	*C51*
Vagina							124	0.2	0.9	**0.5**	0.03	0.05	*C52*
Cervix uteri							1831	2.8	13.9	**10.1**	0.76	1.00	*C53*
Corpus uteri							2000	3.1	15.1	**9.0**	0.65	1.10	*C54*
Uterus unspecified							192	0.3	1.5	**0.8**	0.05	0.10	*C55*
Ovary							3055	4.7	23.1	**13.9**	0.96	1.59	*C56*
Other female genital organs							39	0.1	0.3	**0.2**	0.01	0.02	*C57*
Placenta							6	0.0	0.0	**0.0**	0.00	0.00	*C58*
Penis	177	0.3	1.4	**1.0**	0.06	0.10							*C60*
Prostate	9194	14.8	74.0	**42.4**	1.06	4.73							*C61*
Testis	875	1.4	7.0	**6.1**	0.46	0.48							*C62*
Other male genital organs	29	0.0	0.2	**0.2**	0.01	0.02							*C63*
Kidney	1439	2.3	11.6	**7.9**	0.45	0.95	1034	1.6	7.8	**4.3**	0.25	0.51	*C64*
Renal pelvis	82	0.1	0.7	**0.4**	0.02	0.05	69	0.1	0.5	**0.3**	0.02	0.04	*C65*
Ureter	107	0.2	0.9	**0.6**	0.03	0.08	63	0.1	0.5	**0.2**	0.01	0.03	*C66*
Bladder	4928	7.9	39.7	**24.7**	1.03	2.95	2272	3.5	17.2	**8.1**	0.39	0.98	*C67*
Other urinary organs	39	0.1	0.3	**0.2**	0.01	0.02	27	0.0	0.2	**0.1**	0.00	0.01	*C68*
Eye	108	0.2	0.9	**0.7**	0.04	0.07	116	0.2	0.9	**0.6**	0.03	0.06	*C69*
Brain, nervous system	967	1.6	7.8	**6.2**	0.41	0.64	820	1.3	6.2	**4.6**	0.29	0.47	*C70-72*
Thyroid	138	0.2	1.1	**0.8**	0.06	0.09	462	0.7	3.5	**2.6**	0.19	0.24	*C73*
Adrenal gland	32	0.1	0.3	**0.2**	0.01	0.02	38	0.1	0.3	**0.3**	0.02	0.02	*C74*
Other endocrine	20	0.0	0.2	**0.2**	0.01	0.01	21	0.0	0.2	**0.1**	0.00	0.01	*C75*
Hodgkin disease	387	0.6	3.1	**2.7**	0.19	0.23	295	0.5	2.2	**1.9**	0.12	0.16	*C81*
Non-Hodgkin lymphoma	1940	3.1	15.6	**11.0**	0.64	1.20	2007	3.1	15.2	**8.3**	0.50	0.93	*C82-85,C96*
Immunoproliferative diseases	14	0.0	0.1	**0.1**	0.00	0.01	12	0.0	0.1	**0.0**	0.00	0.00	*C88*
Multiple myeloma	734	1.2	5.9	**3.7**	0.16	0.41	761	1.2	5.8	**2.6**	0.11	0.31	*C90*
Lymphoid leukaemia	883	1.4	7.1	**5.6**	0.28	0.54	602	0.9	4.6	**2.9**	0.14	0.25	*C91*
Myeloid leukaemia	660	1.1	5.3	**3.7**	0.18	0.39	615	1.0	4.7	**2.7**	0.15	0.27	*C92-94*
Leukaemia unspecified	69	0.1	0.6	**0.3**	0.01	0.02	91	0.1	0.7	**0.3**	0.01	0.03	*C95*
Other and unspecified	3410	5.5	27.4	**16.9**	0.65	1.87	4061	6.3	30.7	**13.2**	0.57	1.43	*O&U*
All sites	75675		609.1	**389.5**	18.03	44.92	77701		587.9	**316.6**	18.97	35.69	*ALL*
All sites but C44	62307	100.0	501.5	**321.3**	14.76	37.23	64687	100.0	489.5	**269.3**	16.48	30.49	*ALLbC44*

§Includes 1 case of unknown age

Yugoslavia, Vojvodina

Registration area

The Registry covers the population of the Province of Vojvodina, an area of 21 506 km² with 46 municipalities on the border of Hungary, Romania and Croatia. It lies between 44° and 46° N.

The population, according to the 1991 census, comprised a total of 2 013 890 inhabitants. According to national structure they are: Serbs 57%, Hungarians 17%, Yugoslavs 9%, Croats 4%, Slovaks 3% and others. The main occupation is industry, which employs 40%, followed by agriculture with 11%.

The population of Vojvodina is relatively old, with 15% older than 65 (1996). There is evidence of negative population growth – 4.2/1000 (1997). Refugees from ex-Yugoslav republics are not included in the population figures, nor in the registry data.

Cancer care facilities

The basic health service is provided by outpatient establishments where general practitioners and specialists work. The health institutions in 1997 consisted of 7 institutes of public health, 43 health centres for primary health care, 9 public health centres, 9 general hospitals, 6 special hospitals, 1 clinical hospital centre, 6 clinics, and 17 institutes with in-patient health care. This provided a total of 12 388 hospital beds (1997). There were 4407 doctors of all specialties in Vojvodina (1997).

Private practice has existed since 1990.

Registry structure and methods

The Cancer Registry of Vojvodina was founded in 1966 at the Institute of Oncology in Sremska Kamenica, in order to collect, process and analyse data on cancer incidence in the Province of Vojvodina. It was moved to the Institute of Public Health in 1975 and back to Institute of Oncology in 1990 in the Department of Epidemiology.

The current staff comprises a physician specialized in epidemiology, one junior physician, two full-time nurses, one PC operator and a part-time engineer.

In Novi Sad, the capital of Vojvodina, the Medical Faculty of the University of Novi Sad comprises institutes and clinics as a comprehensive health, scientific and education centre of the Province.

The Institute of Oncology in Sremska Kamenica is a comprehensive cancer centre, as well as a scientific and educational institution in the field of oncology for the Province.

There are eight oncological dispensaries in Vojvodina dealing with preventive and curative work in oncology, collaborating closely with the Institute of Oncology and the cancer registry.

The main data source is notifications from hospitals, dispensaries and outpatient clinics. Notification of cancer patients is compulsory, and the registry is mostly passive in the follow-up of cancer patients.

In the registry personal identification numbers are used to identify the patients.

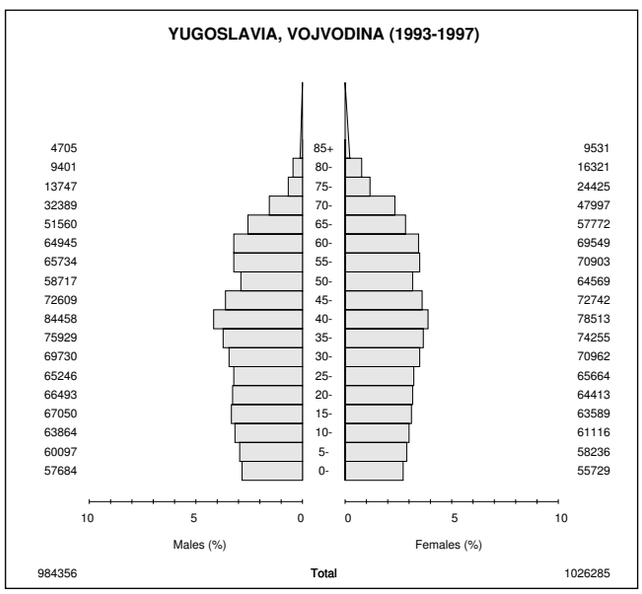
All data are coded by specially trained nurses under a physician's supervision. Quality and duplicate checks are made during the process of coding and data input.

Interpreting the data

Because of the war in 1999 and a severely crippled economy, the country faces serious problems for oncology and health in general. The consequences of the war such as extreme environmental pollution, absence of organized oncological prevention and poverty may well influence cancer incidence and mortality in the future.

Use of the data

Reports of cancer incidence and mortality are sent to the Ministry of Health annually. The registry data have been used in a number of national studies, for research and education purposes.



Source of population

Annual estimates based on the last census and provided by the Department of Demographic Statistics. Refugees from ex-Yugoslav republics are *not* included.

Notes on the data

* The proportion of diagnoses registered on the basis of a death certificate alone indicates a degree of under-ascertainment. There is a problem of ascertainment of haematological malignancies. The change in classification of liver during the period makes trends for this site meaningless.

*YUGOSLAVIA, VOJVODINA (1993-1997)

SITE	MALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	FEMALE No. cases	Freq. (%)	Crude rate (per 100,000)	ASR world (per 100,000)	Cum. rates 0-64 (percent)	Cum. rates 0-74 (percent)	ICD-10
Lip	236	1.3	4.8	**3.1**	0.19	0.37	52	0.3	1.0	**0.5**	0.02	0.05	*C00*
Tongue	231	1.3	4.7	**3.1**	0.24	0.39	37	0.2	0.7	**0.4**	0.03	0.05	*C01-02*
Mouth	147	0.8	3.0	**2.0**	0.15	0.24	37	0.2	0.7	**0.4**	0.03	0.05	*C03-06*
Salivary glands	49	0.3	1.0	**0.7**	0.04	0.08	36	0.2	0.7	**0.5**	0.03	0.05	*C07-08*
Tonsil	104	0.6	2.1	**1.4**	0.12	0.17	27	0.2	0.5	**0.3**	0.02	0.03	*C09*
Other oropharynx	117	0.6	2.4	**1.6**	0.12	0.19	10	0.1	0.2	**0.1**	0.01	0.01	*C10*
Nasopharynx	53	0.3	1.1	**0.7**	0.05	0.08	21	0.1	0.4	**0.3**	0.02	0.03	*C11*
Hypopharynx	254	1.4	5.2	**3.5**	0.28	0.41	25	0.2	0.5	**0.3**	0.02	0.04	*C12-13*
Pharynx unspecified	39	0.2	0.8	**0.5**	0.03	0.05	10	0.1	0.2	**0.1**	0.01	0.01	*C14*
Oesophagus	332	1.8	6.7	**4.4**	0.31	0.56	63	0.4	1.2	**0.7**	0.03	0.08	*C15*
Stomach	1284	7.1	26.1	**16.9**	0.94	2.03	776	4.8	15.1	**8.1**	0.41	0.96	*C16*
Small intestine	45	0.2	0.9	**0.6**	0.03	0.07	43	0.3	0.8	**0.4**	0.02	0.06	*C17*
Colon	1093	6.0	22.2	**14.5**	0.74	1.74	1002	6.3	19.5	**10.6**	0.56	1.32	*C18*
Rectum	1071	5.9	21.8	**14.0**	0.74	1.79	817	5.1	15.9	**8.7**	0.48	1.07	*C19-20*
‡Anus	103	0.6	2.1	**1.3**	0.06	0.16	79	0.5	1.5	**0.8**	0.03	0.09	*C21*
Liver	317	1.7	6.4	**4.1**	0.24	0.56	237	1.5	4.6	**2.5**	0.13	0.32	*C22*
Gallbladder etc.	166	0.9	3.4	**2.1**	0.09	0.29	443	2.8	8.6	**4.4**	0.22	0.58	*C23-24*
Pancreas	515	2.8	10.5	**6.9**	0.39	0.82	507	3.2	9.9	**5.2**	0.26	0.65	*C25*
Nose, sinuses etc.	36	0.2	0.7	**0.5**	0.04	0.05	24	0.1	0.5	**0.3**	0.03	0.03	*C30-31*
Larynx	786	4.3	16.0	**10.6**	0.77	1.32	77	0.5	1.5	**1.0**	0.07	0.11	*C32*
Trachea, bronchus and lung	6012	33.0	122.2	**79.1**	5.29	10.20	1182	7.4	23.0	**13.4**	0.86	1.63	*C33-34*
Other thoracic organs	108	0.6	2.2	**1.5**	0.10	0.19	58	0.4	1.1	**0.6**	0.04	0.08	*C37-38*
Bone	99	0.5	2.0	**1.6**	0.11	0.15	84	0.5	1.6	**1.2**	0.07	0.12	*C40-41*
Melanoma of skin	272	1.5	5.5	**3.9**	0.27	0.41	288	1.8	5.6	**3.6**	0.25	0.37	*C43*
Other skin	1395		28.3	**18.7**	0.94	2.16	1393		27.1	**14.8**	0.78	1.69	*C44*
Mesothelioma	14	0.1	0.3	**0.2**	0.02	0.02	10	0.1	0.2	**0.1**	0.01	0.01	*C45*
Kaposi sarcoma	3	0.0	0.1	**0.1**	0.00	0.00	1	0.0	0.0	**0.0**	0.00	0.00	*C46*
Connective and soft tissue	89	0.5	1.8	**1.5**	0.09	0.14	78	0.5	1.5	**1.1**	0.06	0.10	*C47+C49*
Breast	50	0.3	1.0	**0.6**	0.04	0.08	3971	24.8	77.4	**49.2**	3.67	5.52	*C50*
Vulva							158	1.0	3.1	**1.7**	0.09	0.20	*C51*
Vagina							57	0.4	1.1	**0.5**	0.02	0.07	*C52*
Cervix uteri							1299	8.1	25.3	**17.3**	1.37	1.81	*C53*
Corpus uteri							1064	6.6	20.7	**12.4**	0.86	1.54	*C54*
Uterus unspecified							115	0.7	2.2	**1.2**	0.06	0.13	*C55*
Ovary							730	4.6	14.2	**9.4**	0.72	1.04	*C56*
Other female genital organs							81	0.5	1.6	**0.9**	0.05	0.11	*C57*
Placenta							8	0.0	0.2	**0.2**	0.01	0.01	*C58*
Penis	29	0.2	0.6	**0.4**	0.02	0.04							*C60*
Prostate	951	5.2	19.3	**12.4**	0.34	1.35							*C61*
Testis	162	0.9	3.3	**3.0**	0.20	0.24							*C62*
Other male genital organs	17	0.1	0.3	**0.2**	0.01	0.03							*C63*
Kidney	276	1.5	5.6	**3.8**	0.24	0.45	193	1.2	3.8	**2.3**	0.14	0.27	*C64*
Renal pelvis	15	0.1	0.3	**0.2**	0.01	0.02	5	0.0	0.1	**0.1**	0.00	0.01	*C65*
Ureter	5	0.0	0.1	**0.1**	0.00	0.01	4	0.0	0.1	**0.0**	0.00	0.00	*C66*
Bladder	854	4.7	17.4	**11.2**	0.56	1.36	251	1.6	4.9	**2.7**	0.16	0.31	*C67*
Other urinary organs	101	0.6	2.1	**1.3**	0.08	0.17	58	0.4	1.1	**0.7**	0.04	0.09	*C68*
Eye	27	0.1	0.5	**0.4**	0.03	0.04	29	0.2	0.6	**0.4**	0.02	0.04	*C69*
Brain, nervous system	381	2.1	7.7	**5.9**	0.43	0.62	258	1.6	5.0	**3.7**	0.27	0.38	*C70-72*
Thyroid	64	0.4	1.3	**0.9**	0.07	0.10	143	0.9	2.8	**1.9**	0.14	0.19	*C73*
Adrenal gland	12	0.1	0.2	**0.2**	0.01	0.02	8	0.0	0.2	**0.1**	0.01	0.01	*C74*
Other endocrine	15	0.1	0.3	**0.2**	0.02	0.03	15	0.1	0.3	**0.3**	0.02	0.02	*C75*
Hodgkin disease	126	0.7	2.6	**2.2**	0.15	0.20	110	0.7	2.1	**1.9**	0.13	0.16	*C81*
Non-Hodgkin lymphoma	207	1.1	4.2	**3.1**	0.21	0.32	158	1.0	3.1	**1.9**	0.12	0.24	*C82-85,C96*
Immunoproliferative diseases	1	0.0	0.0	**0.0**	0.00	0.00	0	0.0	0.0	**0.0**	0.00	0.00	*C88*
Multiple myeloma	84	0.5	1.7	**1.1**	0.08	0.15	76	0.5	1.5	**0.8**	0.04	0.11	*C90*
Lymphoid leukaemia	187	1.0	3.8	**3.0**	0.18	0.31	159	1.0	3.1	**2.2**	0.12	0.21	*C91*
Myeloid leukaemia	106	0.6	2.2	**1.5**	0.10	0.18	90	0.6	1.8	**1.0**	0.07	0.12	*C92-94*
Leukaemia unspecified	29	0.2	0.6	**0.4**	0.02	0.06	23	0.1	0.4	**0.4**	0.02	0.04	*C95*
Other and unspecified	935	5.1	19.0	**12.5**	0.63	1.47	937	5.8	18.3	**9.5**	0.41	1.10	*O&U*
All sites	19604		398.3	**264.1**	15.86	31.89	17417		339.4	**203.1**	13.05	23.34	*ALL*
All sites but C44	18209	100.0	370.0	**245.4**	14.93	29.72	16024	100.0	312.3	**188.3**	12.28	21.65	*ALLbC44*
	‡76.7% of cases are anorectal tumours						‡70.9% of cases are anorectal tumours						