Social Inequalities and Cancer
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Socioeconomic differences in cancer incidence and mortality

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This chapter summarizes accumulated data on the presence, magnitude and consistency of socioeconomic differentials in mortality and incidence of all malignant neoplasms and 24 individual types of neoplasms in 37 populations in 21 countries. More or less consistent excess risks in men in lower social strata were observed for all respiratory cancers (nose, larynx and lung) and cancers of the oral cavity and pharynx, oesophagus, stomach, and, with a number of exceptions, liver, as well as for all malignancies taken together. For women, low-class excesses were consistently encountered for cancers of the oesophagus, stomach, cervix uteri and, less consistently, liver. Men in higher social strata displayed excesses of colon and brain cancers and skin melanoma. In the two Latin American populations for which data were available, lung cancer was more frequent in higher social strata. Excesses in high female socioeconomic strata were seen in most populations for cancers of the colon, breast and ovary and for skin melanoma. Longitudinal data from England and Wales suggested widening over time of social class differences in men for all cancers combined and for cancers of the lung, larynx and stomach, and in women for all cancers combined and for cervical cancer.

In this chapter we examine data on the presence, magnitude and consistency of socioeconomic differences in cancer incidence and mortality of all malignant neoplasms and 24 individual types of neoplasms in 37 populations in 21 countries. Time trends are presented for the United Kingdom, for which historical mortality data are available (Logan, 1982).

The data for this review derive from both published and unpublished sources. A 1966–1994 MEDLINE search and reference lists of the recovered sources identified the published data. In addition, a letter requesting data on socioeconomic status and cancer mortality or incidence was mailed to 77 institutions and investigators who were considered to have access to such data.

Study design

The source data derived from surveillance systems, cohort studies and case–control studies of 35 populations. Table I provides details of the studies included. With very few exceptions, ecological studies, based on geographical rates, were excluded.

Socioeconomic indicators

The concepts of social class and socioeconomic status incorporate essential economic, political and cultural components. Such a comprehensive conceptualization offers the obvious advantage that various empirical indicators of social class or socioeconomic status can be derived, as exemplified by occupational categories, education, housing and income (see the chapters by Susser and by Berkman and MacIntyre in this volume).

Occupation is historically the most commonly employed indicator of social class in health research and demography, at least in Europe. A widely used classification was developed by the Registrar General of England and Wales in 1911 (Table II). It has been modified at regular intervals.

The scales based on occupation usually do not consider inactive persons, and they classify correctly only a small proportion of women. Married women are frequently classified according to their husband's occupation. A number of job titles defy unique assignment into singular social categories because their positions in the social structure are ambiguous. An example is offered by a 14-category French scale introduced by Desplanques (1985). We used six of them on the basis of their prevalence and unambiguous social position in the site-specific cancer mortality tables for France.

Education is occasionally preferred as a social class indicator for adults over occupation, since it

applies not only to employed men but also to women and inactive men. In addition, it usually does not change during adult life (Valkonen, 1989). Moreover, it permits relatively valid international comparisons based on years of attained education. Usually acquired in youth, education has an additional advantage of being unaffected by a health-based decline in social position in adults.

Housing tenure, as an indicator of wealth and income, has been mainly used in England and Wales and in Italy, in census-based record-linkage studies. An advantage of this classification is the possibility of categorizing the whole population irrespective of age and gender.

Income data are difficult to collect. Only a few studies presented in this review employed an income-based indicator of social class.

Measures of association

For the purposes of this review, all input data were converted into ratio-type summary measures of association. A commonly reported measure in longitudinal studies was the ratio of observed and expected counts of cases, indirectly standardized for age (standardized mortality or incidence ratio; SMR or SIR) or directly (comparative mortality figures; CMF).

When relative risk figures for social categories were provided, they appear as such in Tables 1–51. This implies variable reference rates for the relative risks presented. In a number of studies, the rate for the highest social category was used as the reference. In others it was the lowest one, while in still others it was the rate for the entire population.

A number of sources provided directly standardized rates. In these instances we calculated rate ratios (RRs), with the rate for the total population as reference (RR = 1) if reported. When the population rate was not available, we used the rate for the highest social category as the reference rate.

In case–control studies, odds ratios (ORs) using a high social class category as the reference (OR = 1) were used. In some studies, for reasons of statistical stability, a social category with a large number of study subjects was employed as the reference.

Four studies (Bouchardy *et al.*, 1993; Levi *et al.*, 1988; Williams & Horm, 1977; E. Regidor, pers. commun.) provided proportional measures of association, such as proportional mortality ratios (PMRs).

A number of studies provided confidence intervals for the point estimates of the rates or ratios, while others presented *P* values, usually for the social class trend. There were yet others that did not address statistical precision in any quantitative manner. No quantitative indicator of precision is therefore given in the tables. An overall impression of precision in the different studies may be obtained from the numbers of observed cases and population sizes presented in Table I.

Detailed comparisons of social class differentials between various populations and time periods are not encouraged because of different social scales employed, different cut-points within scales, different measures of association, different methods of standardization, and other definitional and operational variations.

Presentation of data

The site-specific mortality and incidence ratios are exhaustively presented in Tables 1–51 for the cancer sites listed in Table III. Risk estimates are relative risks or their approximations (SMR, SIR, OR, RR and PMR), ordered from high to low social status. When available, the absolute number of observed cases is included (N).

For the United Kingdom, comparable historical data were available decades back in time. United Kingdom trends since 1911 are presented in Figures 1–10. Results from surveillance system statistics (*Decennial supplements*) are used for comparability purposes.

International evidence of social differences

Tables 1–51 summarize social class differences in cancer mortality and incidence by site, population and period. In the following discussion, a positive social class gradient refers to excess mortality or incidence in high social strata, and a negative gradient to excess in lower strata.

All-cause mortality (Table 1)

Mortality from all causes of death offers a convenient vantage point for the scrutiny of cancer mortality and incidence. In the present data, which are restricted to populations also providing cancer data, male mortality from all causes followed a more or less consistent negative social gradient, with deprived social categories experiencing highest risks of death. This was to be expected from more com-

prehensive statistics. Particularly high excess fractions for the deprived classes were encountered for men in urban Canada, Great Britain 1979–1983, Finland, France, New Zealand and London (United Kingdom).

The negative gradient was reproduced by the data for women. The social class differences were, however, less pronounced in women than in men, with the exceptions of Italy 1981–1982, Scotland 1959–1963, the United States of America 1960, and the United States population survey and census cohort (Black) 1979–1985.

All neoplasms (Tables 2–3)

Despite variations in the age structures, in the proportion of cancer deaths out of all deaths (which ranged from less than 4% in subSaharan Africa to well over 20% in established market economies in 1990; Murray & Lopez, 1994), and in the more general cause-of-death structures in the different populations, mortality from all cancers correlated fairly well with mortality from all causes of death. The majority of the populations followed a negative social gradient, which was usually less steep than for all causes of death. There were, however, a number of populations for which no consistent trend was apparent: men in California (United States) 1960, Hungary, Japan and Norway; and women in Hungary, Italy, Japan and Norway.

Incidence data for all cancers were available for a smaller number of populations than data for all-cancer mortality. The negative social class trend was less obvious than for mortality. Negative trends were seen in Finland, Turin (Italy), Du Pont employees (United States), England and Wales, Spain and, to a lesser extent, Denmark. An inverted trend was suggested for men in Cali (Colombia), with the highest incidence being associated with the highest social category. There was no trend for either men or women in Sweden, women in Cali (Colombia) and women in Denmark.

Cancers of the mouth and pharynx (Tables 4–5)

In men, an excess mortality from cancers of the oral cavity and pharynx in the socially disadvantaged categories was evident in all populations for which data for these sites were available, with the exception of Japan and California (United States) (Table 4). The negative trend was particularly pronounced in Great Britain 1979–1983, France, Italy and New Zealand. The São Paolo (Brazil) data for men differentiated between mortality from cancers of the mouth and pharynx, with the social gradient for cancer of the mouth appearing weaker than that for pharynx. Women's mortality data did not reveal clear-cut social trends, except for data from the United Kingdom, which suggested a negative trend.

No general picture emerged from the incidence data (Table 5). For cancer of the mouth, there were positive [Cali (Colombia); men], and negative (Denmark, men; Sweden, women) trends, although most data were not suggestive of any trend. For pharynx cancer, data for women in Cali (Colombia), Finland and Sweden, and data for men in the United States 1969–1971 and possibly Denmark, suggested a negative social gradient. No population revealed a clear positive trend.

Cancer of the oesophagus (Tables 6–7)

With the exception of the slightly irregular trend in the earlier New Zealand data, excess mortality in men from cancer of the oesophagus concentrated on the lower social strata (Table 6). Incidence data for men followed the same pattern (Table 7) but this was less pronounced. An inverted association was seen for men in Cali (Colombia) and in the United States. Mortality and incidence data for women followed a negative trend in the majority of the populations.

Stomach cancer (Tables 8–9)

Male mortality from stomach cancer showed a highly consistent tendency towards an excess in lower socioeconomic groups (Table 8). Risks rose steeply and usually regularly from the top to the bottom of the social scale. Incidence data for men followed the mortality trend (Table 9). The negative gradient was also identified in women, except for indeterminate trends in the mortality data of Hungary, Norway and Vaud (Switzerland), and incidence data of Denmark.

Colon cancer (Tables 10–11)

In most countries a positive social class gradient was observed for colon cancer in both genders. Low risks were associated with low social strata, both for mortality (Table 10) and incidence (Table 11). The trend is well exemplified by data for mortality in both sexes in Sao Paolo (Brazil) and for incidence in men in Finland and Hong Kong. A considerable number of exceptions to the positive gradients were observed, however, particularly in North America.

Cancer of the rectum (Tables 12–13)
No consistent social trend emerged for cancer of the rectum. Mortality data for men in Sao Paolo (Brazil) and incidence data for men in Hong Kong and Istanbul (Turkey) revealed highest risks in high social groups, while the opposite trend was suggested by mortality data of the United Kingdom during the 1970s and 1980s, and incidence data of Cali (Colombia), Milan (Italy) and, to a lesser extent, Montreal (Canada). In the remaining populations, no clear trends could be identified.

Patterns for women were similar to those for men. Hungary 1980 and Sao Paolo (Brazil) mortality data, and Hong Kong incidence data, displayed highest risks among high social categories, while mortality data for the United Kingdom and incidence data for Cali (Colombia) and Milan (Italy) suggested the opposite trend.

Liver cancer (Tables 14–15)
The data suggested either a negative social gradient (excess risk concentrating in lower social classes) or no gradient. Negative trends were identified for mortality in Italy (men), New Zealand (men) and Sao Paolo (Brazil; both genders). Negative trends were identified for incidence in Cali (Colombia; both genders) and possibly Denmark (men), Milan (both genders), and the United States 1969–1971 (men). The mortality data from the United Kingdom were suggestive of a negative gradient, but not consistently. There was no clear gradient in a number of other populations.

Pancreatic cancer (Tables 16–17)
Occurrence of pancreatic cancer was not consistently associated with social class. In men, pancreas cancer mortality and incidence followed irregular patterns both between and within countries. Positive and negative, but mostly indeterminate, gradients were encountered.

In women, pancreas cancer mortality was in excess in the lowest social stratum in California (United States), England and Wales 1930–1932 and 1970–1972, Great Britain 1979–1983, Japan, Sao Paolo (Brazil) and Vaud (Switzerland). Incidence data showed excesses, deficits and irregularities, none of which was of outstanding magnitude, with the exception of a doubling of incidence from the lowest to the highest social stratum in Cali (Colombia).

Cancer of the nose and nasal cavities (Tables 18–19)
The data for nasal cancer was scanty, and it suggested excess rates for lower social strata but not consistently. The United Kingdom mortality data were not completely consistent but suggested a negative social class trend in both sexes. The same pattern was reproduced by the Finnish incidence data, particularly in men, but not in Denmark or Sweden.

Larynx cancer (Tables 20–21)
The data for larynx cancer suggested a clear negative social class gradient in men, with the exceptions of Cali (Colombia), Japan (mortality) and Sweden (incidence). Strong mortality excesses were observed in the lowest stratum in France, Great Britain, Italy and New Zealand, as contrasted with the upper social strata. The data for women were less consistent. Negative gradients were observed in the United Kingdom from 1959 (mortality), and less strongly in Denmark and Finland (incidence).

Lung cancer (Tables 22–23)
Male lung cancer risk followed a negative social class gradient in industrialized countries, particularly during recent decades. With the exceptions of the United Kingdom 1912–1912, England and Wales 1930–1932 and possibly 1949–1953, Scotland 1959–1963, Sao Paolo (Brazil) 1978–1982, and the United States population survey and census cohort (Black) 1979–1985, the 34 mortality gradients showed a negative trend for men. Some of the trends were based on the same data, using various indicators of socioeconomic status. The male mortality gradients were reproduced by 13 negative gradients for male incidence. The Latin American male populations [Cali (Colombia) and Sao Paolo (Brazil)] represented the only positive social class gradients.

In women, the patterns were less consistent. Some of the populations, such as those of Athens (Greece) 1978–1986, Canada, Denmark, Finland, Scotland, the United Kingdom 1970–1972 and 1979–1983 (mortality) and 1971–1981 (incidence), and the United States 1960 and 1969–1971, suggested a negative social class gradient, while others were inconsistent to varying degrees and still others, such as Cali (Colombia), Greater Athens (Greece) 1987–1989, Hungary 1980, Sao Paolo (Brazil) and Turin (Italy), suggested a positive trend.

Bone cancer (Tables 24–25)
Mortality data for bone cancer were available for New Zealand, Sao Paolo (Brazil), Switzerland and the United Kingdom, and incidence data were available for Denmark, Finland and Sweden. The numbers were small and the risk ratios therefore imprecise, except for the United Kingdom. Data for Finland (men), Sao Paolo (Brazil; both sexes) and Sweden (women, incidence) suggested a positive trend, while data for men in Great Britain 1979–1983 and for women in Sao Paolo (Brazil) revealed an excess for lower social strata.

Connective tissue cancer (Tables 26–27)
For cancer of the connective tissue, only the United Kingdom rates were available for mortality, and these suggested no clear association with social class in either men or women. Of populations with incidence data, Nordic countries showed either a somewhat elevated risk for more privileged social classes (Finland) or no tendencies, while the United States data 1969–1971 suggested a higher risk for lower social strata, when education was used as the social indicator.

Malignant melanoma (Tables 28–29)
Data for malignant melanoma suggested a regular pattern with the highest risk observed in the highest social strata, with very few exceptions. An excess in lower social strata was observed for Istanbul (Turkey) in men.

Female breast cancer (Tables 30–31)
The data for female breast cancer followed a consistent gradient rising from lower to higher social classes, with the exceptions of England and Wales 1971–1981 (incidence), Great Britain 1979–1983 (mortality) and Portugal. The excess fraction reached over 150% for Hong Kong, Istanbul (Turkey), Sao Paolo (Brazil) and the United States White population (population survey and census cohort 1979–1985). Northern European populations, with the exception of Sweden, suggested mortality excesses of about 100% for the highest social classes.

Cancers of the cervix and uterus (Tables 32–33)
Cervical cancer followed mortality and incidence gradients that increased, usually steeply, from the highest to lowest social category. The excess fractions were higher than 100% for Cali (Colombia), urban Canada 1971 and 1986, Sao Paolo (Brazil), Turin (Italy), the United Kingdom for all periods from 1949, and the United States 1960.

For cancer of the corpus uteri, the pattern was inconsistent between countries. In four populations, the excess concentrated on higher social classes: Cali (Colombia), Finland 1971–1985 (incidence), Sao Paolo (Brazil) and the United States 1969–1971. Excesses in lower classes were encountered for Canada, Denmark (mortality) and Italy, and possibly Finland (mortality 1969–1972). Irregular or no trends were observed for incidence data in Denmark, Istanbul (Turkey), Sweden or Turin (Italy).

Ovarian cancer (Tables 34-35)
A declining gradient from the highest to the lowest social class both for mortality and incidence of ovarian cancer was observed in populations of Mediterranean and South American countries. Excess fractions for the higher social strata exceeded 100% in Italy, Istanbul (Turkey) and Sao Paolo (Brazil). In the data for Canada, the United Kingdom, Japan, northern Europe, and the United States White population (population survey and census cohort 1979–1985), the socioeconomic trends were irregular or nonexistent.

Prostate cancer (Tables 36–37)
Prostate cancer mortality or incidence was not strongly associated with socioeconomic status. Positive trends with excesses in higher strata were encountered for Cali (Colombia), Finland (incidence 1971–1985 but not mortality 1969–1975) and possibly Istanbul (Turkey). Weak negative gradients were observed for England and Wales 1970–1972 and Spain.

Testis cancer (Table 38–39)
In Cali (Colombia) and northern European and United Kingdom populations, incidence data of testis cancer suggested, although not with compelling consistency, an excess in higher social categories. In a number of populations, however, no social class gradient was observed.

Bladder cancer (Tables 40-41)
Male bladder cancer mortality data did not suggest a consistent social class trend across populations.

A positive gradient was observed for California (United States) 1949–1951, Japan and Norway, while a negative trend was seen for Great Britain 1979–1983, Spain, and, in a somewhat irregular fashion, New Zealand 1984–1987, with the deprived social classes being at risk with excesses up to about 100%. Data for men in England and Wales 1970–1972, Italy, New Zealand 1974–1978, Sao Paolo (Brazil) and Switzerland showed an inclination towards an inverted U-shaped trend, with the peak of the risk occurring at middle social categories. This trend may be a transient phenomenon, as suggested by the disappearance of it and the emergence of a more negative gradient in the data for subsequent decades in Great Britain and New Zealand. Data for a number of male populations were not indicative of a social gradient.

The majority of the data for women were associated with irregular or no social trends. Positive social gradients in women were represented by Finland, Italy and Sao Paolo (Brazil). The data for Spain and Vaud (Switzerland) suggested a negative trend. The United Kingdom data for women were irregular across social classes until 1979–1983, when a negative gradient emerged.

Kidney cancer (Tables 42–43)

In the majority of male populations, there was no indication of a social gradient. A positive trend was suggested, however, for seven populations: Cali (Colombia), Denmark, Finland, early United Kingdom data (in subsequent United Kingdom data, this trend disappeared and a slight tendency towards an inverted trend emerged), Sao Paolo (Brazil), Vaud (Switzerland) and possibly Japan. The Sao Paolo gradient was particularly steep, ranging from RR = 4.9 for men with more than 12 years of education down to the reference level of RR = 1 for those with less than one year of education. No evidence for a negative trend was observed in any population except a weak inclination in Montreal (Canada).

The data for women showed a positive trend in England and Wales 1949–1953 and possibly Finland, and no trend for the remainder of the populations.

Brain cancer (Tables 44–45)

The majority of populations showed no association of socioeconomic status and brain cancer mortality or incidence for men. Rates appeared to be high among higher socioeconomic groups in London (United Kingdom) 1967–1987, Sao Paolo (Brazil) and Vaud (Switzerland). The same pattern was seen in earlier years in England and Wales 1930–1932 (traces of this trend were still seen in the United Kingdom data in 1949–1953 but disappeared subsequently). No evidence was found for excess risks concentrating on lower social categories.

There was also no evidence for a negative social trend in women. A positive trend was suggested by data of Cali (Colombia), Finland (a weak trend), and mortality figures for England and Wales 1949–1953 and 1970–1972. In addition, there was a weak positive incidence trend in England and Wales 1971–1981.

Cancer of the thyroid gland (Tables 46–47)

The majority of the rates for cancer of the thyroid gland did not follow a socioeconomic pattern. A negative mortality trend was suggested by the data of Vaud (Switzerland) in both sexes, and England and Wales 1959–1963 and 1970–1972 in women. Data from Cali (Colombia; women) and the United States 1969–1971 (both genders) suggested a positive trend.

Lymphomas (Tables 48–49)

The majority of mortality and incidence data for lymphomas showed no association with social class. An excess risk, particularly for Hodgkin's disease, was observed in high social strata in some populations [Brazil, Finland, Hungary and Vaud (Switzerland)].

Leukaemia (Tables 50–51)

The leukaemia data did not suggest social class trends, with the exceptions of an excess in advantaged social strata encountered in Cali (Colombia; male incidence, but the female incidence suggested an inverted gradient), England and Wales (male and female mortality 1930–1932; the gradient disappeared subsequently), Finland (male mortality), Sao Paolo (Brazil; male and female mortality) and Turin (Italy; male and female incidence; not completely consistent between social indicators used). The United States data for the White population (population survey and census cohort 1979–1985) suggested the highest male leukaemia rate in the lowest educational stratum (RR = 1.4 for those with less than four years of elementary schooling), and the highest female rate in the highest educational stratum (RR = 2.4 for those with more than four years of college education).

Time trends

Time trends for mortality by social class were available for England and Wales from 1910. There were two sources of mortality data presented in this review for England and Wales. The 1971–1975 and 1976–1981 data came from a longitudinal study, in which the occupational information, which is the basis for the social classification, was derived uniformly from the 1971 census records. In the data for 1911, 1931, 1971 and 1981, the mortality numerators were derived from occupations recorded on death certificates, while the denominators were based on census data. For reasons of possible incomparability, we did not include the longitudinal data in the trend figures (Figures 1–10) and summarized only the *Decennial supplement* data for 1911, 1931, 1971 and 1981. Social class trends were considered for mortality from all cancers and stomach and colon cancer for both sexes, as well as from lung cancer for men and breast and cervix cancers for women.

In men, the data suggested widening over time of social class differentials for all cancers pooled and cancers of the lung, larynx and stomach. For colon cancer, higher social classes displayed a somewhat increased mortality in 1911 and 1951, but this differential seems to have largely disappeared by 1981.

In women, the social differentials seem to have widened over decades in disfavour of lower social strata in mortality from all cancer sites combined and from cervical cancer. For stomach cancer, the relative excess mortality of social class V increased to some extent, while the deficit for class I decreased. Breast cancer mortality was in excess in higher classes until 1951. The differences started to level off thereafter, and no clear social gradient was observed in 1981. For colon cancer, the trends were inconsistent.

Conclusions

In men, a number of cancers revealed a consistent social class gradient across populations, with the risk being higher in more disadvantaged categories: respiratory cancers (nose, larynx and lung) and cancers of the mouth and pharynx, oesophagus, stomach, and, with a number of populations showing no or irregular trends, liver. Figures from Latin America, which were available for Cali (Colombia) and Sao Paolo (Brazil), represented an exception for respiratory tract, where the excesses among higher social categories suggested a higher prevalence of the main risk factor, tobacco smoking, among socially advantaged strata.

Excesses in lower social strata were suggested among women for cancers of the oesophagus, stomach and, less consistently, liver, but not for respiratory sites. Incidence and mortality from cervix uteri revealed a worldwide steep tendency to be more frequent in lower social strata.

The data for colon cancer and malignant melanoma suggested a positive social gradient in men, the rate being high in high social categories. In women the cancers for which higher social classes were at higher risk were malignant neoplasms of the colon, breast and ovary, and malignant melanoma.

For a number of cancers, social class trends were inconsistent or nonexisting: cancers of the rectum, pancreas, bone, connective tissues, prostate, testis, bladder, kidney and thyroid gland, and malignant lymphomas and leukaemias, in men; and cancers of the rectum, pancreas, nose, larynx, lung, bone, connective tissues, body of the uterus, bladder and kidney, and malignant lymphomas and leukaemias, in women.

Longitudinal data from England and Wales suggested widening over time of social class differences in men for all cancers combined and for cancers of the lung, larynx and stomach, and in women for all cancers combined and for cervical cancer.

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Table I. Summary of studies included in this review[a]

Country	W/S	Period	Sites	M/F	M/I	Design	Observed	Population size	Notes	Reference
Brazil (São Paolo)	W	1978–82	20	MF	M	CCS	85 868[b]			Bouchardy *et al.*, 1993
Canada (urban area)	W	1971	T+11	MF	M	SSS	23 957[c]	5346 550	1	Wilkins, pers. commun.
	W	1986	T+11	MF	M	SSS	25 653[c]	8017 860	1	Wilkins,' pers. commun.
Canada (Montreal)	S	1979–85	10	M	I	PCC	4576	740[b]	2	Bourbonnais & Siemiatycki, in press
Colombia (Cali)	W	1971–75	22	MF	I	SSS	~8000[d]	903 888		Cuello *et al.*, 1982
Denmark	W	1970–75	T+7	MF	M	SSS				Danmarks Statistik, 1979
	W	1970–80	25	MF	I	RLS	73 095			Lynge & Thygesen, 1990
Denmark (Copenhagen)	S	1971–88	1	M	I	COH	144	5249	2	Hein, 1992
Finland	W	1969–72	T+7	MF	M	SSS	179 919	2219 985[e]		Näyhä, 1977
	W	1971–85	T+6	MF	M	RLS		~1600 000[f]		Valkonen *et al*, 1990
	W	1971–85	25	MF	I	RLS		~1600 000[f]		Pukkala, 1995
France	S	1966–71	T+2	M	M	RLS		~800 000[f]		Desplanques, 1976
	S	1975–82	T+6	M	M	RLS		~1000 000[f]		Desplanques, 1985
France (Paris)	S	1989–91	1		I	HCC	528	305[g]	3	Leclerc *et al.*, 1993
Greece (Greater Athens)	W	1980–81	1	F	I	HCC	971	2250[g]		Franceschi *et al.*, 1991
	W	1987–89	1	F	I	HCC	101			Katsouyanni *et al.*, 1991
Greece (Athens)	W	1978–86	1	F	I	HCC	51			Trichopoulos *et al.*, 1981
Greece (Athens)	W	1979–80	1	F	I	HCC	100			Papadimitriou *et al.*, 1984
Hong Kong	S	1971	4	MF	I	SSS	815			Crowther *et al.*, 1976
Hungary	W	1970	8	MF	M	SSS				Jozan, 1986
	W	1980	8	MF	M	SSS				Jozan, 1986
Italy	W	1981–82	T+19	MF	M	RLS	94 163	36690 846[f]	4	Faggiano *et al.*, 1995
Italy (Torino)	W/S	1985–87	12	MF	I	RLS	7666	30 751[g]	4,5	Faggiano *et al.*, 1994
Italy (Milano)	S	1983–88	10	MF[n]	I	HCC	1771	1944[g]	2	Ferraroni, 1989
Japan	S	1965–82	T+16	MF	M	COH		265 118		Hirayama, 1990

Table I. (Contd) Summary of studies included in this review[a]

Country	W/S	Period	Sites	M/F	M/I	Design	Observed	Population size	Notes	Reference
The Netherlands	W	1959–61	1	M	M	SSS				Van Reek, 1986
	S	1951–81	T+1	M	M	COH	3456	78 505	6	Doornbos & Kromhout, 1990
New Zealand	W	1975–78	T+18	M	M	SSS	5356			Pearce & Howard, 1986
	W	1985–87	T+18	M	M	SSS				N. Pearce, pers. commun.
Norway	W	1970–73	T+8	MF	M	SSS				Central Bureau of Statistics, 1976
Portugal	W	1980–82	T+2	MF	M	CCS		3524 432		M. Giraldes, pers. commun.
Spain	W	1980–82	14	M	M	CCS				E. Regidor, pers. commun.
Sweden	W	1961–70	24	MF	I	SSS	223 215	2809 974[f]		Vågerö & Persson, 1986
Switzerland	W	1979–82	T+17	M	M	SSS	45 565	1617 432[f]		C.E. Minder, pers. commun.
Switzerland (Vaud)	W	1977–84	14	MF	M	CCS	4461[b]			Levi *et al.*, 1988
Turkey (Istanbul)	S	1979–84	12	MF	I	HCC	3865	2371	3	Dosemeci *et al.*, 1993
UK – England & Wales	W	1910–12	T+10	M	M	SSS				OPCS, 1919
	W	1921–23	3	M	M	SSS				OPCS, 1927
	W	1930–32	T+13	MF	M	SSS				OPCS, 1938
	W	1949–53	T+16	M	M	SSS				OPCS, 1958
	W	1959–63	10	M	M	SSS				OPCS, 1971
	W	1970–72	T+23	MF	M	SSS				OPCS, 1977
	S	1971–81	T+2	M	M	RLS	8488[j]	~496 000[j]		OPCS, 1990
	S	1971–81	22	MF	I	RLS	17 402	~496 000		Kogevinas, 1990
UK – Great Britain	W	1979–83	T+23	MF	M	SSS	427 812			OPCS, 1986
UK – Scotland	W	1949–53	T+2	M	M	SSS				Registrar General of Scotland, 1956
	W	1959–63	T+7	MF	M	SSS				Registrar General of Scotland, 1970
UK – 6 cities	S	1977–81	1	M	I	HCC	259	489[g]		Swerdlow *et al.*, 1991
UK (London)	S	1967–87	T+10	M	M	COH	1237	17 530		Davey Smith & Marmot, 1991
USA (Buffalo)	S	1945–65	1	M	I	PCC	247	2504		Graham & Gibson, 1972
USA (California)	W	1949–51	13	M	M	SSS	10 401	2984 867		Buell *et al.*, 1960

Table I. (Contd) Summary of studies included in this review[a]

Country	W/S	Period	Sites	M/F	M/I	Design	Observed	Population size	Notes	Reference
USA (Du Pont Co)	W	1959–67	2	M	I	COH	1274	115 000		Pell & D'Alonzo, 1970
USA (San Francisco)	S	1984–85	1	M	I	PCC	762	837[g]	2	Greenberg *et al.*, 1991
USA	S	1969–71	20	MF	I	CCS	7518[b]		2	Williams & Horm, 1977
USA	S	1960	T+7	MF	M	RLS	62 400			Kitagawa & Hauser, 1973
USA (12 census samples)	S	1979–85	T+10	MF	M	RLS	1281 475			Rogot *et al.*, 1992

[a]Whole or sample populations (W/S); time period of observation (period); number of cancer sites presented (sites: T = total mortality); gender (M/F), type of occurrence measure (M/I, mortality/incidence); study design (design: CCS, case–case proportional mortality study; COH, cohort study (interview or medical examination at the time of enrolment of participants); HCC, hospital-based case–control study; PCC, population-based case–control study; RLS, record linkage study; SSS, statistics from a surveillance system;); number of observed cases; general or control population size; notes and references.

[b]Cancer patients as controls.

[c]All causes.

[d]Estimated from Parkin *et al.*, 1992.

[e]Whole population.

[f]At-risk population.

[g]Controls.

[h]Adjusted by sex.

[i]Age 15–64.

[j]All ages.

Notes. (1) Ecological indicator of social class. (2) Adjustments for other risk factors are available in the paper. (3) Adjusted for tobacco and/or alcohol use. (4) Adjusted for geographic area of birth or residences. (5) Analysed with a case–control design. (6) Adjustment for height and health score are available in the paper.

Table II. UK Registrar General's classification as of 1971 and the prevalence of class categories among active and retired persons

Class	Description (examples)	Prevalence, %
I	Professional (e.g., accountant, doctor, lawyer)	5
II	Intermediate (e.g., manager, nurse, schoolteacher)	18
III-NM	Skilled non-manual (e.g., clerical worker, secretary, shop assistant)	12
III-M	Skilled manual (e.g., bus driver, butcher, carpenter, coal-face worker)	38
IV	Partly skilled (e.g., agricultural worker, bus conductor, postman)	18
V	Unskilled (e.g., cleaner, dock worker, labourer)	9

Table III. List of cancer sites considered in the site-specific tables in this review, and correspondent rubric of the International Classification of Diseases (9th revision)

Table	Cause of death	ICD–9	Other ICD groups occasionally included
1	All causes of death	000–999	
2–3	All cancer sites	140–139	
4–5	Cancer of the buccal cavity and pharynx	140–150	Mouth (ICD 141–145); pharynx (ICD 146,148–149); upper digestive–respiratory tracts (ICD 140–150,161); hypopharynx (ICD 148)
6–7	Cancer of the oesophagus	150	
8–9	Stomach cancer	151	
10–11	Colon cancer	153	Intestine (ICD 152–154); colorectal (ICD 153–154)
12–13	Cancer of the rectum	154	
14–15	Liver and gallbladder cancer	155–156	Liver (ICD 155)
16–17	Pancreatic cancer	157	
18–19	Cancer of the nose and nasal cavity	160	
20–21	Larynx cancer	161	
22–23	Lung cancer	162	
24–25	Bone cancer	170	
26–27	Connective tissue cancer	171	
28–29	Malignant melanoma	173	Skin (ICD 172–173)
30–31	Female breast cancer	174	
32–33	Cancer of the uterus	179–180,182	Cervix (ICD 180); corpus (ICD 182); other than cervix (ICD 179, 182)
34–35	Ovarian cancer	183	
36–37	Prostate cancer	185	
38–39	Testis cancer	186	
40–41	Bladder cancer	188	
42–43	Kidney cancer	189	
44–45	Brain cancer	191–192	
46–47	Cancer of the thyroid gland	193	
48–49	Lymphoma	200–203	Hodgkin's disease (ICD 201); non–Hodgkin lymphoma (ICD 202); multiple myeloma (ICD 203); other combinations
50–51	Leukaemia	204–208	Leukemias and lymphomas (ICD 200–208); lymphoid leukaemia (ICD 204); acute, chronic lymphocytic leukaemia (ICD 204 with different morphology)

Table 1. All causes mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada (urban area) 1971 all ages	Income CMF	Q1		0.79		0.84	Surveillance system statistics using 1971 census data as denominator. Neighbourhood income quintiles as social indicator [R. Wilkins, pers commun.]
		Q2		0.82		0.84	
		Q3		0.95		0.99	
		Q4		0.99		1.01	
		Q5		1.41		1.28	
Canada (urban area) 1986 all ages	Income CMF	Q1		0.72		0.84	Surveillance system statistics using 1986 census data as denominator. Neighbourhood income quintiles as social indicator [R. Wilkins, pers commun.]
		Q2		0.80		0.83	
		Q3		0.89		0.95	
		Q4		1.08		1.03	
		Q5		1.50		1.28	
Denmark 1970–1975 age: 20–64	Occupational group SMR	Employees: I		0.79		0.98	Record-linkage study using 1970 census and 1970–1975 mortality data. Employees classified according to educational level [Danmarks Statistik, 1979]
		Employees: II		0.83		0.95	
		Employees: III		0.96		0.96	
		Employees: IV		1.15		1.96	
		Skilled workers		1.08		1.00	
		Unskilled workers		1.10		1.08	
Finland 1969–1972 age: 15–64 (married women)	Social class CMF	Upper white-collar		0.78		0.95	Surveillance system statistics using 1970 census data as denominator. Social class indicator based on occupation [Näyhä, 1977]
		Lower white-collar		0.95		1.00	
		Skilled workers		0.92		1.02	
		Unskilled workers		1.48		1.08	
		Farmers		0.87		0.96	
Finland 1971–1985 age: 35–64	Social class RR	Upper white-collar		1		1	Record-linkage study using 1970, 1975 and 1980 census data and 1971–1985 mortality [Valkonen *et al.*, 1990]
		Lower white-collar		1.38		1.15	
		Skilled workers		1.67		1.38	
		Unskilled workers		2.30		–	
		Farmers		1.42		1.19	
France 1966–1971 age: 45–54	Occupational group RR	Managers		0.52			A sample of about 800 000 of 1955 censused population followed-up until 1971. The scale shown represents a choice of the total scale [Desplanques, 1973]
		Intermediate		0.70			
		Self-employed		0.85			
		Clerks		0.86			
		Skilled workers		1.09			
		Unskilled workers		1.58			
France 1966–71 age: 55–64	Occupational group CMF	Managers		0.63			A sample of about 800 000 of 1955 censused population followed-up until 1971. The scale shown represents a choice of the total scale [Desplanques, 1973]
		Intermediate		0.74			
		Self-employed		0.87			
		Clerks		0.90			
		Skilled workers		1.09			
		Unskilled workers		1.43			
France 1975–82 age: 45–64	Occupational group CMF	Managers		0.59			A sample of about 1000 000 of 1975 censused population followed-up until 1982. The scale shown represents a choice of the total scale [Desplanques, 1985]
		Intermediate		0.82			
		Self-employed		0.88			
		Clerks		1.05			
		Skilled workers		1.28			
		Unskilled workers		1.81			

Table 1. (Contd) All causes mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
France	Occupational	Managers		0.65			A sample of about 1000 000
1975–1982	group	Intermediate		0.92			of 1975 censused population
age: 55–64	CMF	Self-employed		0.93			followed-up until 1982. The
		Clerks		1.20			scale shown represents a
		Skilled workers		1.21			choice of the total scale
		Unskilled workers		1.40			[Desplanques, 1985]
Italy	Educational	University	1759	1	290	1	Record-linkage between
1981–1982	level	High school	3380	1.05	1251	1.09	1981 census and mortality
age: 18–74	RR	Middle school	8139	1.26	3017	1.24	in the following six months
		Primary school	32855	1.37	16096	1.35	
		Literate	12171	1.38	8802	1.44	
		Illiterate	3237	1.64	3166	1.81	[Faggiano *et al.*, 1995]
Japan	Social class	I, II		0.81		0.81	265 000 Japanese
1965–1982	SMR	III		0.96		1.00	interviewed in 1965 and
age: 40+		IV		0.99		0.88	followed-up until 1982. Social
		V		1		1	class based on occupation.
							Reference category is
							farmers and miners
							[Hirayama, 1990]
The Netherlands	Education	4 (high)		0.67			1951–1981 follow-up of 78
1951–1981	level	3		0.77			505 Dutch men medically
	RR	2		0.82			examined in 1950–1951
		1 (low)		1			for military service
							[Doornbos & Kronhout, 1990]
New Zealand	Social class	I		1			Surveillance system statistics
1974–1978	RR	II		1.03			using 1976 census data as
age: 15–64		III-NM		1.11			denominators. UK Registrar
		III-M		1.20			General's social class
		IV		1.47			classification
		V		1.97			[Pearce, 1986]
New Zealand	Social class	I		1			Surveillance system statistics
1984–1987	RR	II		1.35			using 1986 census data as
age: 15–64		III-NM		1.27			denominators. UK Registrar
		III-M		1.67			General's social class
		IV		2.06			classification
		V		2.03			[Pearce & Bethwaite, pers.
							commun.]
Norway	Social class	A		0.91		0.98	Surveillance system statistics
1970–1973	CMF	B		1.11		1.00	using 1970 census data as
age: 20–69		C		1.02		1.00	denominators. Social class
		D		1.12		1.09	based on occupation [Central
		E (farmers)		0.81		0.94	Bureau of Statistics, 1976]

Table 1. (Contd) All causes mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Switzerland 1979–1982 age: 15–74	Social class SMR	I II III-NM III-M IV-V		0.64 0.77 1.04 1.2 1.01			Surveillance system statistics using 1980 census as denominator. UK Registrar General's social-class classification [Minder, pers. commun.]
UK – England and Wales 1910–1912 age: 15–64	Social class SMR	I II III IV V		0.88 0.94 0.96 0.53 1.42			Surveillance system statistics using 1910 census data as denominator. For social classification see Introduction [OPCS, 1919]
UK – England and Wales 1930–1932 age: 15–64	Social class SMR	I II III IV V		0.90 0.94 0.97 1.02 1.11			Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]
UK – England and Wales 1949–1953 age: 15–64	Social class SMR	I II III IV V		0.98 0.86 1.01 0.94 1.18			Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction [OPCS, 1958]
UK – England and Wales age: 15–64 (married women)	Social class SMR	I II III-NM III-M I V		0.77 0.81 0.99 1.06 1.14 1.37		0.82 0.87 0.92 1.15 1.19 1.35	Surveillance system statistics using 1970 census data as denominator. For social classification 1970–1972 see Introduction. Women classified according to husband's occupation [OPCS, 1977]
UK – England and Wales 1971–1975 age: 15–64	Social class SMR	I II III-NM III-M IV V		0.80 0.80 0.92 0.90 0.97 1.15			Record-linkage study (Longitudinal Study) between 1971 census and 1971-75 mortality data for a 1% sample of the total population. UK Registrar General's social class classification [OPCS, 1990]
UK – England and Wales 1976–1981 age: 15–64	Social class SMR	I II III-NM III-M IV V		0.67 0.77 1.05 0.96 1.09 1.25			Record-linkage study (longitudinal study) between 1971 census and 1971–1975 mortality data for a 1% sample of the total population. UK Registrar General's social class classification [OPCS, 1990]

Table 1. (Contd) All causes mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – Great Britain 1979–1980, 1982–1983 age: 20-64 (married women, 20–59)	Social class SMR	I	10808	0.66	3532	0.75	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	56535	0.76	17518	0.83	
		III-NM	33370	0.94	8420	0.93	
		III-M	116218	1.06	32609	1.11	
		IV	69415	1.16	17958	1.25	
		V	36574	1.65	7194	1.60	
UK (London) 1967–1987	Employment grade RR	Administrators	141	1			17530 London civil servants, medically examined 1967–1969, followed-up until 1987 [Davey Smith & Marmot, 1991]
		Professionals	2322	1.30			
		Clerical	905	1.82			
		Other	663	2.10			
UK – Scotland 1949–1953 age: 20–64	Social class SMR	I		1.08			Surveillance system statistics using 1950 census data as denominator. UK Registrar General's social class classification [Registrar General for Scotland, 1956]
		II		0.86			
		III		1.03			
		IV		0.90			
		V		1.13			
UK – Scotland 1959–1963 20–64 (married women)	Social class SMR	I		0.83		0.66	Surveillance system statistics using 1960 census data as denominators. UK Registrar General's classification. Women classified according to husband's occupation [Registrar General for Scotland, 1970]
		II		0.87		0.84	
		III		0.97		0.96	
		IV		0.99		1.05	
		V		1.42		1.49	
USA 1960 age: 25–64 (white)	Educational level SMR	College		0.77		0.80	Record-linkage study using 1960 mortality data and census [Kitagawa & Hauser, 1973]
		High school		0.79		0.89	
		Elementary school		1.07		1.08	
		<8 years of school		1.14		1.31	
USA (12 census samples) White population 1979–1985 age: 25+	Education SMR	College: 5+ y		0.65		0.79	Census linkage [Rogot *et al.*, 1992]
		4 y		0.77		0.84	
		1-3 y		0.93		0.93	
		High school: 4 y		0.96		0.98	
		1-3 y		1.13		1.02	
		Elementary school: 8 y		1.11		1.06	
		5-7 y		1.12		1.07	
		0-4 y		1.08		1.14	
USA Black population 1979–1985 age: 25+	Education SMR	College: 5+ y		0.59		0.56	Census linkage [Rogot *et al.*, 1992]
		4 y		0.60		0.65	
		1-3 y		0.81		0.73	
		High school: 4 y		0.92		0.88	
		1-3 y		1.08		1.11	
		Elementary school: 8 y		1.14		1.07	
		5-7 y		1.06		1.13	
		0-4 y		1.02		1.00	

Table 2. All cancer sites mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada (urban area) 1971 all ages	Income CMF	Q1		0.87		0.94	Surveillance system statistics using 1971 census data as denominator. Neighbourhood income quintiles as social indicator [R. Wilkins, pers commun.]
		Q2		0.89		0.89	
		Q3		0.99		1.00	
		Q4		0.98		1.05	
		Q5		1.22		1.11	
Canada (urban area) 1986 all ages	Income CMF	Q1		0.83		0.95	Surveillance system statistics using 1986 census data as denominator. Neighbourhood income quintiles as social indicator [R. Wilkins, pers commun.]
		Q2		0.88		0.96	
		Q3		0.91		1.00	
		Q4		1.06		1.00	
		Q5		1.32		1.09	
Denmark 1970–1975 age: 20–64	Occupational group SMR	Employees: I		0.72		0.97	Record-linkage study using 1970 census and1970–1975 mortality data. Employees classified according to the educational level [Danmarks Statistik, 1979]
		Employees: II		0.83		1.07	
		Employees: III		1.04		0.97	
		Employees: IV		1.19		0.99	
		Skilled workers		1.17		1.20	
		Unskilled workers		1.06		1.03	
Finland 1971–1985 age 35–64	Social class RR	Upper white-collar		1		1	Record-linkage study using 1970, 1975 and 1980 censuses data and 1971-85 mortality [Valkonen *et al.*, 1990]
		Lower white-collar		1.20		1.02	
		Skilled workers		1.54		1.05	
		Unskilled workers		1.78		–	
		Farmers		1.20		0.90	
France 1966–1971 age: 45–64	Occupational group RR	Managers		0.57			A sample of about 800 000 of 1955 censused population followed-up until 1971. The scale shown represents a choice of the total scale [Desplanques, 1973]
		Intermediate		0.77			
		Self-employed		0.88			
		Clerks		1.01			
		Skilled workers		1.24			
		Unskilled workers		1.32			
France 1966–1971 age: 55–64	Occupational group RR	Managers		0.67			A sample of about 800 000 of 1955 censused population followed-up until 1971. The scale shown represents a choice of the total scale [Desplanques, 1973]
		Intermediate		0.80			
		Self-employed		0.91			
		Clerks		1.04			
		Skilled workers		1.27			
		Unskilled workers		1.39			
France 1975–1982 age: 45–54	Occupational group RR	Managers		0.43			A sample of about 1000 000 of 1975 censused population followed-up until 1982. The scale shown represent a choice of the total scale [Desplanques, 1985]
		Intermediate		0.60			
		Self-employed		0.61			
		Clerks		0.81			
		Skilled workers		0.96			
		Unskilled workers		1.11			

Table 2. (Contd) All cancer sites mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
France 1975–1982 age: 45–54	Occupational group RR	Managers		0.68			A sample of about 1000 000 of 1975 censused population followed-up until 1982. The scale shown represents a choice of the total scale [Desplanques, 1985]
		Intermediate		0.96			
		Self-employed		0.94			
		Clerks		1.09			
		Skilled workers		1.25			
		Unskilled workers		1.25			
Hungary 1970 age: 25–64	Years of education SMR	15+		0.88		1.19	Surveillance system statistics using 1970 census data as denominator [Jozan, 1986]
		12–14		0.98		1.33	
		8–11		1.56		1.17	
		0–7		0.87		0.93	
Hungary 1980 age: 25–64	Years of education SMR	15+		0.95		1.15	Surveillance system statistics using 1980 census data as denominator [Jozan, 1986]
		12–14		0.92		1.28	
		8–11		1.06		1.07	
		0–7		0.99		0.88	
Italy 1981–1982 age: 18–74	Education level RR	University	607	1	160	1	Record-linkage between 1981 census and mortality in the following six months [Faggiano *et al.*, 1995]
		High school	1134	1.10	612	1.03	
		Middle school	2726	1.29	1289	1.03	
		Primary school	11 688	1.39	6092	1.00	
		Literate	3703	1.27	2651	0.94	
		Illiterate	751	1.24	657	0.90	
Japan 1965–1982 age: 40+	Social class SMR	I, II		0.91		0.90	265 000 Japanese interviewed in 1965 and followed-up until 1982. Social class based on occupation. Reference category is farmers and miners [Hirayama, 1990]
		III		1.06		1.10	
		IV		1.09		0.92	
		V		1		1	
The Netherlands 1951–1981 age: 18	Educational level RR	4 (high)		0.75			1951–1981 follow-up of 78 505 Dutch men undergoing medical examination in 1950–1951 for military service [Doornbos & Kromhout, 1990]
		3		0.85			
		2		0.87			
		1 (low)		1			
New Zealand 1974–1978 age: 15–64	Social class RR	I		1			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification [Pearce & Howard, 1986]
		II		1.09			
		III-MN		1.16			
		III-M		1.33			
		IV		1.11			
		V		1.74			
New Zealand 1984–1987 age: 15–64	Social class RR	I		1			Surveillance system statistics using 1986 census data as denominator. UK Registrar General social-class classification [Pearce & Bethwaite, in press]
		II		1.50			
		III-MN		1.39			
		III-M		1.60			
		IV		2.02			
		V		1.89			

Table 2. (Cont'd) All cancer sites mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Norway	Social class	A		0.89		1.14	Surveillance system statistics
1970–1973	CMF	B		1.11		0.99	using 1970 census data as
age: 20–69		C		1.07		0.99	denominator. Social class
		D		1.07		1.01	indicator based on occupation
		E (farmers)		0.79		0.91	[Central Bureau of Statistics, 1976]
Portugal	Occupational	Managers		1.00		1.00	Surveillance system statistics
1980–82	group	Professionals		1.87		2.30	using 1980 census data as
age: 20–64	RR	Clerks		1.87		1.86	denominator
		Sales workers		2.13		1.08	
		Service workers		1.57		0.44	
		Agriculture, forestry and fishery		2.34		0.32	
		Other manual workers		2.37		1.81	[M. Giraldes, pers. commun., SMRs calculated by authors]
Spain	Occupational	Professionals and managers		0.94			Proportional analysis on
1980–1982	group						death certificates
age: 30–64	PMR	Manual workers		1.15			
		Agricultural workers		0.90			[E. Regidor, pers commun.]
Switzerland	Social class	I		0.60			Surveillance system statistics
1979–1982	SMR	II		0.67			using 1980 census data as
age: 30–49		III-MN		1.05			denominator. UK Registrar
		III-M		1.49			General's social class
		IV-V		1.05			classification [Lehmann, 1990]
UK – England	Social class	I		0.93			Surveillance system statistics
and Wales	SMR	II		0.91			using 1910 census data as
1910–1912		III		1.01			denominator. For social
age: 15–64		IV		0.92			classification see Introduction
		V		1.21			[OPCS, 1919]
UK – England	Social class	I		0.83		0.97	Surveillance system statistics
and Wales	SMR	II		0.92		0.97	using 1930 census data as
1930–1932		III		0.99		1.02	denominator. For social
age: 15–64		IV		1.02		0.95	classification see Introduction.
(married women)		V		1.14		1.02	Women classified according to husband's occupation [OPCS, 1938]
UK – England	Social class	I		0.75		0.99	Surveillance system statistics
and Wales	SMR	II		0.80		0.97	using 1970 census data as
1970–1972		III-NM		0.91		0.99	denominator. For social
age: 15–64		III-M		1.13		1.13	classification see Introduction.
(married women)		IV		1.16		1.13	Women classified according
		V		1.31		1.16	to husband's occupation [OPCS, 1977]

Table 2. (Contd) All cancer sites mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1971–1975 age: 15–64	Social class SMR	I II III-NM III-M IV V	33 165 91 402 218 111	0.70 0.75 0.77 1.02 1.04 1.19			Record-linkage study (longitudinal study) between 1971 census and 1971–1975 mortality data for a 1% sample of the total population. UK Registrar General's social class classification [OPCS, 1990]
UK – England and Wales 1976–1981 age: 15–64	Social class SMR	I II III-NM III-M IV V	35 208 121 501 254 103	0.58 0.81 0.91 1.02 1.07 1.13			Record-linkage study (longitudinal study) between 1971 census and 1976-1981 mortality data for a 1% sample of the total population. UK Registrar General's social class classification [OPCS, 1990]
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I II III-NM III-M IV V	3143 16392 8936 34909 20094 9771	0.69 0.77 0.89 1.13 1.17 1.54	2087 9938 4533 16014 8309 2933	0.89 0.95 1.01 1.10 1.17 1.32	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
UK (London) 1967–1987	Employment grade RR	Administrators Professionals Clerical Other	47 713 265 212	1 1.25 1.69 1.99			17 530 London civil servants, medically examined 1967–1969, and followed-up until 1987 [Davey Smith & Marmot, 1991]
UK – Scotland 1949–1953 age: 20–64	Social class SMR	I II III IV V		1.04 0.93 1.09 0.96 1.06			Surveillance system statistics using 1950 census data as denominators. UK Registrar General social class classification [Registrar General for Scotland, 1956]
UK – Scotland 1959–1963 age: 20–64 (married women)	Social class SMR	I II III IV V		0.77 0.82 1.00 0.99 1.43		0.76 0.98 0.95 1.00 1.24	Surveillance system statistics using 1960 census data as denominator. UK Registrar General's classification. Women classified according to husband's occupation [Registrar General for Scotland, 1970]

Table 2 (Contd) All cancer sites mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
US – California 1949–1951 age: 25–64	Social class SMR	I		0.97			Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation [Buell *et al.*, 1960]
		II		0.90			
		III		1.03			
		IV		0.97			
		V		1.12			
USA 1960 age: 25–64 (white)	Educational level SMR	College		0.83		0.92	Record-linkage study using 1960 mortality and census data [Kitagawa & Hauser, 1973]
		High school		0.94		0.94	
		Elementary school		1.12		1.09	
		<8 years of school		1.09		1.13	
USA (12 census samples) White population 1979–1985 age: 25+	Education SMR	College: 5+ y		0.34		1.08	Census linkage.
		4 y		0.48		0.92	
		1-3 y		0.88		1.07	
		High school: 4 y		1.01		0.99	
		1-3 y		1.17		1.02	
		Elementary school: 8 y		1.26		0.97	
		5-7 y		0.90		1.03	
		0-4 y		0.97		0.89	[Rogot *et al.*,1992]
USA (12 census samples) Black population 1979–1985 age: 25+	Education SMR	College: 5+ y		0.34		0.86	Census linkage.
		4 y		0.48		0.73	
		1-3 y		0.88		0.95	
		High school: 4 y		1.01		0.86	
		1-3 y		1.17		1.17	
		Elementary school: 8 y		1.26		1.05	
		5-7 y		0.90		1.02	
		0-4 y		0.97		0.92	[Rogot *et al.*,1992]

Table 3. All cancer sites incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Colombia (Cali) all ages	Social class RR	I		1		1	Data from 1973 census were used for rate denominators. Social class based on the area of residence [Cuello *et al.*, 1982]
		II		0.92		1.14	
		III		0.76		0.96	
Denmark 1970–1980 all ages	Occupational group RR	Self-employed	12 893	0.89	1549	1.05	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level
		Employees: I	1315	0.92	334	1.06	
		Employees: II	2378	0.97	1410	1.00	
		Employees: III	5949	1.08	2475	1.04	
		Employees: IV	2795	1.12	6787	1.04	
		Skilled workers	7114	1.12	190	1.04	
		Unskilled workers	15 054	1.02	9162	1.00	[Lynge & Thygesen, 1990]
Finland 1971–1985 birth cohort: 1906–45	Social class SIR	Upper white-collar		0.84		1.13	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
		Lower white-collar		0.91		1.08	
		Skilled workers		1.03		0.96	
		Unskilled workers		1.10		0.95	
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University	262	1	129	1	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano *et al.*, 1994]
		High school	599	1.03	436	0.87	
		Middle school	1026	1.04	942	0.90	
		Primary school	2328	1.15	1944	0.76	
Italy (Torino) 1985–1987 age: 20–69	Occupational group OR	Managers	478	1	112	1	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano *et al.*, 1994]
		Clerks	793	0.97	489	0.93	
		Self-employed	496	1.05	216	0.80	
		Manual workers	2031	1.14	451	0.86	
Italy (Torino) 1985–1987 age: 20–69	Housing tenure OR	Owners	1810	1	1520	1	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano *et al.*, 1994]
		Tenants	2305	1.14	1844	1.06	
Sweden 1961–1970 all ages	Social class SIR	Employees: I	14 056	1.03		–	Record-linkage study between 1961 census and incidence data. Social class indicator based on occupation [Vågerö & Persson, 1986]
		Self-employees: II	13 147	1.02	2612	1.01	
		Indep. farmers: III	14 853	0.87		–	
		White-collars: IV	34 758	1.05	31 353	1.02	
		Blue-collars: V	82 175	1.00	28 035	0.97	
UK – England and Wales 1971–1981 all ages	Social class SIR	I	274	0.81			Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
		II	1501	0.90			
		III-MN	925	0.94			
		III-M	2880	1.01			
		IV	1761	1.05			
		V	936	1.12			
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier	4284	0.89	4320	0.97	Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
		Private rented	1805	1.06	1607	0.97	
		Council tenant	2882	1.16	2504	1.05	

Table 3. (Contd) All cancer sites incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
USA (Du Pont) 1959–1967 all ages	Income level SIR	1	25	0.68			1959–1967 follow-up of 115 000 employees of the Du Pont Co.
		2	206	0.97			
		3	0.94	169			
		4	103	1.11			
		5	771	1.03			[Pell, 1970]

Table 4. Mouth and pharynx cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+		0.7			Case–control study using deaths from other causes as controls ICD–9: 141-5; Mouth [Bouchardy *et al.*, 1993]
		9–11		1.1			
		1–8		1.5			
		<1		1			
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+		0.4			Case–control study using deaths from other causes as controls ICD-9: 146, 148, 149; Pharynx [Bouchardy *et al.*, 1993]
		9–11		0.6			
		1–8		1.0			
		<1		1			
Canada (urban area) 1971 all ages	Income CMF	Q1		0.48			Surveillance system statistics using 1971 census data as denominator. Neighbourhood income quintiles as social indicator [R. Wilkins, pers. commun.]
		Q2		0.80			
		Q3		0.92			
		Q4		1.16			
		Q5		1.48			
Canada (urban area) 1986 all ages	Income CMF	Q1		0.54		0.73	Surveillance system statistics using 1986 census data as denominators. Neighbourhood income quintiles as social indicator Bucal cavity [R. Wilkins, pers. commun.]
		Q2		0.56		0.73	
		Q3		0.63		1.00	
		Q4		1.32		0.87	
		Q5		1.92		1.60	
France 1975–1982 age: 45–54	Occupational group RR	Managers		0.23			A sample of about 1000 000 of 1975 censused population followed-up until 1982. The scale shown represents a choice of the total scale [Desplanques, 1985]
		Intermediate		0.43			
		Self-employed		0.60			
		Clerks		1.17			
		Skilled workers		1.49			
		Unskilled workers		2.49			
France 1975–1982 age: 55–64	Occupational group RR	Managers		0.31			A sample of about 1000 000 of 1975 censused population followed up until 1982. The scale shown represents a choice of the total scale [Desplanques, 1985]
		Intermediate		0.65			
		Self-employed		0.70			
		Clerks		1.17			
		Skilled workers		1.57			
		Unskilled workers		1.91			

Table 4. (Contd) Mouth and pharynx cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Italy	Educational	University	10	1	–	–	Record-linkage between 1981
1981–1982	level	High school	19	0.88	11	1	census and mortality in the
age: 18–74	RR	Middle school	81	1.82	8	0.46	following six months
		Primary school	433	2.58	56	0.71	
		Literate	155	3.42	24	0.68	
		Illiterate	25	3.10	8	0.84	[Faggiano *et al.*, 1995]
Japan	Social class	I, II		0.91		–	265 000 Japanese interviewed in
1965–1982	SMR	III		1.41		0.57	1965 and followed-up until 1982.
age: 40+		IV		1.05		–	Social class based on occupation.
		V		1		1	Reference category is farmers and miners
							[Hirayama, 1990]
New Zealand	Social class	I		1			Surveillance system statistics
1974–1978	RR	II		2.33			using 1976 census data as
age: 15–64		III-NM		3.58			denominator. UK Registrar
		III-M		3.58			General's social class
		IV		3.42			classification
		V		3.75			[Pearce & Howard, 1986]
New Zealand	Social class	I	2	1			Surveillance system statistics
1984–1987	RR	II	12	3.22			using 1986 census data as
age: 15–64		III-NM	14	1.89			denominators. UK Registrar
		III-M	37	5.56			General's social class
		IV	31	6.11			classification
		V	19	8.89			[Pearce & Bethwaite, in press]
Switzerland	Social class	I, II		0.59		0.78	Proportional mortality study UK
(Vaud)	PMR	III		1.29		1.25	Registrar General's social class
1977–1984		IV, V		1.24		1.07	classification ICD-9: 140-150, 161.
all ages							(No. of males = 403, females = 63)
							[Levi, 1988]
Switzerland	Social class	I		0.46			Surveillance system statistics
1979–1982	SMR	I		0.62			using 1980 census data as
15–74		III-NM		0.80			denominators. UK Registrar
		III-M		1.40			General's social class classification
		IV-V		1.26			[C. E. Minder, pers commun.]
UK – England	Social class	I		0.72		–	Surveillance system statistics using
and Wales	SMR	II		0.68		0.80	1930 census data as denominators.
1930–1932		III		0.63		1.04	For social classification see
age: 15–64		IV		1.10		1.19	Introduction. Women classified
(married women)		V		1.46		1.00	according to husband's occupation
							[OPCS, 1938]
UK – England	Social class	I		1.16		0.90	Surveillance system statistics
and Wales	SMR	II		0.87		0.88	using 1970 census data as
1970–1972		III-NM		1.04		0.89	denominators. For social
age: 15–64		III-M		0.94		1.15	classification see Introduction.
(married women)		IV		1.04		1.03	Women classified according to
		V		1.63		1.66	husband's occupation [OPCS, 1977]

Table 4. (Contd) Mouth and pharynx cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I	53	0.61	10	0.50	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	295	0.73	87	0.96	
		III-NM	161	0.86	29	0.74	
		III-M	597	1.02	138	1.10	
		IV	383	1.20	72	1.16	
		V	241	2.04	37	1.91	
USA – California 1949–1951 age: 25–64	Social class SMR	I		0.67			Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation ICD-9: 140-148 [Buell *et al.*, 1960]
		II		0.80			
		III		1.02			
		IV		1.12			
		V		1.00			

Table 5. Mouth and pharynx cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Colombia (Cali) 1971–1975 all ages	Social class RR	I		1		1	Data from 1973 census were used for rate denominators. Social class based on area of residence Mouth [Cuello *et al.*, 1982]
		I		0.60		1.09	
		III		0.53		1.00	
Colombia (Cali) 1971–1975 all ages	Social class RR	I		1		1	Data from 1973 census were used for rate denominators. Social class based on area of residence Pharynx [Cuello *et al*, 1982]
		II		1.33		3.50	
		III		0.67		5.00	
Denmark 1970–1980 all ages	Occupational group RR	Self-employed	61	0.83	5	0.94	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level Mouth [Lynge & Thygesen, 1990]
		Employees: I	5	0.67	1	0.97	
		Employees: II	9	0.71	3	0.70	
		Employees: III	35	1.20	9	1.21	
		Employees: IV	15	1.22	14	0.72	
		Skilled workers	46	1.48	0	–	
		Unskilled workers	70	0.94	34	1.19	
Denmark 1970–1980 all ages	Occupational group RR	Self-employed	83	0.83	1	0.22	Record-linkage study using 1970 census and 1970-80 incidence data. Employees classified according to educational level Pharynx [Lynge & Thygesen, 1990]
		Employees: I	6	0.56	0	–	
		Employees: II	18	0.96	5	1.31	
		Employees: III	43	1.03	7	1.00	
		Employees: IV	20	1.12	13	0.68	
		Skilled workers	61	1.35	1	1.88	
		Unskilled workers	108	1.04	36	1.27	

Table 5. (Contd) Mouth and pharynx cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.37 0.70 0.98 1.32		1.37 1.13 0.88 1.00	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation Mouth [Pukkala, 1993]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.23 1.05 0.94 1.00		0.71 0.91 0.96 1.31	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation Pharynx [Pukkala, 1993]
Italy (Milano) 1983–1988 age: <75	Years of education OR	12+ 7–11 <7		3[a] 7[a] 40[a]	0.16[a] 0.29[a] 1[a]		Hospital-based case–control study. Adjusted for sex [Ferraroni *et al.*, 1989]
Italy (Milano) 1983–1988 age: <75	Social class RR	I, II III IV, V		3[a] 9[a] 27[a]	0.50[a] 0.43[a] 1[a]		Hospital-based case–control study. UK Registrar General's social class classification. Adjusted for sex [Ferraroni *et al.*, 1989]
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University High school Middle school Primary school	20 52 108 298	1 0.92 1.16 1.71	– 7 21 39	– 1 1.19 0.82	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data ICD-9: 140-150, 161 [Faggiano *et al.*, 1994]
Italy (Torino) 1985–1987 age: 20-69	Occupational group OR	Managers Clerks Self-employed Manual workers	30 77 56 261	1 1.37 1.53 2.51			Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data ICD-9: 140-150, 161 [Faggiano *et al.*, 1994]
Italy (Torino) 1985–1987 age: 20-69	Housing tenure OR	Owners Tenants	173 289	1 1.64	20 46	1 1.99	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data ICD-9: 140-150, 161 [Faggiano *et al.*, 1994]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self-employed: II Ind. farmers: III White-collar: IV Blue-collar: V	65 61 39 173 314	1.17 1.19 0.61 1.16 0.95	– 6 – 80 84	– 0.76 – 0.94 1.02	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation Mouth [Vågerö & Persson, 1986]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self-employed: II Ind. farmers: III White-collar: IV Blue-collar: V	36 65 19 144 260	0.81 0.52 0.41 1.11 1.00	– 1 – 23 46	– 0.33 – 0.70 1.39	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation Hypopharynx [Vågerö & Persson, 1986]

Table 5. (Contd) Mouth and pharynx cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	71 41 54	0.77 1.29 1.14			Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification Mouth [Kogevinas, 1990]
USA 1969–1971 all ages	Educational level OR	College Less		0.96 1		1.89 1	Case–control study based on US Third National Cancer Survey, using deaths for other causes as controls. Mouth. [Williams & Horm, 1977]
USA 1969–1971 all ages	Educational level OR	College Less		0.65 1		1.38 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls Pharynx [Williams & Horm, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.78 1		1.13 1	Case–control study based on US Third National Cancer Survey, using deaths for other causes as controls Mouth [Williams & Horm,1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.63 1		0.82 1	Case–control study based on US Third National Cancer Survey, using deaths for other causes as controls Pharynx [Williams & Horm, 1977]

[a]Data not stratified by sex.

Table 6. Oesophagus cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil	Years of	12+		0.3		0.4	Case–control study using deaths
(São Paulo)	education	9–11		0.4		0.2	from other causes as controls
1978–1982	OR	1–8		0.6		0.4	
age: 35–74		<1		1		1	[Bouchardy *et al.*, 1993]
France	Occupational	Managers		0.25			A sample of about 1000 000 of
1975–1982	group	Intermediate		0.46			1975 census population
age: 45–54	RR	Self-employed		0.67			followed up until 1982. The scale
		Clerks		1.17			shown represents a choice of the
		Skilled workers		1.62			total scale
		Unskilled workers		2.25			[Desplanques, 1985]
France	Occupational	Managers		0.31			A sample of about 1000 000 of
1975–1982	group	Intermediate		0.61			1975 census population age:
55–64	RR	Self-employed		0.86			followed up until 1982. The scale
		Clerks		1.08			shown represents a choice of the
		Skilled workers		1.45			total scale
		Unskilled workers		1.88			[Desplanques, 1985]
Italy	Educational	University	10	1			Record-linkage between 1981
1981–1982	level	High school	9	0.53			census and mortality in the
age: 18–74	RR	Middle school	33	0.92			following six months
		Primary school	346	2.39			
		Literate	95	2.27			
		Illiterate	19	3.00			[Faggiano *et al.*, 1995]
Japan	Social class	I, II		0.86		–	265 000 Japanese interviewed in
1965–1982	SMR	III		0.95		1.00	1965 and followed-up until 1982.
age: 40+		IV		1.07		0.42	Social class based on occupation.
		V		1		1	Reference category is farmers
							and miners
							[Hirayama, 1990]
New Zealand	Social class	I		1			Surveillance system statistics
1974–1978	RR	II		0.69			using 1976 census data as
age: 15–64		III-NM		1.27			denominators. UK Registrar
		III-M		0.94			General's social class
		IV		0.86			classification
		V		1.35			[Pearce & Howard, 1986]
New Zealand	Social class	I	4	1			Surveillance system statistics
1984–1987	RR	II	13	1.58			using 1976 census data as
age: 15–64		III-NM	18	1.21			denominators. UK Registrar
		III-M	32	2.32			General social-class classification
		IV	37	3.58			
		V	13	2.95			[Pearce & Bethwaite, in press]
Spain	Occupational	Professionals and		0.84			Proportional analysis on
1980–1982	group	managers					death certificates
age: 30–64	PMR	Manual workers		1.19			
		Agricultural					
		workers		0.81			[E. Regidor, pers. commun.]

Table 6 (Contd) Oesophagus cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Switzerland 1979–1982 age: 15–74	Social class SMR	I		0.44			Surveillance system statistics using 1980 census data as denominator. UK Registrar General's social class classification [C.E. Minder, pers. commun.]
		II		0.62			
		III-NM		0.80			
		III-M		1.32			
		IV-V		1.17			
UK – England and Wales 1930–1932 age: 15–64 (married women)	Social class SMR	I		0.74		0.95	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]
		II		0.87		0.85	
		III		0.98		1.01	
		IV		0.94		0.95	
		V		1.30		1.16	
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		0.81		0.76	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		0.86		0.72	
		III-NM		0.85		1.03	
		III-M		1.08		1.20	
		IV		1.13		1.19	
		V		1.39		1.42	
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20-59)	Social class SMR	I	132	0.80	22	0.65	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	602	0.77	125	0.80	
		IIIN	340	0.93	69	1.01	
		III-M	1267	1.12	231	1.07	
		IV	722	1.14	160	1.45	
		V	356	1.51	55	1.58	
UK (London) 1967–1987	Employment grade RR	Administrators	1	1			17 530 London civil servants, medically examined 1967–1969 and, followed-up until 1987 [Davey Smith & Marmot, 1991]
		Professionals	21	2.2			
		Clerical	6	2.6			
		Other	8	3.8			
USA – California 1949–1951 age: 25–64	Social class SMR	I		0.54			Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation [Buell *et al.*, 1960]
		II		0.67			
		III		0.86			
		IV		1.15			
		V		1.45			

Table 7. Oesophagus cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada (Montreal) 1979–1985 age: 35–70 (French)	Income level OR	High Middle Low		1 2.1 1.9			Population-based case-control study. Tertiles of total family income [Bourbonnais & Siemiatycki, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Education OR	High Middle Low		1 1.8 1.9			Population-based case–control study. Tertiles of years of education [Bourbonnais & Siemiatycki, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Occupational prestige scale OR	High Middle Low		1 1.6 2.1			Population-based case–control study. Tertiles of the occupational prestige scale [Bourbonnais & Siemiatycki, in press]
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 0.65 0.75		1 1.25 1.75	Data from 1973 census were used for rate denominator. Social class based on area of residence [Cuello *et al.*, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	146 11 22 54 24 89 220	0.82 0.65 0.79 0.83 0.85 1.24 1.24	8 1 5 4 17 0 35	1.56 1.05 1.36 0.59 0.97 – 1.26	Record-linkage study using 1970–80 incidence data and 1970 census. Employees classified according to educational level [Lynge & Thygessen 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		0.61 0.80 1.03 1.35		0.29 0.77 1.08 1.26	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
Italy (Milano) 1983–1988 age: <75	Years of education RR	12+ 7–11 <7		22[a] 39[a] 148[a]	0.36[a] 0.50[a] 1[a]		Hospital-based case–control study. Adjusted for sex [Ferraroni *et al.*, 1989]
Italy (Milano) 1983–1988 age: <75	Social class RR	I, II III IV, V		9[a] 55[a] 115[a]	0.38[a] 0.60[a] 1[a]		Hospital-based case–control study. Adjusted for sex. [Ferraroni *et al.*, 1989]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self-employees: II Indep. farmers: III White-collars: IV Blue-collars: V	166 195 134 461 1106	0.94 1.15 0.69 0.96 1.06	8 92 141	– 0.65 – 0.82 1.18	Record-linkage study between 1961 census and incidence data. Social class indicator based on occupation [Vågerö & Persson, 1986]

Table 7. (Contd) Oesophagus cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupiers Private rented Council tenant	90 27 65	0.92 0.79 1.31	67 33 45	0.90 1.11 1.14	Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification. [Kogevinas, 1990]
USA 1969–1971 all ages	Educational level OR	College Less		0.59 1		1.23 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams & Horm, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		1.23 1		0.51 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams & Horm, 1977]

[a]Data not stratified by sex.

Table 8. Stomach cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+ 9–11 1–8 <1		0.3 0.4 0.6 1		0.3 0.3 0.7 1	Case–control study using deaths from other causes as controls [Bouchardy *et al.*, 1992]
Canada (urban area) 1971 all ages	Income CMF	Q1 Q2 Q3 Q4 Q5		0.85 1.09 0.91 0.99 1.13		0.60 0.64 1.09 1.13 1.38	Surveillance system statistics using 1971 census data as denominators. Neighbourhood income quintiles as social indicator [R. Wilkins, pers. commun.]
Canada (urban area) 1986 all ages	Income CMF	Q1 Q2 Q3 Q4 Q5		1.00 0.87 0.87 1.08 1.16		0.78 0.97 1.09 1.09 1.09	Surveillance system statistics using 1986 census data as denominators. Neighbourhood income quintiles as social indicator [R. Wilkins, pers. commun.]
Denmark 1970–1975 age: 20–64	Occupational group SMR	Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers		0.77 0.88 1.02 1.22 1.09 1.06		– 0.99 0.89 0.92 – 1.08	Record–linkage study using 1970 census and 1970–1975 mortality data. Employees classified according to educational level [Danmarks Statistik, 1979]

Table 8. (Contd) Stomach cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Finland 1969–1972 age: 15–64 (married women)	Social class CMF	Upper white-collar		0.79		0.58	Surveillance system statistics using 1970 census data as denominators. Social class indicator based on occupation [Näyhä, 1977]
		Lower white-collar		0.84		1.00	
		Skilled workers		0.88		1.16	
		Unskilled workers		1.33		1.08	
		Farmers		1.17		1.19	
Finland 1971–1985 age: 15–64	Social class RR	Upper white-collar	>20	1	>20	1	Record-linkage study using 1970, 1975 and 1980 census data and 1971–1985 mortality [Valkonen *et al.*, 1990]
		Lower white-collar	>20	1.33	>20	1.40	
		Skilled workers	>20	1.67	>20	1.38	
		Unskilled workers	>20	1.92	>20	–	
		Farmers	>20	1.67	>20	1.82	
France 1975–1982 45–54	Occupational group RR	Managers		0.45			A sample of about 1000 000 of 1975 census population age: followed up until 1982. The scale shown represents a choice of the total scale [Desplanques, 1985]
		Intermediate		0.64			
		Self-employed		0.91			
		Clerks		1.00			
		Skilled workers		1.36			
		Unskilled workers		1.27			
France 1975–1982 55–64	Occupational groups RR	Managers		0.42			A sample of about 1000 000 of 1975 census population age: followed up until 1982. The scale shown represents a choice of the total scale [Desplanques, 1985]
		Intermediate		0.69			
		Self-employed		0.89			
		Clerks		1.92			
		Skilled workers		1.22			
		Unskilled workers		1.00			
Hungary 1970 age: 25–64	Years of education SMR	15+		0.46		0.70	Surveillance system statistics using 1970 census data as denominator [Jozan, 1986]
		12–14		0.57		0.93	
		8–11		1.33		0.96	
		0–7		1.01		0.95	
Hungary 1980 age: 25–64	Years of education SMR	15+		0.58		0.98	Surveillance system statistics using 1980 census data as denominator [Jozan, 1986]
		12–14		0.79		0.96	
		8–11		1.00		1.11	
		0–7		1.12		0.95	
Italy 1981–1982 age: 18–74	Educational level RR	University	36	1	7	1	Record-linkage between 1981 census and mortality in the following six months [Faggiano *et al.*, 1995]
		High school	85	1.42	33	1.23	
		Middle school	242	1.98	78	1.31	
		Primary school	1377	2.77	596	1.96	
		Literate	499	2.85	327	2.20	
		Illiterate	114	3.43	80	2.25	
Japan 1965–1982 age: 40+	Social class SMR	I, II		0.78		0.76	265 000 Japanese interviewed in 1965 and followed up until 1982. Social class based on occupation. Reference category is farmers and miners [Hirayama, 1990]
		III		1.04		0.95	
		IV		1.09		0.94	
		V		1		1	

Table 8. (Contd) Stomach cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
New Zealand 1974–1978 age: 15–64	Social class RR	I II III-NM III-M IV V		1 1.80 2.23 3.03 2.20 4.23			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification [Pearce & Howard, 1986]
New Zealand 1984–1987 age: 15–64	Social class RR	I II III-NM III-M IV V	6 35 48 81 54 26	1 2.85 2.08 4.27 1.85 4.23			Surveillance system statistics using 1986 census data as denominators. UK Registrar General social-class classification [Pearce & Bethwaite, in press]
Norway 1970–1973 age: 20–69	Social class CMF	A B C D E (farmers)		0.78 1.11 1.06 1.08 0.85		1.05 0.99 0.94 1.01 1.06	Surveillance system statistics using 1970 census data as denominators. Social class indicator based on occupation ICD: 150-154 [Central Bureau of Statistics, 1976]
Spain 1980–1982 age: 30–64	Occupational group PMR	Professionals and managers Manual workers Agricultural workers		0.74 1.16 1.14			Proportional analysis on death certificates [E. Regidor, pers commun.]
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II III IV, V		0.97 0.92 1.17		0.70 1.35 0.94	Proportional mortality study. UK Registrar General's social class classification (No. of males = 159; females = 36) [Levi, 1988]
Switzerland 1979–1982 age: 15–74	Social class SMR	I II III-NM III-M IV-V		0.52 0.63 0.97 1.25 1.07			Surveillance system statistics using 1980 census data as denominators. UK Registrar General's social-class classification [C.E. Minder, pers. commun.]
UK – England and Wales 1910–1912 age: 15–64	Social class SMR	I II III IV V		0.75 0.96 1.02 0.91 1.29			Surveillance system statistics using 1910 census data as denominator. For social classification see Introduction [OPCS, 1919]
UK – England and Wales 1930–1932 age: 15–64 (married women)	Social class SMR	I II III IV V		0.55 0.83 0.98 1.12 1.22		0.49 0.77 1.05 1.06 1.21	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]

Table 8. (Contd) Stomach cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		0.50		0.60	Surveillance system statistics using 1970 census data as denominators. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		0.66		0.84	
		III-NM		0.79		0.76	
		III-M		1.18		1.22	
		IV		1.25		1.23	
		V		1.47		1.45	
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I	181	0.50	57	0.77	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	1132	0.67	266	0.79	
		III-NM	664	0.83	125	0.86	
		III-M	2926	1.19	551	1.18	
		IV	1776	1.27	299	1.28	
		V	817	1.58	118	1.61	
UK (London) 1967–1987	Employment grade RR	Administrators	2	1			17 530 Londoner civil servants, medically examined 1967–69 and, followed-up until 1987 [Davey Smith & Marmot, 1991]
		Professionals	54	1.81			
		Clerical	24	2.88			
		Other	20	3.56			
UK – Scotland 1959–1963 20–64 (married women)	Social class SMR	I	0.49	1.11			Surveillance system statistics using 1960 census data as denominator. UK Registrar General's classification. Women classified according to husband's occupation [Registrar General for Scotland, 1970]
		II	0.77	0.56			
		III	0.58	0.90			
		IV	1.05	2.53			
		V	1.66	1.04			
US – California 1949–1951 age: 25–64	Social class SMR	I	0.51				Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation [Buell *et al.*, 1960]
		II	0.72				
		III	0.93				
		IV	0.99				
		V	1.65				
USA 1960 age: 25–64 (white)	Educational level SMR	College	0.56	0.45			Record-linkage study using 1960 mortality and census data [Kitagawa & Hauser, 1973]
		High school	0.97	0.94			
		Elementary school	1.07	1.03			
		<8 years of school	1.25	1.22			
USA (12 census samples) 1979–1985 age: 25+	Education SMR	College	5+ y	0.47			Census linkage [Rogot *et al.*, 1992]
			4 y	0.31			
			1-3 y	0.92			
		High school	4 y	1.02			
			1-3 y	1.06			
		Elementary school	8 y	1.07			
			5-7 y	1.21			
			0-4 y	1.73			

Table 9. Stomach cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada (Montreal) 1979–1985 age: 35–70 (French)	Income level OR	High Middle Low		1 2.2 2.3			Population-based case–control study. Tertiles of total family income [Bourbonnais & Siemiatycki, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Education OR	High Middle Low		1 1.4 1.6			Population-based case–control study. Tertiles of years of education [Bourbonnais & Siemiatycki, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Occupational prestige scale OR	High Middle Low		1 1.2 1.3			Population-based case–control study. Tertiles of the occupational prestige scale [Bourbonnais & Siemiatycki, in press]
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 1.62 1.56		1 1.57 1.48	Data from 1973 census were used for rate denominator. Social class based on area of residence [Cuello *et al.*, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	666 42 78 235 129 299 875	0.91 0.61 0.68 0.89 1.10 1.01 1.20	40 10 24 42 121 5 209	1.15 1.48 0.85 0.85 0.93 1.38 1.09	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge & Thygesen, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		0.64 0.85 1.06 1.18		0.76 0.95 1.04 1.03	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
Hong Kong 1971 age: 35–64 (Chinese)	Income level RR	Higher Medium Lower	2 35 95	1 2.61 2.85	2 19 45	1 1.51 1.35	Surveillance system statistics using 1971 census data as denominators. Income levels based on residence [Crowther *et al.*, 1976]
Italy (Milano) 1983–1988 age: <75	Social class RR	I, II III IV, V	10[a] 121[a] 194[a]	0.24[a] 0.79[a] 1[a]			Hospital-based case–control study. UK Registar General's social class classification. Adjusted by sex [Ferraroni *et al.*, 1989]
Italy (Milano) 1983–1988 age: <75	Years of education RR	12+ 7–11 <7	37[a] 88[a] 272[a]	0.35[a] 0.63[a] 1[a]			Hospital-based case–control study. Adjusted by sex [Ferraroni *et al.*, 1989]
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University High school Middle school Primary school	11 28 48 152	1 0.83 1.02 1.48	9 22 79	– 1 2.47 2.84	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano *et al.*, 1994]

Table 9. (Contd) Stomach cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Italy (Torino) 1985–1987 age: 20–69	Occupational group OR	Managers	24	1		–	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano *et al.*, 1994]
		Clerks	40	0.99	13	1	
		Self employed	24	1.19	4	0.45	
		Manual workers	123	1.30	22	2.21	
Italy (Torino) 1985–1987 age: 20–69	Housing tenure OR	Owners	91	1	43	1	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano *et al.*, 1994]
		Tenants	138	1.38	64	1.09	
Sweden 1961–1970 all ages	Social class SIR	Employees: I	1058	0.92		–	Record-linkage study between 1961 census and incidence data. Social class indicator based on occupation [Vågerö & Persson, 1986]
		Self-employees: II	1125	1.00	107	0.91	
		Indep. farmers: III	1768	1.09		–	
		White-collars: IV	2115	0.78	1015	0.88	
		Blue-collars: V	7546	1.08	1335	1.12	
Turkey (Istanbul) 1979–1984 all ages	Social class OR	Higher	8	1			Hospital-based case–control study. Social class indicator based on occupation [Dosemeci, 1993]
		Medium	61	1.5			
		Lower	155	1.4			
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupation	357	0.89	223	0.92	Record-linkage study between 1971 census and 1971–81 incidence data (1% sample). UK Registrar General's social class classification. [Kogevinas, 1990]
		Private rented	156	1.09	93	0.94	
		Council tenant	235	1.14	157	1.24	
USA 1969–1971 all ages	Educational level OR	College		0.42		0.60	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams & Horm, 1977]
		Less		1		1	
USA 1969–1971 all ages	Family income level OR	>US$ 10 000		1.06		0.88	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams, & Horm 1977]
		Less		1		1	

[a]Data not stratified by sex.

Table 10. Colon cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–1974	Years of education OR	12+		3.0		2.2	Case–control study using deaths from other causes as controls
		9–11		2.0		2.1	
		1–8		1.6		1.4	
		<1		1		1	[Bouchardy *et al.*, 1993]
Canada (urban area) 1971 all ages	Income CMF	Q1		0.84		0.99	Surveillance system statistics using 1971 census data as denominator. Neighbourhood income quintiles as social indicator [R. Wilkins, pers. commun.]
		Q2		0.92		1.05	
		Q3		0.98		0.95	
		Q4		1.00		1.00	
		Q5		1.20		1.02	
Canada (urban area) 1986 all ages	Income CMF	Q1		0.84		1.03	Surveillance system statistics using 1986 census data as denominator. Neighbourhood income quintiles as social indicator [R. Wilkins, pers. commun.]
		Q2		1.06		1.00	
		Q3		0.87		1.15	
		Q4		1.08		1.01	
		Q5		1.16		0.85	
Finland 1969–1972 age: 15–64	Social class CMF	Upper white-collar		2.04		1.24	Surveillance system statistics using 1970 census data as denominator. Social class indicator based on occupation ICD-9: 152-154 [Näyhä, 1977]
		Lower white-collar		0.96		1.07	
		Skilled workers		0.58		1.03	
		Unskilled workers		0.87		0.87	
		Farmers		0.54		0.78	
Finland 1971–1985 age: 35–64	Social class RR	Upper white-collar		1		1	Record-linkage study using 1970, 1975 and 1980 censuses and 1971–85 mortality data. Social class based on occupation ICD-9: 153-154 [Valkonen, 1990]
		Lower white-collar		0.92		0.88	
		Skilled workers		0.79		0.92	
		Unskilled workers		0.70		–	
		Farmers		0.61		0.77	
Hungary 1970 age: 25–64	Years of education SMR	15+		1.20		0.34	Surveillance system statistics using 1970 census data as denominator [Jozan, 1986]
		12–14		2.12		1.05	
		8–11		1.51		1.43	
		0–7		0.73		0.76	
Hungary 1980 age: 25–64	Years of education SMR	15+		1.66		1.34	Surveillance system statistics using 1980 census data as denominator [Jozan, 1986]
		12–14		1.46		1.57	
		8–11		1.06		1.27	
		0–7		0.71		0.76	
Italy 1981–1982 age: 18–74	Educational level RR	University	44	1	16	1	Record-linkage between 1981 census and mortality in the following six months
		High school	56	0.77	30	0.49	
		Middle school	131	0.87	90	0.65	
		Primary school	491	0.79	376	0.51	
		Literate	143	0.63	157	0.45	
		Illiterate	27	0.62	31	0.37	[Faggiano *et al.*, 1995]
Japan 1965–1982 age: 40+	Social class SMR	I, II		1.29		1.31	265 000 Japanese interviewed in 1965 and followed-up until 1982. Social class based on occupation. Reference category is farmers and miners. ICD-9: 152-154 [Hirayama, 1990]
		III		1.61		1.17	
		IV		1.48		0.91	
		V		1		1	

Table 10. (Contd) Colon cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
New Zealand	Social class	I		1			Surveillance system statistics
1974–1978	RR	II		1.00			using census data as denominator.
age: 15–64		III-NM		1.05			UK Registrar General's social class
		III-M		0.96			classification
		IV		0.61			
		V		0.92			[Pearce & Howard, 1986]
New Zealand	Social class	I	30	1			Surveillance system statistics
1984–1987	RR	II	70	1.18			using census data as denominators.
age: 15–64		III-NM	98	0.95			UK Registrar General's social class
		III-M	99	1.03			classification
		IV	67	0.95			
		V	21	0.69			[Pearce & Bethwaite, in press]
Spain	Occupational	Professionals		1.34			Proportional analysis on
1980–1982	group	and managers					death certificates
	PMR	Manual workers		1.12			
		Agricultural					
		workers		0.76			
							[E. Regidor, pers. commun.]
Switzerland	Social class	I, II		1.29		1.11	Proportional mortality study. UK
(Vaud)	PMR	III		0.89		0.89	Registrar General's social class
1977–1984		IV, V		0.82		1.04	classification ICD-9: 152-154
all ages							(No. of males = 283; females = 159)
							[Levi *et al.*, 1988]
Switzerland	Social class	I		0.71			Surveillance system statistics
1979–1982	SMR	II		0.94			using 1980 census data as
age: 15–74		III-NM		1.17			denominator. UK Registrar
		III-M		1.17			General's social class classification
		IV-V		0.81			[C.E. Minder, pers. commun.]
UK – England	Social class	I		1.27			Surveillance system statistics
and Wales	SMR	II		1.01			using 1910 census data as
1910–1912		III		0.97			denominator. For social
age: 15–64		IV		0.85			classification see Introduction
		V		0.98			ICD-9: 152-153
							[OPCS, 1919]
UK – England	Social class	I		1.10		1.19	Surveillance system statistics
and Wales	SMR	II		1.04		0.99	using 1930 census data as
1930–1932		III		1.02		1.02	denominator. For social
age: 15–64		IV		0.99		0.89	classification see Introduction.
(married women)		V		0.94		1.02	Women classified according to
							husband's occupation
							[OPCS, 1938]
UK – England	Social class	I		1.21		1.15	Surveillance system statistics
and Wales	SMR	II		1.01		1.06	using 1950 census data as
1949–1953		III		1.02		0.99	denominators. For social
age: 15–64		IV		0.92		1.01	classification see Introduction
(married women)		V		0.99		0.95	[OPCS, 1958]

Table 10. (Contd) Colon cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		1.04		1.18	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		1.00		0.93	
		III-NM		1.06		0.96	
		III-M		1.06		1.17	
		IV		1.00		1.12	
		V		1.11		1.10	
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20-59	Social class SMR	I	300	1.14	143	1.07	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	1214	0.99	629	1.04	
		III-NM	601	1.05	304	1.16	
		III-M	1834	1.03	906	1.08	
		IV	899	1.01	445	1.05	
		V	421	1.16	129	0.98	
UK (London) 1967–1987	Employment grade RR	Administrators	6	1			17 530 London civil servants, medically examined 1967–1969 and, followed-up until 1987 [Davey Smith & Marmot, 1991]
		Professionals	74	1.16			
		Clerical	21	1.08			
		Other	13	1.19			
UK – Scotland 1959–1963 age: 20–64 (married women)	Social class SMR	I		0.60		0.72	Surveillance system statistics using 1960 census data as denominator. UK Registrar General's classification. Women classified according to husband's occupation. ICD-9: 153-154 [Registrar General for Scotland, 1970]
		II		1.07		0.79	
		III		0.94		1.09	
		IV		1.05		1.45	
		V		1.28		1.20	
USA – California 1949–1951 age: 25–64	Social class SMR	I		1.11			Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation. ICD-9:152-154 [Buell *et al.*, 1960]
		II		1.12			
		III		1.07			
		IV		0.86			
		V		0.92			
USA 1960 age: 25–64 (White)	Educational level SMR	College		0.98		0.74	Record-linkage study using 1960 mortality and census data ICD-9: 152-153 [Kitagawa & Hauser, 1973]
		High school		0.90		0.91	
		Elementary school		0.95		1.11	
		<8 years of school		1.19		1.23	
USA (12 census samples) 1979–1985 age: 25+	Education SMR	College: 5+ y		0.89		0.97	Census linkage
		4 y		0.80		0.67	
		1-3 y		0.90		1.05	
		High school: 4 y		1.04		1.11	
		1-3 y		1.11		1.06	
		Elementary school: 8 y		1.17		0.75	
		5-7 y		0.86		1.32	
		0-4 y		0.80		0.66	[Rogot *et al.*, 1992]

Table 11. Colon cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada (Montreal) 1979–1985 age: 35–70 (French)	Income level OR	High Middle Low		1 1.1 1.0			Population-based case–control study. Tertiles of total family income [Bourbonnais & Siemiatycki, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Education OR	High Middle Low		1.1 1.2 1.2			Population-based case–control study. Tertiles of years of education [Bourbonnais & Siemiatycki, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Occupational prestige scale OR	High Middle Low		1 1.2 1.2			Population-based case–control study. Tertiles of the occupational prestige scale [Bourbonnais & Siemiatycki, in press]
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 0.73 0.60		1 1.11 0.33	Data from 1973 census were used for rate denominator. Social class based on area of residence [Cuello *et al.*, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	928 120 181 391 184 423 840	0.97 1.31 1.17 1.11 1.17 1.06 0.88	103 18 91 169 410 10 567	0.94 0.86 1.48 1.11 1.04 0.92 0.95	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge & Thysesen, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.42 1.15 0.97 0.65		1.10 1.17 0.96 0.86	Record-linkage study using 1970 census and 1971–1985 mortality-data. Social class based on occupation [Pukkala, 1993]
Greece (Athens) 1979–1980 all ages	Years of education	0 1-5 6-11 12+	12[a] 26[a] 49[a] 12[a]	1[a] 0.9[a] 1.0[a] 1.3[a]			Case–control study matched by sex [Papadimitriou *et al.*, 1984]
Hong Kong 1971 age: 35–64 (Chinese)	Income level RR	Higher Medium Lower	3 16 27	1 0.84 0.54	– 13 28	– 1 0.81	Surveillance system statistics using 1971 census data as denominator. Income levels based on residence [Crowther *et al.*, 1976]
Italy (Milano) 1983–1988 age: <75	Social class RR	I, II III IV, V	45[a] 155[a] 170[a]	1.34[a] 1.15[a] 1[a]			Hospital-based case–control study. UK Registrar General's social class classification. Adjusted by sex [Ferraroni *et al.*, 1989]

Table 11. (Contd) Colon cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Italy (Milano) 1983–1988 age: <75	Years of education RR	12+ 7–11 <7	96[a] 120[a] 239[a]	1.20[a] 1.05[a] 1[a]			Hospital-based case–control study. Adjusted by sex [Ferraroni *et al.*, 1989]
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University High school Middle school Primary school	49 64 114 200	1 0.54 0.59 0.48	15 40 84 214	1 0.78 0.75 0.71	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data. ICD-9: 153-154 [Faggiano *et al.*, 1994]
Italy (Torino) 1985–1987 age: 20–69	Occupational group OR	Managers Clerks Self-employed Manual workers	70 86 49 173	1 0.69 0.72 0.63	12 43 20 35	1 0.84 0.67 0.68	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data ICD-9: 153-154 [Faggiano *et al.*, 1994]
Italy (Torino) 1985–1987 age: 20–69	Housing tenure OR	Owners Tenants	207 208	1 0.92	162 181	1 1.01	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data ICD-9:153-154 [Faggiano *et al.*, 1994]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self-employed: II Indep. farmers: III White-collar: IV Blue-collar: V	1041 975 979 2903 5542	1.07 1.06 0.78 1.20 0.94	 191 1970 1968	– 0.98 – 1.02 0.98	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vågerö & Persson, 1986]
Turkey (Istanbul) 1979–1984	Social class OR	Higher Medium Lower	7 21 65	1 0.5 0.7			Hospital-based case–control study. Social class indicator based on occupation [Dosemeci *et al.*, 1989]
UK – England & Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	289 108 134	1.01 1.06 0.93	387 140 197	1.02 0.96 0.98	Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
USA (Du Pont) 1959–1967 all ages	Income level SIR	1 2 3 4 5	5 42 29 22 131	0.72 1.08 0.90 1.33 0.98			1959–1967 follow-up of 115 000 employees of the DuPont Co. ICD-7: 152-154 [Pell & D'Alonzo, 1970]
USA 1969–1971 all ages	Educational level OR	College Less		1.08 1		0.73 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams & Horm, 1977]

Table 11. (Contd) Colon cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.98 1		0.78 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams & Horm, 1977]

[a]Data not stratified by sex.

Table 12. Rectum cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+ 9–11 1–8 <1		4.3 2.1 2.2 1		1.5 0.9 1.2 1	Case–control study using deaths from other causes as controls [Bouchardy *et al.*, 1992]
Hungary 1970 age: 25–64	Years of education SMR	5+ 12–14 8–11 0–7		0.54 1.18 1.86 0.81		1.11 1.08 1.01 0.96	Surveillance system statistics using 1970 census data as denominator [Jozan, 1986]
Hungary 1980 age: 25–64	Years of education SMR	15+ 12–14 8–11 0–7		0.96 1.01 1.08 1.11		1.66 1.09 1.06 0.92	Surveillance system statistics using 1980 census data as denominator [Jozan, 1986]
Italy 1981–1982 age: 18–74	Education level RR	University High school Middle school Primary school Literate Illiterate	21 38 75 293 122 11	1 1.08 1.03 0.96 1.10 0.52	– 12 40 210 89 23	– 1 1.93 2.02 1.75 1.69	Record-linkage between 1981 census and mortality in the following six months [Faggiano *et al.*, 1995]
Japan 1965–1982 age: 40+	Social class SMR	I, II III IV V		1.03 0.78 0.83 1		0.53 1.64 0.36 1	265 000 Japanese interviewed in 1965 and followed-up until 1982. Social class based on occupation. Reference category is farmers and miners [Hirayama, 1990]
New Zealand 1974–1978 age: 15–64	Social class RR	I II III-NM III-M IV V		1 0.61 0.89 0.84 0.64 1.09			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification [Pearce & Howard, 1986]

Table 12. (Contd) Rectum cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
New Zealand 1984–1987 age: 15–64	Social class RR	I	19	1			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification [Pearce & Bethwaite, in press]
		II	50	1.42			
		III-NM	80	1.27			
		III-M	75	1.30			
		IV	48	1.13			
		V	22	1.18			
Spain 1980–1982	Occupational group PMR	Professionals and managers		1.20			Proportional analysis on death certificates
		Manual workers					
		Agricultural workers		1.11			
				0.84			[E. Regidor, pers. commun.]
Switzerland 1979–1982 age: 15–74	Social class SMR	I		0.78			Surveillance system statistics using 1980 census data as denominator. UK Registrar General's social class classification [C.E. Minder, pers. commun.]
		II		0.86			
		III-NM		1.31			
		III-M		0.95			
		IV-V		0.91			
UK – England and Wales 1910–1912 age: 15–64	Social class SMR	I		0.99			Surveillance system statistics using 1910 census data as denominator. For social classification see Introduction [OPCS, 1919]
		II		0.95			
		III		1.07			
		IV		0.98			
		V		1.00			
UK – England and Wales 1930–1932 age: 15–64	Social class SMR	I				1.00	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. (married women) Women classified according to husband's occupation [OPCS, 1938]
		II				0.97	
		III				1.05	
		IV				0.86	
		V				1.06	
UK – England and Wales 1959–1963 age: 15–64 (married women)	Social class SMR	I		0.79		0.69	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction [OPCS, 1971]
		II		0.89		0.81	
		III		1.06		1.07	
		IV		0.98		1.06	
		V		1.20		1.32	
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		0.84		0.99	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		0.90		0.98	
		III-NM		1.03		0.98	
		III-M		1.14		1.15	
		IV		1.06		1.05	
		V		1.08		1.35	

Table 12. (Contd) Rectum cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 16–74)	Social class SMR	I	174	0.88	49	0.80	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	838	0.90	267	0.96	
		III-NM	405	0.93	109	0.90	
		III-M	1446	1.07	422	1.09	
		IV	844	1.12	238	1.23	
		V	386	1.39	91	1.50	
UK (London) 1967–1987	Employment grade RR	Administrators	4	1			17 530 London civil servants, medically examined 1967–1969 and, followed up until 1987. [Davey Smith & Marmot, 1991]
		Professionals	26	0.50			
		Clerical	6	0.50			
		Other	6	0.88			

Table 13. Rectum cancer incidence

Study base RR	Indicators RR	Social scale	N	Male	N	Female	Study design
Canada (Montreal) 1979–1985 age: 35–70 (French)	Income level OR	High		1			Population-based case–control study. Tertiles of total family income [Bourbonnais & Siemiatycki, in press]
		Middle		0.9			
		Low		1.2			
Canada (Montreal) 1979–1985 age: 35–70 (French)	Education OR	High		1			Population-based case–control study. Tertiles of the years of education [Bourbonnais & Siemiatycki, in press]
		Middle		1.0			
		Low		1.5			
Canada (Montreal) 1979–1985 age: 35–70 (French)	Occupational prestige scale OR	High		1			Population-based case–control study. Tertiles of the occupational prestige scale [Bourbonnais & Siemiatycki, in press]
		Middle		0.8			
		Low		1.3			
Colombia (Cali) 1971–1975 all ages	Social class RR	I		1		1	Data from 1973 census were used for rate denominators. Social class based on area of residence [Cuello *et al.*, 1982]
		II		1.64		3.75	
		III		1.55		2.25	
Denmark 1970–1980 all ages	Occupational group RR	Self-employed	885	0.99	57	0.91	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge & Thygesen, 1990]
		Employees: I	81	0.96	15	1.28	
		Employees: II	129	0.93	41	0.88	
		Employees: III	344	1.06	98	1.15	
		Employees: IV	165	1.16	222	1.01	
		Skilled workers	365	1.01	5	0.84	
		Unskilled workers	869	0.97	354	1.04	

Table 13. Rectum cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.04 1.14 0.97 0.89		1.19 1.01 0.99 0.96	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
Hong Kong 1971 age: 35–64 (Chinese)	Income level RR	Higher Medium Lower	3 9 17	1 0.47 0.34	– 9 12	– 1 0.51	Surveillance system statistics using 1971 census data as denominator. Income levels based on residence [Crowther *et al.*, 1976]
Italy (Milano) 1983–1988 age: <75	Social class RR	I, II III IV, V	24[a] 69[a] 146[a]	0.79[a] 0.60[a] 1[a]			Hospital-based case–control study. UK Registar General's social class classification. Adjusted by sex. [Ferraroni *et al.*, 1989]
Italy (Milano) 1983–1988 age: <75	Years of education RR	12+ 7–11 <7	42[a] 66[a] 187[a]	0.63[a] 0.74[a] 1[a]			Hospital-based case–control study. Adjusted by sex [Ferraroni *et al.*, 1989]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self-employed: II Indep. farmers: III White-collar: IV Blue-collar: V	737 721 876 342 4202	1.05 1.07 0.94 1.06 1.00	 91 7 1047	– 0.91 – 0.84 1.02	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vågerö & Persson, 1986]
Turkey (Istanbul) 1979–1984	Social class OR	Higher Medium Lower	9 26 85	1 0.6 0.7			Hospital-based case–control study. Adjusted for sex. Social class based on occupation [Dosemeci *et al.*, 1993]
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	235 95 141	0.93 1.06 1.10	191 64 105	1.03 0.87 1.07	Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
USA 1969–1971 all ages	Educational level OR	College Less		1.06 1		1.13 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.81 1		0.98 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]

[a]Data not stratified by sex.

Table 14. Liver cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+		0.8		0.7	Case–control study using deaths from other causes as controls [Bouchardy *et al.*, 1992]
		9–11		0.6		0.9	
		1–8		0.7		0.9	
		<1		1		1	
Canada (urban area) 1971 all ages	Income	Q1		–			Surveillance system statistics using 1971 census data as denominators. Neighbourhood income quintiles as social indicator [R. Wilkins, pers. commun.]
		Q2		1.13			
		Q3		1.19			
		Q4		–			
		Q5		1.19			
Canada (urban area) 1986 all ages	Income	Q1		0.68			Surveillance system statistics using 1986 census data as denominators. Neighbourhood income quintiles as social indicator [R. Wilkins, pers. commun.]
		Q2		0.56			
		Q3		0.80			
		Q4		1.04			
		Q5		1.92			
Italy 1981–1982 age: 18–74	Educational level RR	University	32	1	–	–	Record-linkage between 1981 census and mortality in the following six months [Faggiano *et al.*, 1995]
		High school	52	1.03	34	1	
		Middle school	143	1.36	52	0.72	
		Primary school	589	1.34	292	0.93	
		Literate	219	1.26	186	1.08	
		Illiterate	53	1.24	61	1.09	
Japan 1965–1982 age: 40+	Social class SMR	I, II		1.14		0.89	265 000 Japanese interviewed in 1965 and followed-up until 1982. Social class based on occupation. Reference category is farmers and miners [Hirayama, 1990]
		III		1.44		1.10	
		IV		1.22		1.08	
		V		1		1	
New Zealand 1974–1978 age: 15–64	Social class RR	I		1			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification [Pearce & Howard, 1986]
		II		0.70			
		III-NM		0.65			
		III-M		1.35			
		IV		0.91			
		V		3.26			
New Zealand 1984–1987 age: 15-64	Social class RR	I		1			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification [Pearce & Bethwaite, in press]
		II		0.78			
		III-NM		0.94			
		III-M		0.78			
		IV		2.30			
		V		4.78			
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II		0.89		1.60	Proportional mortality study. UK Registrar General's social class classification (No. of males = 82; females = 18) [Levi *et al.*, 1988]
		III		1.16		0.43	
		IV, V		0.97		1.37	

Table 14. (Contd) Liver cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Switzerland 1979–1982 age: 15–74	Social class SMR	I II III-NM III-M IV–V		0.61 0.94 1.18 1.05 0.89			Surveillance system statistics using 1980 census data as denominator. UK Registrar General's social class classification [C.E. Minder, pers. commun.]
UK – England and Wales 1921–1923 age: 15–64	Social class SMR	I II III IV V		0.70 1.01 0.99 1.00 1.08			Surveillance system statistics using 1920 census data as denominators. For social classification see Introduction [OPCS, 1927]
UK – England and Wales 1930–1932 age: 15–64 (married women)	Social class SMR	I II III IV V				0.76 0.95 0.97 1.10 1.15	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I II III-NM III-M IV V		0.93 1.00 0.95 0.93 1.12 1.56		1.37 0.89 0.78 1.28 0.95 1.27	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
UK – Great Britain 1979–1980, 1982–1983 age: 20–64	Social class SMR	I II III-NM III-M IV V	42 177 87 368 194 120	0.87 0.78 0.81 1.12 1.05 1.76			Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation ICD: 155 [OPCS, 1986]

Table 15. Liver cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 3.67 2.33		1 1.54 0.96	Data from 1973 census were used for rate denominators. Social class based on area of residence [Cuello *et al.*, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	117 13 15 71 28 76 161	0.77 0.91 0.64 1.29 1.16 1.25 1.06	4 2 7 15 29 2 52	0.49 1.24 1.03 1.23 0.89 2.09 1.11	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge & Thygesen, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.01 1.02 0.97 1.08		0.73 1.07 1.01 0.97	Record-linkage study using 1970 census and 1970–1980 incidence data. Social class based on occupation [Pukkala, 1993]
Italy (Milano) 1983–1988 age: <75	Social class RR	I, II III IV, V	7[a] 49[a] 70[a]	0.50[a] 0.87[a] 1[a]			Hospital-based case–control study. UK Register General's social class classification. Adjusted for sex [Ferraroni *et al.*, 1989]
Italy (Milano) 1983–1988 age: <75	Years of education RR	12+ 7–11 <7	21[a] 36[a] 94[a]	0.54[a] 0.70[a] 1[a]			Hospital-based case–control study. Adjusted for sex [Ferraroni *et al.*, 1989]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self-employed: II Indep. farmers: III White-collar: IV Blue-collar: V	379 410 216 1012 1949	1.12 1.25 0.55 1.13 0.97	 75 661 776	– 1.03 – 0.95 1.06	Record-linkage study between 1961–1970 census and incidence data. Social class indicator based on occupation [Vågerö & Persson, 1986]
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	42 30 25	0.79 1.57 0.94			Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
USA 1969–1971	Educational level OR	College Less		0.59 1		0.71 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams & Horm, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.71 1		2.85 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams & Horm, 1977]

Table 16. Pancreas cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil	Years of	12+		1.1		0.7	Case–control study using deaths
(São Paulo)	education	9–11		1.0		0.9	from other causes as controls
1978–1982	OR	1–8		0.9		0.9	
age: 35–74		<1		1		1	[Bouchardy *et al.*, 1992]
Canada	Income	Q1		1.04		1.13	Surveillance system statistics
(urban area)	CMF	Q2		1.03		0.70	using 1971 census data as
1971		Q3		1.10		1.00	denominator. Neighbourhood
all ages		Q4		1.20		1.23	income quintiles as social indicator
		Q5				1.05	[R. Wilkins, pers. commun.]
Canada	Income	Q1		1.09		1.12	Surveillance system statistics
(urban area)	CMF	Q2		0.80		0.85	using 1986 census data as
1986		Q3		0.96		1.71	denominator. Neighbourhood
all ages		Q4		0.91		1.12	income quintiles as social indicator
		Q5		1.22		1.12	[R. Wilkins, pers. commun.]
Italy	Educational	University	35	1	–	–	Record-linkage between 1981
1981–1982	level	High school	47	0.82	13	1	census and mortality in the
age: 18–74	RR	Middle school	94	0.78	49	2.05	following six months
		Primary school	459	0.93	250	1.91	
		Literate	96	0.57	118	1.86	
		Illiterate	22	0.65	25	1.63	[Faggiano *et al*, 1995]
Japan	Social class	I, II		1.40		0.71	265 000 Japanese interviewed in
1965–1982	SMR	III		0.93		0.97	1965 and followed-up until 1982.
age: 40+		IV		1.31		0.59	Social class based on occupation.
		V		1		1	Reference category is farmers
							and miners
							[Hirayama, 1990]
New Zealand	Social class	I		1			Surveillance system statistics
1974–1978	RR	II		1.13			using 1976 census data as
age: 15–64		III-NM		1.39			denominator. UK Registrar
		III-M		1.16			General's social class
		IV		0.95			classification
		V		1.59			[Pearce, 1986]
New Zealand	Social class	I		1			Surveillance system statistics
1984–1987	RR	II		1.24			using 1986 census data as
age: 15–64		III-NM		1.32			denominator. UK Registrar
		III-M		1.32			General's social class
		IV		1.54			classification
		V		0.93			[Pearce & Bethwaite, in press]
Norway	Social class	A		0.89			Surveillance system statistics
1970–1973	CMF	B		1.06			using 1970 census data as
age: 20–69		C		1.06			denominator. Social class
		D		1.06			indicator based on occupation
		E (farmers)		0.91			[Central Bureau of Statistics,
							1976]

[a]Data not stratified by sex.

Table 16. (Contd) Pancreas cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Spain 1980–1982	Occupational group PMR	Professionals managers		1.23			Proportional analysis on death certificates
		Manual workers					
		Agricultural workers		1.07			
				0.90			
							[E. Regidor, pers. commun.]
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II		1.12		1.12	Proportional mortality study. UK Registrar General's social class classification (No. of males = 113; females = 71) [Levi *et al.*, 1988]
		III		0.84		0.77	
		IV, V		1.07		1.25	
Switzerland 1979–1982 age: 15–74	Social class SMR	I		0.96			Surveillance system statistics using 1980 census data as denominator. UK Registrar General social-class classification [C.E. Minder, pers. commun.]
		II		0.73			
		III-NM		1.20			
		III-M		1.15			
		IV-V		0.93			
UK – England and Wales 1910–1912 age: 15–64	Social class SMR	I		1.24			Surveillance system statistics using 1910 census data as denominator. For social classification see Introduction [OPCS, 1919]
		II		0.97			
		III		0.95			
		IV		0.95			
		V		0.95			
UK – England and Wales 1930–1932 age: 15–64 (married women)	Social class SMR	I		1.18		0.52	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]
		II		0.99		0.98	
		III		1.01		0.98	
		IV		0.95		0.94	
		V		1.04		1.18	
UK – England and Wales 1949–1953 age: 15–64	Social class SMR	I		1.20			Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction [OPCS, 1958]
		II		1.01			
		III		1.01			
		IV		0.93			
		V		1.03			
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		1.03		1.06	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		0.97		0.93	
		III-NM		1.05		–	
		III-M		1.10		1.13	
		IV		1.01		1.05	
		V		1.04		1.34	
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I	163	0.79	57	0.96	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	876	0.90	252	0.92	
		III-NM	437	0.96	122	1.02	
		III-M	1486	1.06	417	1.10	
		IV	921	1.17	237	1.22	
		V	371	1.27	80	1.31	

Table 16. (Contd) Pancreas cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK (London) 1967–1987	Employment grade RR	Administrators	4	1			17 530 London civil servants, medically examined 1967–1969 and followed-up until 1987 [Davey Smith & Marmot, 1991]
		Professionals	37	0.83			
		Clerical	14	1.04			
		Other	9	1.67			
USA – California 1949–1951 age: 25–64	Social class SMR	I		0.93			Surveillance system statistics using 1950 census data as denominators. Social class indicator based on occupation ICD: 162-163 [Buell, *et al.* 1960]
		II		0.88			
		III		1.00			
		IV		1.13			
		V		1.97			
USA (12 census samples) 1979–1985 age: 25+	Education SMR	College: 5+ y		0.78		0.73	Census linkage
		4 y		0.76		1.21	
		1-3 y		1.12		0.99	
		High school: 4 y		0.92		1.00	
		1-3 y		1.28		1.20	
		Elementary school: 8 y		0.98		0.82	
		5-7 y		1.09		1.01	
		0-4 y		0.92		0.95	[Rogot *et al.*, 1992]

Table 17. Pancreas cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada (Montreal) 1979–1985 age: 35–70 (French)	Income level OR	High		1			Population-based case–control study. Tertiles of total family income
		Middle		1.4			
		Low		1.7			
							[Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Education OR	High		1			Population-based case–control study. Tertiles of years of education.
		Middle		1.3			
		Low		1.4			
							[Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Occupational prestige scale OR	High		1			Population-based case–control study. Tertiles of the occupational prestige scale.
		Middle		1.1			
		Low		1.4			
							[Bourbonnais, in press]
Colombia (Cali) 1971–1975 all ages	Social class RR	I		1		1	Data from 1973 census were used for rate denominators. Social class based on area of residence. [Cuello, 1982]
		II		0.95		0.81	
		III		1.00		0.52	

Table 17. (Contd) Pancreas cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Denmark	Occupational	Self-employed	458	0.88	41	1.05	Record-linkage study using 1970
1970–1980	group	Employees: I	35	0.71	12	1.69	census and 1970–1980 incidence
all ages	RR	Employees: II	89	1.09	28	1.01	data. Employees classified
		Employees: III	194	1.02	33	0.65	according to educational level
		Employees: IV	106	1.27	131	1.02	
		Skilled workers	239	1.14	9	2.59	
		Unskilled workers	533	1.02	230	1.14	[Lynge, 1990]
Finland	Social class	Upper white-collar		0.95		1.14	Record-linkage study using 1970
1971–1985	SIR	Lower white-collar		0.95		1.09	census and 1971–1985 incidence
birth cohort:		Skilled workers		1.00		0.92	data. Social class based on
1906–1945		Unskilled workers		1.08		1.06	occupation
							[Pukkala, 1993]
Italy (Milano)	Social class	I, II	35[a]	1.87[a]			Hospital-based case–control study.
1983–1988	RR	III	61[a]	0.88[a]			UK Register General's social
age: <75		IV, V	88[a]	1[a]			class classification Adjusted by sex
							[Ferraroni, 1989]
Italy (Milano)	Years of	12+	39[a]	0.85[a]			Hospital-based case–control study.
1983–1988	education	7–11	53[a]	0.88[a]			Adjusted by sex
age: <75	RR	<7	122[a]	1[a]			[Ferraroni, 1989]
Sweden	Social class	Employees: I	557	1.01	–	–	Record-linkage study between
1961–1970	SIR	Self employed: II	519	0.99	86	1.06	1961 census and 1961–1970
all ages		Indep. farmers: III	578	0.83	–	–	incidence data. Social class
		White-collar: IV	1407	1.03	748	0.97	indicator based on occupation
		Blue-collar: V	3397	1.03	846	1.04	[Vågerö, 1986]
UK – England	Housing	Owner occupier	137	0.97	116	1.04	Record-linkage study between
and Wales	tenure	Private rented	59	1.18	51	1.13	1971 census and 1971–1981
1971–1981	SIR	Council tenant	64	0.89	45	0.77	incidence data (1% sample). UK
all ages							Registrar General's social class
							classification
							[Kogevinas, 1990]
USA	Educational	College		1.41		0.86	Case–control study based on US
1969–1971	level	Less		1		1	Third National Cancer Survey,
all ages	OR						using deaths from other causes
							as controls
							[Williams, 1977]
USA	Family	>US$ 10 000		0.81		0.94	Case–control study based on US
1969–1971	income level	Less		1		1	Third National Cancer Survey,
all ages	OR						using deaths from other causes
							as controls
							[Williams, 1977]

[a]Data not stratified by sex.

Table 18. Nose and nasal cavities cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1949–1953 age: 15–64 (married women)	Social class SMR	I		0.90		1.20	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1958]
		II		0.91		0.88	
		III		1.04		0.91	
		IV		0.86		1.14	
		V		1.17		1.37	
UK – England and Wales 1959–1963 age: 15–64 (married women)	Social class SMR	I		0.75		0.40	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction [OPCS, 1971]
		II		0.85		0.72	
		III		1.10		1.12	
		IV		0.92		1.14	
		V		1.35		1.25	
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		0.71		0.84	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		0.85		0.78	
		III-NM		0.90		0.89	
		III-M		1.01		1.14	
		IV		1.00		1.54	
		V		1.97		0.82	
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I	4	0.43	0	–	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	39	0.92	16	0.93	
		III-NM	16	0.80	7	0.96	
		III-M	70	1.13	35	1.44	
		IV	30	0.89	11	0.96	
		V	26	2.08	5	1.42	

Table 19. Nose and nasal cavities cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Denmark	Occupational	Self-employed	38	0.80	2	0.98	Record-linkage study using 1970
1970–1980	group	Employees: I	2	0.40	0	–	census and 1970–1980 incidence
all ages	RR	Employees: II	9	1.03	3	1.56	data. Employees classified
		Employees: III	17	0.88	8	2.58	according to educational level
		Employees: IV	13	1.53	4	0.49	
		Skilled workers	37	1.71	0	–	
		Unskilled workers	44	0.89	13	1.16	[Lynge, 1990]
Finland	Social class	Upper white-collar		0.52		0.80	Record-linkage study using 1970
1971–1985	SIR	Lower white-collar		0.87		0.82	census and 1971–1985 incidence
birth cohort:		Skilled workers		1.03		1.10	data. Social class based on
1906–1945		Unskilled workers		1.34		1.04	occupation
							[Pukkala, 1993]
Sweden	Social class	Employees: I	77	0.95	–	–	Record-linkage study between
1961–1970	SIR	Self-employed: II	40	0.95	7	1.60	1961 census and 1961–1970
all ages		Indep. farmers: III	53	0.92	–	–	incidence data. Social class
		White-collar: IV	108	0.93	37	0.78	indicator based on occupation
		Blue-collar: V	279	1.03	54	1.16	[Vågerö, 1986]

Table 20. Larynx cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil	Years of	12+		0.5			Case–control study using deaths
(São Paulo)	education	9–11		1.6			from other causes as controls
1978–1982	OR	1–8		1.9			
age: 35–74		<1		1			[Bouchardy, 1992]
France	Occupational	Groups managers		0.21			A sample of about 1000 000 of
1975–1982	group	Intermediate		0.46			1975 censused population
age: 45–54	RR	Self-employed		0.75			followed-up until 1982. The scale
		Clerks		1.17			shown represents a choice of the
		Skilled workers		1.58			total scale
		Unskilled workers		1.96			[Desplanques, 1985]
France	Occupational	Managers		0.28			A sample of about 1000 000 of
1975–1982	group	Intermediate		0.65			1975 censused population
age: 55–64	RR	Self-employed		0.81			followed-up until 1982. The scale
		Clerks		1.14			shown represents a choice of the
		Skilled workers		1.49			total scale
		Unskilled workers		1.97			[Desplanques, 1985]
Italy	Educational	University	0	–			Record-linkage between 1981
1981–1982	level	High school	33	1			census and mortality in the
age: 18–74	RR	Middle school	92	2.11			following six months
		Primary school	503	2.80			
		Literate	153	2.69			
		Illiterate	36	3.30			[Faggiano, 1995]

Table 20. (Contd) Larynx cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Japan 1965–1982 age: 40+	Social class SMR	I, II III IV V		0.86 1.41 0.86 1		– 3.20 – 1	265 000 Japanese interviewed in 1965 and followed-up until 1982. Social class based on on occupation. Reference category is farmers and miners [Hirayama, 1990]
New Zealand 1974–1978 age: 15–64	Social class RR	I II III-NM III-M IV V		1 3.25 3.00 5.25 6.00 6.00			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification [Pearce, 1986]
New Zealand 1984–1987 age: 15–64	Social class RR	I II III-NM III-M IV V	0 1 10 14 15 9	– 1 6.5 10.0 14.0 19.0			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification [Pearce & Bethwaite, in press]
Spain 1980–1982	Occupational group PMR	Professionals managers Manual workers Agricultural workers		0.56 1.23 0.88			Proportional analysis on death certificates [E. Regidor, pers. commun.]
Switzerland 1979–1982 age: 15–74	Social class SMR	I II III-NM III-M IV-V		0.50 0.67 1.11 1.20 1.09			Surveillance system statistics using 1980 census data as denominator. UK Registrar General's social class classification [C.E. Minder, pers. commun.]
UK – England and Wales 1910–1912 age: 15–64	Social class SMR	I II III IV V		1.04 0.87 1.00 0.91 1.18			Surveillance system statistics using 1910 census data as denominator. For social classification see Introduction [OPCS, 1919]
UK – England and Wales 1930–1932 age: 15–64 (married women)	Social class SMR	I II III IV V		0.60 0.81 0.98 0.90 1.43		0.55 1.15 0.95 1.04 1.02	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]

Table 20. (Contd) Larynx cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1959–1963 age: 15–64 (married women)	Social class SMR	I II III IV V				0.50 0.72 1.01 1.10 1.62	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction [OPCS, 1971]
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I II III-NM III-M IV V		0.65 0.65 0.81 1.02 1.32 1.94		0.92 0.68 0.98 1.17 0.95 2.28	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I II III-NM III-M IV V	18 138 50 360 251 138	0.39 0.63 0.49 1.14 1.41 2.10	2 11 4 43 26 11	0.40 0.48 0.40 1.34 1.58 2.12	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]

Table 21. Larynx cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 0.62 0.40		1 0.83 0.83	Data from 1973 census were used for rate denominators. Social class based on area of residence [Cuello, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	241 24 29 125 55 187 364	0.76 0.76 0.56 1.03 1.06 1.43 1.14	6 0 2 10 21 1 49	1.07 – 0.40 1.18 0.90 1.60 1.46	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		0.70 0.76 1.06 1.27		0.82 0.85 1.03 1.18	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]

Table 21. (Contd) Larynx cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
France (Paris)	Educational level OR	Upper Medium Low		1 1.42 2.18			Hospital-based case–control study 1983–1991 [Leclerc, 1993]
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University High school Middle school Primary school	8 28 60 129	1 1.45 1.83 2.23			Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Italy (Torino) 1985–1987 age: 20–69	Occupational group OR	Managers Clerks Self-employed Manual workers	17 43 30 119	1 1.59 1.57 2.14			Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Italy (Torino) 1985–1987 age: 20–69	Housing tenure OR	Owners Tenants	89 130	1 1.48			Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self-employees: II Indep. farmers: III White-collars: IV Blue-collars: V	193 197 82 609 1135	1.01 1.13 0.42 1.15 1.01	– 9 – 34 46	– 2.73 – 0.72 1.21	Record-linkage study between 1961 census and incidence data. Social class indicator based on occupation [Vågerö, 1986]
Turkey (Istanbul) 1979–1984 all ages	Social class OR	Higher Medium Lower	11 170 597	1 3.2 4.1			Hospital-based case–control study. Adjusted for sex. Social class indicator based on occupation [Dosemeci, 1993]
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	45 25 49	0.72 1.14 1.45			Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
USA 1969–1971 all ages	Educational level OR	College Less		0.73 1		1.56 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.88 1		0.77 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]

Table 22. Lung cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil	Years of	12+		2.6		1.8	Case–control study using deaths
(São Paulo)	education	9–11		2.3		1.2	from other causes as controls
1978–1982	OR	1–8		1.6		1.2	
age: 35–74		<1		1		1	[Bouchardy, 1992]
Canada	Income	Q1		0.82		0.84	Surveillance system statistics
(urban area)	CMF	Q2		0.67		0.88	using 1971 census data as
1971		Q3		0.98		0.71	denominator. Neighbourhood
all ages		Q4		1.02		1.32	income quintiles as social indicator
		Q5		1.41		1.20	[R. Wilkins, pers. commun.]
Canada	Income	Q1		0.69		0.75	Surveillance system statistics
(urban area)	CMF	Q2		0.84		0.92	unsing 1986 census data as
1986		Q3		0.93		0.89	denominator. Neighbourhood
all ages		Q4		1.09		1.02	income quintiles as social indicator
		Q5		1.47		1.39	[R. Wilkins, pers. commun.]
Denmark	Occupational	Employees: I		0.51		–	Record-linkage study using 1970
1970–1975	group	Employees: II		0.68		–	census and 1970–1975 mortality
age: 20–64	SMR	Employees: III		1.07		1.01	data. Employees classified
		Employees: IV		1.16		1.02	according to the educational level
		Skilled workers		1.35		–	
		Unskilled workers		1.15		1.15	[Danmarks Statistik, 1979]
Finland	Social class	Upper white-collar		0.53		0.88	Surveillance system statistics
1969–1972	CMF	Lower white-collar		0.89		1.05	using 1970 census data as
age: 15–64		Skilled workers		1.24		1.23	denominator. Social class
(married women)		Unskilled workers		1.23		1.53	indicator based on occupation
		Farmers		0.60		0.82	[Näyhä, 1977]
Finland	Social class	Upper white-collar		1		1	Record-linkage study using 1970,
1971–1985	RR	Lower white-collar		1.70		1.33	1975 and 1980 censuses and
age: 35–64		Skilled workers		2.84		1.60	1971–1985 mortality data. Social
		Unskilled workers		3.52		–	class indicator based on occupation
		Farmers		1.89		0.68	[Valkonen, 1990]
France	Occupational			0.68			A sample of about 1000 000 of
group	Managers	Intermediate		1.02			1975 censused population was
1975–1982	RR	Self-employed		0.93			followed-up until 1982. The scale
age: 45–54		Clerks		1.11			shown represents a choice of the
		Skilled workers		1.35			total scale
		Unskilled workers		1.35			[Desplanques, 1985]
France	Occupational	Managers		0.74			A sample of about 1000 000 of
1975–1982	group	Intermediate		0.06			1975 censused population was
age: 55–64	RR	Self-employed		0.96			followed-up until 1982. The scale
		Clerks		1.11			shown represents a choice of the
		Skilled workers		1.28			total scale
		Unskilled workers		1.28			[Desplanques, 1985]
Hungary	Years of	15+		0.83		0.48	Surveillance system statistics
1970	education	12–14		0.99		0.82	using 1970 census data as
age: 25–64	SMR	8–11		1.77		1.38	denominators
		0–7		0.85		0.93	[Jozan, 1971]

Table 22. (Contd) Lung cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Hungary	Years of	15+		0.65		2.31	Surveillance system statistics
1980	education	12–14		0.84		1.48	using 1980 census data as
age: 25–64	SMR	8–11		1.11		1.14	denominators
		0–7		1.06		0.82	[Jozan, 1971]
Italy	Educational	University	386	1	0	–	Record-linkage between 1981
1981–1982	level	High school	338	1.12	43	1	census and the mortality of the
age: 18–74	RR	Middle school	898	1.42	94	1.20	following six months
		Primary school	4006	1.53	449	1.09	
		Literate	1170	1.34	185	0.99	
		Illiterate	201	1.13	45	1.04	[Faggiano, 1995]
Japan	Social class	I, II		0.81		1.26	265 000 Japanese interviewed in
1965–1982	SMR	III		1.08		1.23	1965 and followed-up until 1982.
age: 40+		IV		1.10		0.97	Social class based on occupation.
		V		1		1	Reference category: farmers and miners
							[Hirayama, 1990]
The Netherlands	Social class	I		0.59			Surveillance system statistics
1959–1961	SMR	IIa		0.60			using 1960 census data as
age: 40–64		IIb		0.82			denominator
		II		1.44			
		IV		1.12			
		Miners		1.42			[Van Reek, 1986]
New Zealand	Social class	I		1			Surveillance system statistics
1974–1978	RR	II		1.42			using 1976 census data as
age: 15–64		III-NM		1.52			denominator. UK Registrar
		III-M		2.21			General's social class classification
		IV		2.08			
		V		3.06			[Pearce, 1976]
New Zealand	Social class	I	41	1			Surveillance system statistics
1984–1987	RR	II	128	1.53			using 1971 census data as
age: 15–64		III-NM	243	1.63			denominator. UK Registrar
		III-M	258	1.92			General's social class classification
		IV	304	3.05			
		V	136	3.03			[Pearce & Bethwaite, in press]
Norway	Social class	A		0.81			Surveillance system statistics
1970–1973	CMF	B		1.13			using 1970 census data as
age: 20–69		C		0.74			denominator. Social class
		D		1.22			indicator based on occupation
		E (farmers)		0.40			[Central Bureau of Statistics, 1976]

Table 22. (Contd) Lung cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Portugal 1980–1982 age: 20–64	Occupational group RR	Managers		1.00			Surveillance system statistics using 1980 census data as denominator
		Professionals		1.48			
		Clerks		1.33			
		Sales workers		1.24			
		Service workers		0.95			
		Agriculture, forestry, and fishery,		1.01			
		Other manual workers		1.61			[M. Giraldes, pers. commun.] SMRs calculated by authors
Spain 1980–1982 age: 30–64	Occupational group PMR	Professionals and managers		0.92			Proportional analysis on death certificates
		Manual workers		1.13			
		Agricultural workers		0.98			[E. Regidor, unpublished]
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II		0.90		1.07	Proportional mortality study. UK Registrar General's social class classification (No. of males = 907; females =103) [Levi, 1988]
		III		1.04		0.88	
		IV, V		1.07		1.13	
Switzerland 1979–1982 age: 15–74	Social class SMR	I		0.42			Surveillance system statistics using 1980 census data as denominator. UK Registrar age: General's social class classification [C.E. Minder, unpublished]
		II		0.72			
		III-NM		0.91			
		III-M		1.33			
		IV, V		1.10			
UK – England and Wales 1910–1912 age: 15–64	Social class SMR	I		0.94			Surveillance system statistics using 1910 census data as denominator. For social classification see Introduction [OPCS, 1919]
		II		1.06			
		III		1.06			
		IV		0.83			
		V		1.22			
UK – England and Wales 1930–1932 age: 15–64 (married women)	Social class SMR	I		1.07		1.00	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]
		II		0.96		1.00	
		III		1.01		1.10	
		IV		0.91		0.82	
		V		1.12		0.91	
UK – England and Wales 1949–1953 age: 15–64	Social class SMR	I		0.81			Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction [OPCS, 1958]
		II		0.82			
		III		1.07			
		IV		0.91			
		V		1.18			

Table 22. (Contd) Lung cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		0.53		0.73	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		0.68		0.82	
		III-NM		0.84		0.89	
		III-M		1.18		1.18	
		IV		1.23		1.25	
		V		1.43		1.34	
UK – England and Wales 1971–1975 age: 15–64	Social class SMR	I		0.66			Record-linkage study (longitudinal study) between 1971 census and 1971–1975 mortality data for a 1% sample of the total population. UK Registrar General's social class classification [OPCS, 1990]
		II		0.64			
		III-NM		0.82			
		III-M		1.01			
		IV		1.09			
		V		1.46			
UK England and Wales 1976–1981 age: 15–64	Social class SMR	I		0.42			Record-linkage study (Longitudinal Study) between 1971 census and 1976–1981 mortality data for a 1% sample of the total population. UK Registrar General's social class classification [OPCS, 1990]
		II		0.68			
		III-NM		0.83			
		III-M		1.08			
		IV		1.31			
		V		1.24			
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I	742	0.43	147	0.50	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	5163	0.63	991	0.73	
		III-NM	3116	0.80	485	0.81	
		III-M	14266	1.20	2314	1.22	
		IV	8594	1.26	1348	1.38	
		V	4503	1.78	524	1.70	
UK (London) 1967–1987	Employment grade RR	Administrators	12	1			17 530 Londoner civil servants, undergoing a medical examination 1967–1969, followed-up until 1987 [Davey Smith, 1991]
		Professionals	207	1.42			
		Clerical	108	2.58			
		Other	110	3.69			
UK – Scotland 1949–1953 age: 20–64	Social class SMR	I		1.04			Surveillance system statistics using 1950 census data as denominator. UK Registrar General social class classification [Registrar General for Scotland, 1956]
		II		0.81			
		III		1.15			
		IV		0.86			
		V		1.09			
UK –Scotland 1959–1963 age: 20–64 (married women)	Social class SMR	I		0.61		0.59	Surveillance system statistics using 1960 census data as denominator. UK Registrar General classification. Women classified according to husband's occupation. [Registrar General for Scotland, 1970]
		II		0.70		0.81	
		III		1.04		0.78	
		IV		0.98		0.85	
		V		1.51		1.38	

Table 22. (Contd) Lung cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
USA – California	Social class	I		0.85			Surveillance system statistics
1949–1951	SMR	II		0.77			using 1950 census data as
age: 25–64		III		1.12			denominator. Social class indicator
		IV		1.08			based on occupation. ICD 162-163
		V		1.12			[Buell, 1960]
USA	Educational						
1960	level	College		0.61		0.90	Record-linkage study using 1960
age: 25–64	SMR	High school		0.95		0.94	mortality and census data.
(White)		Elementary school		1.14		0.96	
		<8 years of school		1.18		1.23	[Kitagawa, 1973]
USA	Education	College: 5+ y		0.51		0.41	Census linkage
(12 census	SMR	4 y		0.69		0.64	
samples)		1-3 y		0.85		1.13	
White population		High school: 4 y		0.92		1.05	
1979–1985		1-3 y		1.27		1.23	
age: 25+		Elementary school: 8 y		1.11		0.83	
		5-7 y		1.31		0.89	
		0-4 y		1.04		0.92	[Rogot *et al.*, 1992]
USA	Education	College: 1-3 y		1.00			Census linkage
(12 census	SMR	High school: 4 y		0.84			
samples)		1-3 y		1.15			
Black population		Elementary school: 8 y		1.23			
1979–1985		5-7 y		0.84			
age: 25+		0-4 y		1.18			[Rogot *et al.*, 1992]

Table 23. Lung cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada	Income level	High		1			Population-based case–control
(Montreal)	OR	Middle		2.5			study. Tertiles of total family
1979–1985		Low		3.7			income
age: 35–70							
(French)							[Bourbonnais, in press]
Canada	Education	High		1			Population-based case–control
(Montreal)	OR	Middle		1.6			study. Tertiles of years of education
1979–1985		Low		2.3			
age: 35–70 (French)							[Bourbonnais, in press]
Canada	Occupational	High		1			Population-based case–control
(Montreal)	prestige scale	Middle		2.2			study. Tertiles of the occupational
1979–1985	OR	Low		3.8			prestige scale
age: 35–70							
(French)							[Bourbonnais, in press]

Table 23. (Contd) Lung cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Colombia (Cali) 1971–1975 all ages	Social class RR	I		1		1	Data from 1973 census were used for rate denominators. Social class based on area of residence [Cuello, 1982]
		II		0.71		1.00	
		III		0.72		0.93	
Denmark 1970–1980 all ages	Occupational group RR	Self-employed	2674	0.80	83	0.88	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level
		Employees: I	191	0.61	7	0.37	
		Employees: II	338	0.67	43	0.56	
		Employees: III	1241	1.04	124	0.91	
		Employees: IV	589	1.13	363	0.99	
		Skilled workers	1725	1.31	17	1.78	
		Unskilled workers	3773	1.13	707	1.27	[Lynge, 1990]
Denmark (Copenhagen) 1971–1988 age: 35–74	Social class RR	I	755	1			5249 Male employees, aged 40–59, followed up 1971–1988. Social class indicator based on occupation [Hein *et al.*, 1992]
		II	414	1.6			
		III	776	2.3			
		IV	1684	2.9			
		V	469	3.7			
Greece (Athens) 1978–1986	Education low/high					1.30	[Trichopoulos *et al.*, 1981]
Greece (Greater Athens) 1987–1989	Education 0 y/7 y					0.56	[Katsoyanni *et al.*, 1991]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar		0.45		1.08	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
		Lower white-collar		0.73		1.11	
		Skilled workers		1.07		0.92	
		Unskilled workers		1.38		1.04	
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University	31	1	0	–	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1995]
		High school	100	1.66	26	1	
		Middle school	223	2.03	44	0.74	
		Primary school	475	2.47	91	0.62	
Italy (Torino) 1985–1987 age: 20–69	Occupational group OR	Managers	71	1	0	–	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1995]
		Clerks	154	1.30	34	1	
		Self-employed	124	1.80	18	0.86	
		Manual workers	487	1.81	16	0.45	
Italy (Torino) 1985–1987 age: 20–69	Housing tenure OR	Owners	344	1	57	1	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1995]
		Tenants	573	1.44	99	1.44	
Sweden 1961–1970 all ages	Social class SIR	Employees: I	1760	1.08	0	–	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vågerö, 1971]
		Self-employees: II	1598	1.04	84	1.09	
		Indep. farmers: III	719	0.41	0	–	
		White-collars: IV	4274	0.97	860	0.92	
		Blue-collars: V	10638	1.10	925	1.09	

Table 23. (Contd) Lung cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Turkey (Istanbul) 1979–1984 all ages	Social class OR	Higher Medium Lower	64 294 790	1 1.0 0.9			Hospital-based case–control study. Social-class indicator based on occupation [Dosemeci, 1993]
UK – England and Wales 1971–1981 all ages	Social class SIR	I II III-NM III-M IV V	48 383 250 888 584 313	0.48 0.77 0.86 1.05 1.16 1.24			Record-linkage study between 1971 census and 1971–81 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	1062 574 1016	0.75 1.16 1.38	304 153 246	0.83 1.11 1.22	Record-linkage study between 1971 census and 1971–81 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
USA (Du Pont) 1959–1967 all ages	Income level SIR	1 2 3 4 5	7 44 42 17 171	0.79 0.93 1.07 0.84 1.04			1959–1967 follow-up of 115 000 employees of the Du Pont Co. [Pell, 1970]
USA 1969–1971 all ages	Educational level OR	College Less		0.62 1		0.60 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.89 1		0.60 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams, 1977]

Table 24. Bone cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+		1.7		0.3	Case–control study using deaths from other causes as controls
		9–11		1.6		0.6	
		1–8		1.8		0.9	
		<1		1		1	[Bouchardy, 1992]
New Zealand 1974–1978 age: 15–64	Social class RR	I		1			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification [Pearce, 1986]
		II		0.83			
		III-NM		1.0			
		III-M		0.83			
		IV		0.83			
		V		2.0			
New Zealand 1984–1987 age: 15–64	Social class RR	I		–			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification [Pearce & Bethwaite, in press]
		II		–			
		III-NM		1			
		III-M		5.0			
		IV		1.0			
		V		–			
Switzerland 1979–1982 age: 15–74	Social class SMR	I		0.27			Surveillance system statistics using 1980 census data as denominator. UK Registrar General's social class classification [C.E. Minder, unpublished]
		II		1.16			
		III-NM		0.86			
		III-M		0.95			
		IV-V		0.78			
UK – England and Wales 1921–1923 age: 15–64	Social class SMR	I		0.73			Surveillance system statistics using 1920 census data as denominator. For social classification see Introduction [OPCS, 1927]
		II		1.14			
		III		1.05			
		IV		0.95			
		V		0.86			
UK – England and Wales 1949–1953 age: 15–64	Social class SMR	I		1.30			Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1958]
		II		0.89			
		III		1.08			
		IV		0.86			
		V		0.96			
UK – England and Wales 1959–1963 age: 15–64 (married women)	Social class SMR	I		0.74		1.10	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction [OPCS, 1971]
		II		0.87		0.81	
		III		1.09		1.09	
		IV		0.91		0.92	
		V		1.12		1.28	
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		0.95		2.04	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		0.89		0.75	
		III-NM		0.91		1.06	
		III-M		1.08		1.14	
		IV		1.02		0.83	
		V		1.12		1.63	

Table 24. (Contd) Bone cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – Great Britain 1979–1980, 1982–1983 age: 20–64	Social class SMR	I	13	0.85			Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	59	0.95			
		III-NM	28	0.86			
		III-M	104	1.05			
		IV	53	1.09			
		V	24	1.31			

Table 25. Bone cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Denmark 1970–1980 all ages	Occupational group RR	Self-employed	31	1.21	0	–	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge, 1990]
		Employees: I	5	0.51	0	–	
		Employees: II	14	0.53	3	1.37	
		Employees: III	6	1.00	3	0.92	
		Employees: IV	22	0.72	10	1.09	
		Skilled workers	34	0.99	1	3.05	
		Unskilled workers		0.99	12	1.21	
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar		1.09		0.61	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
		Lower white-collar		1.01		1.26	
		Skilled workers		1.02		1.00	
		Unskilled workers		0.85		0.75	
Sweden 1961–1970 all ages	Social class SIR	Employees: I	21	0.74	–	–	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vågerö, 1986]
		Self-employed: II	30	1.21	5	1.39	
		Indep. farmers: III	35	1.04	–	–	
		White-collar: IV	87	1.03	51	1.01	
		Blue-collar: V	195	0.99	44	1.02	

Table 26. Cancer of the connective tissue mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1959–1963 age: 15–64 (married women)	Social class SMR	I		1.08		0.71	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction [OPCS, 1971]
		II		0.95		1.12	
		III		1.09		0.98	
		IV		0.93		1.11	
		V		0.97		0.87	
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		0.80		1.48	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		0.88		1.12	
		III-NM		0.89		0.90	
		III-M		1.05		0.95	
		IV		1.17		0.94	
		V		1.00		1.01	
UK – Great Britain 1979–1980, 1982–1983 age: 20–64	Social class SMR	I	21	0.87			Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	86	0.84			
		III-NM	53	1.08			
		III-M	193	1.26			
		IV	64	0.83			
		V	24	1.19			

Table 27. Cancer of the connective tissue – incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Denmark 1970–1980 all ages	Occupational group RR	Self-employed	60	1.06	0	–	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level
		Employees: I	8	1.23	1	1.07	
		Employees: II	18	1.38	6	1.23	
		Employees: III	22	0.84	7	0.89	
		Employees: IV	9	0.69	30	1.34	
		Skilled workers	38	1.12	0	–	
		Unskilled workers	59	0.92	23	0.87	[Lynge, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar		1.18		1.22	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
		Lower white-collar		0.97		1.05	
		Skilled workers		0.99		0.99	
		Unskilled workers		0.98		0.87	
Sweden 1961–1970 all ages	Social class SIR	Employees: I	97	0.95	–	–	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vågerö, 1986]
		Self employed: II	76	0.83	15	0.99	
		Indep. farmers: III	115	0.98	–	–	
		White-collar: IV	319	1.12	203	0.97	
		Blue-collar: V	648	0.98	184	1.01	

Table 27. (Contd) Cancer of the connective tissue – incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
USA 1969–1971 all ages	Educational level OR	College Less		0.56 1		0.65 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.96 1		1.96 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]

Table 28. Malignant melanoma mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+ 9–11 1–8 <1		8.0 6.3 2.1 1		0.6 2.3 2.0 1	Case–control study using deaths from other causes as controls [Bouchardy, 1992]
Italy 1981–1982 age: 18–74	Education level RR	University High school Middle school Primary school Literate Illiterate	0 27 20 82 17 4	– 1 0.58 0.73 0.51 0.61	0 19 17 67 18 6	– 1 0.59 0.62 0.42 0.62	Record-linkage between 1981 census and the mortality in the following six months [Faggiano, 1995]
New Zealand 1974–1978 age: 15–64	Social class RR	I II III-NM III-M IV V		1 1.18 0.94 0.84 0.56 0.53			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification [Pearce, 1986]
New Zealand using 1986 1984–1987 age: 15–64	Social class RR	I II III-NM III-M IV V		1 1.23 1.13 1.25 1.20 0.45			Surveillance system statistics census data as denominator. UK Registrar General's social class classification [Pearce and Bethwaite, in press]
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II III IV, V		1.39 0.82 0.86		1.38 0.70 0.98	Proportional mortality study. UK Registrar General's social class classification. ICD-9: 172-173 (No. of males = 180; females = 50). [Levi, 1988]

Table 28. (Contd) Malignant melanoma mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Switzerland 1979–1982 age: 15–74	Social class SMR	I II III-NM III-M IV-V		0.79 0.87 1.20 1.27 0.71			Surveillance system statistics using 1980 census data as denominator. UK Registrar General's social class classification. ICD-9: 172-173 [C.E. Minder, unpublished]
UK – England and Wales 1949–1953 age: 15–64 (married women)	Social class SMR	I II III IV V		1.45 0.98 1.07 0.81 0.85		1.45 1.11 1.04 0.71 0.95	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1958]
UK – England 1959–1963 age: 15–64 (married women)	Social class SMR	I II III IV V		1.50 1.16 1.00 0.95 0.84		0.90 1.04 1.13 0.77 0.95	Surveillance system statistics and Wales using 1960 census data as denominator. For social classification see Introduction [OPCS, 1971]
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I II III-NM III-M IV V		1.37 1.35 1.21 0.88 0.73 1.05		1.74 1.34 1.04 0.97 0.95 0.67	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I II III-NM III-M IV V	79 320 153 315 163 55	1.33 1.26 1.34 0.85 0.89 0.82	48 179 70 251 102 36	1.21 1.07 1.01 1.07 0.97 1.12	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]

Table 29. Malignant melanoma incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Colombia (Cali) 1971–1975 all ages	Social class RR	I		1		1	Data from 1973 census were used for rate denominators. Social class based on area of residence [Cuello, 1982]
		II		2.33		1.22	
		III		1.33		0.22	
Denmark 1970–1980 all ages	Occupational group RR	Self-employed	234	0.83	44	1.05	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge, 1990]
		Employees: I	53	1.50	13	1.22	
		Employees: II	113	1.56	77	1.33	
		Employees: III	206	1.47	117	1.31	
		Employees: IV	80	1.21	270	1.06	
		Skilled workers	161	0.93	7	0.84	
		Unskilled workers	244	0.76	257	0.87	
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar		1.63		1.29	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
		Lower white-collar		1.11		1.18	
		Skilled workers		0.92		0.88	
		Unskilled workers		0.69		0.91	
Sweden 1961–1970 all ages	Social class SIR	Employees: I	283	1.05	0	–	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vågerö, 1986]
		Self-employed: II	196	0.84	45	0.93	
		Indep. farmers: III	220	0.82	0	–	
		White-collar: IV	1200	1.38	937	1.14	
		Blue-collar: V	1557	0.86	522	0.82	
Turkey (Istanbul) 1979–1984	Social class OR	Higher	2	1			Hospital-based case–control study. Social class indicator based on occupation [Dosemeci, 1993]
		Medium	11	1.3			
		Lower	39	1.6			
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier	49	1.02			Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
		Private rented	9	0.57			
		Council tenant	32	1.21			
USA 1969–1971 all ages	Educational level OR	College		2.27		0.79	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]
		Less		1		1	
USA 1969–1971 all ages	Family income level OR	>US$ 10 000		1.88		0.94	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]
		Less		1		1	

Table 30. Female breast cancer mortality

Study base	Indicators	Social scale	N	RR	Study design
Brazil (São Paulo)	Years of	12+		2.6	Case–control study using
1978–1982	education	9–11		2.4	deaths from causes as controls
age: 35–74	OR	1–8		1.6	
		<1		1	[Bouchardy, 1992]
Canada (urban area)	Income	Q1		1.08	Surveillance system statistics using
1971	CMF	Q2		1.00	1971 census data as denominators.
all ages		Q3		1.01	Neighbourhood income quintiles as
		Q4		0.95	social indicator
		Q5		0.99	[K. Wilkins, unpublished]
Canada (urban area)	Income	Q1		1.06	Surveillance system statistics using 1986
1986	CMF	Q2		0.98	census data as denominators.
all ages		Q3		0.99	Neighbourhood income quintiles as social
		Q4		1.04	indicator
		Q5		0.95	[K. Wilkins, unpublished]
Denmark	Occupational	Employees: I		–	Record-linkage study using 1970 census and
1970–1975	groups	Employees: II		1.49	1970–1975 mortality data. Employees classified
age: 20–64	SMR	Employees: III		1.06	according to educational level
		Employees: IV		1.05	
		Skilled workers		–	
		Unskilled workers		0.87	[Danmarks Statistik, 1979]
Finland	Social class	Upper white-collar		1.47	Surveillance system statistics using 1970
1969–1972	CMF	Lower white-collar		1.07	census data as denominators. Social class
age: 15–64		Skilled workers		0.94	indicator based on occupation
(married women)		Unskilled workers		0.79	
		Farmers		0.74	[Näyhä, 1977]
Finland	Social class	Upper white-collar	≥20	1	Record-linkage study using 1970, 1975
1971–1985	RR	Lower white-collar	≥20	0.85	and 1980 censuses and 1971–1985
age: 35–66	20	Skilled workers	≥20	0.69	mortality data
		Unskilled workers		–	
		Farmers	≥20	0.60	[Valkonen, 1990]
Hungary	Years of	15+		1.84	Surveillance system statistics using
1970	education	12–14		1.66	1970 census data as denominators
age: 25–64	SMR	8–11		1.31	
		0–7		0.86	[Jozan, 1986]
Hungary	Years of	15+		1.85	Surveillance system statistics using 1980
1980	education	12–14		1.68	census data as denominators
age: 25–64	SMR	8–11		1.06	
		0–7		0.77	[Jozan, 1986]
Italy	Educational level	University	46	1	Record-linkage between 1981 census and
1981–1982	RR	High school	186	1.17	mortality in the following six months.
age: 18–74		Middle school	338	1.04	
		Primary school	1328	0.86	
		Literate	479	0.74	
		Illiterate	95	0.56	[Faggiano, 1995]

Table 30. (Contd) Female breast cancer mortality

Study base	Indicators	Social scale	N	RR	Study design
Japan	Social class	I, II		2.33	265 000 Japanese interviewed in 1965
1965–1982	SMR	III		1.45	and followed-up until 1982. Social class
age: 40+		IV		1.58	based on occupation. Reference category:
		V		1	farmers and miners.
					[Hirayama, 1990]
Norway	Social class	A		1.39	Surveillance system statistics using 1970
1970–1973	CMF	B		1.09	census data as denominator. Social class
age: 20–69		C		1.10	indicator based on occupation.
		D		0.72	
		E (farmers)		0.66	[Central Bureau of Statistics, 1976]
Portugal	Occupational	Mangers		1.00	Surveillance system statistics using 1980
1980–1982	group	Professionals		2.68	census data as denominator
ages: 20–64	RR	Clerks		1.95	
		Sales workers		1.08	
		Service workers		0.41	
		Agriculture, forestry and fishery		0.11	
		Other manual workers		1.10	[M. Giraldes, pers. commun.; SMRs calculated by authors]
Switzerland (Vaud)	Social class	I, II		1.01	Proportional mortality study. UK Registrar
1977–1984	PMR	III		1.11	General's social class classification
all ages		IV, V		0.80	(No. = 275)
					[Levi, 1988]
UK – England	Social class	I		1.38	Surveillance system statistics using 1930
and Wales	SMR	II		1.16	census data as denominator. For social
1930–1932		III		1.03	classification see Introduction. Women
age: 15–64		IV		0.84	classified according to husband's occupation
(married women)		V		0.82	[OPCS, 1938]
UK – England and	Social class	I		1.37	Surveillance system statistics using 1950
Wales	SMR	II		1.10	census data as denominator.
1949–1953		III		1.04	For social classification see Introduction
age: 15–64		IV		0.84	
		V		0.85	[OPCS, 1958]
UK – England and	Social class	I		1.17	Surveillance system statistics using 1970
Wales	SMR	II		1.12	census data as denominators. For social
1970–1972		III-NM		1.10	classification see Introduction. Women
age: 15–64		III-M		1.09	classified according to husband's occupation.
(married women)		IV		1.03	
		V		0.92	[OPCS, 1977]
UK – Great Britain	Social class	I	815	1.09	Surveillance system statistics using 1980
1979–1980,	SMR	II	3498	1.05	census data as denominators. For social
1982–1983		III-NM	1591	1.14	classification see Introduction. Women
age: 20–64		III-M	4784	1.04	classified according to husband's occupation
(married women,		IV	2359	1.07	
20–59)		V	711	1.04	[OPCS, 1986]

Table 30. (Contd) Female breast cancer mortality

Study base	Indicators	Social scale	N	RR	Study design
UK – Scotland	Social class	I		1.15	Surveillance system statistics using 1960
1959–1963	SMR	II		1.11	census data as denominator. UK
age: 20–64		III		1.01	Registrar General's classification. Women
(married women)		IV		0.89	classified according to husband's occupation
		V		1.02	[Registrar General for Scotland, 1970]
USA	Education level	College		1.11	Record-linkage study using 1960 mortality
1960	SMR	High school		1.03	and census data.
age: 25–64 (White)		Elementary school		0.98	
		<8 years of school		0.87	[Kitagawa, 1973]
USA	Education	College		1.67	Census linkage
(12 census samples)	SMR			1.15	
White population				1.07	
age: 25+		High school		1.01	
				0.84	
		Elementary school		1.10	
				0.72	
				0.61	[Rogot *et al.*, 1992]

Table 31. Female breast cancer incidence

Study base	Indicators	Social scale	N	RR	Study design
Colombia (Cali)	Social class	I		1	Data from 1973 census were used for
1971–1975	RR	II		0.64	rate denominators. Social class
all ages		III		0.45	based on area of residence
					[Cuello, 1982]
Denmark	Occupational group	Self-employed	459	1.16	Record-linkage study using 1970
1970–1980	RR	Employees: I	124	1.38	census and 1970–1980 incidence data.
all ages		Employees: II	507	1.25	Employees classified according to
		Employees: III	792	1.20	educational level
		Employees: IV	2015	1.08	
		Skilled workers	50	1.00	
		Unskilled workers	2147	0.84	[Lynge, 1990]
Finland	Social class	Upper white-collar		1.42	Record-linkage study using 1970
1971–1985	SIR	Lower white-collar		1.19	census and 1971–1985 incidence data.
birth cohort:		Skilled workers		0.90	Social class based on occupation
1906–1945		Unskilled workers		0.82	[Pukkala, 1993]

Table 31. (Contd) Female breast cancer incidence

Study base	Indicators	Social scale	N	RR	Study design
Hong Kong 1971 age: 35–64 (Chinese)	Income level RR	Higher Medium Lower	10 39 55	1 0.62 0.33	Surveillance system statistics using 1971 census data as denominator. Income levels based on residence [Crowther *et al.*, 1976]
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University High school Middle school Primary school	44 161 316 589	1 0.86 0.84 0.66	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data. [Faggiano, 1994]
Italy (Torino) 1985–1987 age: 20–69	Occupational group OR	Managers Clerks Self-employed Manual workers	38 187 68 159	1 0.89 0.67 0.77	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Italy (Torino) 1985–1987 age: 20–69	Housing tenure OR	Owners Tenants	503 580	1 0.98	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self-employed: II Indep. farmers: III White-collar: IV Blue-collar: V	 729 10040 6708	– 1.08 – 1.12 0.86	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vågerö, 1986]
Turkey (Istanbul) 1979–1984	Social class OR	Higher Medium Lower	18 86 127	1 0.4 0.4	Hospital-based case–control study. Social class indicator based on occupation [Dosemeci, 1993]
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	1074 348 571	1.02 0.93 0.99	Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
USA 1969–1971 all ages	Educational level OR	College Less		1.44 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams, 1977]
USA 1969–1971 all ages	Family income level OR	>US $10 000 Less		1.30 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]

Table 32. Cervical and endometrial cancer mortality

Study base	Indicators	Social scale	N	Cervix	N	Corpus	Study design
Brazil	Years of	12+		0.2		2.3	Case–control study using deaths
(São Paulo)	education	9–11		0.4		1.9	from other causes as controls
1978–1982	OR	1–8		0.7		2.0	
age: 35–74		<1		1		1	[Bouchardy, 1992]
Canada	Income	Q1				0.40	Surveillance system statistics
(urban area)	CMF	Q2				0.63	using 1971 census data as
1971		Q3				0.98	denominator. Neighbourhood
all ages		Q4				1.23	income quintiles as social
		Q5				1.65	indicator. ICD-9: 179-182
							[R. Wilkins, unpublished]
Canada	Income	Q1				0.52	Surveillance system statistics
(urban area)	CMF	Q2				0.96	using 1986 census data as
1986		Q3				0.94	denominators. Neighbourhood
all ages		Q4				0.92	income quintiles as social
		Q5				1.60	indicator. ICD-9: 179-182
							[R. Wilkins, unpublished]
Denmark	Occupational	Employees: I				–	Record-linkage study using 1970
1970–1975	group	Employees: II				0.82	census and 1970–1975 mortality
age: 20–64	SMR	Employees: III				0.93	data. Employees classified
		Employees: IV				0.98	according to educational level
		Skilled workers				–	
		Unskilled workers				1.15	[Danmarks Statistik, 1979]
Finland	Social class	Upper white-collar		0.68		0.84	Surveillance system statistics
1969–1972	CMF	Lower white-collar		1.06		1.03	using 1970 census data as
age: 15–64		Skilled workers		1.35		0.99	denominator. Social class
(married women)		Unskilled workers		1.33		0.97	indicator based on occupation
		Farmers		0.57		1.17	[Näyhä, 1977]
Finland	Social class	Upper white-collar	<20	1			Record-linkage study using 1970,
1971–1985	RR	Lower white-collar	≥20	2.60			1975 and 1980 censuses and
age: 35–64		Skilled workers	≥20	3.71			1971–1985 mortality data. Social
(married women)		Unskilled workers		–			class indicator based on occupation
		Farmers	≥20	1.72			[Valkonen, 1990]
Italy	Education	University			0	–	Record-linkage between 1981
1981–1982	level	High school			52	1	census and mortality in the
age: 18–74	RR	Middle school			113	1.35	following six months
		Primary school			512	1.23	
		Literate			240	1.20	
		Illiterate			102	1.76	[Faggiano, 1995]
Japan	Social class	I, II		0.70			265 000 Japanese interviewed in
1965–1982	SMR	III		1.21			1965 and followed up until 1982.
age: 40+		IV		0.99			Social class based on occupation.
		V		1			Reference category is farmers
							and miners
							[Hirayama, 1990]

Table 32. (Contd) Cervical and endometrial cancer mortality

Study base	Indicators	Social scale	N	Cervix	N	Corpus	Study design
UK – England and Wales 1949–1953 age: 15–64 (married women)	Social class SMR	I		0.64		1.03	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1958]
		II		0.75		0.93	
		III		0.99		1.06	
		IV		1.05		0.92	
		V		1.34		0.99	
UK – England and Wales 1959–1963 age: 15–64 (married women)	Social class SMR	I		0.34		1.00	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction [OPCS, 1971]
		II		0.64		0.94	
		III		1.00		1.03	
		IV		1.16		0.99	
		V		1.81		1.22	
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		0.42		0.75	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		0.66		0.97	
		III-NM		0.69		1.03	
		III-M		1.20		1.16	
		IV		1.40		1.20	
		V		1.61		1.02	
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I	47	0.33	20	0.73	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	399	0.65	128	1.01	
		III-NM	193	0.75	64	1.15	
		III-M	1073	1.25	185	1.05	
		IV	544	1.37	104	1.15	
		V	268	2.20	39	1.37	
UK – Scotland 1959–1963 age: 20–64 (married women)	Social class SMR	I		0.31		1.16	Surveillance system statistics using 1960 census data as denominator. UK Registrar General's classification. Women classified according to husband's occupation [Registrar General for Scotland, 1970]
		II		0.49		1.09	
		III		0.94		0.92	
		IV		1.37		1.15	
		V		2.19		1.20	
USA 1960 age: 25–64 (white)	Educational level SMR	College		0.68			Record-linkage study using 1960 mortality and census data. Uterus and ovary [Kitagawa, 1973]
		High school		0.88			
		Elementary school		1.11			
		<8 years of school		1.42			

Table 33. Cervical and endometrial cancer incidence

Study base	Indicators	Social scale	N	Cervix	N	Corpus	Study design
Colombia (Cali)	Social class	I		1		1	Data from 1973 census were used
1971–1975	RR	II		2.44		1.03	for rate denominator. Social class
all ages		III		2.95		0.55	based on area of residence.
							[Cuello, 1982]
Denmark	Occupational	Self-employed	157	1.12	108	1.02	Record-linkage study using 1970
1970–1980	group	Employees: I	15	0.43	33	1.56	census and 1970–1980 incidence
all ages	RR	Employees: II	85	0.49	71	0.86	data. Employees classified
		Employees: III	184	0.67	161	1.07	according to educational level.
		Employees: IV	737	0.94	465	1.15	
		Skilled workers	25	1.07	15	1.43	
		Unskilled workers	1349	1.38	574	0.92	[Lynge, 1990]
Finland	Social class	Upper white-collar		0.63		1.18	Record-linkage study using 1970
1971–1985	SIR	Lower white-collar		0.86		1.11	census and 1971–1985 incidence
birth cohort:		Skilled workers		1.02		0.98	data. Social class based on
1906–1945		Unskilled workers		0.83		0.84	occupation
							[Pukkala, 1993]
Italy (Torino)	Education	University	0	–	0	–	Record-linkage study between
1985–1987	level	High school	10	1	28	1	1971 and 1981 censuses and
age: 20–69	OR	Middle school	32	1.77	50	0.93	1985–1987 incidence data.
		Primary school	92	2.33	118	0.81	[Faggiano, 1995]
Italy (Torino)	Occupational	Managers	0	–	0	–	Record-linkage study between
1985–1987	group	Clerks	16	1	27	1	1971 and 1981 censuses and
age: 20–69	OR	Self-employed	11	1.88	8	0.73	1985–1987 incidence data
		Manual workers	24	2.15	34	1.35	[Faggiano, 1995]
Italy (Torino)	Housing	Owners	34	1	100	1	Record-linkage study between
1985–1987	tenure	Tenants	97	2.27	93	0.98	1971 and 1981 censuses and
age: 20–69	OR						1985–1987 incidence data
							[Faggiano, 1995]
Sweden	Social class	Employees: I	–	–	–	–	Record-linkage study between
1961–1970	SIR	Self employed: II	154	0.98	159	0.94	1961 census and 1961–1970
all ages		Indep. farmers: III	–	–	–	–	incidence data. Social class
		White-collar: IV	2189	0.84	2248	1.07	indicator based on occupation
		Blue-collar: V	2242	1.22	1829	0.93	[Vågerö, 1986]
Turkey (Istanbul)	Social class	Higher	1	1	1	1	Hospital-based case–control
1979–1984	OR	Medium	13	0.8	8	0.8	study. Social class indicator based
		Lower	44	2.3	22	1.6	on occupation
							[Dosemeci, 1993]
UK – England	Housing	Owner occupier	133	0.72	183	1.07	Record-linkage study between
and Wales	tenure	Private rented	79	1.25	53	0.84	1971 census and 1971–1981
1971–1981	SIR	Council tenant	140	1.34	94	0.99	incidence data (1% sample). UK
all ages							Registrar General's social class
							classification
							[Kogevinas, 1990]

Table 33. (Contd) Cervical and endometrial cancer incidence

Study base	Indicators	Social scale	N	Cervix	N	Corpus	Study design
USA 1969–1971 all ages	Educational level OR	College Less		0.30 1		1.24 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.45 1		1.23 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]

Table 34. Ovarian cancer mortality

Study base	Indicators	Social scale	N	RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+ 9–11 1–8 <1		2.2 2.3 1.7 1	Case–control study using deaths from other causes as controls [Bouchardy, 1992]
Canada (urban area) 1971 all ages	Income CMF	Q1 Q2 Q3 Q4 Q5		1.19 0.73 1.24 0.89 0.94	Surveillance system statistics using 1971 census data as denominator. Neighbourhood income quintiles as social indicator [K. Wilkins, unpublished]
Canada (urban area) 1986 all ages	Income CMF	Q1 Q2 Q3 Q4 Q5		0.97 0.97 1.03 0.93 1.07	Surveillance system statistics using 1986 census data as denominator. Neighbourhood income quintiles as social indicator [K. Wilkins, unpublished]
Italy 1981–1982 age: 18–74	Education level RR	University High school Middle school Primary school Literate Illiterate	13 35 71 323 113 19	1 0.72 0.70 0.67 0.58 0.45	Record-linkage between 1981 census and mortality in the following six months [Faggiano, 1994]
Japan 1965–1982 age: 40+	Social class SMR	I, II III IV V		1.16 0.77 1.34 1	265 000 Japanese interviewed in 1965 and followed up until 1982. Social class based on occupation. Reference category's farmers and miners. [Hirayama, 1990]
UK – England and Wales 1930–1932 age: 15–64 (married women)	Social class SMR	I II III IV V		1.43 1.16 1.02 0.77 0.83	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]

Table 34. (Contd) Ovarian cancer mortality

Study base	Indicators	Social scale	N	RR	Study design
UK – England and Wales 1949–1953 age: 15–64 (married women)	Social class SMR	I		1.57	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction
		II		1.06	
		III		1.06	
		IV		0.80	
		V		0.82	[OPCS, 1958]
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		1.18	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation
		II		1.04	
		III-NM		1.08	
		III-M		1.12	
		IV		1.08	
		V		0.93	[OPCS, 1977]
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I	212	1.04	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation. Ovary, unoccupied: 0.13
		II	944	1.02	
		III-NM	439	1.11	
		III-M	1327	1.03	
		IV	728	1.15	
		V	224	1.13	[OPCS, 1986]
UK – Scotland 1959–1963 age: 20–64 (married women)	Social class SMR	I		1.04	Surveillance system statistics using 1960 census data as denominator. UK Registrar General's classification. Women classified according to husband's occupation
		II		1.22	
		III		1.00	
		IV		1.02	
		V		0.92	[Registrar General for Scotland, 1970]
USA (12 census samples) White population 1979–1985 age: 25+	Education SMR	College		1.15	Census linkage
				0.84	
				1.48	
		High school		0.88	
				0.93	
		Elementary school		1.14	
				0.82	
				0.71	[Rogot *et al.*]

Table 35. Ovarian cancer incidence

Study base	Indicators	Social scale	N	RR	Study design
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 0.85 0.76	Data from 1973 census were used for rate denominators. Social class based on area of residence. [Cuello, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	113 21 103 169 494 7 662	1.07 0.93 1.06 1.01 1.07 0.55 1.00	Record-linkage study using 1970 census and 1970–1980 incidence data Employees classified according to educational level [Lynge, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.00 1.08 0.97 0.97	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
Greece (Greater Athens) 1980–1981	Sociocultural indicator low/high			1.31	[Franceschi, 1991]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self employed: II Indep. farmers: III White-collar: IV Blue-collar: V		– 1.06 – 1.00 0.99	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vågerö, 1986]
Turkey (Istanbul) 1979–1984	Social class OR	Higher Medium Lower	2 16 31	1.0 0.7 0.5	Hospital-based case–control study. Social class indicator based on occupation [Dosemeci, 1993]
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	243 62 105	1.14 0.81 0.88	Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
USA 1969–1971 all ages	Educational level OR	College Less		1.12 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		1.10 1	Case–control study based on US Third National Cancer Survey, using deaths for other causes as controls. [Williams, 1977]

Table 36. Prostate cancer mortality

Study base	Indicators	Social scale	N	RR	Study design
Brazil (São Paulo)	Years of	12+		0.9	Case–control study using deaths
1978–1982	education	9–11		0.7	from other causes as controls
age: 35–74	OR	1–8		0.8	
		<1		1	[Bouchardy, 1992]
Canada (urban area)	Income	Q1		0.79	Surveillance system statistics
1971	CMF	Q2		1.41	using 1971 census data as
all ages		Q3		1.23	denominator. Neighbourhood
		Q4		0.72	income quintiles as social indicator
		Q5		0.85	[R. Wilkins, unpublished]
Canada (urban area)	Income	Q1		1.00	Surveillance system statistics
1986	CMF	Q2		0.88	using 1986 census data as
all ages		Q3		1.08	denominator. Neighbourhood
		Q4		0.92	income quintiles as social indicator
		Q5		1.16	[R. Wilkins, unpublished]
Denmark	Occupational	Employees: I		0.90	Record-linkage study using 1970
1970–1975	group	Employees: II		1.02	census and 1970–1975 mortality
age: 20–64	SMR	Employees: III		1.06	data. Employees classified
		Employees: IV		1.16	according to educational level
		Skilled workers		1.17	
		Unskilled workers		0.96	[Danmarks Statistik, 1979]
Finland	Social class	Upper white-collar		1.29	Surveillance system statistics
1969–1972	CMF	Lower white-collar		1.00	using 1970 census data as
age: 15–64		Skilled workers		0.81	denominator. Social class
(married women)		Unskilled workers		1.03	indicator based on occupation
		Farmers		0.87	[Näyhä, 1977]
Hungary	Years of	15+		0.94	Surveillance system statistics
1970	education	12–14		1.35	using 1970 census data as
age: 25–64	SMR	8–11		1.67	denominator
		0–7		0.87	[Jozan, 1986]
Hungary	Years of	15+		1.59	Surveillance system statistics
1980	education	12–14		1.16	using 1980 census data as
age: 25–64	SMR	8–11		1.13	denominator
		0–7		0.83	[Jozan, 1986]
Italy	Educational	University	21	1	Record-linkage between 1981
1981–1982	level	High school	47	1.57	census and mortality in the
age: 18–74	RR	Middle school	104	1.60	following six months
		Primary school	441	1.38	
		Literate	193	1.22	
		Illiterate	38	1.02	[Faggiano, 1995]
Japan	Social class	I, II		0.88	265 000 Japanese interviewed in
1965–1982	SMR	III		0.83	1965 and followed up until 1982.
age: 40+		IV		0.78	Social class based on occupation.
		V		1	Reference category's farmers and
					miners.
					[Hirayama, 1990]

Table 36. (Contd) Prostate cancer mortality

Study base	Indicators	Social scale	N	RR	Study design
New Zealand	Social class	I		1	Surveillance system statistics
1974–1978	RR	II		1.02	using 1976 census data as
age: 15–64		III-NM		0.58	denominator. UK Registrar
		III-M		1.08	General's social class
		IV		0.66	classification
		V		1.23	[Pearce, 1986]
New Zealand	Social class	I		1	Surveillance system statistics
1984–1987	RR	II		0.82	using 1986 census data as
age: 15–64		III-NM		0.71	denominator. UK Registrar
		III-M		0.77	General's social class
		IV		1.38	classification
		V		0.89	[Pearce and Bethwaite, in press]
Norway	Social class	A		0.91	Surveillance system statistics
1970–1973	CMF	B		1.27	using 1970 census data as
age: 20–69		C		0.99	denominator. Social class indicator
		D		0.90	based on occupation
		E (farmers)		1.20	[Central Bureau of Statistics, 1976]
Spain	Occupational	Professionals		0.92	Proportional analysis
1980–1982	group	managers			on death certificates
	PMR	Manual workers			
		Agricultural workers		1.13	
				0.98	[E. Regidor, unpublished]
Switzerland	Social class	I		0.65	Surveillance system statistics
1979–1982	SMR	II		0.93	using 1980 census data as
age: 15–74		III-NM		1.17	denominator. UK Registrar
		III-M		1.02	General's social class classification
		IV-V		0.84	[C.E. Minder, unpublished]
UK – England	Social class	I		1.44	Surveillance system statistics
and Wales	SMR	II		1.02	using 1910 census data as
1910–1912		III		0.96	denominator. For social
age: 15–64		IV		0.90	classification see Introduction
		V		0.75	[OPCS, 1919]
UK – England	Social class	I		1.11	Surveillance system statistics
and Wales	SMR	II		0.98	using 1930 census data as
1930–1932		III		1.06	denominator. For social
age: 15–64		IV		0.88	classification see Introduction.
		V		1.06	Women classified according to husband's occupation [OPCS, 1938]
UK – England	Social class	I		0.91	Surveillance system statistics
and Wales	SMR	II		0.89	using 1970 census data as
1970–1972		III-NM		0.99	denominator. For social
age: 15–64		III-M		1.15	classification see Introduction.
		IV		1.06	Women classified according to
		V		1.15	husband's occupation [OPCS, 1977]

Table 36. (Contd) Prostate cancer mortality

Study base	Indicators	Social scale	N	RR	Study design
UK – Great Britain 1979–1980, 1982–1983 age: 20–64	Social class SMR	I II III-NM III-M IV V	80 527 259 831 426 179	0.77 1.04 1.03 1.12 0.97 1.09	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation Ovary, unoccupied: 0.13 [OPCS, 1986]
UK (London) 1967–191987	Employment grade RR	Administrators Professionals Clerical Other	5 62 11 10	1 0.95 0.57 0.85	17 530 London civil servants, medically examined 1967–1969, and followed up until 1987. [Davey Smith, 1991]
USA –California 1949–1951 age: 25–64	Social class SMR	I II III IV V		1.35 1.12 0.96 0.88 1.07	Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation ICD 162-163 [Buell, 1960]
USA 1960 age: 25–64 (White)	Educational level SMR	College High school Elementary school <8 years of school		1.77 0.86 0.95 0.91	Record-linkage study using 1960 mortality and census data [Kitagawa, 1973]
USA (12 census samples) White population 1979–1985 age: 25+	Education SMR	College: 5+ y 4 y 1-3 y High school: 4 y 1-3 y Ellementary school: 8 y 5-7 y 0-4 y		0.83 1.31 1.07 0.94 0.93 0.95 0.95 1.38	Census linkage [Rogot *et al.*, 1992]

Table 37. Prostate cancer incidence

Study base	Indicators	Social scale	N	RR	Study design
Canada (Montreal) 1979–1985 age: 35–70 (French)	Income level OR	High Middle Low		1 1.0 1.4	Population–based case–control study. Tertiles of total family income [Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Education OR	High Middle Low		1 1.1 1.1	Population-based case–control study. Tertiles of years of education [Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Occupational prestige scale OR	High Middle Low		1.0 0.9 1.0	Population-based case–control study. Tertiles of the occupational prestige scale. [Bourbonnais, in press]
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 0.84 0.64	Data from 1973 census were used for rate denominator. Social class based on area of residence [Cuello, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	1001 90 158 383 174 393 983	0.95 1.01 1.15 1.14 1.12 1.01 0.96	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.24 1.10 0.98 0.83	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University High school Middle school Primary school	20 29 30 95	1 0.81 0.45 0.66	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Italy (Torino) 1985–1987 age: 20–69	Occupational group OR	Managers Clerks Self employed Manual workers	21 32 26 76	1 0.73 1.17 0.94	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Italy (Torino) 1985–1987 age: 20–69	Housing tenure OR	Owners Tenants	96 76	1 0.80	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self employed: II Indep. farmers: III White-collar: IV Blue-collar: V	2521 2353 3441 5781 13920	1.04 0.99 1.01 1.06 0.97	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vågerö, 1986]
Turkey (Istanbul) 1979–1984	Social class OR	Higher Medium Lower	8 6 13	1 0.2 0.2	Hospital-based case–control study. Social class indicator based on occupation [Dosemeci, 1993]

Table 37. (Contd) Prostate cancer incidence

Study base	Indicators	Social scale	N	RR	Study design
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	380 132 185	1.00 0.95 1.04	Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
USA 1969–1971 all ages	Educational level OR	College Less		1.00 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.86 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. [Williams, 1977]

Table 38. Testis cancer mortality

Study base	Indicators	Social scale	N	RR	Study design
Finland	Social class	Upper white-collar	>20	1	Record-linkage study using 1970,
1971–1985	RR	Lower white-collar	>20	0.85	1975 and 1980 censuses and
age: 35–66		Skilled workers	>20	0.69	1971–1985 mortality data
		Unskilled workers	0	–	
		Farmers	>20	0.60	[Valkonen, 1990]
New Zealand	Social class	I		1	Surveillance system statistics using
1974–1978	RR	II		2.7	1976 census data as denominator.
age: 15–64		III-NM		2.0	UK Registrar General's social class
		III-M		2.7	classification
		IV		1.0	
		V		4.9	[Pearce, 1986]
New Zealand	Social class	I	0	–	Surveillance system statistics using
1984–1987	RR	II	6	1	1986 census data as denominator.
age: 15–64		III-NM	7	0.9	UK Registrar General's social class
		III-M	12	1.4	classification
		IV	6	0.9	
		V	2	0.4	[Pearce and Bethwaite, in press]
UK – England	Social class	I		0.83	Surveillance system statistics using
and Wales	SMR	II		1.67	1920 census data as denominator.
1921–1923		III		0.89	For social classification see
age: 15–64		IV		0.89	Introduction
		V		0.78	[OPCS, 1927]
UK – England	Social class	I		1.64	Surveillance system statistics using
and Wales	SMR	II		1.21	1950 census data as denominator.
1949–1953		III		0.92	For social classification see
age: 15–64		IV		0.98	Introduction.
		V		0.90	[OPCS, 1958]
UK – England	Social class	I		1.57	Surveillance system statistics using
and Wales	SMR	II		1.06	1970 census data as denominator.
1970–1972		III-NM		1.25	For social classification see
age: 15–64		III-M		0.89	Introduction. Women classified
		IV		1.05	according to husband's occupation
		V		0.86	[OPCS, 1977]
UK – Great Britain	Social class	I	29	0.80	Surveillance system statistics using
1979–1980,	SMR	II	112	0.85	1980 census data as denominator.
1982–1983		III-NM	80	1.22	For social classification see
age: 20–64		III-M	213	1.04	Introduction. Women classified
		IV	92	1.04	according to husband's occupation
		V	36	1.12	[OPCS, 1986]

Table 39. Testis cancer incidence

Study base	Indicators	Social scale	N	RR	Study design
Colombia (Cali)	Social class	I		1	Data from 1973 census were used for rate
1971–1975	RR	II		0.62	denominators. Social class based on
all ages		III		0.75	area of residence
					[Cuello, 1982]
Denmark	Occupational	Self-employed	227	0.97	Record-linkage study using 1970 census
1970–1980	group	Employees: I	37	0.93	and 1970–1980 incidence data. Employees
all ages	RR	Employees: II	133	1.25	classified according to educational
		Employees: III	204	1.17	level.
		Employees: IV	121	1.11	
		Skilled workers	306	1.03	
		Unskilled workers	313	0.82	[Lynge, 1990]
Finland	Social class	Upper white-collar		1.69	Record-linkage study using 1970 census
1971–1985	SIR	Lower white-collar		1.08	and 1971–1985 incidence data. Social class
birth cohort:		Skilled workers		0.85	based on occupation
1906–1945		Unskilled workers		0.90	[Pukkala, 1993]
Sweden	Social class	Employees: I	66	0.99	Record-linkage study between 1961 census
1961–1970	SIR	Self employed: II	48	0.87	and 1961–1970 incidence data. Social
all ages		Ind. farmers: III	60	0.98	class indicator based on occupation
		White-collar: IV	413	1.34	
		Blue-collar: V	548	0.85	[Vågerö, 1986]
Turkey (Istanbul)	Social class	Higher	7	1	Hospital-based case–control study. Social
1979–1984	OR	Medium	48	1.1	class indicator based on occupation.
		Lower	136	1.0	[Dosemeci, 1993]
UK	Social class	I		1.99	Hospital-based case–control study.
1977–1981	OR	II		1.61	Controls were cancer and no-cancer
Age >10 years		III-NM		1.42	patients
		III-M		1	
		IV		1.11	
		V		1.00	[Swerdlow *et al.* 1991]
UK – England	Housing tenure	Owner occupier	41	0.98	Record-linkage study between 1971 census
and Wales	SIR	Private rented	19	1.29	and 1971–1981 incidence data (1% sample).
1971–1981		Council tenant	22	0.91	UK Registrar General's social class
all ages					classification
					[Kogevinas, 990]
USA	Occupation	Professionals		1	Hospital-based case–control study
Buffalo	OR	All other		1.44	
1969–1971		occupations			
all ages		Semi-unskilled		1.89	[Graham & Gibson, 1972]

Table 40. Bladder cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	>11		1.4		2.1	Case–case study using deaths from other causes as controls
		9–11		2.2		0.6	
		1–8		1.2		1.5	
		<1		1		1	[Bouchardy, 1992]
Canada (urban area) 1971 all ages	Income CMF	Q1		1.27			Surveillance system statistics using 1971 census data as denominator. Neighbourhood income quintiles as social indicator [K. Wilkins, unpublished]
		Q2		0.97			
		Q3		0.70			
		Q4		1.23			
		Q5		0.91			
Canada (urban area) 1986 all ages		Q1		0.88			Surveillance system statistics using 1986 census data as denominator. Neighbourhood income quintiles as social indicator [K. Wilkins, unpublished]
		Q2		0.88			
		Q3		1.00			
		Q4		1.13			
		Q5		1.06			
Italy 1981–1982 age: 18–74	Educational level RR	University	30	1	0	–	Record-linkage between 1981 census and the mortality in the following six months
		High school	50	1.11	7	1	
		Middle school	129	1.34	13	0.91	
		Primary school	446	1.02	79	0.95	
		Literate	147	0.79	41	0.90	
		Illiterate	35	0.78	9	0.69	[Faggiano, 1995]
Japan 1965–1982 age: 40+	Social class SMR	I, II		1.23		1.00	265 000 Japanese interviewed in 1965 and followed-up until 1982. Social class based on occupation. Reference category is farmers and miners [Hirayama, 1990]
		III		1.13		1.24	
		IV		0.99		–	
		V		1		1	
New Zealand 1974–1978 age: 15–64	Social class RR	I		1			Surveillance system statistics using 1976 census data as denominators. UK Registrar General's social class classification
		II		1.04			
		III-NM		1.17			
		III-M		1.78			
		IV		0.91			
		V		1.26			[Pearce, 1986]
New Zealand 1984–1987 age: 15–64	Social class RR	I	3	1			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification
		II	8	1.36			
		III-NM	11	1.00			
		III-M	18	1.86			
		IV	12	1.57			
		V	7	2.07			[Pearce & Bethwaite, in press]
Norway 1970–1973 age: 20–69	Social class CMF	A		1.32			Surveillance system statistics using 1970 census data as denominator. Social class indicator based on occupation [Central Bureau of Statistics, 1976]
		B		1.01			
		C		1.14			
		D		0.88			
		E (farmers)		–			

Table 40. (Contd) Bladder cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Spain	Occupational	Professionals		0.98			Proportional analysis
1980–1982	group	managers					on death certificates
	PMR	Manual workers					
		Agricultural workers, etc.		1.20			
				0.75			[E. Regidor, unpublished]
Switzerland							
(Vaud)	Social class	I, II		0.84		0.70	Proportional mortality study. UK
1977–1984	PMR	III		1.26		1.09	Registrar General's social class
all ages		IV, V		0.90		1.39	classification. (No. of males = 147; females = 27) [Levi, 1988]
Switzerland	Social class	I		0.75			Surveillance system statistics
1979–1982	SMR	II		0.84			using 1980 census data as
age: 15–74		III-NM		1.09			denominator. Registrar General's
		III-M		1.24			social class classification
		IV-V		0.98			[C.E. Minder, unpublished]
UK – England	Social class	I		0.96			Surveillance system statistics
and Wales	SMR	II		0.95			using 1910 census data as
1910–1912		III		1.00			denominator. For social
age: 15–64		IV		0.89			classification see Introduction
		V		1.21			[OPCS, 1919]
UK – England	Social class	I		0.76		0.60	Surveillance system statistics
and Wales	SMR	II		0.98		1.10	using 1930 census data as
1930–1932		III		1.06		1.06	denominator. For social
age: 15–64		IV		0.94		0.80	classification see Introduction.
(married women)		V		1.06		0.93	Women classified according to husband's occupation [OPCS, 1938]
UK – England	Social class	I		1.06		0.76	Surveillance system statistics
and Wales	SMR	II		0.77		0.99	using 1950 census data as
1949–1953		III		1.09		1.06	denominator. For social
age: 15–64		IV		0.96		1.04	classification see Introduction
(married women)		V		1.07		0.92	[OPCS, 1958]
UK – England	Social class	I		0.79		0.54	Surveillance system statistics
and Wales	SMR	II		0.83		0.89	using 1970 census data as
1970–1972		III-NM		0.91		0.71	denominator. For social
age: 15–64		III-M		1.20		1.31	classification see Introduction.
(married women)		IV		1.05		1.16	Women classified according to
		V		1.15		1.23	husband's occupation [OPCS, 1977]

Table 40. (Contd) Bladder cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I	100	0.80	11	0.58	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	464	0.77	70	0.80	
		III-NM	258	0.89	31	0.80	
		III-M	983	1.13	154	1.26	
		IV	614	1.22	81	1.28	
		V	251	1.34	27	1.35	
UK (London) 1967–1987	Employment grade RR	Administrators	2	1			17 530 London civil servants, medically examined 1967–1969 and followed-up until 1987. [Davey Smith, 1991]
		Professionals	29	1.12			
		Clerical	6	0.62			
		Other	8	1.44			
USA (12 census samples) White population 1979–1985 age: 25+	Education SMR	College: 5+ y		0.80			Census linkage
		4 y		0.99			
		1-3 y		0.91			
		High school: 4 y		1.29			
		1-3 y		0.65			
		Elementary school: 8 y		0.92			
		5-7 y		1.06			
		0-4 y		1.14			[Rogot *et al.*, 1992]
USA – California 1949–1951 age: 25–64	Social class SMR	I		1.06			Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation [Buell, 1960]
		II		1.06			
		III		0.99			
		IV		0.98			
		V		0.82			

Table 41. Bladder cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada (Montreal) 1979–1985 age: 35–70 (French)	Income level OR	High Middle Low		1 1.3 1.4			Population-based case–control study. Tertiles of total family income [Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Education OR	High Middle Low		1 1.1 1.0			Population-based case–control study. Tertiles of years of education [Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Occupational prestige scale OR	High Middle Low		1 1.0 1.0			Population-based case–control study. Tertiles of occupational prestige scale [Bourbonnais, in press]
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 0.47 0.27		1 1.59 0.53	Data from 1973 census were used for rate denominator. Social class based on area of residence. [Cuello, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	1103 112 218 575 272 665 1317	0.83 0.88 1.03 1.17 1.26 1.22 0.98	27 4 24 50 136 2 224	0.73 0.57 0.87 1.00 1.05 0.58 1.12	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.03 0.98 1.00 1.03		1.29 1.12 0.95 0.90	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University High school Middle school Primary school	23 58 100 252	1 1.03 1.10 1.16			Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Italy (Torino) 1985–1987 age: 20–69	Occupational group OR	Managers Clerks Self employed Manual workers	54 75 57 214	1 0.79 0.99 0.98			Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data [Faggiano, 1994]
Italy (Torino) 1985–1987 age: 20–69	Housing tenure OR	Owners Tenants	189 231	1 1.17			Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data. [Faggiano, 1994]

Table 41. (Contd) Bladder cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Sweden	Social class	Employees: I	1013	1.10	–	–	Record-linkage study between
1961–1970	SIR	Self employed: II	889	1.02	60	0.95	1961 census and 1961–1970
all ages		Indep. farmers: III	704	0.82	–	–	incidence data. Social class
		White-collar: IV	2687	1.14	700	1.08	indicator based on occupation
		Blue-collar: V	5448	0.99	603	0.94	[Vågerö, 1986]
Turkey (Istanbul)	Social class	Higher	15	1			Hospital-based case–control
1979–1984	OR	Medium	70	1.1			study. Social-class indicator based
all ages		Lower	182	1.1			on occupation
							[Dosemeci, 1993]
UK – England	Housing	Owner occupier	278	0.89	110	1.01	Record-linkage study between
and Wales	tenure	Private rented	122	1.10	43	0.99	1971 census and 1971–1981
1971–1981	SIR	Council tenant	185	1.16	57	0.98	incidence data (1% sample). UK
all ages							Registrar General's social class
							classification
							[Kogevinas, 1990]
USA	Educational	College		0.82		0.95	Case–control study based on US
1969–1971	level	Less		1		1	Third National Cancer Survey,
all ages	OR						using deaths from other causes
							as controls
							[Williams, 1977]
USA	Family	>US$10 000		1.09		0.88	Case–control study based on US
1969–1971	income level	Less		1		1	Third National Cancer Survey,
all ages	OR						using deaths from other causes
							as controls.
							[Williams, 1977]

Table 42. Kidney cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	2+		4.9			Case–control study using deaths from other causes as controls
		9–11		3.0			
		1–8		1.4			
		<1		1			[Bouchardy, 1992]
Canada (urban area) 1971 all ages	Income CMF	Q1		1.00			Surveillance system statistics unsing 1971 census data as denominator. Neighbourhood income quintiles as social indicator [K. Wilkins, unpublished]
		Q2		1.08			
		Q3		1.11			
		Q4		1.22			
		Q5		0.64			
Canada (urban area) 1986 all ages	Income CMF	Q1		0.84		0.69	Surveillance system statistics using 1986 census data as denominator. Neighbourhood income quintiles as social indicator [K. Wilkins, unpublished]
		Q2		0.82		1.13	
		Q3		1.21		1.13	
		Q4		0.89		0.81	
		Q5		1.18		1.06	
Italy 1981–1982 age: 18–74	Educational level RR	University	18	1	0	–	Record-linkage between 1981 census and mortality in the following six months
		High school	31	1.04	10	1	
		Middle school	77	1.24	19	1.09	
		Primary school	230	0.89	103	1.15	
		Literate	67	0.77	28	0.67	
		Illiterate	10	0.62	3	0.31	[Faggiano, 1995]
Japan 1965–1982 age: 40+	Social class SMR	I, II		2.17		2.20	265 000 Japanese interviewed in 1965 and followed-up until 1982. Social class based on occupation. Reference category is farmers and miners [Hirayama, 1990]
		III		1.07		1.87	
		IV		1.45		0.47	
		V		1		1	
New Zealand 1974–1978 age: 15–64	Social class RR	I		1			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification [Pearce, 1986]
		II		1.06			
		III-NM		0.97			
		III-M		0.97			
		IV		0.89			
		V		1.69			
New Zealand 1985–1987 age: 14–64	Social class RR	I	7	1			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification [Pearce & Bethwaite, in press]
		II	18	1.79			
		III-NM	42	1.86			
		III-M	23	1.07			
		IV	20	1.29			
		V	13	2.00			
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II		1.19		1.27	Proportional mortality study. UK Registrar General's social class classification (No. of males = 65; females = 33). [Levi, 1988]
		III		1.16		0.78	
		IV, V		0.65		1.02	
UK – England and Wales 1910–1912 age: 15–64	Social class SMR	I		1.36			Surveillance system statistics using 1910 census data as denominator. For social classification see Introduction [OPCS, 1919]
		II		0.91			
		III		0.91			
		IV		0.83			
		V		0.91			

Table 42. (Contd) Kidney cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1949–1953 age: 15–64 (married women)	Social class SMR	I		1.34		1.58	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1958]
		II		1.00		1.03	
		III		1.06		1.00	
		IV		0.96		0.95	
		V		0.82		0.86	
UK – England and Wales 1959–1963 age: 15–64 (married women)	Social class SMR	I		0.89		0.91	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction [OPCS, 1971]
		II		0.93		0.86	
		III		1.05		1.06	
		IV		0.98		1.01	
		V		1.09		1.21	
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		1.01		1.05	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
		II		1.03		1.04	
		III-NM		1.12		1.11	
		III-M		1.03		1.09	
		IV		1.02		1.12	
		V		1.10		1.03	
UK – Great Britain 1979–1980, 1982–1983 age: 20–64	Social class SMR	I	101	0.95			Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	483	0.98			
		III-NM	256	1.12			
		III-M	740	1.04			
		IV	401	1.02			
		V	171	1.18			
USA – California 1949–1951 age: 25–64	Social class SMR	I		0.92			Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation [Buell, 1960]
		II		0.89			
		III		1.16			
		IV		0.98			
		V		1.07			

Table 43. Kidney cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada (Montreal) 1979–1985 age: 35–70 (French)	Income level OR	High Middle Low		1 2.0 1.4			Population-based case–control study. Tertiles of total family income [Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Education OR	High Middle Low		1 1.7 1.7			Population-based case–control study. Tertiles of years of education [Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Occupational prestige OR	High Middle Low		1 1.2 1.8			Population-based case–control study. Tertiles of the occupational prestige scale [Bourbonnais, in press]
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 0.44 0.16		1 1.89 1.00	Data from 1973 census were used for rate denominator. Social class based on area of residence. [Cuello, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	514 75 102 231 104 248 491	0.95 1.40 1.12 1.11 1.15 1.08 0.89	40 7 27 39 142 3 184	1.21 1.07 1.01 0.82 1.13 0.89 0.97	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level [Lynge, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.22 1.12 1.00 0.73		1.13 1.11 0.95 0.95	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
Sweden 1961–1970 all ages	Social class SIR	Employees: I Self-employed: II Indep. farmers: III White-collars: IV Blue-collars: V	710 630 647 1938 3820	1.07 1.05 0.82 1.13 0.96	– 62 – 775 799	– 0.83 – 0.98 1.01	Record-linkage study between 1961 census and incidence data. Social class indicator based on occupation [Vågerö, 1986]
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier Private rented Council tenant	72 24 37	1.03 0.88 0.99			Record-linkage study between 1971 census and1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
USA 1969–1971 all ages	Educational level OR	College Less		0.56 1		0.76 1	Case–control study based on US Third National Cancer Survey, using deaths for other causes as controls. [Williams, 1977]

Table 43. (Contd) Kidney cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.96 1		1.08 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls [Williams, 1977]

Table 44. Brain cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+ 9–11 1–8 <1		2.6 2.8 1.5 1		0.8 1.3 1.1 1	Case–control study using deaths from other causes as controls ICD: 191-192 [Bouchardy, 1992]
Canada (urban area) 1971 all ages	Income CMF	Q1 Q2 Q3 Q4 Q5		0.93 0.84 1.28 0.93 1.02		1.12 0.82 1.15 1.26 0.62	Surveillance system statistics using 1971 census data as denominators. Neighbourhood income quintiles as social indicator [R. Wilkins, unpublished]
Canada (urban area) 1986 all ages	Income CMF	Q1 Q2 Q3 Q4 Q5		0.95 0.93 1.08 1.05 0.98		1.34 0.97 0.89 0.89 0.91	Surveillance system statistics using 1986 census data as denominators. Neighbourhood income quintiles as social indicator [R. Wilkins, unpublished]
Italy 1981–1982 age: 18–74	Educational level RR	University High school Middle school Primary school Literate Illiterate	38 56 115 345 92 22	1 0.76 0.82 0.75 0.66 0.71	10 34 48 230 89 24	1 0.92 0.68 0.74 0.68 0.71	Record-linkage between 1981 census and mortality in the following six months [Faggiano, 1995]
New Zealand 1974–1978 age: 15–64	Social class CMF	I II III-NM III-M IV V		1 0.79 0.82 0.56 0.79 0.81			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification. ICD-191-192 [Pearce, 1986]
New Zealand 1984–1987 age: 15–64	Social class CMF	I II III-NM III-M IV V	14 40 47 39 38 10	1 1.54 1.04 0.91 1.22 1.19			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification [Pearce and Bethwaite, in press]

Table 44. (Contd) Brain cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Spain 1980–1982	Occupational group PMR	Professionals managers Manual workers Agricultural workers		1.06 1.04 1.02			Proportional analysis on death certificates [E. Regidor, unpublished]
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II III IV, V		1.44 0.75 0.82		0.91 1.24 0.89	Proportional mortality study. UK Registrar General's social class classification. (No. of males = 75; females = 37) [Levi, 1988]
Switzerland 1979–1982 age: 15–74	Social class SMR	I II III-NM III-M IV-V		0.76 0.92 1.20 1.11 0.80			Surveillance system statistics using 1980 census data as denominator. UK Registrar General's social class classification [C.E. Minder, unpublished]
UK – England and Wales 1930–1932 age: 15–64	Social class SMR	I II III IV V		1.60 1.60 1.20 0.80 0.60			Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]
UK – England and Wales 1949–1953 age: 15–64 (married women)	Social class SMR	I II III IV V		1.33 0.96 1.04 0.88 0.92		1.27 1.04 1.02 0.91 0.82	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation. [OPCS, 1958]
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I II III-NM III-M IV V		1.08 1.01 1.11 1.05 1.00 0.92		1.37 1.08 0.98 1.11 1.00 1.00	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I II III-NM III-M IV V	215 784 398 1200 577 262	1.19 0.98 1.09 1.03 0.96 1.19	97 351 138 520 196 76	1.26 1.06 0.98 1.12 0.90 1.13	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
UK (London) 1967–1987	Employment grade RR	Administrators Professionals Clerical Other	3 28 6 3	1 0.87 0.87 0.47			17 530 London civil servants, medically examined 1967–1969 and, followed-up until 1987 [Davey Smith, 1991]

Table 44. (Contd) Brain cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
USA – California	Social class	I		1.30			Surveillance system statistics
1949–1951	SMR	II		1.27			using 1950 census data as
age: 25–64		III		1.08			denominator. Social class
		IV		0.77			indicator based on occupation
		V		0.58			[Buell, 1960]
USA	Education	College: 5+y		1.17			Census linkage
(12 census	SMR	4y		1.11			
samples)		1-3y		1.40			
White population		High school: 4y		0.90			
1979–1985		1-3y		0.59			
age:25+		Elementary school: 8y		1.27			
		5-7y		0.92			[Rogot *et al.*, 1972]

Table 45. Brain cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Colombia (Cali)	Social class	I		1		1	Data from 1973 census were used
1971–75	RR	II		1.55		0.51	for rate denominator. Social class
all ages		III		1.05		0.37	based on area of residence.
							[Cuello, 1982]
Denmark	Occupational	Self-employed	483	1.04	39	0.88	Record-linkage study using 1970
1970–80	group	Employees: I	62	1.17	10	1.01	census and 1970–80 incidence
all ages	RR	Employees: II	86	0.84	39	0.80	data. Employees classified
		Employees: III	209	0.99	79	0.99	according to the educational level
		Employees: IV	94	0.95	240	1.09	
		Skilled workers	268	1.05	6	0.87	
		Unskilled workers	501	0.97	279	0.99	[Lynge, 1990]
Finland	Social class	Upper white-collar		1.06		1.10	Record-linkage study using 1970
1971–85	SIR	Lower white-collar		1.10		1.05	census and 1971–85 incidence data.
birth cohort:		Skilled workers		1.00		0.97	Social class based on occupation
1906–45		Unskilled workers		0.81		0.96	[Pukkala, 1993]
Sweden	Social class	Employees: I	473	1.01	–	–	Record-linkage study between
1961–70	SIR	Self-employed: II	402	0.99	95	1.11	1961 census and 1961–70
all ages		Indep. farmers: III	525	1.02	–	–	incidence data. Social class
		White-collar: IV	1415	1.06	1174	1.02	indicator based on occupation
		Blue-collar: V	2910	0.97	973	0.97	[Vågerö, 1986]
UK – England	Housing	Owner occupier	65	0.99	53	1.07	Record-linkage study between 1971
and Wales	tenure	Private rented	17	0.78	18	1.02	census and 1971–81 incidence
1971–81	SIR	Council tenant	46	1.21	25	0.89	data (1% sample). UK Registrar
all ages							General's social class classification
							[Kogevinas, 1990]

Table 46. Thyroid gland cancer mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Switzerland (Vaud) 1977–84 all ages	Social class PMR	I, II III IV, V		0.45 0.85 2.19		0.27 1.94 1.47	Proportional mortality study. UK Registrar General's social class classification. (No. of males = 11; females = 9) [Levi, 1988]
UK – England and Wales 1949–53 age: 15–64 (married women)	Social class SMR	I II III IV V		1.00 1.19 0.98 0.97 0.88		0.64 0.93 1.05 1.04 1.00	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1958]
UK – England and Wales 1959–63 age: 15–64 (married women)	Social class SMR	I II III IV V		0.88 1.12 1.00 0.80 1.38		0.60 0.83 1.01 1.10 1.54	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction [OPCS, 1971]
UK – England and Wales 1970–72 age: 15–64 (married women)	Social class SMR	I II III-NM IIIMM IV V		1.57 1.06 1.17 0.85 1.13 1.09		0.74 0.77 0.58 1.25 1.28 1.64	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]
UK – Great Britain 1979–80, 1982–83 age: 20–64	Social class SMR	I II III-NM III-M IV V	9 45 17 63 37 10	0.98 1.08 0.89 1.05 1.15 0.85			Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]

Table 47. Thyroid gland cancer incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Colombia (Cali)	Social class	I		1		1	Data from 1973 census were used
1971–1975	RR	II		1.33		0.97	for rate denominator. Social class
all ages		III		0.55		0.84	based on area of residence.
							[Cuello, 1982]
Denmark	Occupational	Self-employed	42	0.89	4	0.57	Record-linkage study using 1970
1970–1980	group	Employees: I	3	0.56	2	1.22	census and 1970–1980 incidence
all ages	RR	Employees: II	14	1.32	6	0.68	data. Employees classified
		Employees: III	22	1.02	22	1.50	according to educational level
		Employees: IV	12	1.14	41	0.99	
		Skilled workers	27	0.99	0	–	
		Unskilled workers	56	1.05	43	0.90	[Lynge, 1990]
Finland	Social class	Upper white-collar		1.07		1.16	Record-linkage study using 1970
1971–1985	SIR	Lower white-collar		1.19		1.05	census and 1971–1985 incidence
birth cohort:		Skilled workers		1.01		0.95	data. Social class based on
1906–1945		Unskilled workers		0.64		0.97	occupation
							[Pukkala, 1993]
Sweden	Social class	Employees: I	76	0.92		–	Record-linkage study between
1961–1970	SIR	Self-employed: II	91	1.25	33	1.08	1961 census and 1961–1970
all ages		Indep. farmers: III	88	0.96		–	incidence data. Social class
		White-collar: IV	261	1.12	489	1.01	indicator based on occupation
		Blue-collar: V	493	0.93	370	0.98	[Vågerö, 1986]
USA	Educational	College		1.66		1.86	Case–control study based on US
1969–1971	level	Less		1		1	Third National Cancer Survey,
all ages	OR						using deaths from other causes
							as controls
							[Williams, 1977]
USA	Family	>US$ 10 000		1.52		1.86	Case–control study based on US
1969–1971	income level	Less		1		1	Third National Cancer Survey,
all ages	OR						using deaths from other causes
							as controls
							[Williams, 1977]

Table 48. Lymphoma mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+		2.3		2.6	Case–control study using deaths from other causes as controls. ICD-9: 201 [Bouchardy, 1992]
		9–11		1.2		1.1	
		1–8		1.6		0.6	
		<1		1		1	
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	12+		1.2		2.0	Case–control study using deaths from other causes as controls. ICD-9: 202 [Bouchardy, 1992]
		9–11		1.4		1.0	
		1–8		0.6		1.5	
		<1		1		1	
Hungary 1970 age: 25–64	Years of education SMR	15+		1.15		1.83	Surveillance system statistics using 1970 census data as denominator [Jozan, 1986]
		12–14		0.92		1.62	
		8–11		1.51		1.14	
		0–7		0.79		0.84	
Hungary 1980 age: 25–64	Years of education SMR	15+		1.55		1.61	Surveillance system statistics using 1980 census data as denominator [Jozan, 1986]
		12–14		0.87		1.03	
		8–11		1.05		1.16	
		0–7		0.86		0.84	
Italy 1981–1982 age: 18–74	Education level RR	University	26	1	11	1	Record-linkage between 1981 census and mortality in the following six months [Faggiano, 1995]
		High school	48	0.84	30	0.66	
		Middle school	102	0.96	62	0.70	
		Primary school	333	1.03	257	0.68	
		Literate	89	0.82	101	0.60	
		Illiterate	33	1.40	21	0.53	
New Zealand 1974–1978 age: 15–64	Social class RR	I		1			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification ICD-9: 201 [Pearce, 1986]
		II		0.37			
		III-NM		0.46			
		III-M		0.50			
		IV		0.25			
		V		0.83			
New Zealand 1984–1987 age: 15–64	Social class RR	I		–			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification ICD-9: 201 [Pearce & Bethwaite, in press]
		II	3	1			
		III-NM	5	1.0			
		III-M	9	1.7			
		IV	4	1.0			
		V	1	0.8			
New Zealand 1974–1978 age: 15–64	Social class RR	I		1			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification ICD-9: 202 [Pearce, 1986]
		II		0.55			
		III-NM		0.58			
		III-M		0.63			
		IV		0.54			
		V		0.52			
New Zealand 1985–1987 age: 14–64	Social class RR	I	4	1			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification ICD-9: 202 [Pearce & Bethwaite, in press]
		II	24	3.19			
		IIIN	26	2.06			
		IIIM	24	1.81			
		IV	24	2.44			
		V	10	2.44			

Table 48. (Contd) Lymphoma mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Spain 1980–1982	Occupational group PMR	Professionals managers		1.01			Proportional analysis on death certificates ICD-9: 201
		Manual workers		1.09			
		Agricultural workers		0.96			[E. Regidor, unpublished]
Spain 1980–1982	Occupational group PMR	Professionals managers		1.10			Proportional analysis on death certificates ICD-9: 201-202
		Manual workers		1.03			
		Agricultural workers		0.92			[E. Regidor, unpublished]
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II		1.39		0.81	Proportional mortality study. UK Registrar General's social class classification. ICD-9: 202 (No. of males = 77; females = 46) [Levi, 1988]
		III		0.94		1.45	
		IV, V		0.69		0.67	
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II		2.31		1.51	Proportional mortality study. UK Registrar General's social class classification. ICD-9: 203 (No. of males = 35; females = 18) [Levi, 1988]
		III		0.49		0.36	
		IV, V		0.73		1.88	
Switzerland 1979–1982 age: 15–74	Social class SMR	I		0.63			Surveillance system statistics using 1980 census data as denominator. UK Registrar General's social class classification ICD-8: 200-203, 208-209 [C.E. Minder, unpublished]
		II		0.89			
		III-NM		1.27			
		III-M		1.10			
		IV-V		0.83			
UK – England and Wales 1949–1953 age: 15–64 (married women)	Social class SMR	I		1.42		1.74	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation. ICD-9:201 [OPCS, 1958]
		II		1.10		0.95	
		III		1.00		1.05	
		IV		0.93		0.95	
		V		0.87		0.74	
UK – England and Wales 1949–1953 age: 15–64 (married women)	Social class SMR	I		1.13		4.00	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation. ICD-9: 202 [OPCS, 1958]
		II		1.34		1.06	
		III		1.02		0.96	
		IV		0.70		0.57	
		V		0.91		0.92	

Table 48. (Contd) Lymphoma mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – England and Wales 1959–1963 age: 15–64 (married women)	Social class SMR	I		1.01		1.45	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction ICD-9: 201 [OPCS, 1971]
		II		1.07		1.12	
		III		1.07		1.02	
		IV		0.83		0.82	
		V		1.09		1.07	
UK – England and Wales 1959–1963 age: 15–64 (married women)	Social class SMR	I		1.11		–	Surveillance system statistics using 1960 census data as denominator. For social classification see Introduction. ICD-9: 202 [OPCS, 1971]
		II		1.00		0.96	
		III		1.06		1.13	
		IV		0.93		0.81	
		V		1.24		0.91	
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I		1.13		1.23	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation. ICD-9: 201 [OPCS, 1977]
		II		1.03		0.94	
		III-NM		1.07		1.17	
		III-M		1.03		1.03	
		IV		1.03		1.14	
		V		0.91		1.17	
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class	I		1.08		0.73	Surveillance system statistics using 1970 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation. ICD-9: 202 [OPCS, 1980]
		II		0.81		1.26	
		III-NM		1.11		1.63	
		III-M		1.17		1.00	
		IV		1.13		0.93	
		V		0.63		0.39	
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 30–59)	Social class SMR	I	382	1.07	136	0.95	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	1526	0.97	639	1.04	
		III-NM	724	0.98	258	0.98	
		III-M	2427	1.05	919	1.06	
		IV	1257	1.04	466	1.15	
		V	538	1.21	149	1.19	
USA – California 1949–1951 age: 25–64	Social class SMR	I		1.64			Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation ICD-9: 202-203, 205 [Buell, 1960]
		II		1.00			
		III		1.01			
		IV		0.88			
		V		1.07			
USA (12 census samples) 1979–1985 age: 25+	Education SMR	College: 5+ y		0.75		1.16	Census linkage
		4 y		1.19		1.22	
		1-3 y		0.97		1.02	
		High school: 4 y		1.17		1.02	
		1-3 y		0.75		0.87	
		Elementary school: 8 y		1.17		1.20	
		5-7 y		0.88		0.51	
		0-4 y		0.65		0.95	[Rogot *et al.*, 1992]

Table 49. Lymphoma incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Canada (Montreal) 1979–1985 age: 35–70 (French)	Income level OR	High Middle Low		1 1.2 1.5			Population-based case–control study. Tertiles of total family income. ICD-9: 202 [Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Education OR	High Middle Low		1 1.0 0.9			Population-based case–control study. Tertiles of the years of education. ICD-9: 202 [Bourbonnais, in press]
Canada (Montreal) 1979–1985 age: 35–70 (French)	Occupational prestige scale OR	High Middle Low		1 1.0 1.3			Population-based case–control the occupational prestige scale. ICD-9: 202 [Bourbonnais, in press]
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 0.82 1.07		1 0.88 0.97	Data from 1973 census were used for rate denominator. Social class based on area of residence. [Cuello, 1982]
Colombia (Cali) 1971–1975 all ages	Social class RR	I II III		1 1.00 2.54		1 0.56 0.75	Data from 1973 census were used for rate denominator. Social class based on area of residence. ICD-9: 201 [Cuello, 1982]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	299 31 45 122 60 157 331	1.01 0.99 0.77 0.98 1.00 1.01 1.03	22 2 23 39 92 4 152	0.94 0.42 1.05 1.04 0.91 1.30 1.11	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level ICD-9: 202 [Lynge, 1990]
Denmark 1970–1980 all ages	Occupational group RR	Self-employed Employees: I Employees: II Employees: III Employees: IV Skilled workers Unskilled workers	112 12 31 55 43 84 160	0.99 0.80 0.92 0.88 1.25 0.92 1.09	9 4 7 16 48 3 56	1.12 2.14 0.63 0.88 0.94 1.55 1.04	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level. ICD-9: 201 [Lynge, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar Lower white-collar Skilled workers Unskilled workers		1.12 1.05 1.00 0.86		1.03 1.05 1.00 0.92	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation. ICD-9: 202 [Pukkala, 1993]

Table 49. (Contd) Lymphoma incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar		1.01		1.12	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation. ICD-9: 201 [Pukkala, 1993]
		Lower white-collar		0.89		1.04	
		Skilled workers		1.06		0.97	
		Unskilled workers		0.95		0.95	
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar		0.85		0.87	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation. ICD-9: 203 [Pukkala, 1993]
		Lower white-collar		1.09		0.95	
		Skilled workers		1.00		1.05	
		Unskilled workers		0.97		0.99	
Sweden 1961–1970 all ages	Social class SIR	Employees: I	138	1.06	–	–	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation. ICD: 201 [Vågerö, 1986]
		Self-employed: II	115	1.00	11	0.84	
		Indep. farmers: III	142	0.95	–	–	
		White-collar: IV	385	0.99	191	0.96	
		Blue-collar: V	906	1.00	166	1.04	
Sweden 1961–1970 all ages	Social class SIR	Employees: I	313	0.96	–	–	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation. ICD-9: 202 [Vågerö, 1986]
		Self-employed: II	278	0.93	57	1.30	
		Indep. farmers: III	431	1.07	–	–	
		White-collar: IV	932	1.08	481	0.97	
		Blue-collar: V	1983	0.97	484	1.01	
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier	114	0.95	88	0.95	Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
		Private rented	42	1.00	32	0.94	
		Council tenant	68	1.02	57	1.09	
USA 1969–1971 all ages	Educational level OR	College		0.71		1.98	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. ICD: 201 [Williams, 1977]
		Less		1		1	
USA 1969–1971 all ages	Family income level OR	>US$ 10 000		1.30		0.89	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls. ICD: 201 [Williams, 1977]
		Less		1		1	

Table 50. Leukemia mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Brazil (São Paulo) 1978–1982 age: 35–74	Years of education OR	>11		1.5		3.6	Case–case study using other causes as controls
		9–11		1.1		2.1	
		1–8		1.1		1.7	
		<1		1		1	[Bouchardy, 1992]
Canada (urban area) 1971 all ages	Income	Q1		1.13		0.95	Surveillance system statistics using 1971 census data as denominator. Neighbourhood income quintiles as social indicator. ICD-9: 204-207 [R. Wilkins, unpublished]
		Q2		0.81		0.70	
		Q3		1.15		1.24	
		Q4		0.96		0.97	
		Q5		0.96		1.14	
Canada (urban area) 1986 all ages	Income	Q1		0.87		0.76	Surveillance system statistics using 1986 census data as denominator. Neighbourhood income quintiles as social indicator. ICD-9: 204-208 [R. Wilkins, unpublished]
		Q2		1.09		0.94	
		Q3		0.87		1.29	
		Q4		1.02		1.00	
		Q5		1.19		0.97	
Denmark 1970–1975 age: 20–64	Occupational group SMR	Employees: I		0.74		–	Record-linkage study using 1970–1975 mortality data and 1970 census. Employees classified according to educational level [Danmarks Statistik, 1979]
		Employees: III		1.00		0.93	
		Employees: IV		1.09		1.05	
		Skilled workers		0.91		–	
		Unskilled workers		0.98		0.89	
Finland 1969–1972 age: 15–64 (married women)	Social class CMF	Upper white-collar		1.26		1.03	Surveillance system statistics using 1970 census data as denominator. Social class indicator based on occupation [Näyhä, 1977]
		Lower white-collar		1.14		1.02	
		Skilled workers		0.80		1.02	
		Unskilled workers		0.82		1.00	
		Farmers		0.98		0.92	
Italy 1981–1982 age: 18–74	Educational level RR	University	21	1	0	–	Record-linkage between 1981 census and mortality in the following six months
		High school	45	0.98	30	1	
		Middle school	98	1.14	40	0.89	
		Primary school	289	1.12	201	1.12	
		Literate	126	1.36	104	1.32	
		Illiterate	21	0.97	23	1.11	[Faggiano *et al.*, 1995]
New Zealand 1974–1978 age: 15–64	Social class RR	I		1			Surveillance system statistics using 1976 census data as denominator. UK Registrar General's social class classification. ICD-9: 204 [Pearce, 1986]
		II		0.52			
		III-NM		0.39			
		III-M		0.30			
		IV		0.17			
		V		0			
New Zealand 1984–1987 age: 15–64	Social class RR	I	10	1			Surveillance system statistics using 1986 census data as denominator. UK Registrar General's social class classification. ICD-9: 204 [Pearce & Bethwaite, in press]
		II	10	0.49			
		III-NM	37	1.12			
		III-M	27	0.73			
		IV	31	1.24			
		V	5	0.34			

Table 50. (Contd) Leukemia mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Norway 1970–1973 age: 20–69	Social class CMF	A B C D E (farmers)		1.09 1.03 1.04 0.85 1.00			Surveillance system statistics using 1970 census data as denominator. Social class indicator based on occupation [Central Bureau of Statistics, 1976]
Spain 1980–1982	Occupational group PMR	Professionals managers Manual workers Agricultural workers		1.09 1.02 1.06			Proportional analysis on death certificates [E. Regidor, unpublished]
Switzerland (Vaud) 1977–1984 all ages	Social class PMR	I, II III IV, V		0.94 1.02 1.05		0.99 1.45 0.48	Proportional mortality study. UK Registrar General's social class classification [Levi, 1988]
Switzerland 1979–1982 age: 15–74	Social class SMR	I II III-NM III-M IV-V		0.77 0.95 1.27 1.06 0.79			Surveillance system statistics using 1980 census data as denominator. UK Registrar General's social class classification [C.E. Minder, unpublished]
UK – England and Wales 1930–1932 age: 15–64 (married women)	Social class SMR	I II III IV V		1.53 1.25 0.96 0.94 0.85		1.67 1.18 1.07 0.76 0.76	Surveillance system statistics using 1930 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1938]
UK – England and Wales 1949–1953 age: 15–64 (married women)	Social class SMR	I II III IV V		1.23 0.98 1.04 0.93 0.89		1.45 0.92 1.02 1.04 0.87	Surveillance system statistics using 1950 census data as denominator. For social classification see Introduction [OPCS, 1958]
UK – England and Wales 1970–1972 age: 15–64 (married women)	Social class SMR	I II III-NM III-M IV V		1.13 1.00 1.07 1.01 1.04 0.95		0.88 1.08 0.98 1.05 1.10 1.27	Surveillance system statistics using 1910 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1977]

Table 50. (Contd) Leukemia mortality

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
UK – Great Britain 1979–1980, 1982–1983 age: 20–64 (married women, 20–59)	Social class SMR	I	148	1.10	59	0.92	Surveillance system statistics using 1980 census data as denominator. For social classification see Introduction. Women classified according to husband's occupation [OPCS, 1986]
		II	525	0.90	293	1.08	
		III-NM	275	0.99	109	0.95	
		III-M	923	1.07	422	1.10	
		IV	471	1.06	184	1.05	
		V	200	1.22	64	1.19	
USA – California 1949–1951 age: 25–64	Social class SMR	I		1.04			Surveillance system statistics using 1950 census data as denominator. Social class indicator based on occupation [Buell, 1960]
		II		1.16			
		III		1.01			
		IV		0.86			
		V		1.04			
USA (12 census samples) White population 1979–1985 age: 25+	Education SMR	College: 5+ y		0.60		2.44	Census linkage
		4 y		0.95		1.15	
		1-3 y		0.78		1.16	
		High school: 4 y		1.05		0.89	
		1-3 y		1.23		0.96	
		Elementary school: 8 y		1.00		0.73	
		5-7 y		0.91		1.12	
		0-4 y		1.35		1.04	[Rogot *et al.*, 1992]

Table 51. Leukaemia incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
Colombia (Cali) 1971–1975 all ages	Social class RR	I		1		1	Data from 1973 census were used for rate denominators. Social class based on area of residence. [Cuello, 1982]
		II		0.90		1.22	
		III		0.75		1.41	
Denmark 1970–1980 all ages	Occupational group RR	Self-employed	378	0.98	38	1.41	Record-linkage study using 1970 census and 1970–1980 incidence data. Employees classified according to educational level
		Employees: I	41	1.04	5	0.91	
		Employees: II	72	1.01	27	1.05	
		Employees: III	162	1.05	47	1.08	
		Employees: IV	77	1.05	112	0.96	
		Skilled workers	177	0.94	5	1.36	
		Unskilled workers	415	1.01	153	0.99	[Lynge, 1990]
Finland 1971–1985 birth cohort: 1906–1945	Social class SIR	Upper white-collar		1.15		0.99	Record-linkage study using 1970 census and 1971–1985 incidence data. Social class based on occupation [Pukkala, 1993]
		Lower white-collar		0.98		0.98	
		Skilled workers		1.01		1.01	
		Unskilled workers		0.93		1.01	
Italy (Torino) 1985–1987 age: 20–69	Educational level OR	University	15	1	0	–	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data. ICD-9: 200-208 [Faggiano, 1994]
		High school	40	0.81	31	1	
		Middle school	66	0.85	53	0.92	
		Primary school	101	0.81	90	0.72	
Italy (Torino) 1985–1987 age: 20–69	Occupational group OR	Managers	29	1	0	–	Record-linkage study between 1971 and 1981 census and 1985–1987 incidence data. ICD-9: 200-208 [Faggiano, 1995]
		Clerks	51	0.94	32	1	
		Self-employed	26	0.85	7	0.52	
		Manual workers	100	0.85	19	0.65	
Italy (Torino) 1985–1987 age: 20–69	Housing tenure OR	Owners	88	1	71	1	Record-linkage study between 1971 and 1981 censuses and 1985–1987 incidence data. ICD-9: 200-208 [Faggiano, 1994]
		Tenants	125	1.08	100	1.03	
Sweden 1961–1970 all ages	Social class SIR	Employees: I	373	0.98	–	–	Record-linkage study between 1961 census and 1961–1970 incidence data. Social class indicator based on occupation [Vagero, 1986]
		Self-employed: II	382	1.08	48	1.06	
		Indep. farmers: III	506	1.01	–	–	
		White-collar: IV	957	1.01	530	1.04	
		Blue-collar: V	2279	0.99	481	0.98	
UK – England and Wales 1971–1981 all ages	Housing tenure SIR	Owner occupier	103	1.11	90	1.01	Record-linkage study between 1971 census and 1971–1981 incidence data (1% sample). UK Registrar General's social class classification [Kogevinas, 1990]
		Private rented	25	0.76	36	1.05	
		Council tenant	44	0.89	43	0.89	
USA 1969–1971 all ages	Family income level OR	>US$ 10 000		1.64			Case–control study based on US Third National Cancer Survey' using deaths from other causes as controls Acute lymphocytic leukaemia [Williams, 1977]
		Less		1			

Table 51. (Contd) Leukaemia incidence

Study base	Indicators	Social scale	N	Male RR	N	Female RR	Study design
USA 1969–1971 all ages	Family income level OR	>US$ 10 000 Less		0.49 1		1.10 1	Case–control study based on US Third National Cancer Survey, using deaths from other causes as controls Chronic lymphocytic leukaemia [Williams, 1977]
USA 1969–1971 ages	Educational level OR	College Less		1.31 1		0.67 1	Case–control study based on US Third National Cancer Survey, using deaths from all other causes as controls Acute lymphocytic leukaemia [Williams, 1977]
USA 1969–1971 ages	Educational level OR	College Less		0.56 1		0.21 1	Case–control study based on US Third National Cancer Survey, using deaths from all other causes as controls Chronic lymphocytic leukaemia [Williams, 1977]