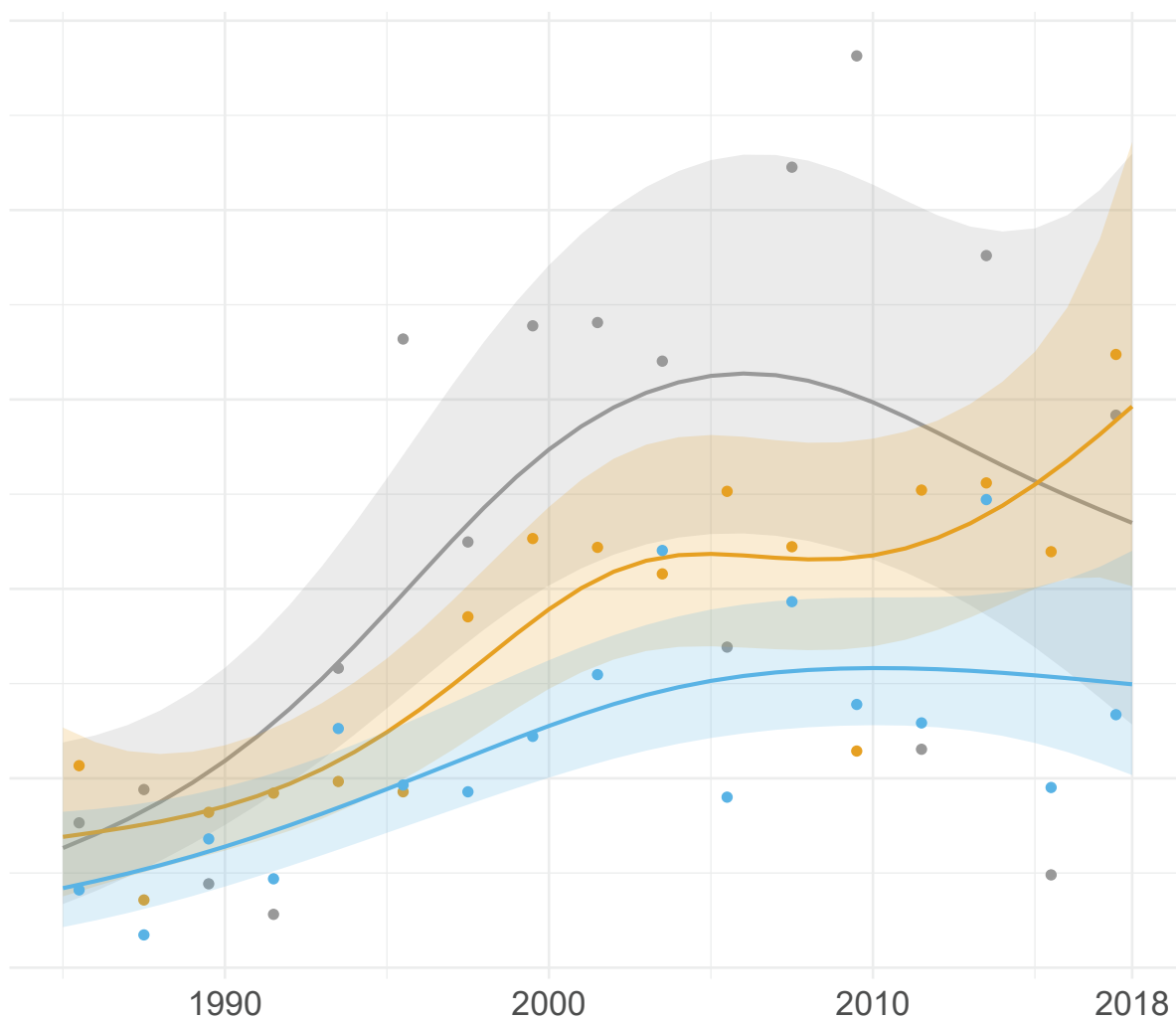


Cancer in Finland 2018



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I Foreword

The Finnish Cancer Registry has completed the cancer statistics on the year 2018 (cancerregistry.fi/statistics/cancer-statistics). All told, there were 34,372 new cancer cases and 12,730 cancer deaths in 2018. Breast cancer is still the most common cancer type in women and prostate cancer the most common cancer type in men. Colorectal cancer was the second most common cancer for both sexes.

In this report, the cancer burden is described for the first time also in groups according to the population's level of education. As a whole, the highest number of new cancer cases and cancer deaths was recorded among people with a basic level of education and the lowest among those with a tertiary level of education. While the incidence difference was minor, the difference between these groups was clearer in terms of cancer mortality. The difference in incidence and mortality between those with a basic level of education and those with a higher education was highlighted particularly in the case of lung cancer.

At the time of writing this report, Finland is in the middle of a coronavirus epidemic. The number of cancer patients at risk of a serious disease caused by the novel coronavirus can be estimated based on data from the Cancer Registry. According to register data, there were 11,500 people among the over-70s who had been diagnosed with cancer less than a year ago at the end of 2018. The number of over-70s who had been diagnosed with cancer at some point of their lives was 160,000. This report also presents similar data for the most common cancer types and separately for lung cancer and for haematological cancers.

The cancer statistics in this report have been compiled in line with the clinical cancer classification system (ICD-10), going back as far as 1953, the year the Cancer Registry was founded. The classification of haematological cancers has changed over time, especially in the 2000s. This means that the time series for these diseases cannot be fully determined for the entire lifetime of the Registry. In the new statistics, the classification of ovarian cancers has also changed. In line with treatment practices, they are now recorded together with fallopian tube cancer, uterine adnexal cancer and peritoneal serous carcinoma.

The objective of these statistics is to provide a comprehensive and reliable overview of Finland's cancer burden. The report compiles together information on new cancer cases, the number of cancer deaths, cancer prevalence and patient survival rates. In addition, the report presents predictions of the cancer burden in 2035. As the statistics must be comparable over time and with corresponding figures in other countries, they follow the international rules for multiple primary cancers. The rules allow for only one cancer of the same category to be recorded per person. However, this rule has not been followed in the classification of haematological cancers.

The data sources of the Registry are healthcare professionals and organisations, and pathology and haematology laboratories. Making information available quickly and reliably to authorities and researchers requires a joint effort. The cancer notification submitted by the care provider is particularly important as it gathers the best clinical view of the stage at diagnosis.

The Finnish Cancer Registry is a research institute under the Cancer Society of Finland that maintains the national registry of all diagnosed cancer cases and collects data on cervical and breast cancer screening. The Finnish Institute for Health and Welfare is the controller of the registry and as such has given the Cancer Society of Finland responsibility for the operation of the registers.

We want to extend our sincerest thanks to all our partners for their good cooperation. A comprehensive dataset spanning more than 65 years represents a valuable national capital.

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2 Cancer situation in 2018

There were a total of 34 372 new cancer cases diagnosed in Finland in 2018 (cancerregistry.fi/statistics/cancer-statistics). Of these, 17 836 were diagnosed in men and 16 536 in women (Table 1). The number of people who died from cancer in 2018 was 12 730. More than 280,000 Finns with cancer were alive at the end of 2018: 56% were women and 44% were men. The five-year relative survival ratio of cancer patients followed up between 2016 and 2018 was 69%.

Table 1: New cancer cases and cancer deaths in 2018, the cancer prevalence and the five-year relative survival ratios of patients in the population of Finland separately for men and women.

Both together	Female	Male
34 372 new cases	16 536 new cases	17 836 new cases
12 730 cancer deaths	5 927 cancer deaths	6 803 cancer deaths
289 430 living patients	163 228 living patients	126 202 living patients
69% five-year survival rate	70% five-year survival rate	68% five-year survival rate

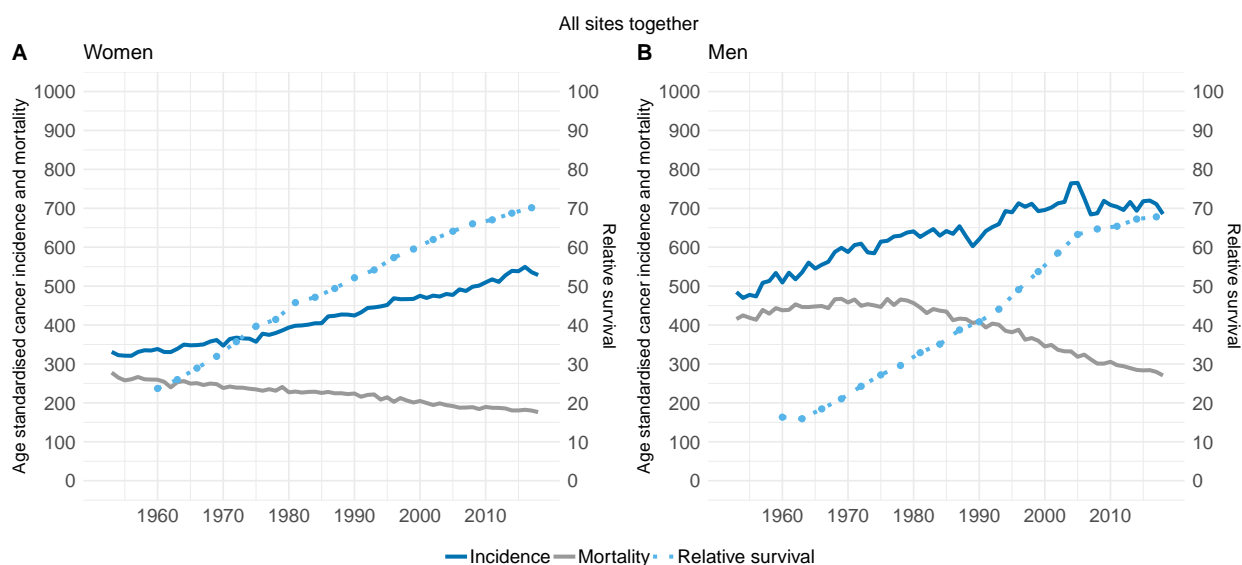


Figure 1: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

Figure 1 shows the age standardised cancer incidence and mortality and the relative survival ratio of patients between 1953 and 2018. Cancer incidence has increased in women (1.1%, 2007–2018, Table 12), while in men the previous increase (on average 1% per year, 1990–2004, Table 13) has levelled out (-0.3%, 2004–2018). Cancer mortality has decreased in women and men since the 1990s, but the decline has stabilised (Tables 15 and 14). The relative survival ratio has improved steadily in women and the previous rapid improvement in the survival ratio in men has levelled out over the past ten years.

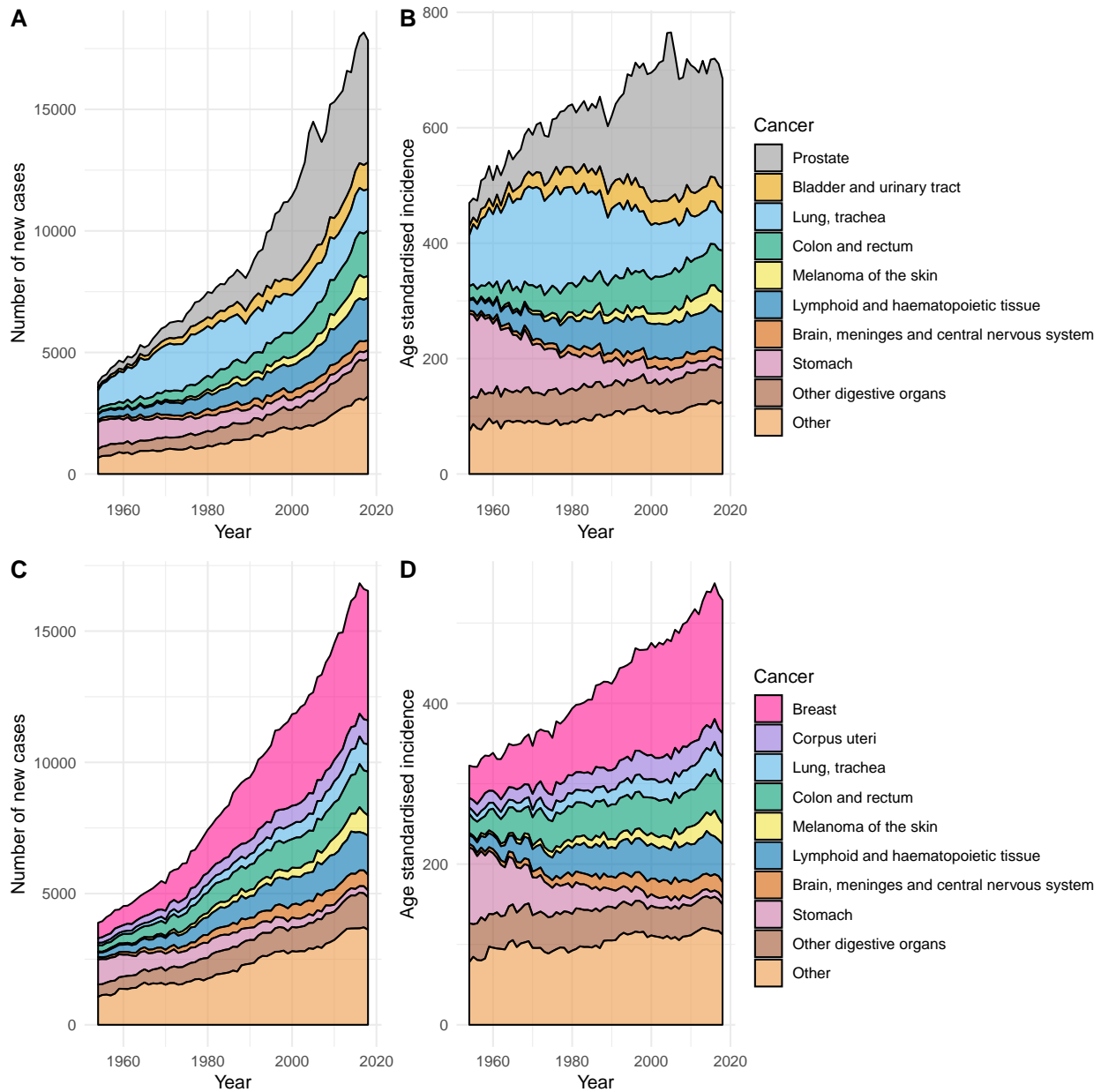


Figure 2: Number and incidence of new cancer cases (per 100,000 person-years and age standardised to the 2014 Finnish population), stratified by cancer type in men (Figures A and B) and women (C and D) in 1953–2018. Other digestive organs include cancer of the oesophagus, small intestine, anus, liver, gallbladder and bile ducts, pancreas and other or unspecified digestive organs.

Figure 2 shows the annual number of new cancer cases and the age standardised incidence of the most common types of cancer, separately in men and women. In the 1950s, around 2 000 new cases of stomach cancer were diagnosed annually in Finland, and it was the most common cancer among both men and women. Today, around 600 new cases of stomach cancer are diagnosed annually. The incidence of lung cancer has also decreased in men since the 1970s. The incidence of prostate cancer began to increase significantly in the 1990s. In women, the incidence of breast cancer has continued to increase throughout the period considered.

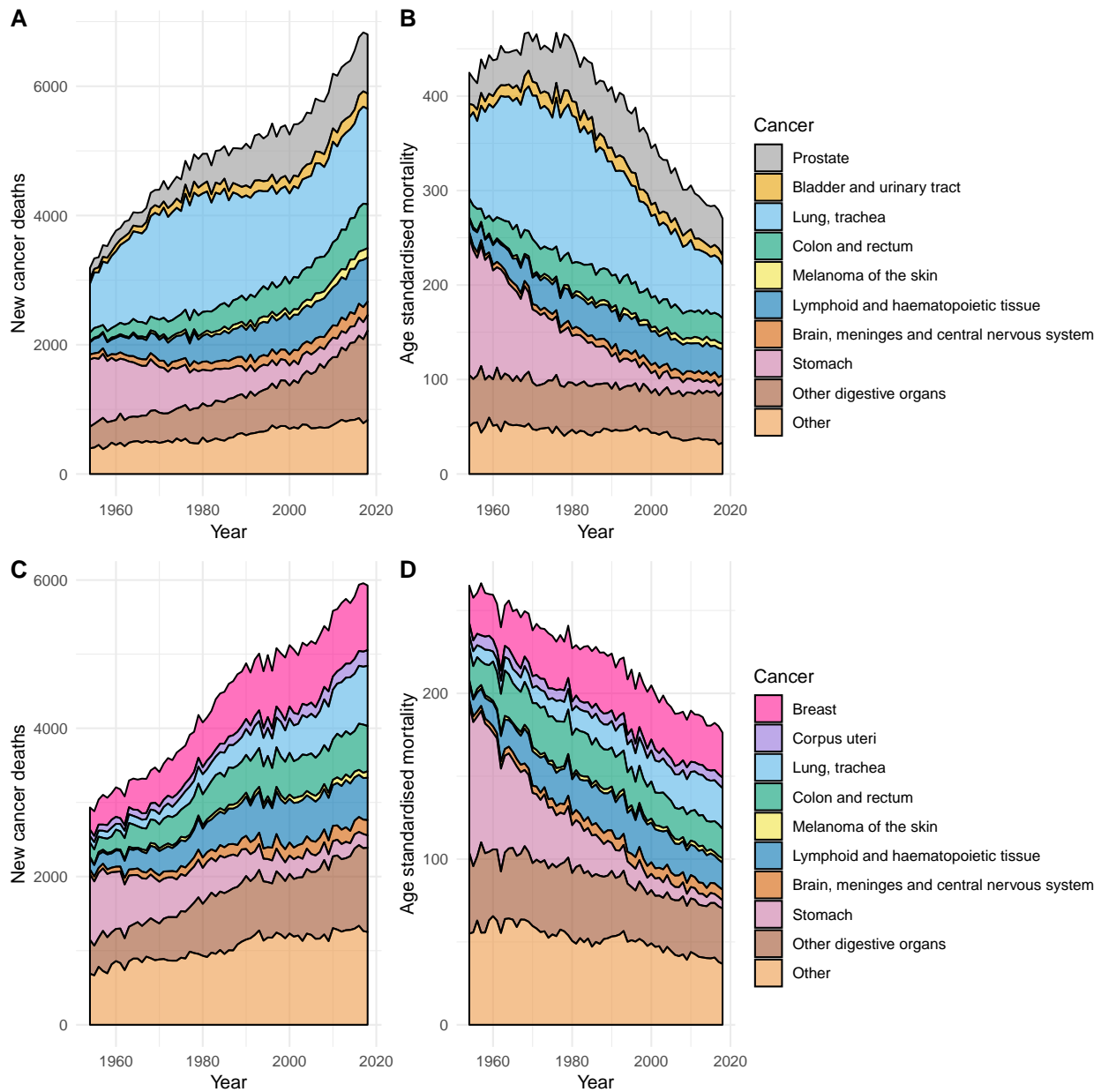


Figure 3: Number of new cancer deaths and the mortality rate (per 100,000 person-years and age standardised to the 2014 Finnish population), stratified by cancer type, in men (Figures A and B) and women (C and D) in 1953–2018. Other digestive organs include cancer of the oesophagus, small intestine, anus, liver, gallbladder and bile ducts, pancreas and other or unspecified digestive organs.

Figure 3 shows the number of cancer deaths and the age standardised mortality in men and women since 1953. The number of cancer deaths in women has grown relatively steadily throughout the period considered, while in men the strong increase declined in the 1980s and 1990s, but accelerated thereafter. The changes in prostate cancer mortality in men and breast cancer mortality in women have had a relatively small impact on the change in overall cancer mortality. This has been most influenced by a significant decrease in stomach cancer mortality in both men and women, and by a decrease in lung cancer mortality in men. In women, lung cancer mortality has increased, and lung cancer is now a major cause of cancer deaths.

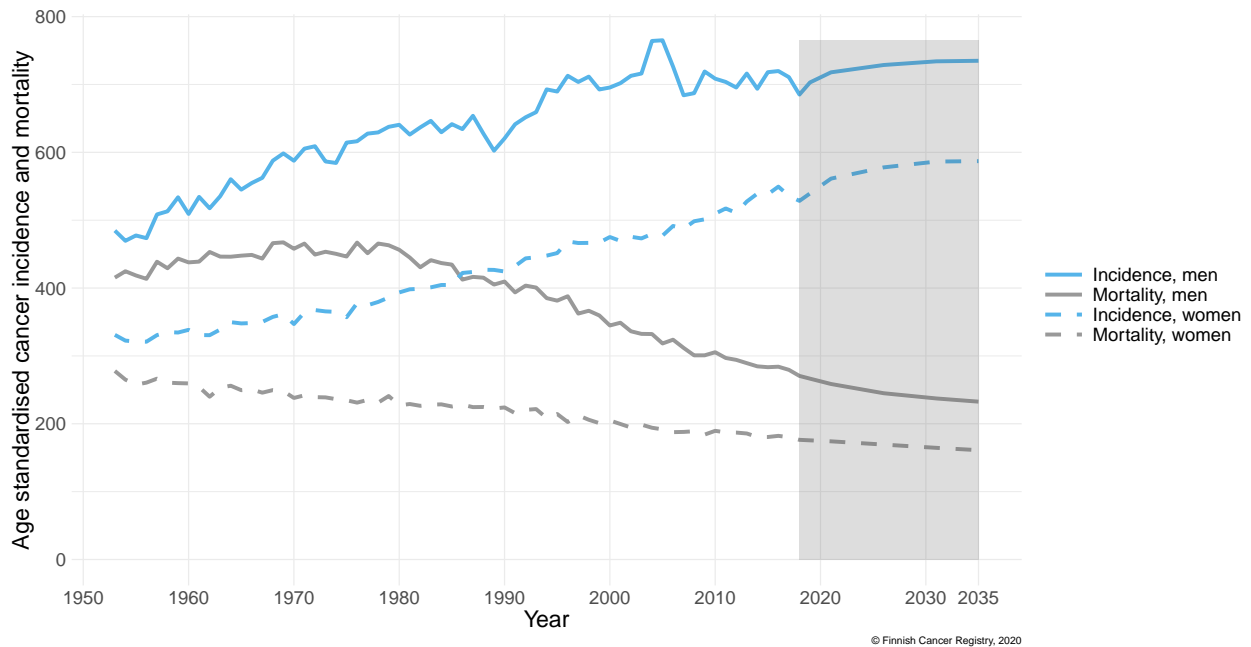


Figure 4: Age standardised incidence and mortality (per 100,000 person-years) in 1953–2018, and projected development until 2035 by sex.

The incidence of cancer is predicted to increase moderately (Figure 4). From 2018 to 2035, the average annual increase is projected to be 0.6% for women and 0.3% for men. The decline in mortality is projected to continue. On average, mortality in women will decrease by 0.5% per year and mortality in men by 0.9% per year. The sex difference is largely due to the different prognosis of lung cancer between women and men.



Figure 5: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) in the population aged 25 and over by sex and level of education in 1953–2018.

As a whole, the incidence of cancer and the mortality rate were the highest among those with a basic education and the lowest among those with a higher education (Figure 5). The greatest differences were observed for lung cancer. Overall, the greatest differences were found in men's cancer mortality, where the mortality rate among those with a basic education was statistically significantly higher than among those with a higher education for all cancers included in the examination. In women, a significantly higher incidence of some common cancers, especially breast cancer and melanoma of the skin, in those with a higher education raises the overall cancer incidence among highly educated women to the highest level. On the other hand, the cancer mortality among highly educated women was generally slightly lower than among those with a basic level of education.

3 Statistical methods

3.1 Definitions

Incidence The number of new cancer cases over a specific period of time (e.g. one calendar year) in the population or part of it. The incidence ratio is the number of cases per 100,000 persons per year.

Mortality Number of deaths attributable to cancer over a specific period of time in the population or part of it. The mortality ratio is the number of deaths per 100,000 persons per year.

Prevalence The number of people with cancer living at a certain time in the population or part of it. The prevalence proportion is the corresponding number in relation to the population, for example per 100,000 persons.

Age standardised incidence, mortality and prevalence In this report, incidence, mortality and prevalence have been standardised to the age structure of the Finnish population in 2014 with a view to, for example, improving the comparability of calendar-year figures, taking into account changes in the age structure.

Risk of cancer Estimate of the proportion of people who will develop cancer in the population before a certain age.

Risk of developing and dying from cancer Estimate of the proportion of people who will develop and die from cancer in the population before a certain age.

Relative survival ratio Estimate of the proportion of patients who are alive after a certain period of time after the cancer diagnosis, if the cancer would be the only factor affecting the mortality. It is used as an indirect indicator of survival from cancer.

Age-standardised relative survival ratio In this report, a standardised relative survival ratio for patients recorded in Finland during the most recent three-year period 2016–2018, aimed, for example, at improving the comparability of calendar-year figures, taking into account changes in the age structure.

Cancer burden The harms caused by cancer in the population. The most commonly used indicators are incidence, cancer mortality and relative survival ratio.

The regional statistics are based on the persons' municipality of residence in the year the cancer was diagnosed, with an exception of cancer mortality that is based on the municipality in the year of death.

In the statistics presented by level of education, the population was divided into three groups according to the highest degree obtained. The educational data are based on Statistics Finland's Register of Completed Education and Degrees and the classification of educational levels. Persons at the basic level of education had not obtained a degree at a higher level than basic education, primary school (folk school), civic school or middle school. The upper secondary level of education included persons who had completed the matriculation examination or a vocational qualification (e.g. 1–3-year vocational qualifications and basic vocational qualifications as well as specialist vocational qualifications). The tertiary level of education included those who had completed lowest level tertiary education (e.g. technician engineer diploma, diploma in business and administration and diploma in nursing, which are not polytechnic degrees), lower-degree level tertiary education or higher-degree level tertiary education.

3.2 New cancer cases – incidence

The statistics on cancer are based on reports on the number of new cancer cases diagnosed during a specific period of time. The period is often one year. Incidence refers to the number of new cancer cases diagnosed per 100,000 person-years. The number of person-years in the Finnish population, i.e. the time accumulated by the population at risk of cancer, broken down by statistical year, sex and age, is derived from the population data maintained by Statistics Finland. These data play a key role in the assessment of cancer burden indicators, as the age structure of the Finnish population has changed dramatically over the past few decades (Figure 6). As the population ages, the number of cancers increase, but this does not necessarily mean that the incidence of cancer increases by age group.

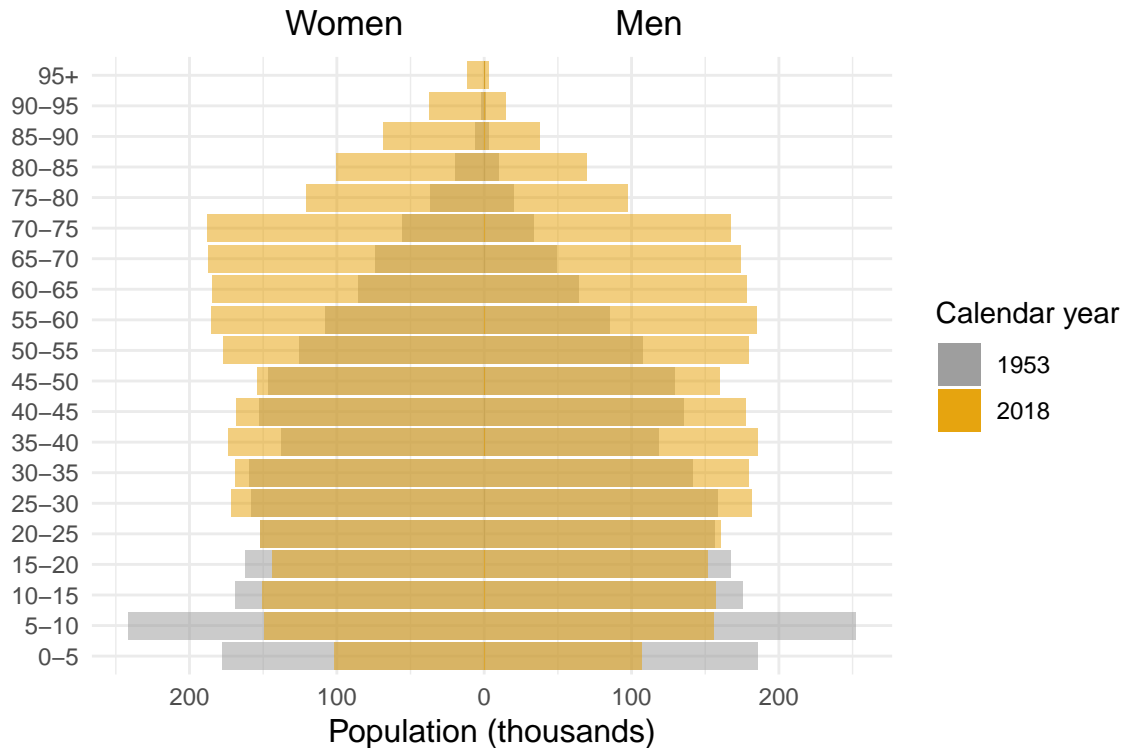


Figure 6: Age structure of the Finnish population by sex in 1953 and 2018

Age-standardised incidence describes the number of new cancer cases per 100,000 person-years if the age structure of the Finnish population would correspond to the standard population. There are two options for the standard population: 'standard world population' and 'Finland 2014'. The standard world population is based on the global age structure in the 1950s. Selecting 'Finland 2014' standardises the figures to correspond to the age structure of the Finnish population in 2014. The purpose of age standardisation is to improve the comparability of figures between population groups with different age structures and between different periods of time. The 'Finland 2014' standard population is well suited for comparing, for example, calendar years and hospital districts, and the standard world population enables comparisons with other countries.

3.3 Cancer deaths – cancer mortality

The number of deaths attributable to cancer is often reported for one year or another chosen period of time. Cancer mortality refers to the number of cancer-related deaths per 100,000 person-years.

Age-standardised cancer mortality describes the number of cancer deaths per 100,000 person-years if the age structure of the Finnish population corresponded to the standard population. There are two options for the standard population: 'standard world population' and 'Finland 2014'. The standard world population is based on the global age structure in the 1950s. Selecting 'Finland 2014' standardises the figures to correspond to the age structure of the Finnish population in 2014. Age standardisation makes it possible to compare cancer mortality figures between population groups with different age structures and between different periods of time. The 'Finland 2014' standard population is well suited for comparing, for example, calendar years and hospital districts, and the standard world population enables comparisons with other countries.

3.4 Persons living with cancer – prevalence

Prevalence refers to the number of living persons in the population at a certain point in time who have previously been diagnosed with cancer. The prevalence is broken down by the time since diagnosis. For example, a five-year figure only

includes those patients whose cancer was diagnosed no more than five years ago (e.g. at the earliest on 31 December 2005, if counted from 31 December 2010).

The **prevalence proportion** refers to the number of persons living with cancer in the population per 100,000 persons. For example, a prevalence proportion of 5,000 per 100,000 means that 5,000 persons of 100,000 persons (i.e. 5% of the population) have a previously diagnosed cancer.

3.5 Risk of cancer and risk of cancer death

Risk of cancer refers to the average probability of contracting cancer before a certain age. The risk assessment is based on the cancer incidence and overall mortality rates of the population in the last five-year period 2014-2018, by age group. The assessment takes into account that part of the population will avoid developing cancer because they will die from other causes before they do.

Risk of developing and dying from cancer refers to the average probability in the population of dying from cancer before a certain age. The risk assessment is based on the age-group mortality rates and the overall mortality rates of the population in the last five-year period 2014-2018. The assessment takes into account that part of the population will avoid dying from cancer because they will die from other causes before they do.

3.6 Prognoses of cancer patients – survival

The **relative survival ratio** is calculated by comparing the patient mortality rate with the mortality rate of the Finnish population of the same sex and the same age and in the same calendar period. It is an indicator of the hazards of cancer. Relative survival can be interpreted as the probability that a patient would be alive after a certain period of time after diagnosis if the cancer in question was the only possible cause of death for the patient.

The **age-standardised relative survival ratio** standardises the age structure of patients across the country to the age structure of patients diagnosed in the most recent three-year period (e.g. 2016–2018) by cancer type and sex. The purpose of age standardisation is to improve the comparability of figures between areas with different age structures and between different periods of time. This report uses the traditional method of age standardisation, which is based on age group specific survival ratios. The age-standardised survival ratio is missing if no patients are alive in an age group five years after the diagnosis.

3.7 Time series and change assessment

Changes in the last ten years Changes in the incidence and mortality of cancer were examined by comparing the average incidence and mortality rates per age group between the last two five-year periods. The coefficient of the relative change describes the average change in incidence rates in age groups relative to the population from 2009–2013 to 2014–2018. For example, a change coefficient of 1.05 refers to an increase of 5% and a change coefficient of 0.95 refers to a decrease of 5% in age standardised incidence.

Long-term changes The change of cancer incidence and cancer mortality since 1990 is measured by an average annual percent change. This method assesses whether the age standardised trend has been steady or whether it has changed between 1990 and 2018. If there has been a statistically significant change, two change percentages will be used to describe the change before and after the point of change.

The **time series for survival ratios** is based on patient monitoring in twelve five-year periods: 1959–1963, ..., 2014–2018. The time series has been age standardised to the age structure of patients diagnosed in 2014–2018 (by cancer type). The ratios for women and men were standardised to the same age structure. The age standardisation was based on a statistical method that provided an estimate of the survival ratio for as many periods as possible, including in the smallest patient datasets.

3.8 Predictions of cancer incidence and mortality

The predictions of the incidence of cancer in 2018–2035 were based on the Nordpred statistics programme developed by the Cancer Registry of Norway. The method estimates the effects of age, calendar year and year of birth on the observed incidence of cancer using a statistical model. The effects were estimated by sex and cancer type based on the

last 10–35 years. The incidence prediction assumes that the observed calendar trend will be levelled over time. The observed linear trend was cut by one-fourth in 2023–2027 and by a half from 2028 onwards. The incidence predictions were used to derive predictions of the annual number of new cancer cases by using Statistics Finland’s forecasts for Finland’s population in 2019–2035.

3.9 Risk ratios for incidence and mortality between levels of education

Differences in the incidence and mortality of cancer between different levels of education were examined by comparing the average incidence and mortality rates per age group in the last five-year period. The age standardised risk ratio describes the average relative difference between age-group-specific incidence and mortality in persons with basic or secondary level of education compared to persons with a tertiary level of education. Confidence intervals of 95% are shown for the risk ratios to assess random errors.

4 Data and quality

4.1 Objectives of the Cancer Registry

The Finnish Cancer Registry monitors the number of new cancer cases, the development of the cancer burden, the risk factors of cancer, the mortality caused by cancer, the survival of patients, cancer prevention and early detection. The Registry also compiles predictions of the future cancer burden.

More and more people survive cancer. One of the challenges for the future is therefore to ensure the quality of life of cancer survivors. It is important to examine the potentially harmful effects of cancer treatments and how they can be prevented and treated.

Epidemiological research aims to set out the broad lines for directing research. The Cancer Registry provides data for a number of epidemiological, clinical and cancer biology studies. The employees of the Registry help in the planning of cancer research and the choice of research designs.

4.2 Cancer types recorded and reported

The Cancer Registry collects data on all cancer cases diagnosed in Finland. The country's healthcare organisations have a statutory obligation to deliver the data to the Registry. A cancer notification must also be made in the case of a strong suspicion of cancer, but only confirmed cases end up in the cancer statistics.

In the case of the brain and the central nervous system, data on all tumours, including benign tumours, are collected and recorded in the statistics. For urinary tracts, data are also recorded on tumours with an unclear growth tendency and on carcinomas in situ. The Registry also collects data on certain other non-malignant tumours, which are recorded separately from actual cancers, i.e. they are not included in the overall cancer figures. These include borderline ovarian tumours and intraductal breast cancers and cervical carcinomas in situ.

The cancer types to be reported can be determined with ICD-10 codes as follows: All malignant neoplasms (code starts with the letter C), in situ neoplasms (D00–09), benign neoplasms of the brain, the central nervous system and the meninges (D32–33), neoplasms of uncertain or unknown behaviour and certain diseases of the blood (D37–48 and D76), and pre-invasive lesions in the female genital organs (N85.1, N87.2, N89.2 and N90.2). The definitions for pathology notifications are the same, but the data collection is based on pathological-anatomical diagnosis (PAD) morphology codes.

Statistics Finland provides the data on causes of death for all patients recorded in the cancer register. Statistics Finland also provides data on cancer deaths that have not been reported to the register. In such cases, the cancer case is based solely on the death certificate (death certificate only, DCO).

4.3 Time series coverage

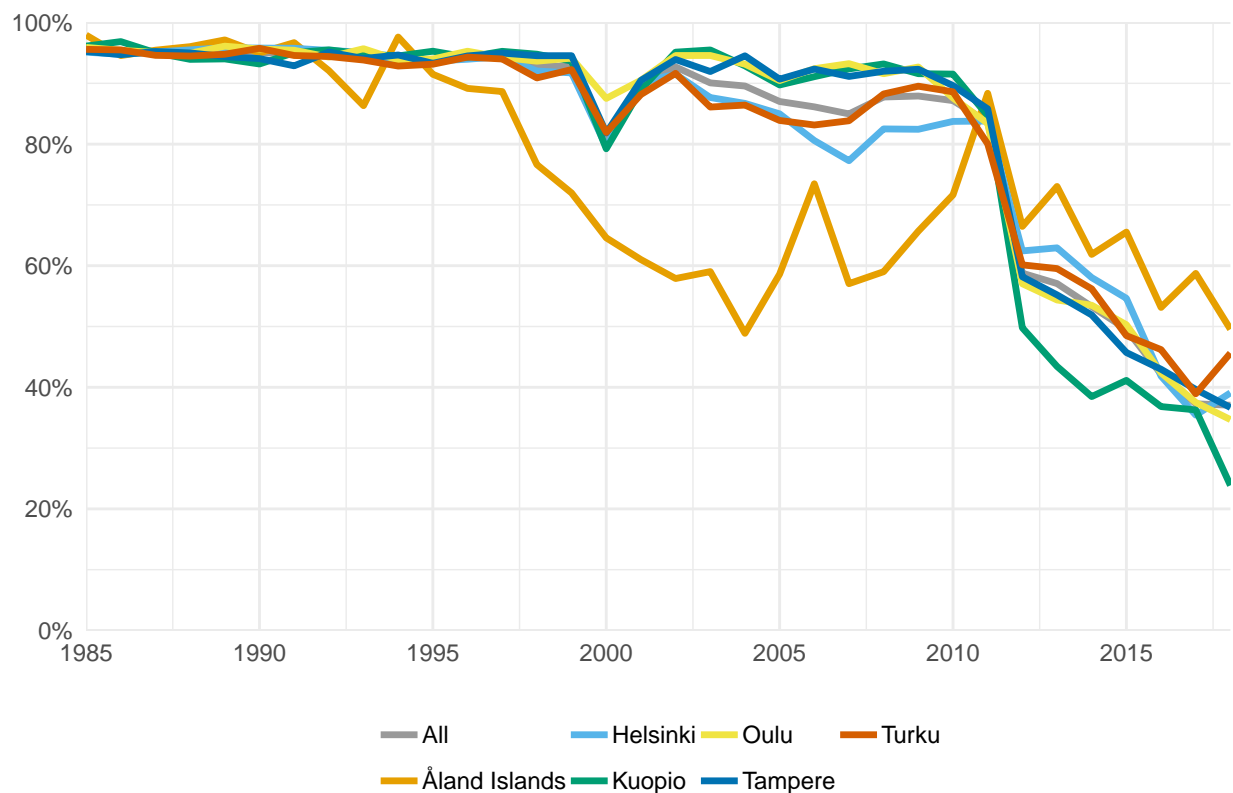
Finland's cancer data have been comprehensively recorded ever since 1953. Due to improvements in classification and changes in definitions, the registration of certain disease entities began later. Below are the years of initiation for the comprehensive registration of diseases where the start of the registration was delayed.

- Basal-cell carcinoma of skin 1964
- Papillomas of bladder 1964
- Cervical carcinoma in situ 1964
 - High-grade dysplasia (dysplasia gravis) 1988
 - Cervical intraepithelial neoplasia, gr 3, (CIN 3) 1991
- Acute vs chronic and lymphatic vs. myeloid leukaemia 1964
- Waldenstrom's disease 1965
- Myelofibrosis, myelosclerosis 1969
- Polycythemia vera 1969

4.4 Data sources

The Cancer Registry has several independent sources of data. The most important of these are pathological notifications. Each year, the Cancer Registry receives more than 330,000 pathological notifications with different diagnoses. All pathological notifications are submitted via SFTP (secure file transfer protocol). The treating physician or organisation is obliged to submit a clinical cancer notification on new cancer cases, i.e. a summary of the case at diagnosis. They are particularly essential for recording the cancer stage at the time of diagnosis. Data on cancer cases are also collected through treatment notifications by the care provider. In these, the treatment is reported using the same treatment codes based on a joint Nordic classification as are used in healthcare patient information systems and, for example, in the national care register (Hilmo) maintained by the Finnish Institute for Health and Welfare.

All cancer data are based on passive data collection, i.e. the activity of notifiers. Particularly the number of clinical notifications is currently worrying. In recent years, the Cancer Registry has received clinical notifications on only around 40% of new cancer cases (Figure 7). Proportion of clinical cancer notifications in cancers registered in 1985–2018, broken down by the catchment areas for highly specialised medical care of the university hospitals.



© Finnish Cancer Registry, 2020

Figure 7: Proportion of clinical cancer notifications in cancers registered in 1985 - 2018, broken down by the five university hospital catchment areas.

The municipality of residence, migration history and date of death of persons with cancer are updated from the Population Information System maintained by the Digital and Population Data Services Agency. Statistics Finland in turn provides data on the persons' causes of death, socio-economic status and education.

4.5 Cancer coding

The cancer cases are compiled into a national register with the help of individual notifications (see above). A case summary suitable for statistical and research use is coded for each cancer, with the date and method of diagnosis, the organ of origin or primary site, the histological type and stage at diagnosis. On the basis of the data, professionals at the Registry also separate genuinely new cancer cases from cases of cancer recurrence. The work is guided by international rules for cancer registration.

In the past, the compilation of notifications into cancer cases was done completely manually. Since the statistical year 2018, an automatic coding process has been used to create the case summary. However, the automatic processing is based on structured data and its usability is therefore dependent on the notification content complying with the data definitions. The automated processing is applied to around ten common cancer types. The automatically compiled case data for 2018 have been checked systematically by registration experts by using random sampling. The experts found the automated case summaries to be of good quality.

With regard to the coding of cancer data, it is essential that the persons carrying out the cancer registration have sufficient qualifications and competence. The chief medical officer of the Cancer Registry advises on the registration of complex cases. In addition, in accordance with international guidelines, cancer cases will be checked in connection with the completion of the statistics. The dates of diagnosis will also be specified based on the diagnostic and visit data in the national care register maintained by the Finnish Institute for Health and Welfare. This applies to cases where the care register shows an earlier date than what has been recorded in the Cancer Registry. This is particularly important in specifying the date of diagnosis for 'death certificate only' cancer cases.

4.6 Quality indicators

Typically, the quality of a cancer register is described by indicators such as the percentage of microscopically verified cases (%MV), i.e. cases confirmed from cell or tissue samples, the percentage of cases confirmed by death certificate only (%DCO) and the percentage of cases with unknown primary site (%) of all cancer cases. The most recent statistical year is always partly indicative for these indicators, as new cancer cases, especially those registered through death certificates, still appear in the register several years afterwards. According to the most recent statistics, the %MV for cancers diagnosed in 2018 was 93.6% (92.4% in 2017), the %DCO was 1.5% (1.4% in 2017) and the percentage of cases with unknown primary site was 1.4% (also 1.4% in 2017). Most of the unknown primary site cases were found in persons aged 70 and over.

5 Incidence and new cancer cases

Figure 8 shows the age standardised incidence rates for the most common cancer types and Figure 9 shows the number of new cancer cases.

Breast cancer was the most common new cancer diagnosed in women in 2018. It had an age standardised incidence rate of 165.7 per 100,000 person-years, with a total of 4 934 new cases diagnosed. The second most common new cancer diagnosed was colorectal cancer (incidence rate 51.2, 1 673, 1 673 new cases) and the third most common was lung and tracheal cancer (32.2, 1 035 new cases). The incidence rate of melanoma of the skin among women was 25.3 (766 new cases).

Prostate cancer was the most common new cancer diagnosed in men in 2018. It had an age standardised incidence rate of 190.7/100,000 person-years, with a total of 5 016 cases diagnosed. The second most common new cancer diagnosed in men was colorectal cancer (incidence rate 72.1, 1 865 new cases) and the third most common was lung and tracheal cancer (64.5, 1 710 new cases). The incidence rate of melanoma of the skin among men was 34.0 (892 new cases).

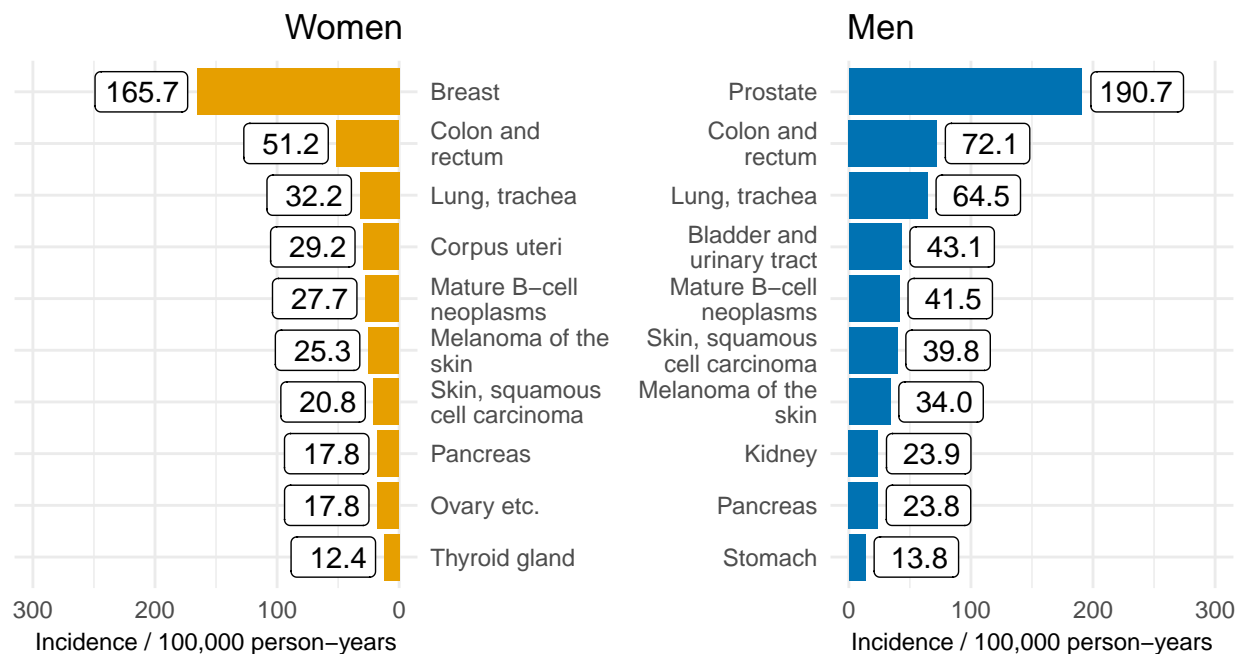


Figure 8: Incidence of cancer among women and men (per 100,000 person-years and age standardised to the 2014 Finnish population) for the most common cancer types in 2018

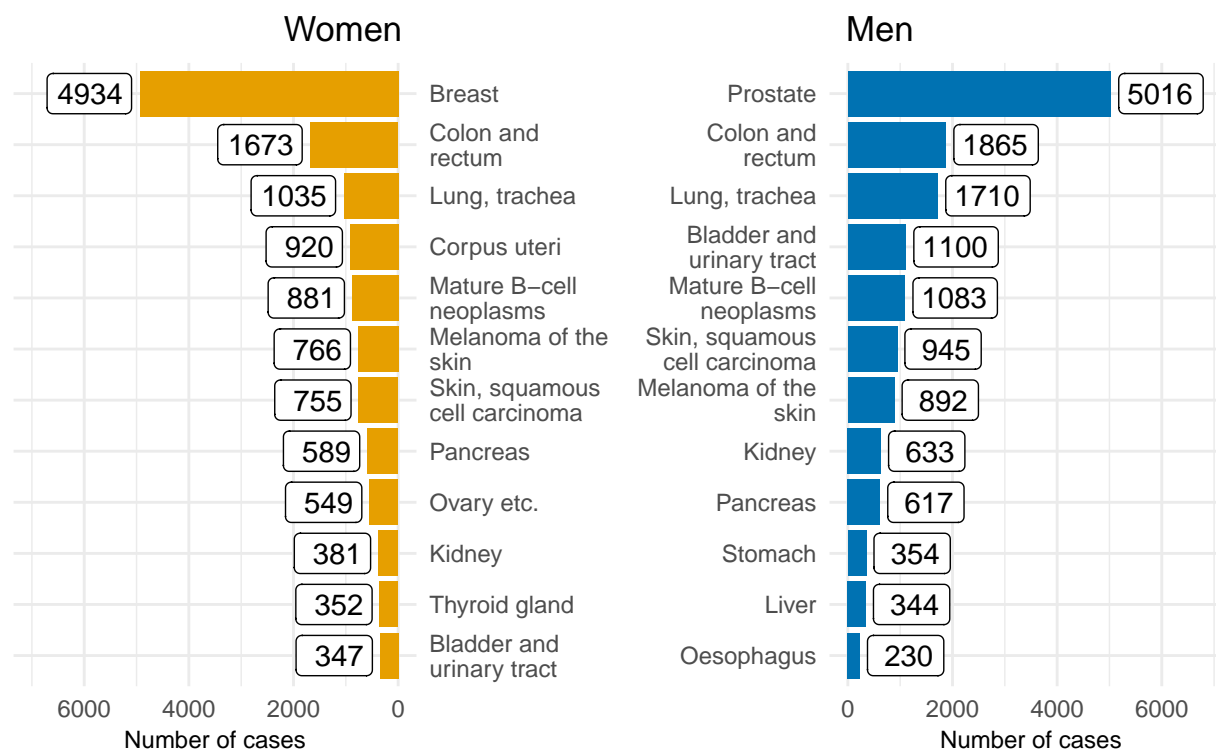


Figure 9: Number of new cancer cases in women and men for the most common cancer types in 2018.

5.1 Incidence by age group

Cancers in children and young adults differ from cancers in older persons. New cancers diagnosed in children and young people are usually haematological (blood and lymphatic) cancers or brain and central nervous system tumours such as gliomas. Acute lymphoblastic leukaemia is the most common cancer in children and young adults, followed by gliomas. Hodgkin lymphoma is the most common lymphatic cancer among people under 20 years of age.

Figure 10 shows the incidence of cancer in the population under 20 years of age. In 2018, the incidence of cancer among people under 20 years of age was approximately 17 cases per 100,000 persons, with 197 new cases diagnosed.

Figures 11 and 12 show the incidence of cancer in 2018 in the population aged 20–69 and in the population aged 70 and over.

The highest incidences in the female population aged 20–69 were recorded for breast cancer (incidence rate 183.9/100,000 and 3 195 new cases), colorectal cancer (34.6, 601 cases) and melanoma of the skin (26.1, 453 cases). The fourth most common cancer among women aged 20–69 was endometrial cancer (25.3, 439 cases).

In the male population of the same age, the highest incidences were observed for prostate cancer (incidence rate 122.4, 2 166/100,000 and 2 166 new cases), colorectal cancer (43.2, 765 cases) and lung and tracheal cancer (37.5, 662 cases). Melanoma of the skin was the fourth most common cancer diagnosed in men (27.6, 489 cases).

The most common cancer types in the female population aged 70 and over were breast cancer (incidence rate 362.3/100,000 and 1 739 new cases), colorectal cancer (222.3, 1 067 cases), squamous cell carcinoma (136.1, 653 cases), and lung and tracheal cancer (123.6, 593 cases). In the male population of the same age, the most common cancer types diagnosed were prostate cancer (incidence rate 823.0, 2 848 new cases), lung and tracheal cancer (302.6, 2 877 cases), colorectal cancer (316.7, 1 096 cases) and squamous cell carcinoma (226.3, 783 cases).

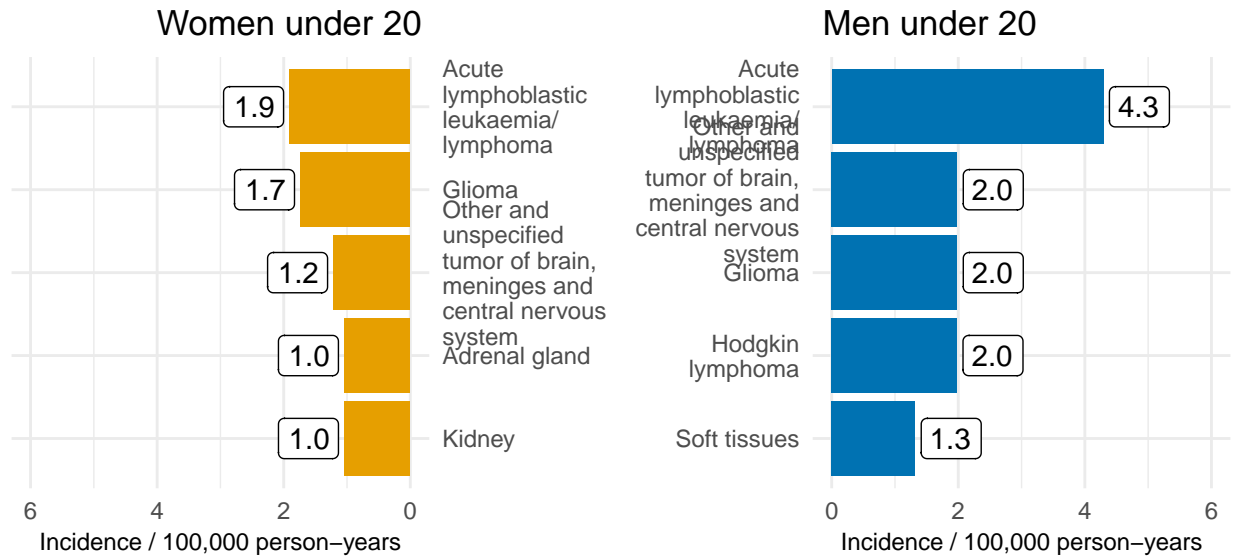


Figure 10: Incidence of cancer among women and men aged under 20 (per 100,000 person-years and age standardised to the 2014 Finnish population) for the most common cancer types in 2018

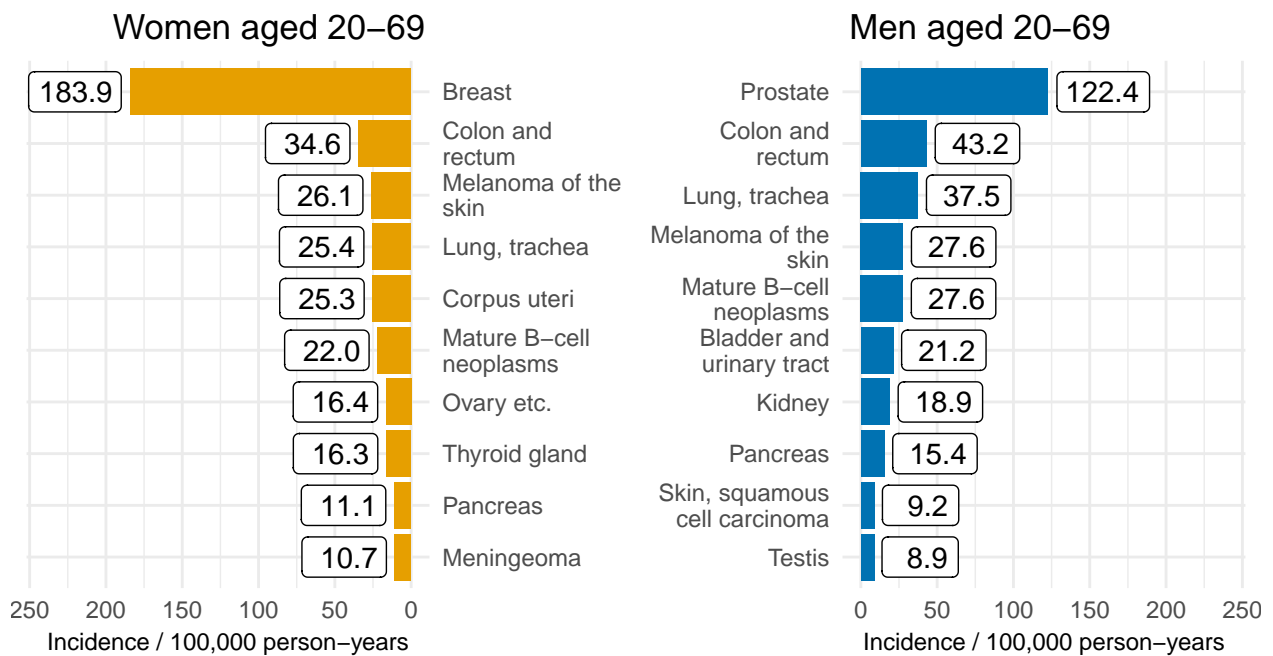


Figure 11: Incidence of cancer among women and men aged 20–69 (per 100,000 person-years and age standardised to the 2014 Finnish population) for the most common cancer types in 2018

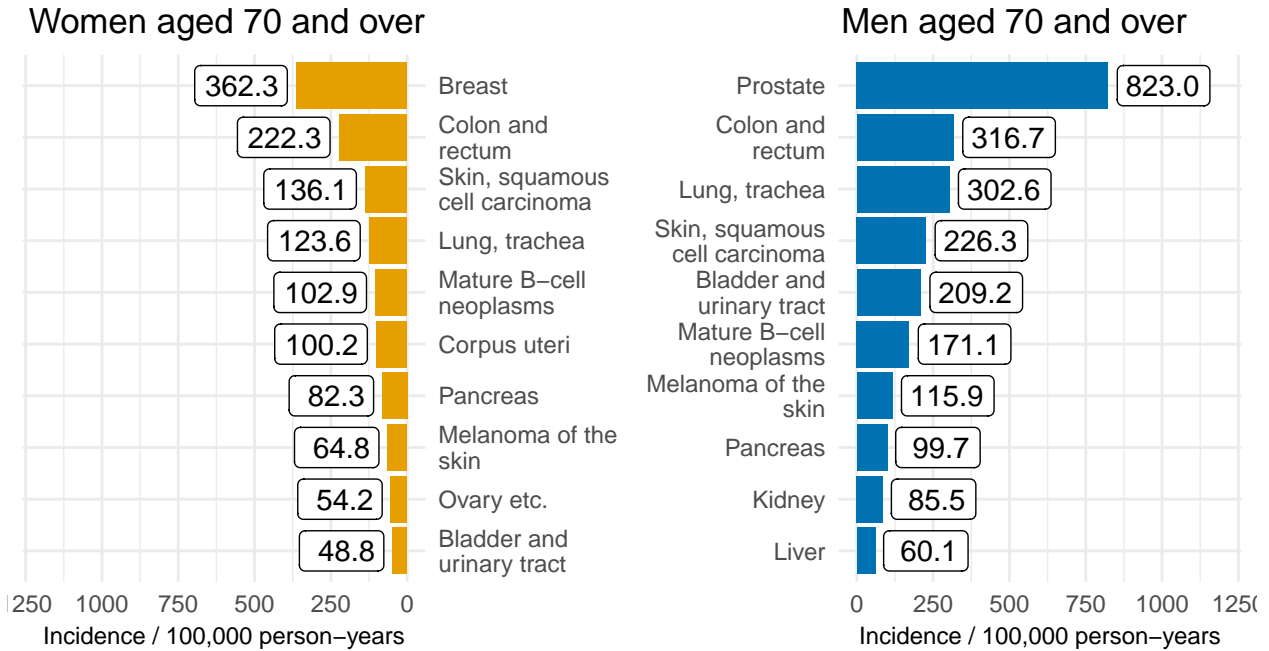
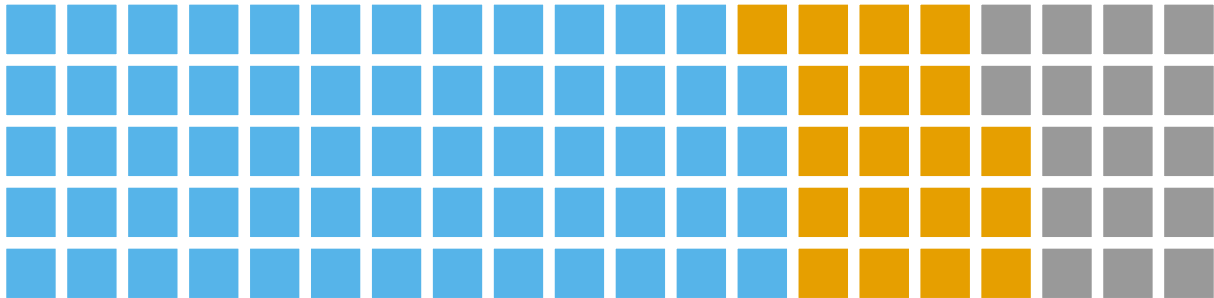


Figure 12: Incidence of cancer among women and men aged 70 and over (per 100,000 person-years and age standardised to the 2014 Finnish population) for the most common cancer types in 2018

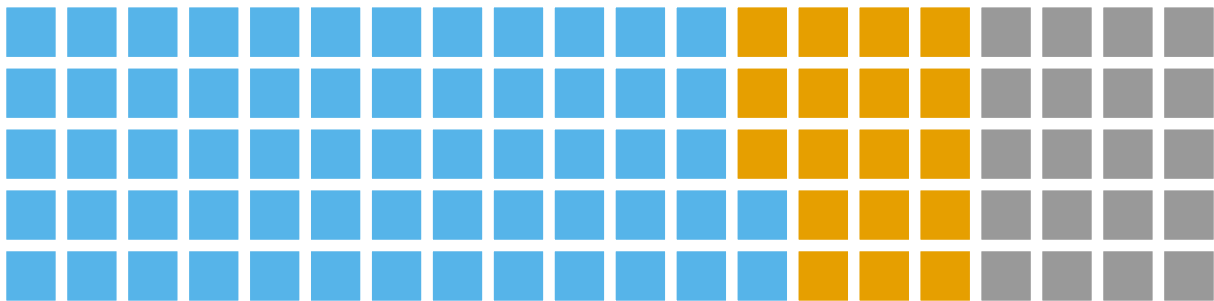
5.2 Risk of developing and dying from cancer

Figure 13 shows estimates of how many men out of 100 and how many women out of 100 will develop cancer and how many will die from cancer during their lives. The figures can be interpreted as a newborn child's lifetime risk of developing and dying from cancer. The estimate reflects reality in a situation where a child's risk of cancer, risk of cancer death and risk of overall death at different stages of life would equal the risks in a population of the same age in 2014-2018. On average, 38% of men (the proportion of orange and grey squares) and 36% of women develop cancer during their lifetime. During their lifetime, 20% of men (the proportion of grey squares) and 17% of women die from cancer.

Women



Men



Blue will not develop cancer Yellow will develop cancer but will not die from cancer Gray will develop and die from cancer

Figure 13: Risk of developing and dying from cancer among men and women.

6 Mortality

Figure 14 shows the age-standardised mortality rates and Figure 15 the numbers of deaths for the cancers types with the highest mortality.

Breast cancer was responsible for the most cancer deaths in women (mortality rate 27.1/100,000 person-years, 873 deaths). Lung and tracheal cancer caused the second most deaths (24.6, 812 deaths) and pancreatic cancer the third most deaths (18.7, 635 deaths). Colorectal cancer was the fourth most common cause of cancer death in women (17.7, 611 deaths).

The most common cause of cancer death in men was lung and tracheal cancer (mortality rate 56.4/100,000 person-years and 1 473 deaths, Figure 14). Prostate cancer caused the second most cancer deaths (39.2, 914 deaths). These were followed by colorectal cancer (27.1, 682 deaths) and pancreatic cancer (24.4, 633 deaths).

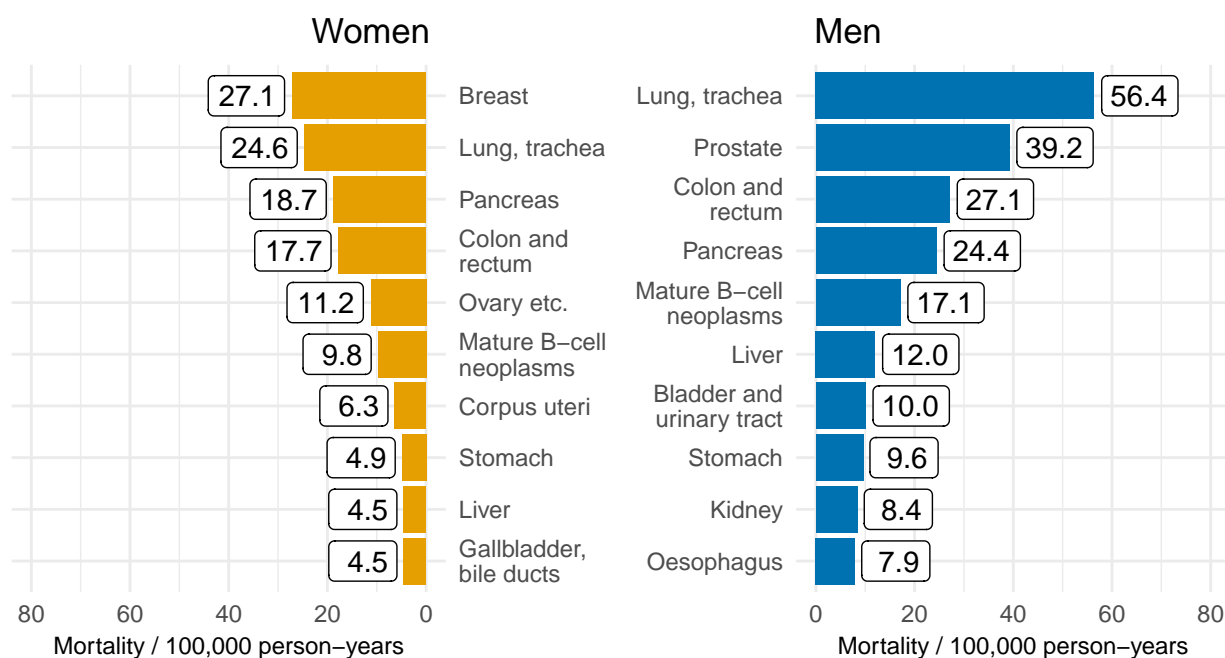


Figure 14: Cancer mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) in women and men for the cancer types with the highest mortality rate in 2018

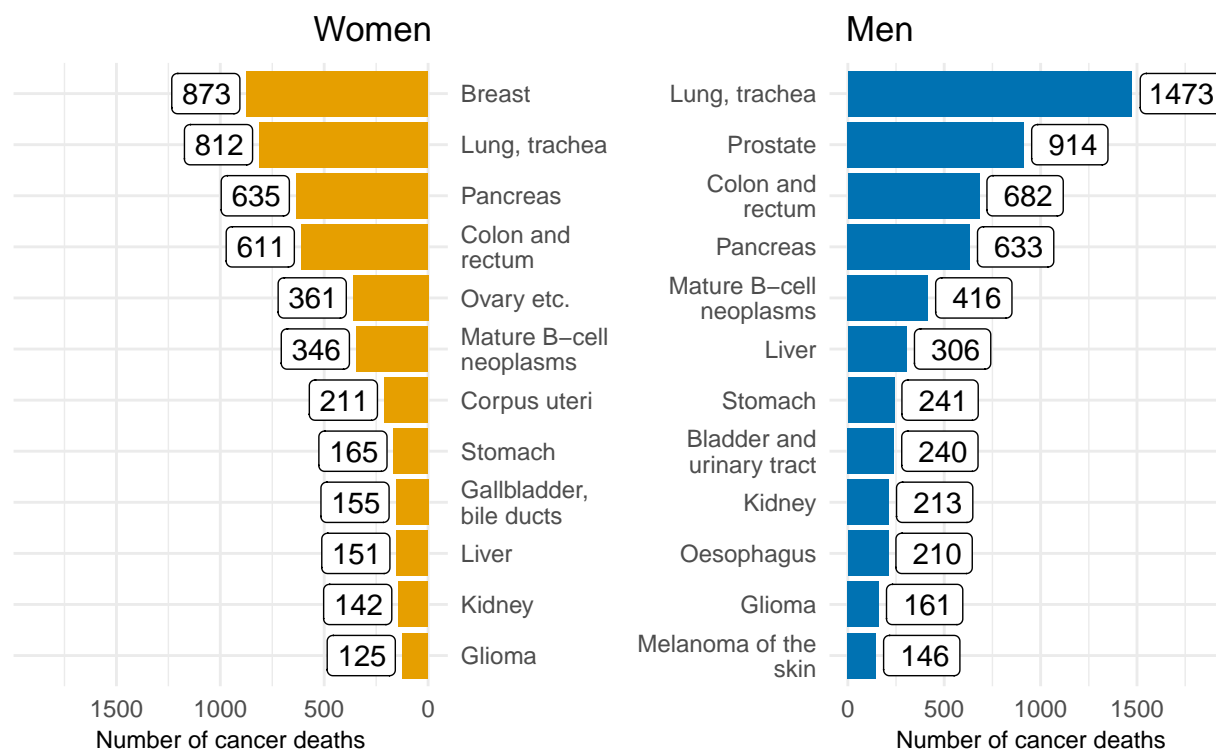


Figure 15: Number of cancer deaths in women and men for the cancer types with the most deaths in 2018

6.1 Mortality by age group

In 2018, a total of 23 people under 20 died from cancer, most of them from brain and central nervous system tumours, blood cancer and sarcomas.

Figures 16 and 17 show the cancer mortality rate (per 100,000 persons in 2018) in the population aged 20–69 and 70 and over. In women aged 20–69, the main causes of cancer death were breast cancer (mortality rate 21.3/100,000 and 368 deaths), lung and tracheal cancer (16.3, 282 deaths) and colorectal cancer (9.4, 160 deaths).

In men of the same age, the main causes of cancer death were lung and tracheal cancer (mortality rate 29.2/100,000, 516 deaths), colorectal cancer (13.0, 228 deaths) and pancreatic cancer (14.4, 255 deaths).

In women aged 70 and over, the main causes of cancer death were breast cancer (mortality rate 104.8/100,000 and 503 deaths), lung and tracheal cancer (110.0, 528 deaths), colorectal cancer (93.3, 448 deaths) and pancreatic cancer (96.7, 464 deaths). In men aged 70 and over, the main causes of cancer death in 2018 were lung and tracheal cancer (mortality rate 276.3/100,000, 956 deaths), prostate cancer (219.3, 759 deaths), colorectal cancer (130.6, 452 deaths) and pancreatic cancer (109.2, 378 deaths).

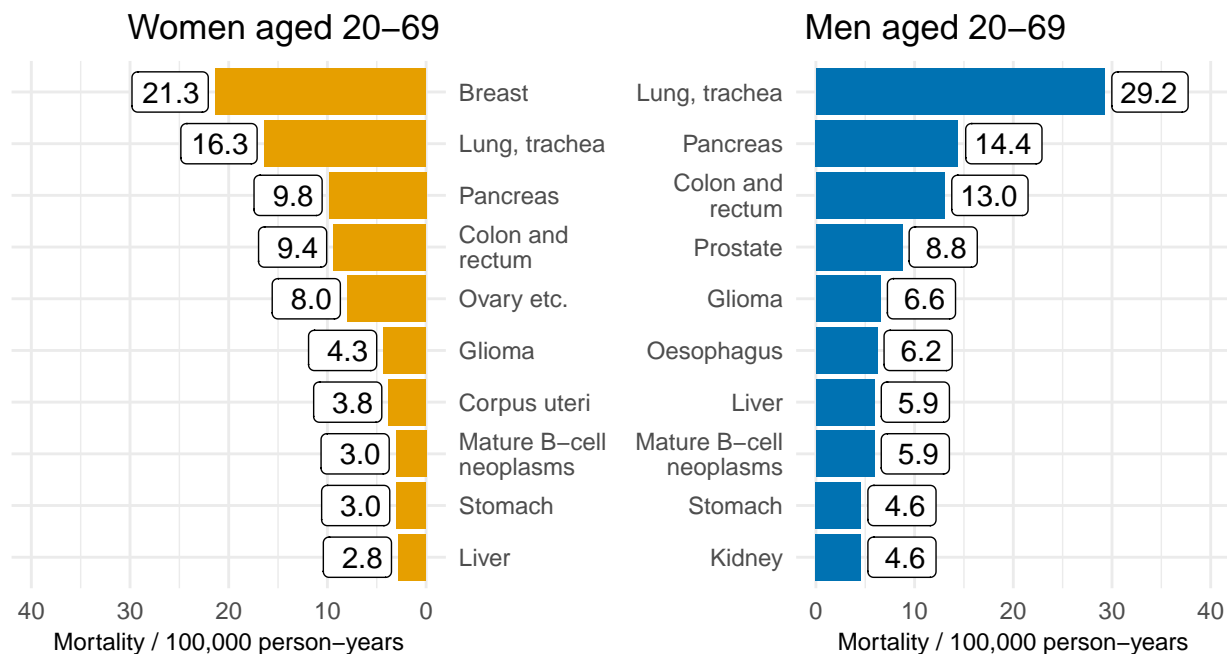


Figure 16: Cancer mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) in women and men aged 20–69 for the cancer types with the highest mortality rate in 2018

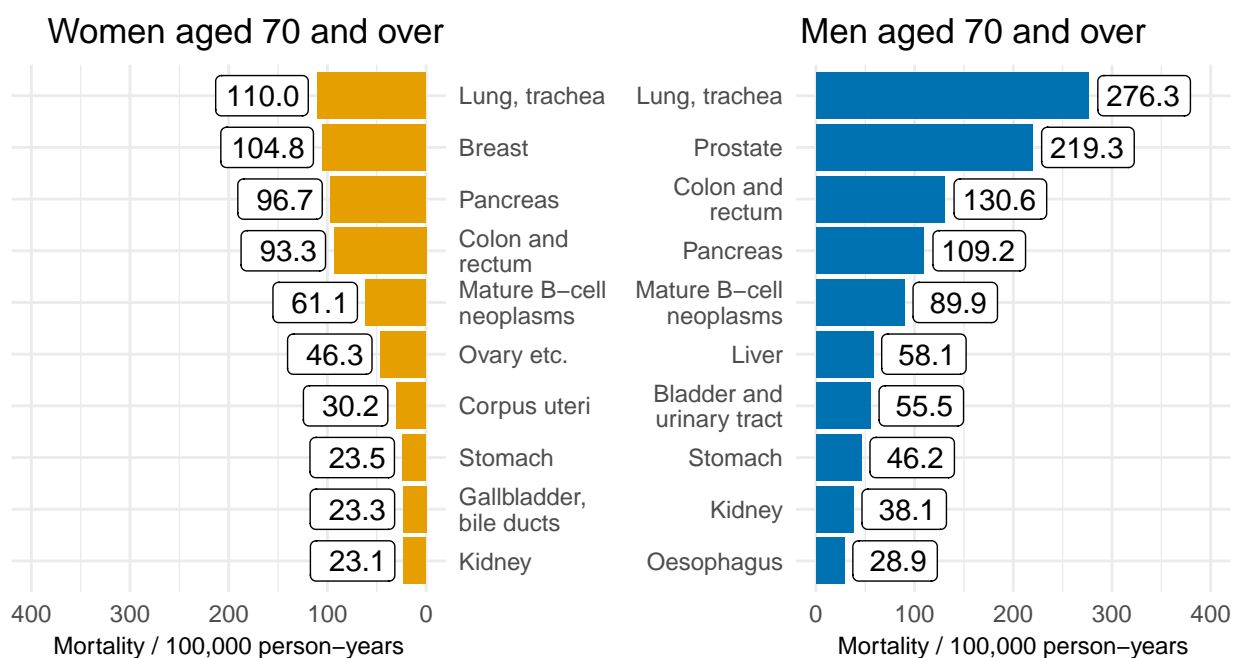


Figure 17: Cancer mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) in women and men aged 70 and over for the cancer types with the highest mortality rate in 2018

7 Prevalence

The prevalence of cancer is a statistical indicator used to assess the burden on and resources of healthcare services. Prevalence is influenced by incidence and also by age of onset and patients' prognoses. For example, although there are many new cases of lung cancer recorded, lung cancer has a low prevalence due to its high mortality rate.

The prevalence of cancer patients at risk of serious coronavirus disease in Finland at the end of 2018 is assessed based on the age of the patient, the time since diagnosis and the cancer type. As a result of population ageing, the number of living patients reported (prevalence) is likely to be a slight underestimation of the current situation.

At the end of 2018, the prevalence of cancer was 289 430 and the prevalence proportion was 5.2%. The cancer types with the highest prevalence are shown in Figure 18. The prevalence of prostate cancer at year-end 2018 was 55 118. There were a total of 13 230 men living with colorectal cancer. At the end of 2018, the prevalence of breast cancer in women was over 70,000, and the prevalence of colorectal cancer and endometrial cancer was over 12,000. The figures below show the corresponding figures for the most common cancer types among men and women.

Looking only at people with less than five years since the cancer was diagnosed (diagnosed in 2014-2018), there were 49 852 male patients and 51 040 female patients alive at the end of 2018.

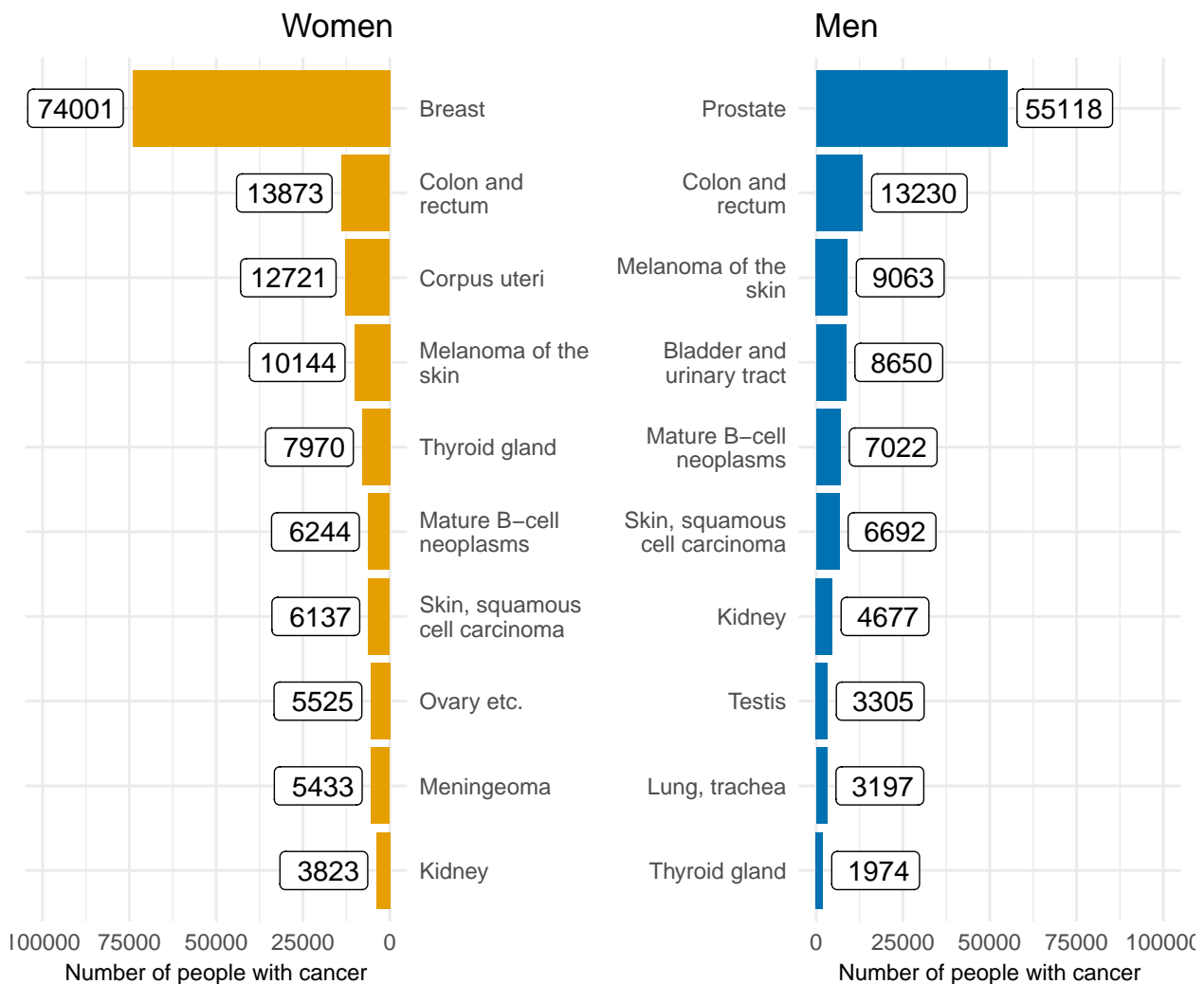


Figure 18: Number of people with cancer at the end of 2018.

Table 2: Prevalence of the most common cancer types, number and proportion (%), in women and men.

Cancer site	ICD-10	20-69				70+			
		< 1 year		All		< 1 year		All	
		Number	Prop	Number	Prop	Number	Prop	Number	Prop
All sites together	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	12 647	0.36	127 329	3.64	11 580	1.37	160 204	19.01
Women									
Breast	C50	3 114	0.18	36 223	2.09	1 682	0.34	37 778	7.74
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	579	0.03	6 635	0.38	574	0.12	5 882	1.21
Lung, trachea	C33-34	286	0.02	1 092	0.06	318	0.07	1 505	0.31
Colon and rectum	C18-20	530	0.03	4 549	0.26	890	0.18	9 311	1.91
All sites together	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	6 769	0.39	77 138	4.46	5 233	1.07	85 230	17.46
Men									
Lung, trachea	C33-34	380	0.02	1 229	0.07	531	0.15	1 964	0.55
All sites together	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	5 878	0.33	50 191	2.84	6 347	1.79	74 974	21.15
Prostate	C61	1 992	0.11	14 656	0.83	2 851	0.80	40 461	11.41
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	681	0.04	7 908	0.45	612	0.17	5 510	1.55
Colon and rectum	C18-20	673	0.04	4 570	0.26	913	0.26	8 646	2.44

7.1 Prevalence by age group

In 2018, there were 11580 living persons aged 70 and over with less than one year since cancer diagnosis (prevalence proportion 1.4%, see Table 2). The corresponding figure for persons aged 70 and over who had been diagnosed with cancer at some point during their lives was 160204 (19.0%). The most common cancer in men aged 70 and over was prostate cancer (74974 men, 21.1%), while breast cancer was the most common cancer in women aged 70 and over (5882 women, 1.2%).

There were 849 persons (0.1%) aged 70 and over who had been diagnosed with lung and tracheal cancers less than a year ago and 3,469 persons who had been diagnosed with lung and tracheal cancer at some point during their lives (1,505 women and 1,964 men, 0.4%). At the end of 2018, there were 666 persons aged 20–70 who had been diagnosed with lung cancer less than a year ago (286 women and 380 men, <0.1%) and 2,321 persons who had been diagnosed with lung and tracheal cancer ever during their lives (1,092 women and 1,229 men). There were 1,186 persons (574 women and 612 men) aged 70 and over who had been diagnosed with tumours of the lymphatic and haematopoietic tissues less than a year ago. The overall prevalence of tumours of the lymphatic and haematopoietic tissues was 11,392 (5,882 women and 5,510 men).

8 Cancer patient survival

The five-year relative survival ratio in 2016-2018 was 68% in male patients and 70% in female patients. Compared to the previous period of 2013-2015, the survival ratio had increased by 0.6 percentage points in men and 1.4 percentage points in women.

In patients followed up in 2016-2018, the survival ratio for prostate cancer was 93 % and the survival ratio for breast cancer in women was 91% (Figure 19). The survival ratio for colorectal cancer was 66 %, while lung cancer had a survival ratio of 15 %. The survival ratio for pancreatic cancer was only 6 %. Among these five cancer types, survival ratios increased the most for lung cancer (by 2.1 percentage points in men and 4.1 percentage points in women from 2013-2015 to 2016-2018).

Figures 20 and 21 and Tables 6 and 7 show the survival ratios for three age groups: patients diagnosed with cancer at the ages of 0-54, 55-74 and 75 and over. The survival ratios in the youngest age group were higher than those of the older age groups for almost all cancers. For prostate and breast cancer, the survival ratios were approximately the same for persons under the age of 55 and persons aged 55-74, but the ratios of persons aged 75 and over were lower than the ratios of others. In lung cancer, the survival ratios also clearly differed between those under the age of 55 and those aged 55-74. The five-year survival ratio of men diagnosed with lung cancer at under 50 years of age was 23 %; the corresponding ratios for men diagnosed at 55-74 and at 75 and over were 15 % and 8 %, respectively.

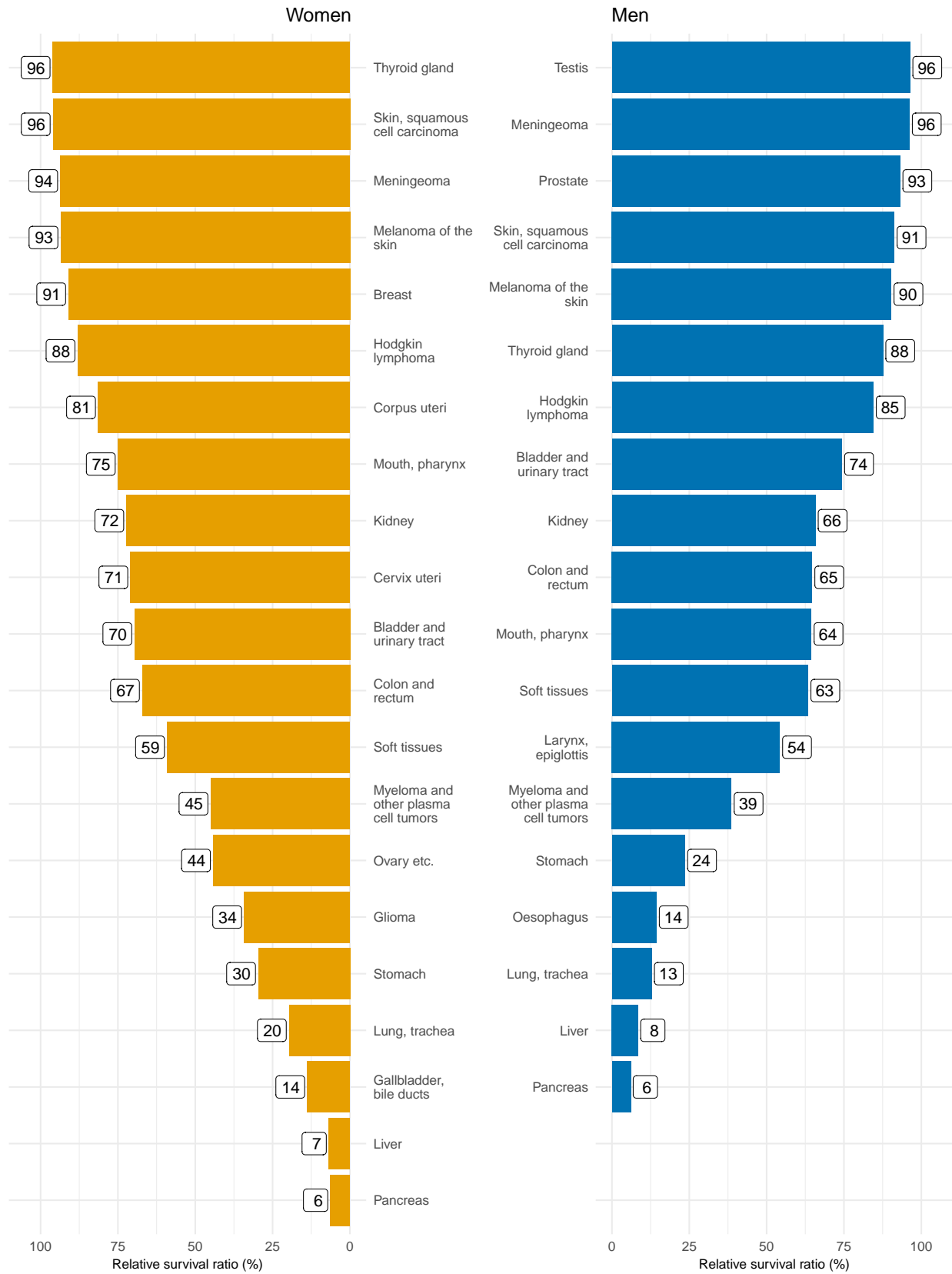


Figure 19: Five-year relative survival ratios (%) in patients followed up in 2016-2018 by sex and cancer type. The survival rates for laryngeal and oesophageal cancers in women and for breast, gallbladder and bile duct cancers in men are not presented due to a small number of cases or an absence of five-year, age-grouped data.

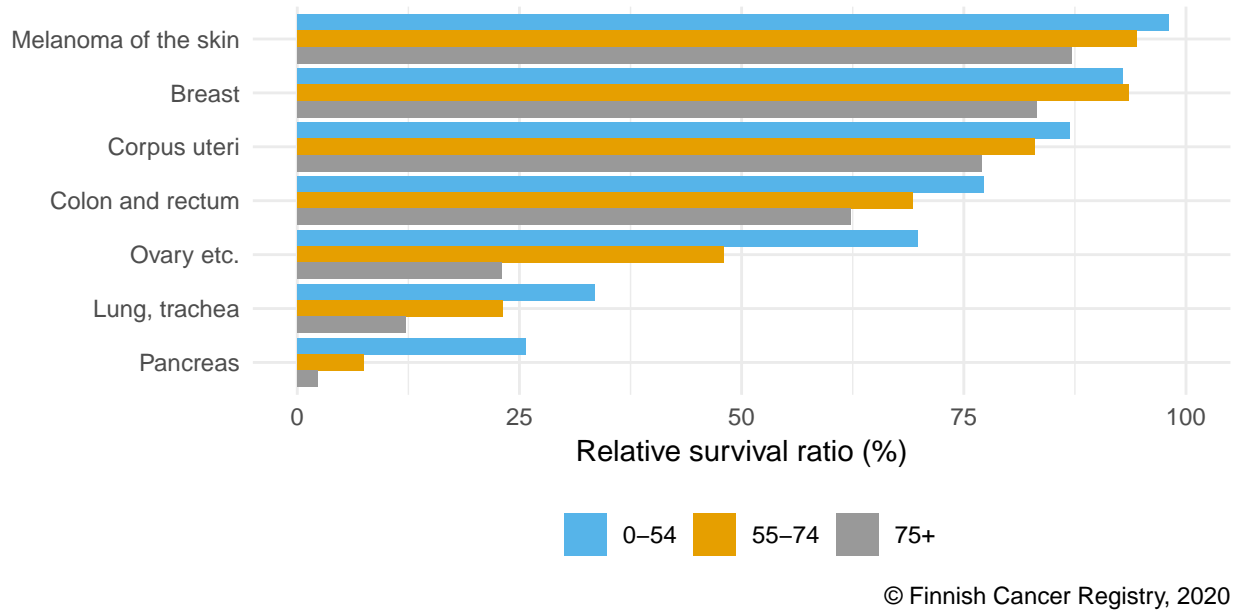


Figure 20: Five-year relative survival ratios (%) in female patients followed up in 2016-2018 by age group (under 55, 55-74 and 75 and over) for the seven most common cancer types in women (excl. mature B-cell neoplasms and cutaneous squamous cell carcinoma).

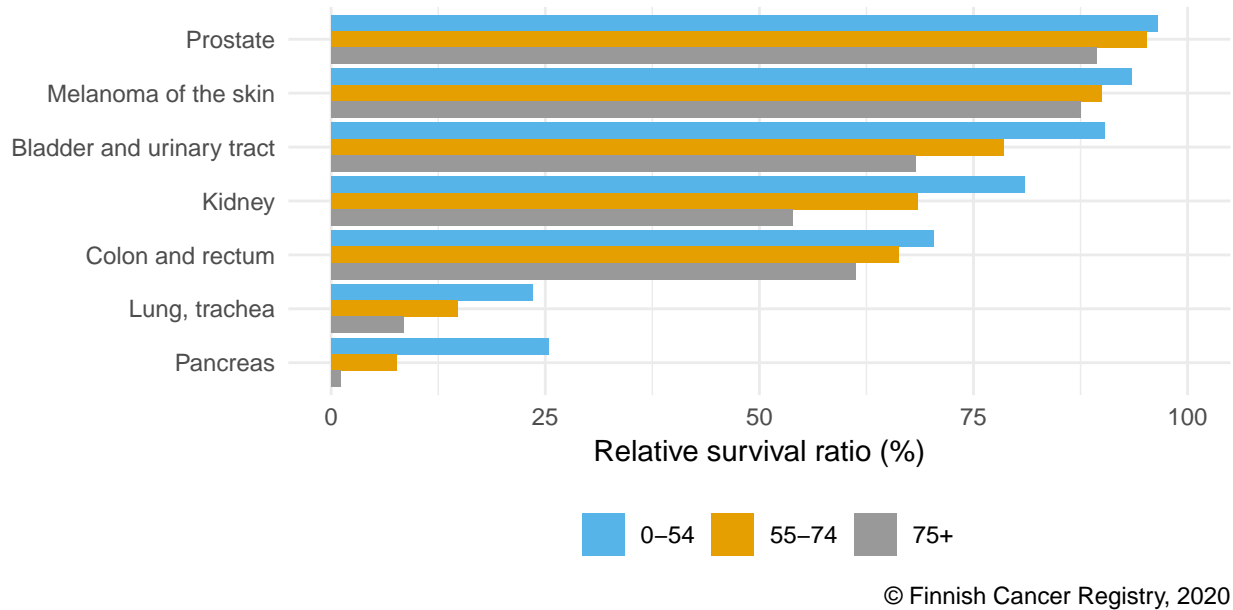


Figure 21: Five-year relative survival ratios (%) in male patients followed up in 2016-2018 by age group (under 55, 55-74 and 75 and over) for the seven most common cancer types in men (excl. mature B-cell neoplasms and cutaneous squamous cell carcinoma).

9 Time series

Changes in cancer incidence and cancer mortality have been examined both in the long and short term. Short-term changes have been examined by assessing the percentage change in age standardised incidence and mortality over two five-year periods (2014-2018 vs. 2009-2013). There had to be at least 50 new cases or deaths in both periods considered in order for the assessment to be considered sufficiently reliable. Only statistically significant changes are reported here.

9.1 Short-term changes in incidence and mortality

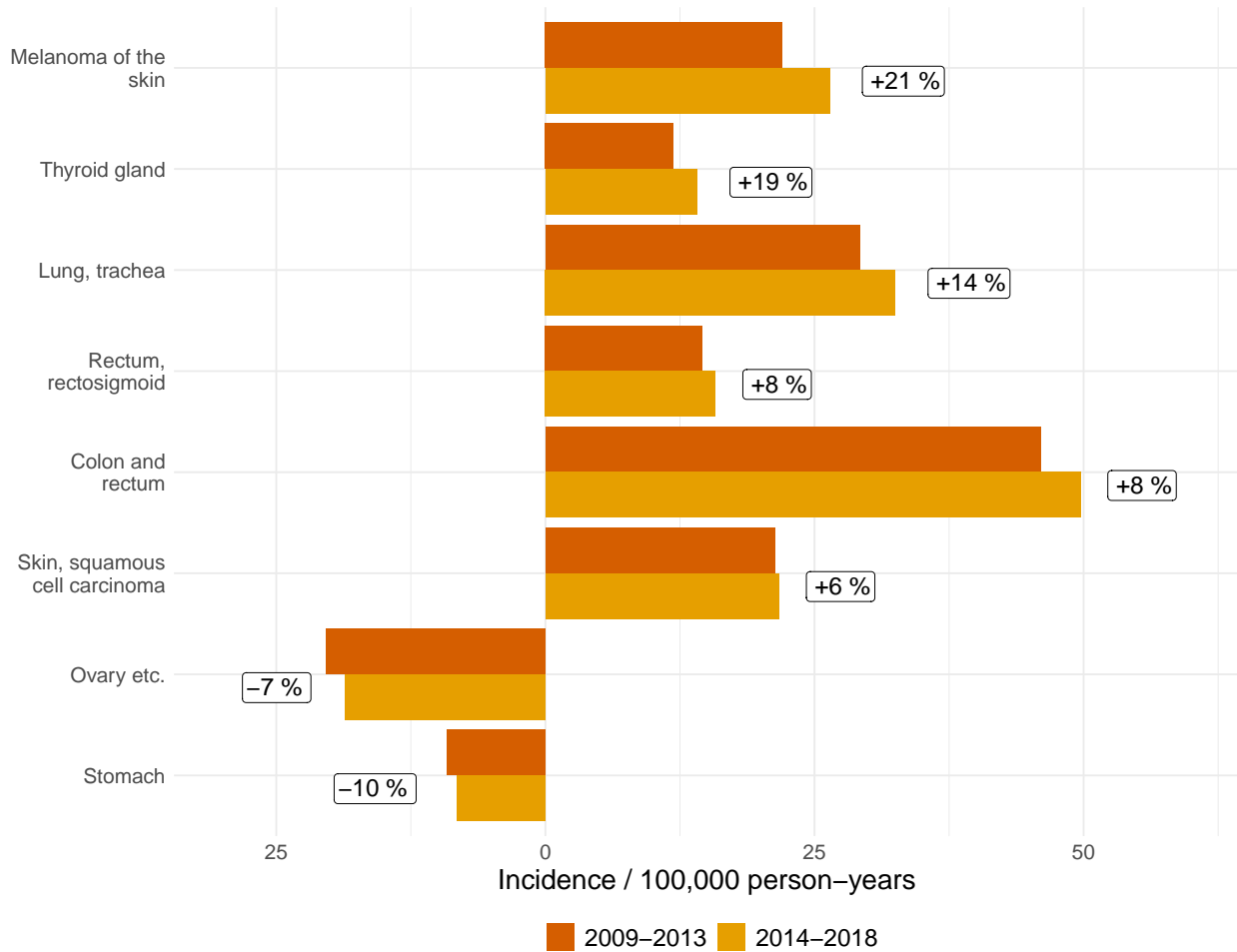
The average incidence for women in 2009-2013 oli 514 was 514 per 100,000 person-years, compared to 538/100,000 in 2014-2018 (Table 8). The annual incidence of new cancer cases increased by an average of 5% between the periods considered (95% confidence interval 4% - 6%).

The average annual number of cases increased the most in breast cancer (4 475 vs 4 920, 5% relative increase in incidence), colorectal cancer (1 358 vs 1 576, 8% increase in incidence), lung and tracheal cancers (839 vs 1 017, 14% increase in incidence), and melanoma of the skin (623 vs 781, 21% increase in incidence). The increase in incidence was the highest in melanoma of the skin (21%) and thyroid cancer (19%; Figure 22). In women, cancer incidence decreased in stomach cancer (10%) and ovarian cancer (7%).

The average incidence for men in 2009-2013 was 709 per 100,000 person-years, compared to 706/100,000 in 2014-2018 (Table 9). The annual incidence of new cancer cases did not change between the periods considered, since the change was only 0% (95% confidence interval -1% - 1%). The average annual number of cases increased the most in colorectal cancer (1 483 vs 1 768, 4% relative increase in incidence) and prostate cancer (4 804 vs 5 068, 5% decrease in incidence). The increase in incidence was the highest in melanoma of the skin (20%) and cutaneous squamous cell carcinoma (6%; Figure 23). Lung and tracheal cancers showed a decrease in incidence of 8%.

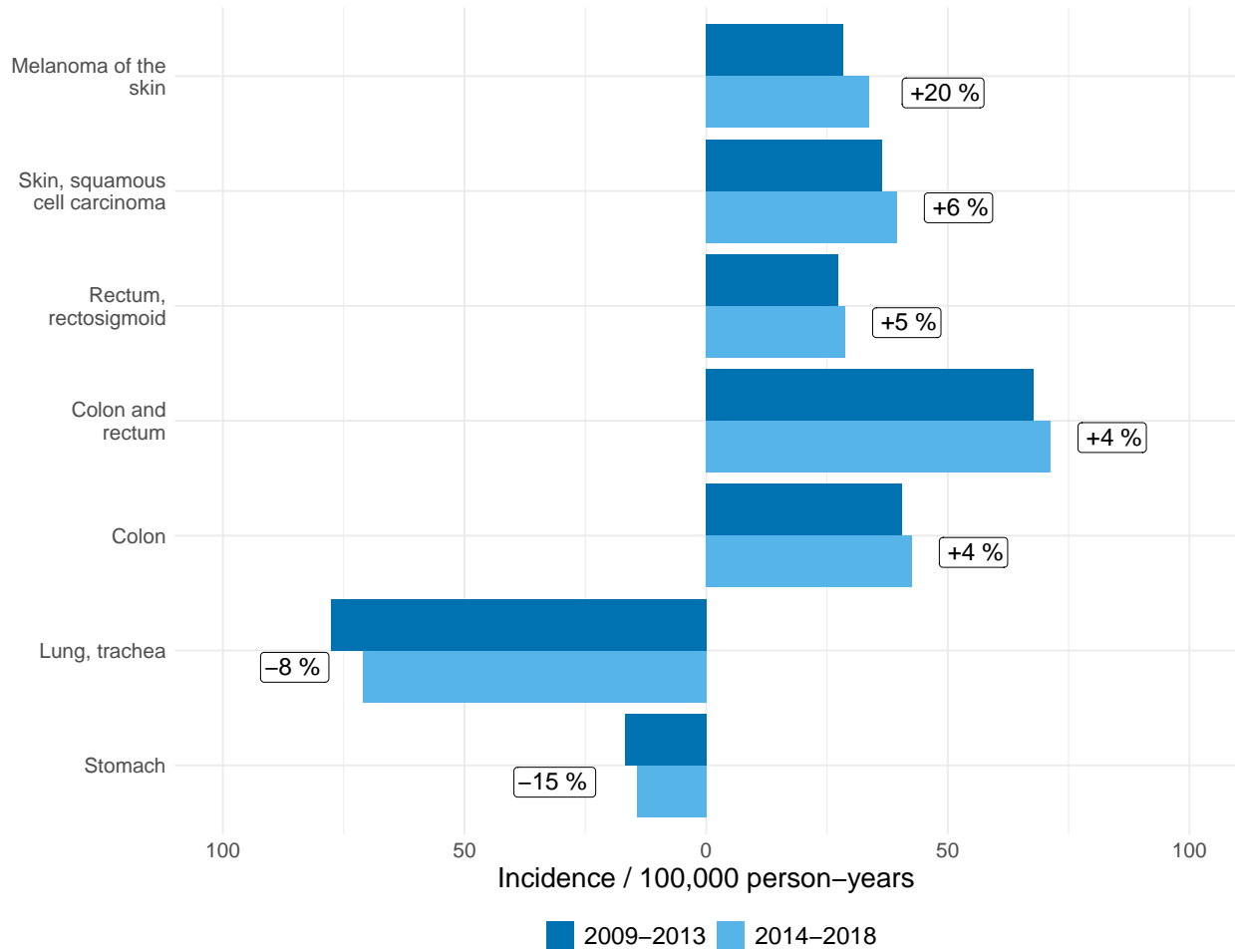
The average cancer mortality for women in 2009-2013 was 187 per 100,000 person-years, compared to 180/100,000 in 2014-2018 (Table 10). Cancer mortality decreased by an average of 3% between the periods considered (95% confidence interval 5% - 1%). The average annual number of cancer deaths increased the most in lung and tracheal cancers (681 vs 784, 6% relative increase in mortality, Figure 24). Mortality decreased in breast cancer (29.5 vs 27.6/100,000, 5% decrease) and stomach cancer (7 vs 5.5/100,000, 18% decrease).

The average cancer mortality for men in 2009-2013 was 297 per 100,000 person-years, compared to 280/100,000 in 2014-2018 (Table 11). Cancer mortality decreased by an average of 6% between the periods considered (95% confidence interval 8% - 5%). Cancer mortality decreased in stomach cancer (19%, Figure 25), bladder and urinary tract cancers (14%), lung and tracheal cancers (13%) and prostate cancer (11%).



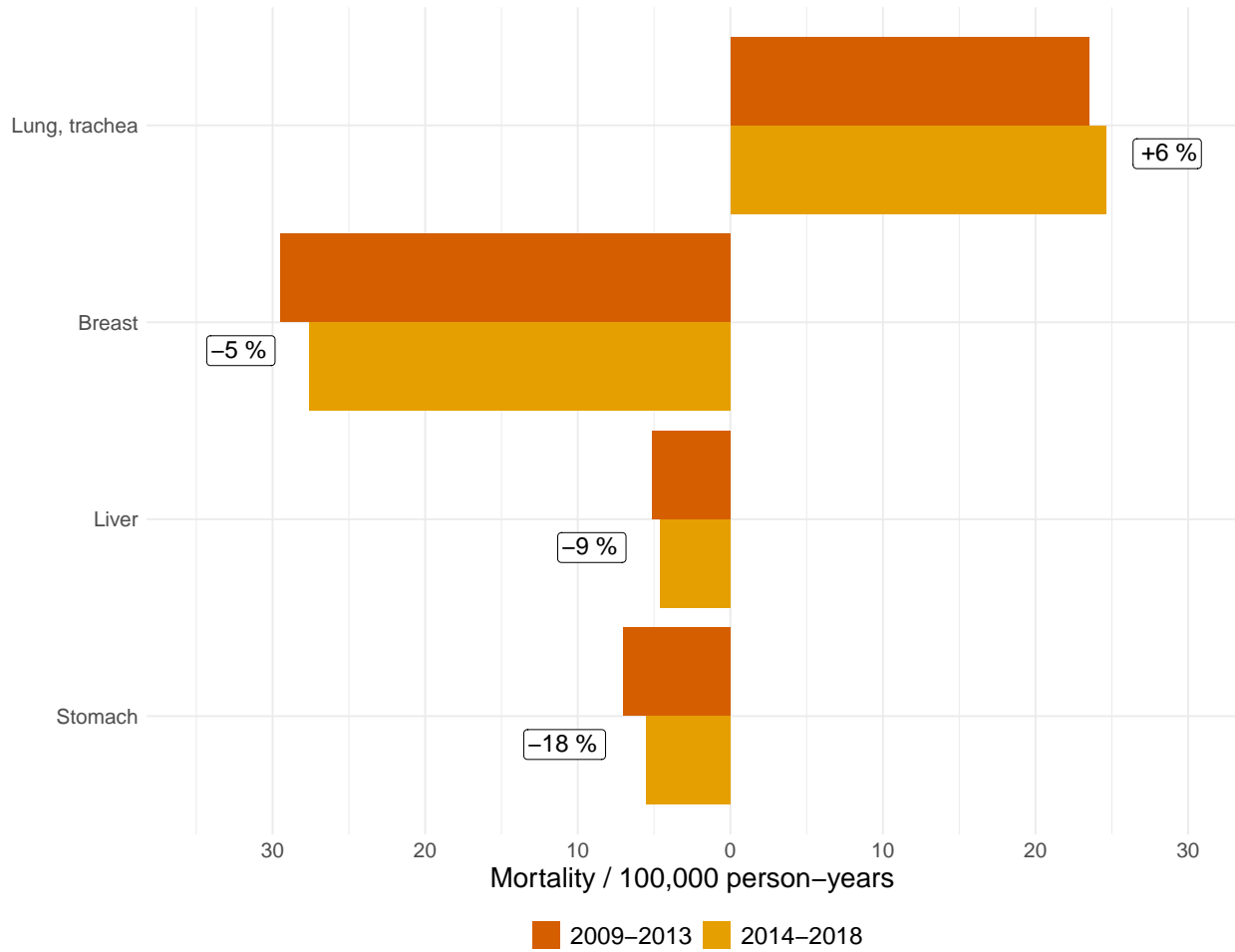
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Figure 22: Change in cancer incidence among women from 2009-2013 to 2014-2018. Included are cancers where the change was statistically significant and the average number of cases was at least 50 per year.



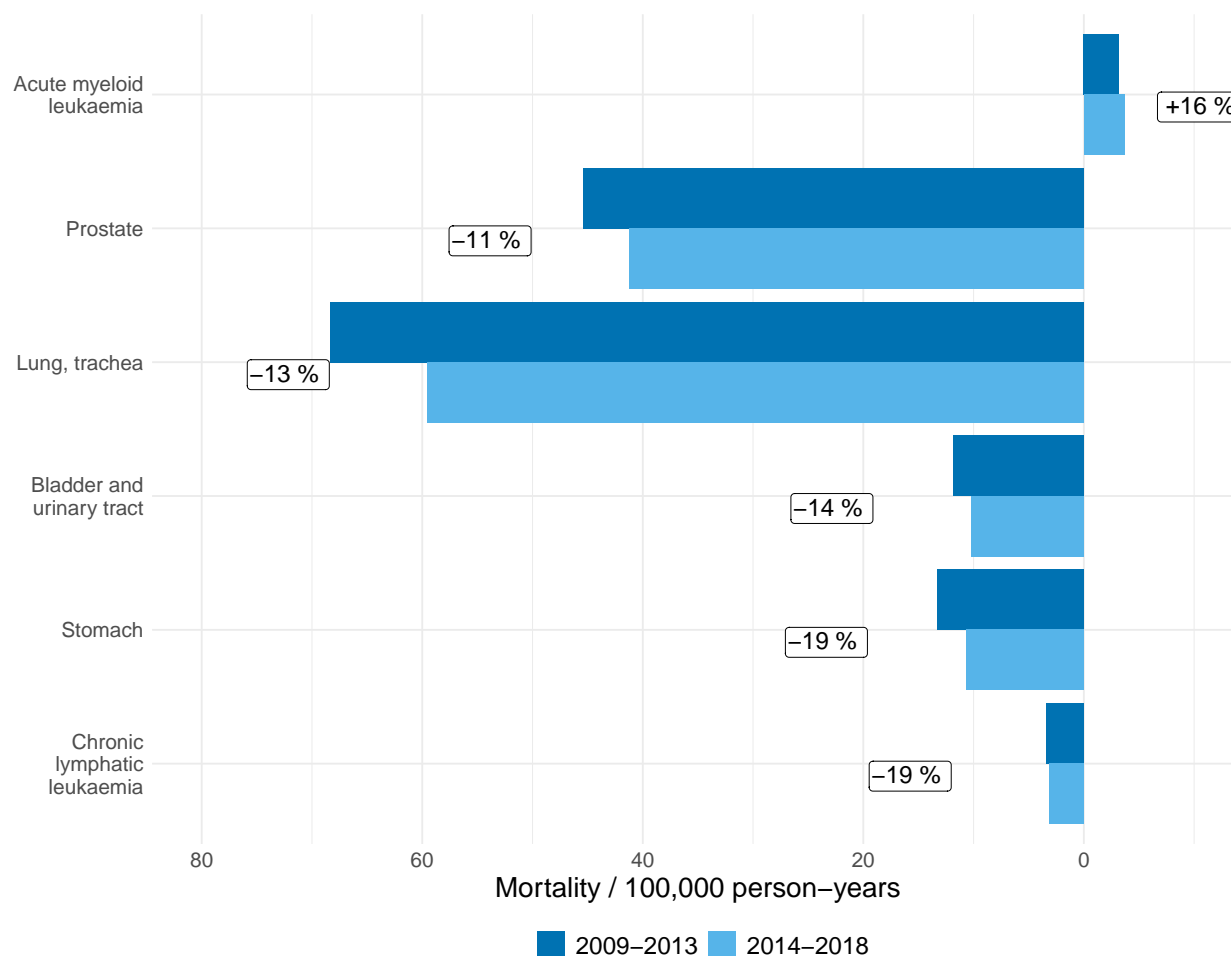
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Figure 23: Change in cancer incidence among men from 2009-2013 to 2014-2018. Included are cancers where the change was statistically significant and the average number of cases was at least 50 per year.



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Figure 24: Change in cancer mortality among women from 2009-2013 to 2014-2018. Included are cancers where the change was statistically significant and the average number of cases was at least 50 per year.



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Figure 25: Change in cancer mortality among men from 2009-2013 to 2014-2018. Included are cancers where the change was statistically significant and the average number of cases was at least 50 per year.

9.2 Long-term changes in incidence, mortality and survival

Figures 26-34 show the time series for the incidence and mortality of cancer and the five-year relative survival of patients in line with the ICD-10 classification. The change in incidence and mortality since the beginning of the 1990s is presented in Tables 12-15. The change is shown as the average annual percent change (%). If there has been a statistically significant change, separate percentages are presented for two consecutive calendar periods.

1. **Lip:** In men, incidence and mortality have decreased and so too has the difference between them. The survival ratio has remained above 90%, in particular in recent years. In women, both incidence and mortality have remained low, and the survival ratio is over 80%. (Figure 26)
2. **Pharynx:** Incidence has increased among women and especially among men, but mortality has remained at the same level. The survival ratio has increased steadily since the 1990s and is currently about 60%. (figure 26)
3. **Oesophagus:** Incidence and mortality decreased until the early 2000s. The survival ratio has increased slowly and is currently about 20% in women and 15% in men. (figure 26)
4. **Stomach:** Incidence and mortality have decreased throughout the time series. The survival ratio has remained at around 30% in women and around 25% in men during the 2000s. (figure 27)
5. **Colon and rectum:** Incidence has increased in women and especially in men. Mortality has decreased since the 1990s. The survival ratio has increased and is currently around 65%. (figure 27)
6. **Liver:** Incidence and mortality have increased, more so in men than in women. The survival ratio has remained

- below 10%. (Figure 27 E and F) (figure 27)
7. **Gallbladder, bile ducts:** Incidence increased until the 1980s and has decreased since then, especially among women. The survival ratio has increased slowly and is currently nearly 15%. (kuva 28)
 8. **Pancreas:** Incidence and mortality have remained at the same level since the 1980s in both women and men. The survival ratio is currently above 5%. (kuva 28)
 9. **Larynx, epiglottis:** Incidence has decreased in men since the 1970s. In women, the incidence has remained at the same level and is still considerably lower than in men. The survival ratio has long been steady at around 60%. (kuva 28)
 10. **Lung, trachea:** In women, incidence and mortality have increased throughout the period considered. In men, the increase started to decline at the end of the 1970s. The incidence in men is still almost twice as high as the incidence in women. The survival ratio has increased in the 2010s by more than 15% in women and by more than 10% in men. (kuva 29)
 11. **Breast, women:** Incidence has increased throughout the period considered. Mortality began to fall in the 1990s. The survival ratio is currently above 90%. (kuva 29)
 12. **Prostate:** Incidence has increased. The increase accelerated in the 1990s, with the highest incidence recorded in 2004. Currently, the incidence is at the same level as in the mid-1990s. Mortality began to fall in the 1990s. The survival ratio has increased and has remained above 90% since the 2010s. (kuva 29)
 13. **Cervix uteri:** Incidence decreased from the 1960s until the 1990s and has remained at the same level since then. The decrease in mortality has continued in the 2000s. The survival ratio is currently around 70%. (kuva 29)
 14. **Corpus uteri:** Incidence increased until the turn of the century and then began to fall slightly. Mortality has remained at the same level. The survival ratio increased until the early 2000s and is currently above 80%. (kuva 29)
 15. **Ovary, etc.:** Incidence and mortality increased until the 1990s and then began to decrease. The survival ratio has remained steady at 55% during the 2000s. (kuva 30)
 16. **Testis:** Incidence has increased sharply since the 1980s. The mortality and the survival ratio have remained at the same level since the 1990s. The survival ratio is currently around 95%. (kuva 30)
 17. **Kidney:** In women, the incidence has remained at the same level and mortality has declined since the 1990s. In men, the incidence increased until the late 1990s. In the 2000s, the incidence in men first declined and then began to rise again. The changes in mortality in men are similar to those observed in women. The survival ratio has continued to grow in the 2000s and is currently around 70% for women and 65% for men. (kuva 30)
 18. **Bladder and urinary tract:** In women, the incidence has remained at the same level since the 1990s. In men, the incidence increased and reached its peak in the mid-1990s. After that, the incidence in men first declined and later began to rise again. Mortality has decreased since the 1970s for both sexes. The survival ratio has increased and is currently about 70% in women and 75% in men. (kuva 30)
 19. **Melanoma of the skin:** Incidence has increased in both sexes throughout the observation period and particularly in the 2000s. In women, the mortality has remained at the same level since the 1970s. The mortality in men has increased, but considerably more moderately than the incidence. The survival ratio is currently around 90%. (kuva 31)
 20. **Skin squamous cell carcinoma:** Incidence in women has increased steadily since the 1980s. In men, the increase has accelerated in the 2000s. Mortality has remained very low, and the survival ratio has remained at around 90%. (kuva 31)
 21. **Glioma:** Incidence has increased throughout the observation period. Mortality increased until the 1990s and has since remained at the same level. The survival ratio has increased slowly and is currently about 35% in women and 30% in men. (kuva 31)
 22. **Meningeoma:** Incidence increased in both women and men until the 2000s. The incidence in women is more than double that of men. Mortality has been low and has declined further since the 1990s. The survival ratio has increased and is currently around 95%. (kuva 32)
 23. **Thyroid gland:** Incidence has increased in both sexes and particularly in the 2000s. The incidence in women is more than double that of men. In women, the mortality has declined further since the early 1990s. In men, the mortality has remained at the same level since the early 1990s. The survival ratio is currently around 95% for women and slightly under 90% for men. (kuva 32)
 24. **Soft tissues:** Incidence increased in women until the 1990s. In men, the incidence has increased throughout the observation period. There have been no changes in mortality in either sex. The survival ratio is currently around 60%. (kuva 32)

25. **Hodgkin lymphoma:** Incidence has remained at the same level since the early 1990s, but mortality continued to decline in the 1990s. The survival ratio has increased and stabilised at around 85% in the 2000s. (kuva 33)
26. **Myeloma and other plasma cell tumors:** Incidence and mortality increased until the late 1980s for both sexes. Since then, the incidence has remained at the same level but mortality has decreased. The survival ratio increased in the 2000s and is currently around 40%. (kuva 33)
27. **Acute lymphoblastic leukaemia/lymphoma:** Incidence has remained at the same level and mortality has decreased since the 1980s in both women and men. The survival ratio has increased significantly and is currently over 70%. (kuva 33)
28. **Chronic lymphatic leukaemia:** Incidence and mortality have decreased since the 1980s in both women and men. The survival ratio has increased steadily and is currently around 75%. (kuva 34)
29. **Acute myeloid leukaemia:** Incidence has remained at the same level since the 1980s, but mortality has declined. The survival ratio has increased considerably since the 1980s and is currently around 20%. (kuva 34)
30. **Chronic myeloid leukaemia:** Incidence and mortality have decreased throughout the observation period for both sexes. The increase in the survival ratio was particularly high in the 2000s and the rate is now over 70%. (kuva 34)

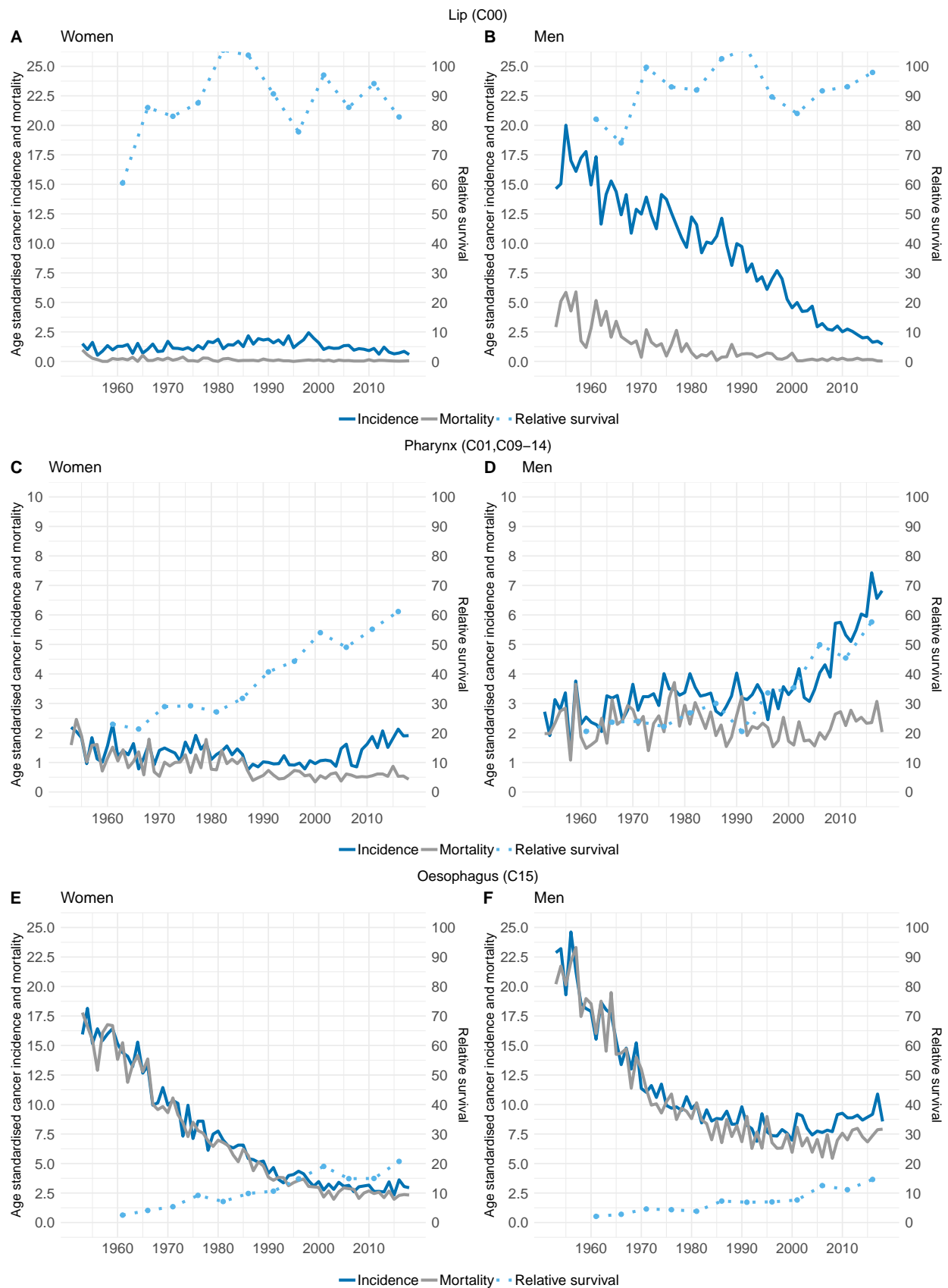


Figure 26: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

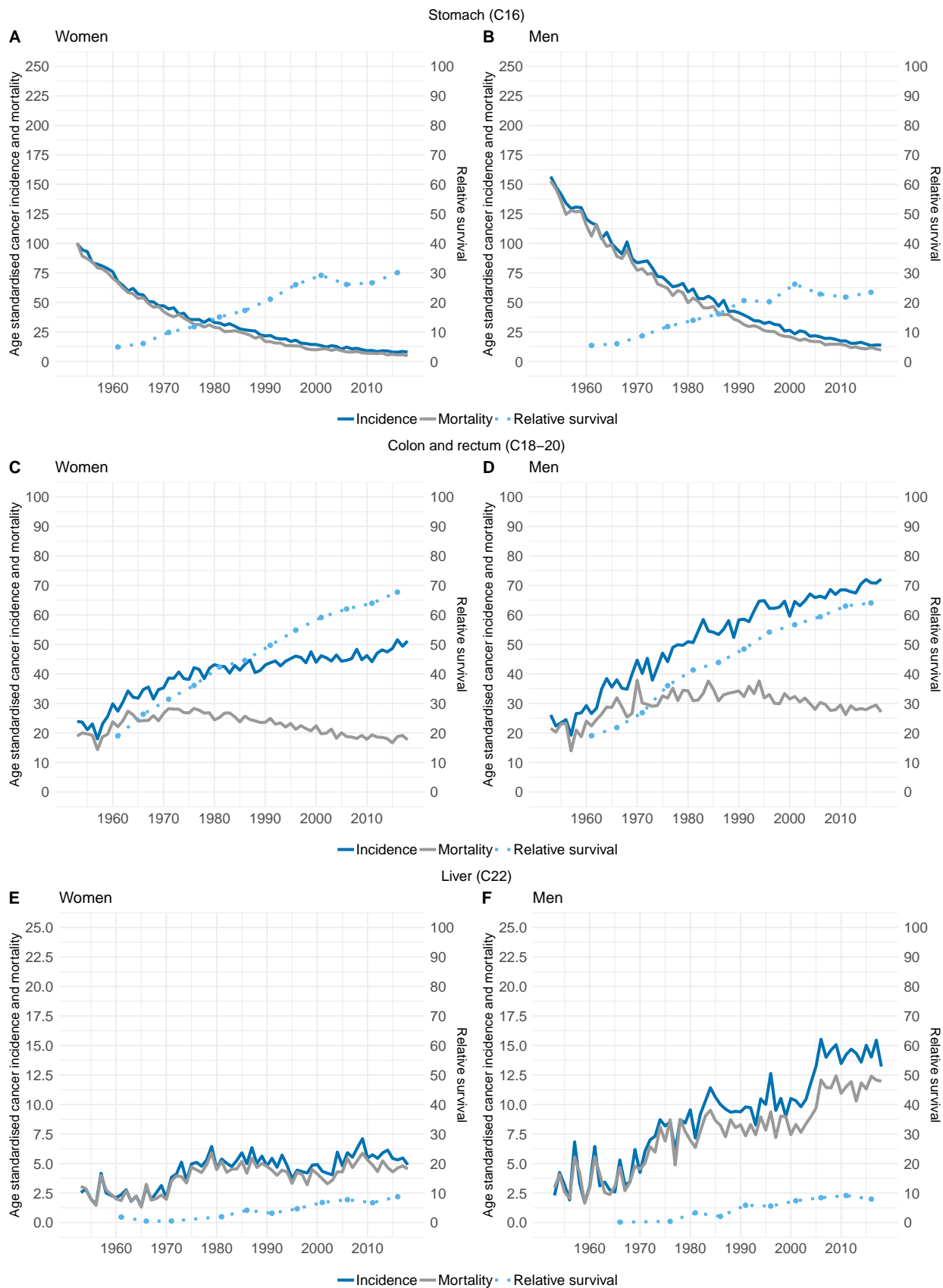


Figure 27: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

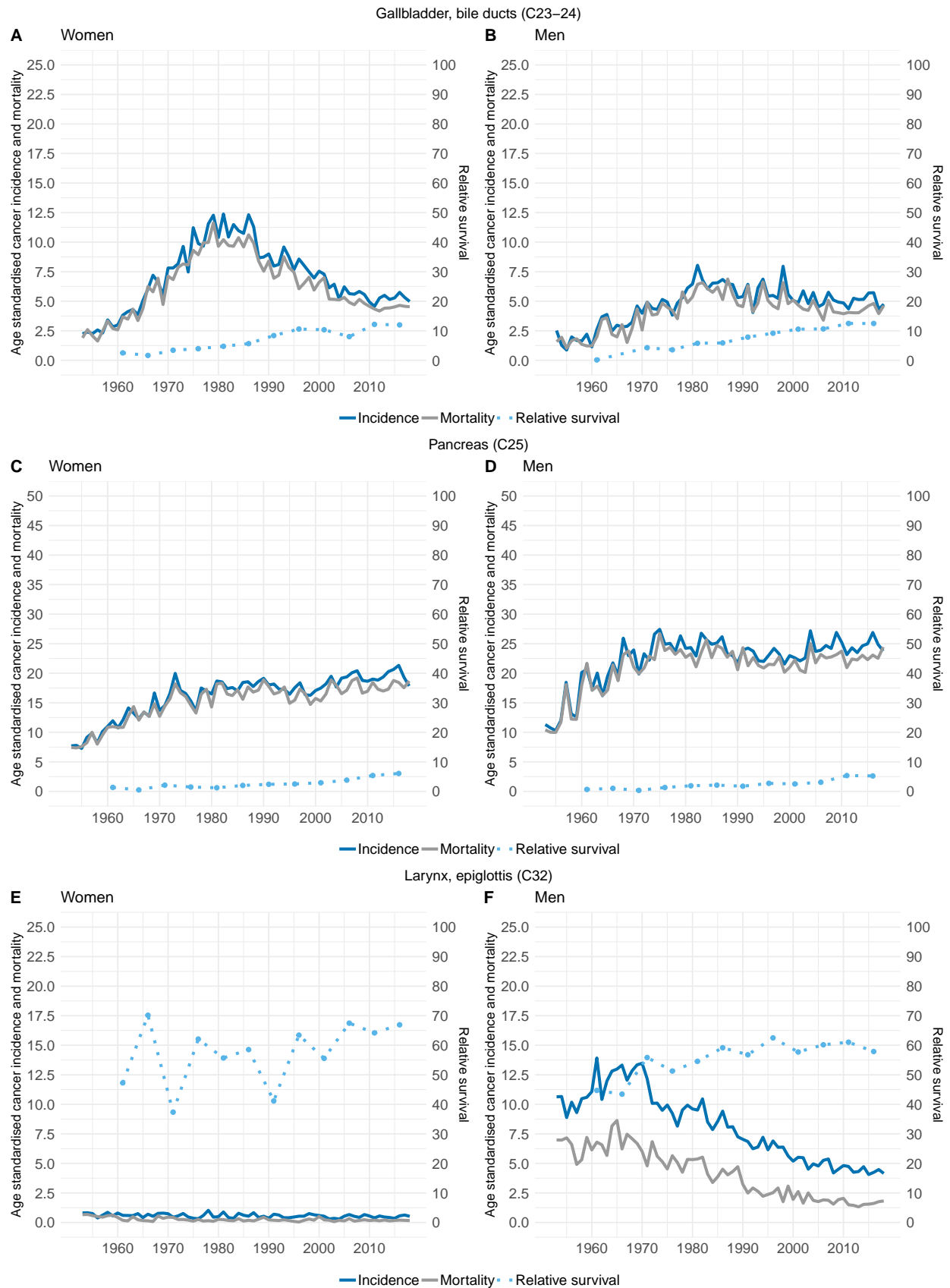


Figure 28: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

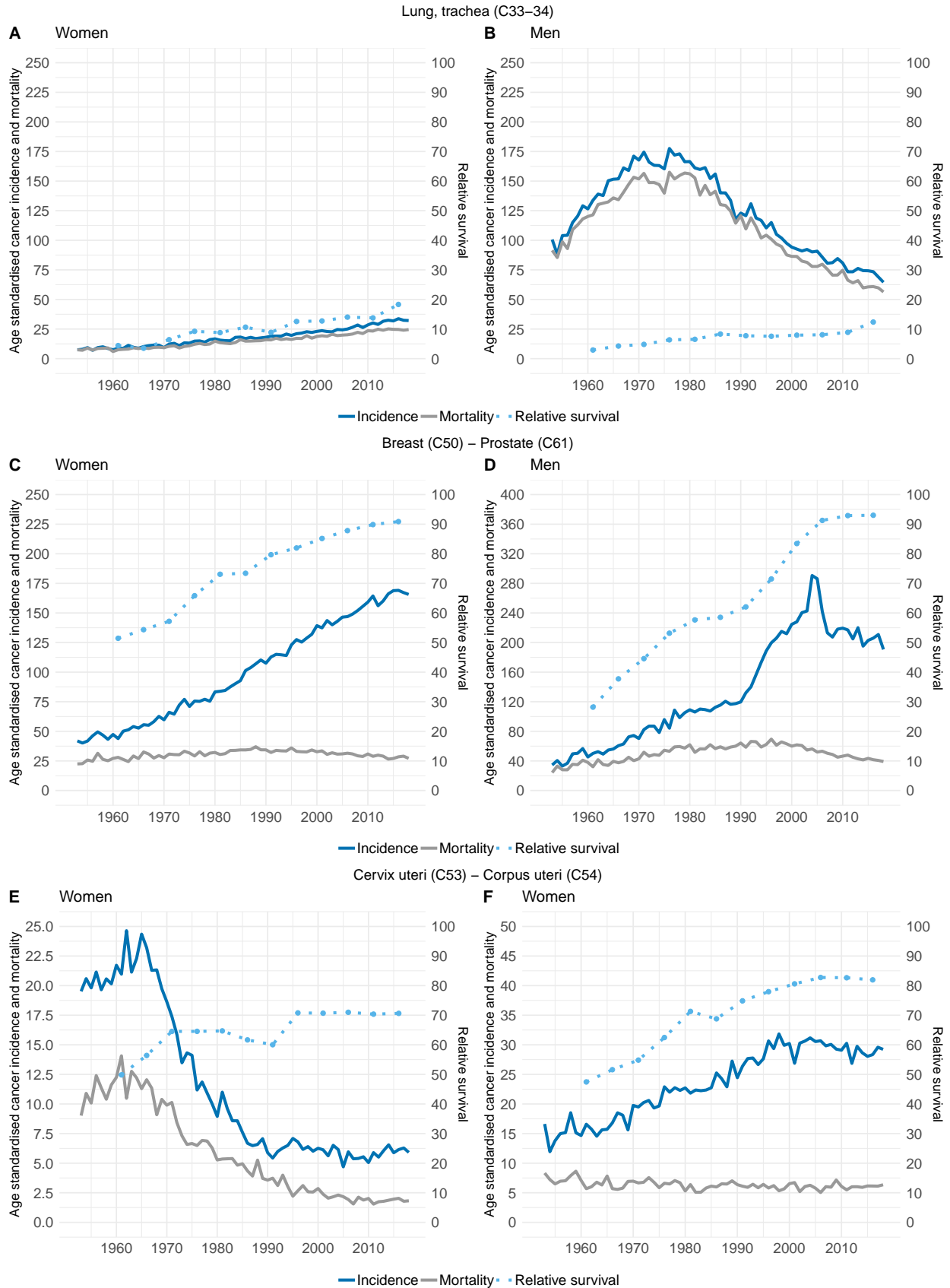


Figure 29: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

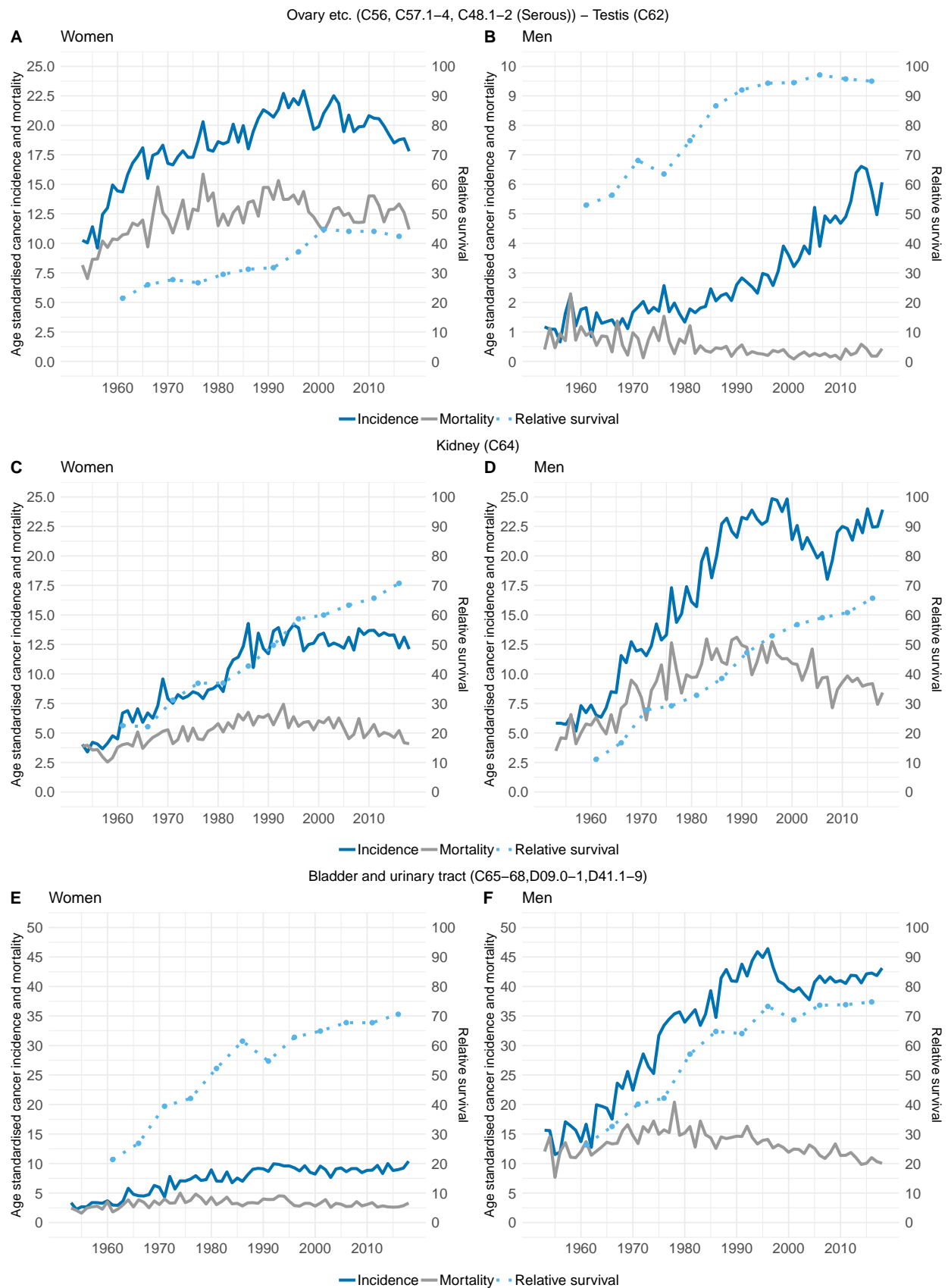


Figure 30: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

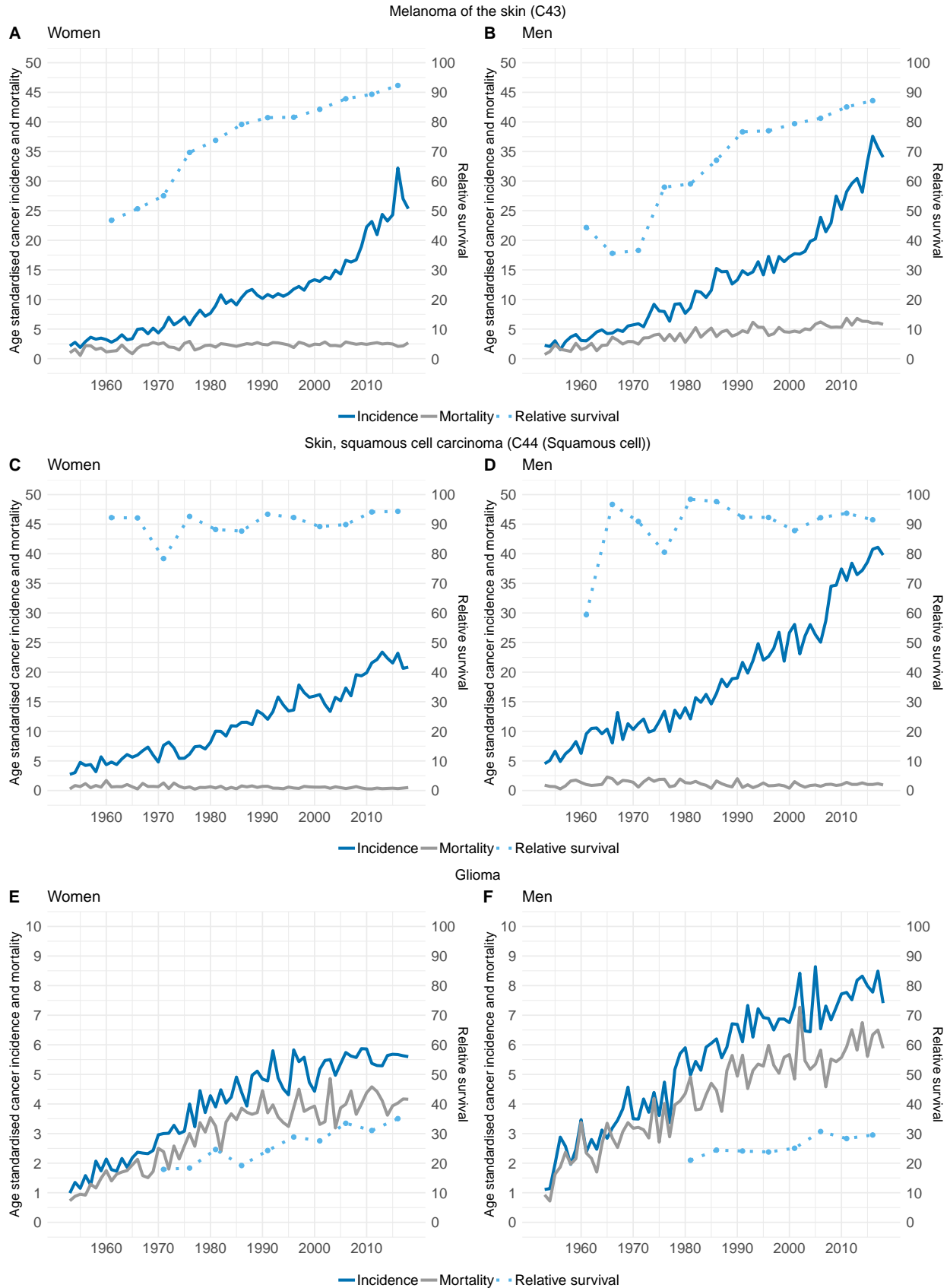


Figure 31: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

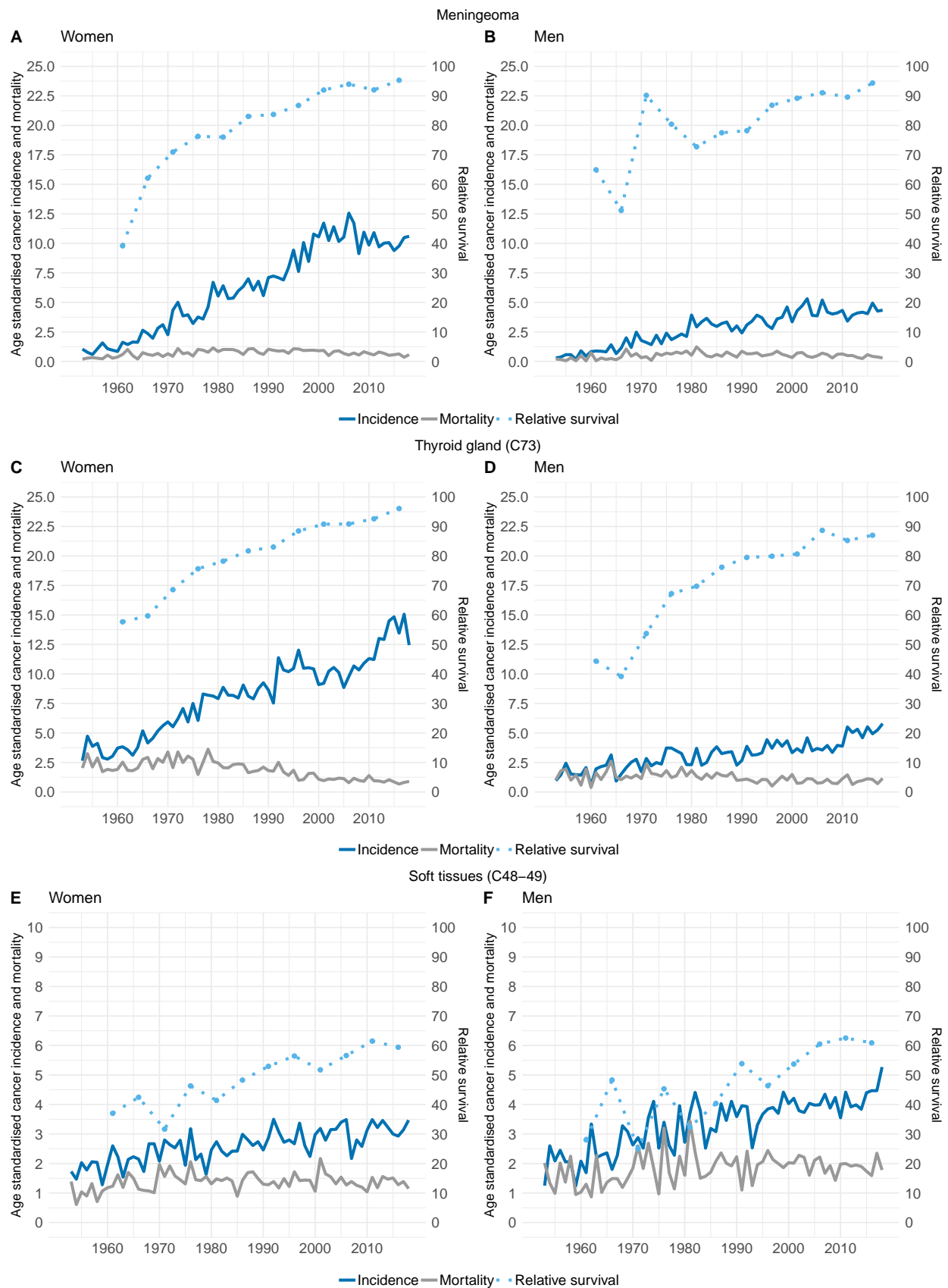


Figure 32: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

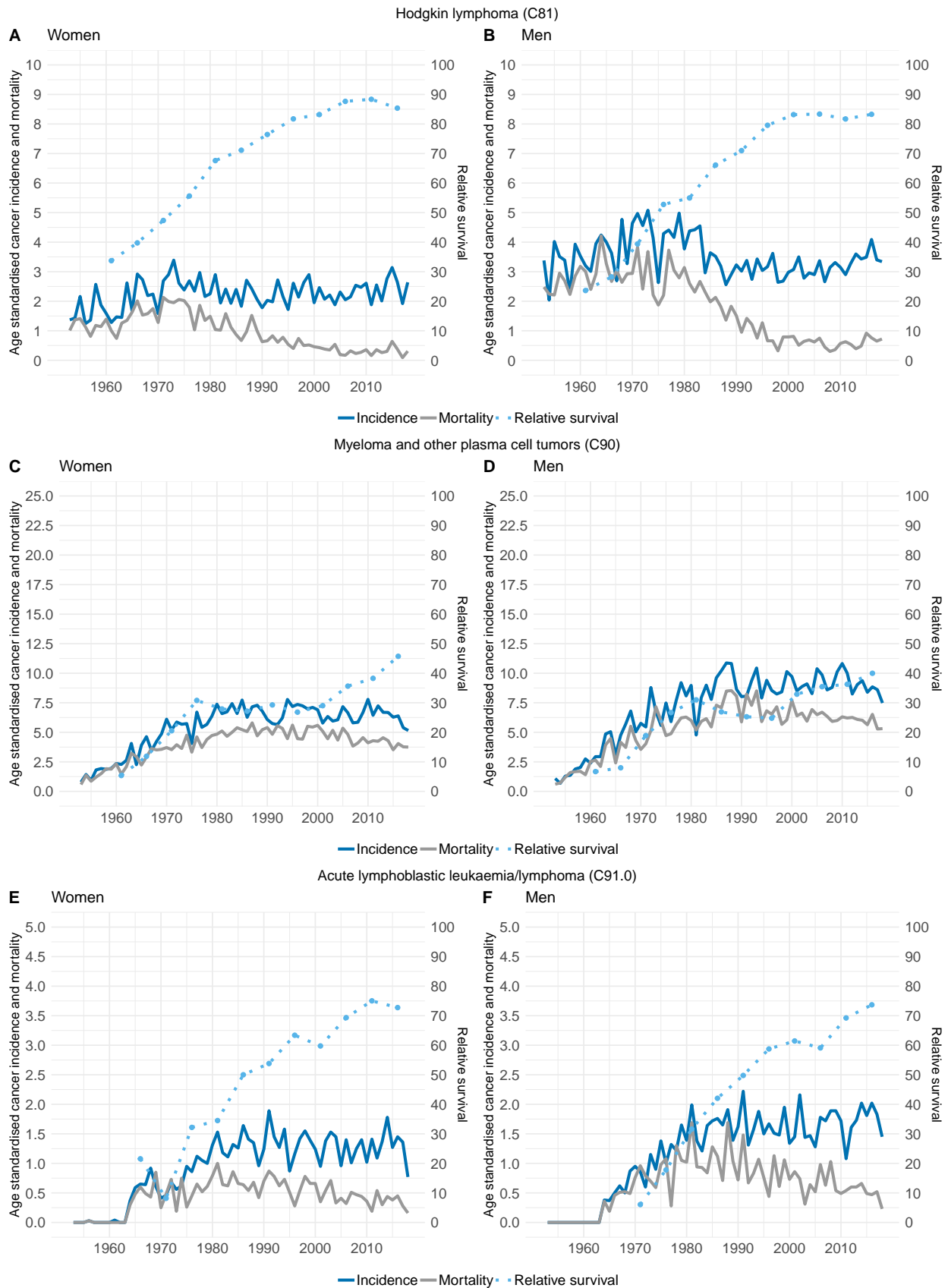


Figure 33: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

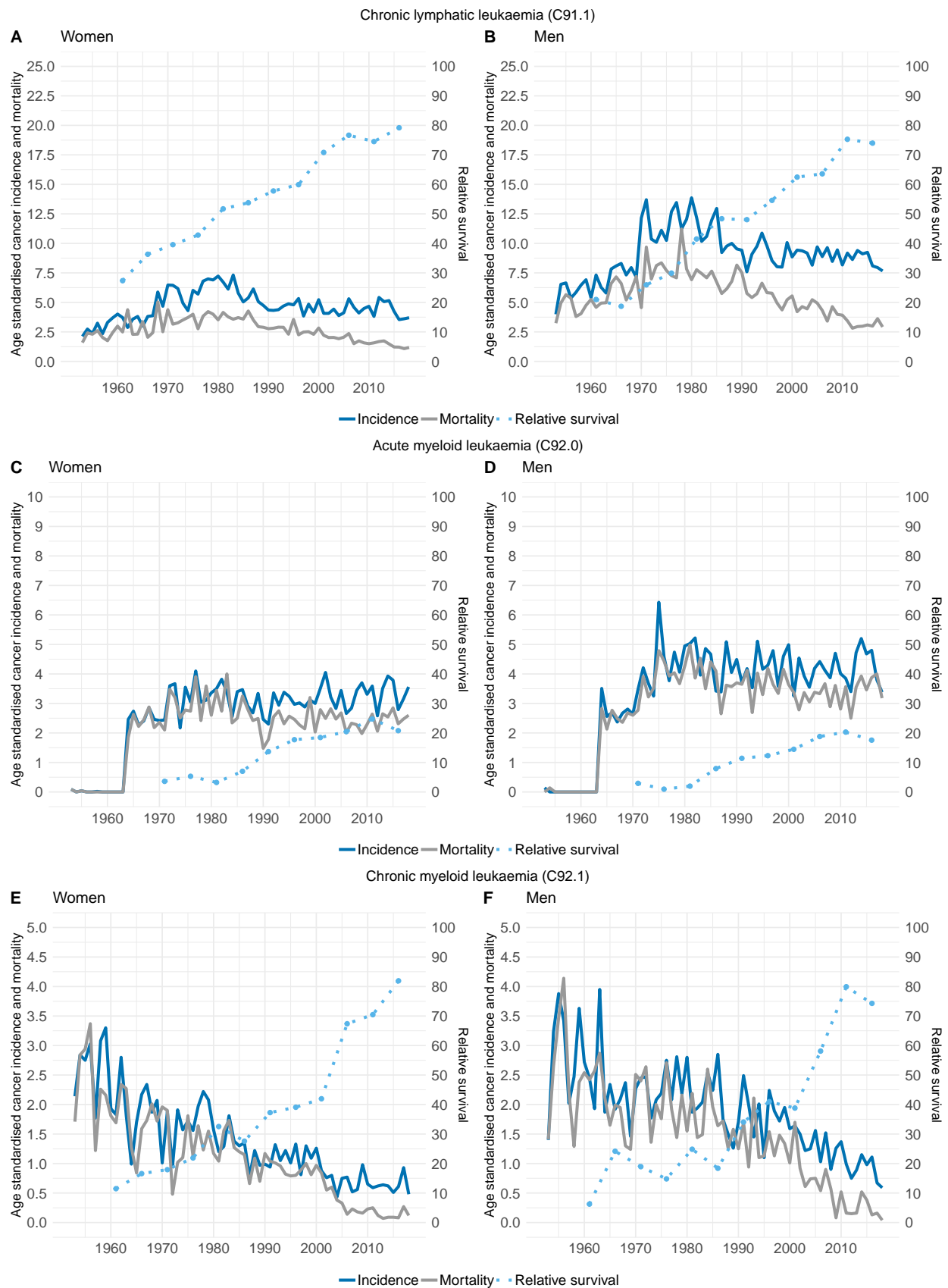


Figure 34: Cancer incidence and mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) and age standardised five-year relative survival ratio (%) by sex in 1953–2018.

10 Predictions

The predicted number of new cancer cases diagnosed in 2035 is approximately 46 100 (Table 3). The annual number of cases is projected to increase by 34% compared to the 34,372 cases diagnosed in 2018. The increase is due mainly to population ageing. The number of cancer cases in persons aged 75 and over will almost double from 12 402 cases to 23 700 cases (Figure 35). The number of cases in persons under 75 (21 969 cases in 2018) will remain almost unchanged in the coming years. The age standardised incidence of cancer is expected to increase by 8%: 10% in women and 6% in men.

The prediction for prostate cancer is not based on a model that utilises the observed trend, as the irregular incidence trend caused by increasingly common PSA testing is not suitable as a basis for the model. The prostate cancer prediction assumed that the incidence in each age group would remain at the same level as in 2014-2018. In prostate cancer, the number of cases will increase from 5 016 to 6 660 (Figure 37 and Table 3). In breast cancer, the increase from 4 934 to 5 990 cases (21% increase, Figure 37 and Table 3) is more moderate than in prostate cancer (33%), as the incidence of breast cancer stops increasing after the age of 65. The incidence of prostate cancer increases with age and is at its highest at 80 years of age.

Looking at the most common cancers types, the number of skin melanoma cases will increase proportionally the most (60%, Figure 36 and Table 3). The exceptionally large increase is due to a strong increase in age standardised incidence of melanoma of the skin, and the increase is projected to continue (by 35% from 2018 to 2035, Table 3).

The prediction of the incidence of lung cancer shows a clear difference between men and women (Figure 36 and Table 3). An increase of 9% in the age standardised incidence in women means that lung cancer will continue to become more common. The number of cases in women is projected to increase by 43%. Although lung cancer will become less common in men and the age standardised incidence is predicted to decrease by 14%, the number of cases will still increase by around 10%.

According to the prediction, age standardised cancer mortality will continue to decrease (Table 3). The mortality from all cancers combined will decrease on average by 12% from 2018 to 2035: 9% in women and 14% in men. In 2035, a total of 15 800 people will die from cancer, which is 24% more than in 2018. In the case of the cancer types with the highest incidence, the mortality will decrease the most for lung cancer in men (27%) and for breast cancer in women (19%). The mortality due to lung cancer will decrease by an average of 4% also in women, but the prediction varies by age group. Mortality will decrease by 19% in persons aged under 65 and by 24% in persons aged 65-74. In women aged 75 and over, however, the mortality due to lung cancer will increase by 20%.

Table 3: Prediction of the number of new cancer cases, the age standardised incidence, the number of cancer deaths and the age-standardised mortality in 2035 as well as the relative change (in percentages) from 2018 for all cancers and the seven most common cancer type groups. The prediction for lung cancer is presented by sex.

Cancer type	ICD-10	Number of cases		Incidence		Deaths from cancer		Mortality	
		Number	Change	Rate ¹	Change	Number	Change	Rate ¹	Change
All sites together	C00-96,D09.0-1,D32-33,D41-43,D45-47,D76	46 100	34 %	652	8 %	15 800	24 %	197.0	-12 %
Prostate	C61	6 660	33 %	201	5 %	1 310	44 %	33.0	-17 %
Breast (women)	C50	5 990	21 %	179	8 %	924	6 %	22.0	-19 %
Colon and rectum	C18-20	4 970	40 %	68	11 %	1 780	38 %	21.5	-2 %
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	3 410	42 %	47	11 %	1 030	22 %	12.5	-18 %
Melanoma of the skin	C43	2 660	60 %	40	35 %	291	25 %	3.5	-11 %
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	1 940	34 %	26	-2 %	480	34 %	6.0	-14 %
Lung, trachea (men)	C33-34	1 880	10 %	56	-14 %	1 420	-4 %	41.0	-27 %
Lung, trachea (women)	C33-34	1 480	43 %	35	9 %	1 040	28 %	23.0	-4 %

¹ per 100 000 person-years and age-standardised to the population of Finland in 2014

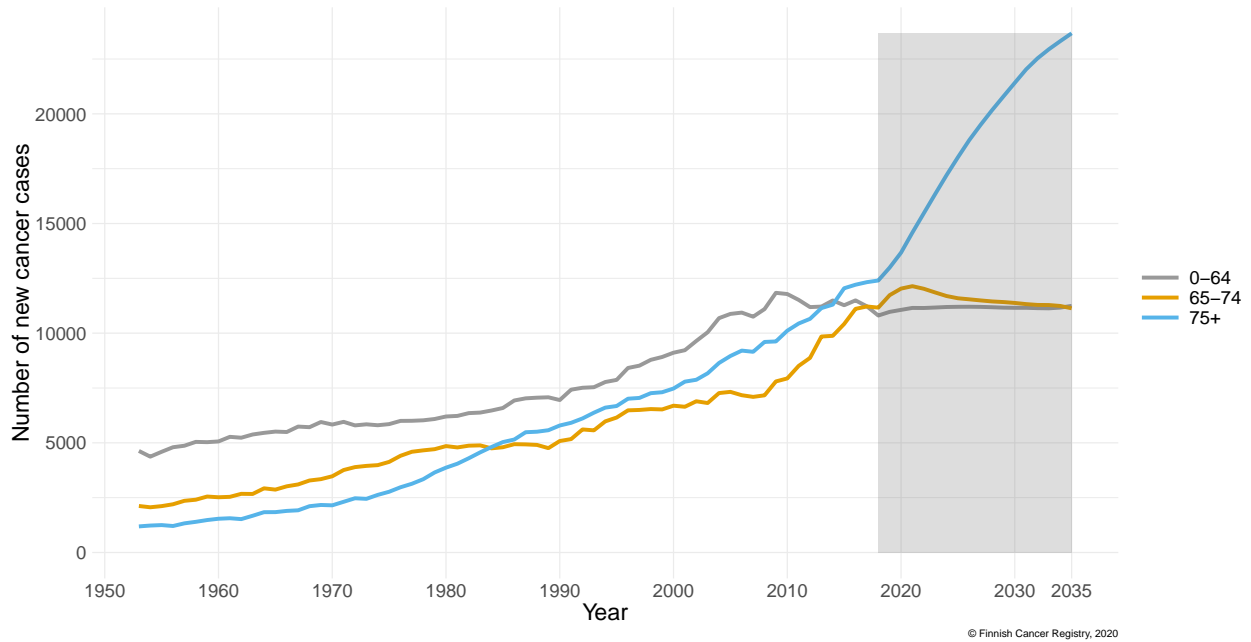


Figure 35: Annual number of new cancer cases diagnosed in 1953–2018 and the projected development until 2035 in the most common cancer types. The prediction of the number of cases of lung cancer is presented by sex.

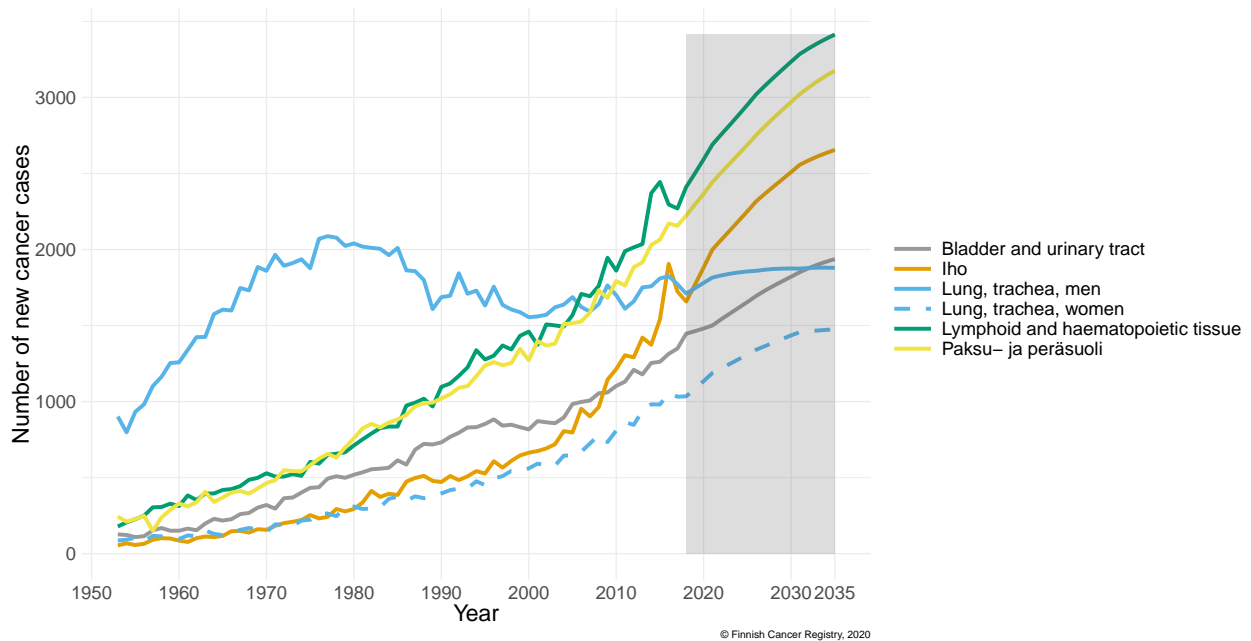


Figure 36: Annual number of new cancer cases diagnosed in 1953–2018 and the projected development until 2035 in the most common cancer types. The prediction of the number of cases of lung cancer is presented by sex.

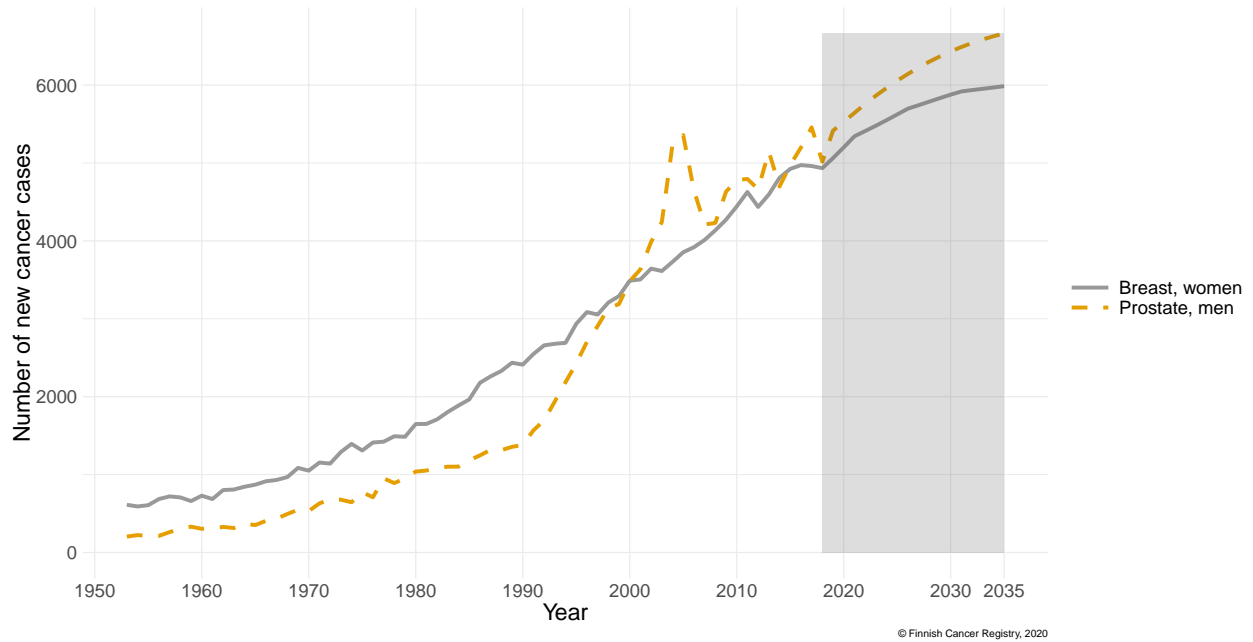


Figure 37: The annual number of new cases of breast cancer in women and prostate cancer diagnosed in 1953–2018 and the projected development until 2035.

II Educational level and cancer burden

In the statistics presented by level of education, the population was divided into three groups according to the highest degree obtained (see Statistical methods, definitions). Figures 38 - 41 show the age standardised cancer incidence and cancer mortality rates for women and men aged over 25 per 100,000 person-years by level of education. In terms of incidence, the analysis included the ten most common cancer types. In terms of mortality, it included the ten cancer types with the highest mortality rates. In the case of women, the examination also covered cervical cancer and liver cancer, which have previously been found to differ in incidence or mortality by level of education.

II.1 Cancer incidence by level of education

In women, the differences between educational levels in the incidence of cancer (Figure 38) were proportionally greatest for lung and tracheal cancer. The incidence of lung and tracheal cancer at the basic education level was more than double the incidence at the tertiary education level (64.9 vs. 30.1, risk ratio (RR) at basic level 2.18, 95% confidence interval [2.01, 2.37]). The differences in the incidence of melanoma of the skin were also almost double, albeit in the opposite direction. The incidence was highest at the tertiary level (45.4) and lowest at the basic level (24.7, RR 0.6 [0.55, 0.65]) compared to those with a higher education. There were also marked, statistically significant differences between educational levels in the incidence of cervical, liver and breast cancer. The incidence of cervical and liver cancer was highest at the basic level (12.3 and) and lowest among the highly educated (6.6 and 5.2). The RR of cervical cancer was 1.88 [1.56–2.27] and the RR of liver cancer was 1.77 [1.45–2.16] at the basic level compared to those with a higher education. The incidence of cervical and liver cancer among those with basic-level qualifications was therefore almost double that of those with a tertiary level education.

Breast cancer, on the other hand, was more common among those with a tertiary level education (269.1) than among those with a basic education (). At the basic level of education, the RR of breast cancer was 0.78 [0.76–0.81] compared to those with a higher education. At the basic level of education, therefore, the incidence of breast cancer was approximately one-fifth (22%) lower than among those with a higher education. The differences in the incidence of colorectal cancer were very small, though the incidence was approximately 7% higher at the basic level (71.2) than at the tertiary level (66.1), RR 1.07 [1.01–1.14].

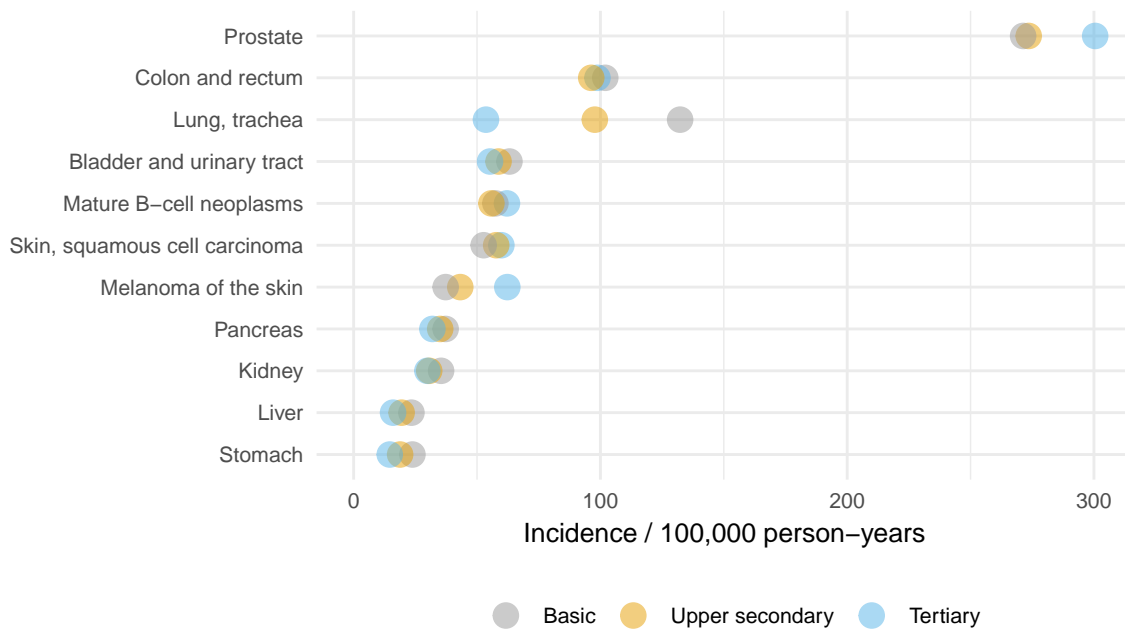
In men, the greatest differences in the incidence of cancer between levels of education were found in lung and tracheal cancer (Figure 39). The incidence of lung and tracheal cancer at the basic education level was more than 2.5 times higher than the incidence among highly educated people (132.3 vs 53.6, RR at basic level 2.54 [2.38–2.71] compared to the tertiary level). The incidence of stomach cancer was also significantly higher in persons with a basic education than in persons with a higher education. The incidence was 23.8 at the basic level and 14.6 at the tertiary level (RR 1.63 [1.44–1.86]). The incidence of melanoma of the skin, on the other hand, was 40% lower among those with a basic level of education than among those with a higher education (37.3 vs 62.3, RR 0.61 [0.57–0.66]). Prostate cancer was also less common at the basic level than at the tertiary level (271.3 vs 300.5, RR 0.90 [0.87–0.93]).

The incidence of liver cancer was highest among those with a basic-level education (23.4) and lowest at the tertiary level of education (16). That is, the incidence was almost 1.5 times higher at the basic level than at the tertiary level (RR 1.46 [1.29–1.65]). The differences in the incidence of colorectal cancer between the basic and tertiary education levels were small and not statistically significant (102 at basic level and 98.8 at tertiary level, RR 1.02 [0.97–1.08]).



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Figure 38: Incidence of cancer in women (per 100,000 person-years and age standardised to the 2014 Finnish population) in the population aged over 25 by level of education.



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Figure 39: Incidence of cancer in men (per 100,000 person-years and age standardised to the 2014 Finnish population) in the population aged over 25 by level of education.

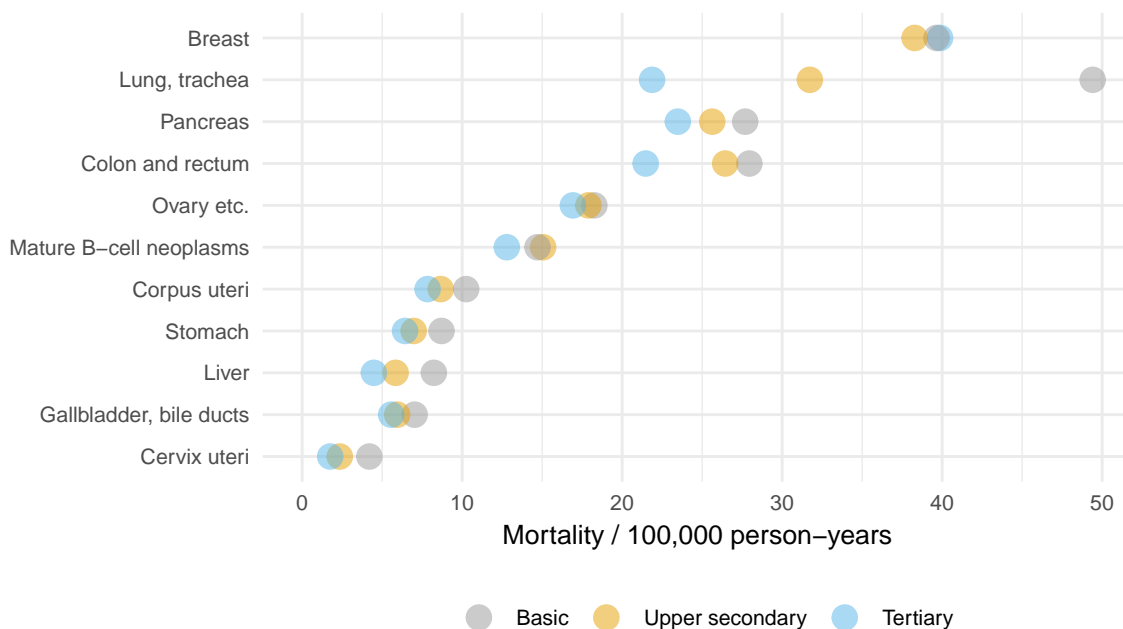
11.2 Cancer mortality by level of education

Cancer mortality also showed differences between educational levels. In women, the mortality rate was highest at the basic level of education for all cancers included in the analysis, with the exception of breast and ovarian cancer, where the mortality was at the same level at all levels of education (Figure 40). The highest statistically significant difference was observed in cervical cancer where the mortality was almost 2.5 times higher among those with a basic level of education than among those with a higher education (4.2 vs 1.8, RR 2.41 [1.72–3.37]). The difference was also significant in lung and tracheal cancer, where the mortality at the basic level was more than double the mortality at the tertiary level (49.4 vs 21.9, RR 2.28 [2.07–2.51]).

In the mortality of liver cancer, the difference between the basic and the tertiary education level was almost double (8.2 at basic level vs 4.5 at tertiary level, RR 1.81 [1.45–2.25]).

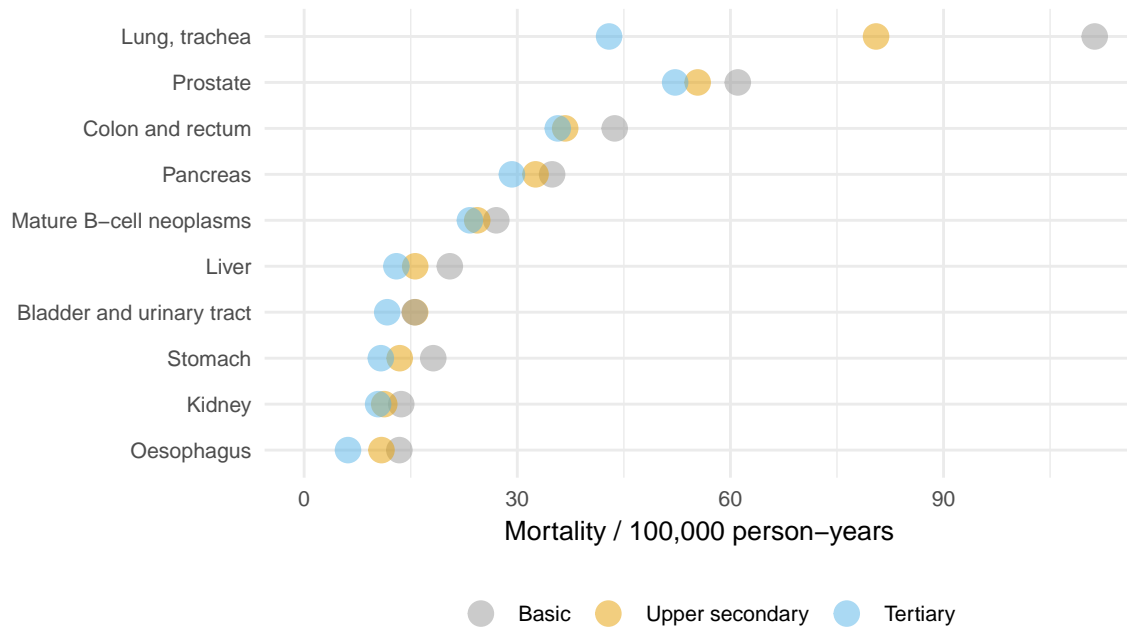
The difference in stomach cancer mortality rates was also relatively high. The mortality rate at the basic education level was approximately 37% higher than at the tertiary level (8.7 vs 6.4, RR 1.37 [1.14–1.66]). As for colorectal cancer, the mortality was approximately 27% higher at the basic level than at the tertiary level (27.9 vs 21.5, RR 1.27 [1.14–1.41]).

In men, the mortality rate was highest at the basic and lowest at the tertiary level of education for all cancer types examined (Figure 41). The difference was particularly marked in lung and tracheal cancer, where the mortality in men with basic-level qualifications was more than 2.5 times higher than in men with a tertiary-level education (111.3 vs 42.9, RR 2.72 [2.54–2.93]). The difference in mortality was also significant in oesophageal cancer, where the mortality at the basic level was more than double the mortality at the tertiary level (13.4 vs 6.2, RR 2.10 [1.75–2.53]). The stomach cancer mortality rate was 70% higher at the basic level of education than at the tertiary level (18.2 vs 10.8, RR 1.70 [1.46–1.98]). The difference in mortality was almost the same in liver cancer, where the incidence was 20.5 at the basic level of education and 13 at the tertiary level (RR 1.58 [1.38–1.82]). In colorectal cancer and prostate cancer, the mortality rate among those with a basic level of education was about one-fifth higher than among those with a tertiary level of education; 43.7 vs 35.7 (RR 1.23 [1.13–1.35]) in colorectal cancer and 61 vs 52.2 (RR 1.19 [1.10–1.28]) in prostate cancer.



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Figure 40: Mortality of cancer in women (per 100,000 person-years and age standardised to the 2014 Finnish population) in the population aged over 25 by level of education.



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Figure 41: Mortality of cancer in men (per 100,000 person-years and age standardised to the 2014 Finnish population) in the population aged over 25 by level of education.

12 Tables

12.1 Incidence, mortality and prevalence

Table 4: Number and age-standardised rate of new cancer cases and deaths in 2018 and number and age-standardised proportion of cancer survivors in the population on 31 December 2018, female

Cancer site	ICD-10	Incidence		Mortality		Prevalence	
		Number	Rate ¹	Number	Rate ¹	Number	Proportion ²
All sites together	C00-96, D09.0-1, D32-33 D41-43, D45-47, D76	16536	528.47	5927	176.31	163228	5156.1
Mouth, pharynx	C00-14	277	8.82	72	2.13	2602	81.2
Lip	C00	20	0.58	-	0.05	318	8.7
Tongue	C02	82	2.63	20	0.62	651	20.5
Salivary glands	C07-08	40	1.27	13	0.37	520	16.6
Mouth, other or unspecified	C03-06	78	2.42	22	0.66	688	21.1
Pharynx	C01, C09-14	57	1.91	15	0.43	454	15.2
Digestive organs	C15-26	3166	96.53	1913	56.09	17692	534.0
Oesophagus	C15	98	2.95	80	2.33	233	7.0
Stomach	C16	256	7.85	165	4.88	1478	44.5
Small intestine	C17	88	2.87	31	0.95	592	18.8
Colon and rectum	C18-20	1673	51.16	611	17.72	13873	415.3
<i>Colon</i>	C18	1139	34.45	411	11.77	9274	276.4
<i>Rectum, rectosigmoid</i>	C19-20	534	16.71	200	5.95	4695	141.6
Anus	C21	25	0.86	11	0.36	278	9.0
Liver	C22	163	4.90	151	4.54	224	7.0
Gallbladder, bile ducts	C23-24	167	4.98	155	4.53	347	10.4
Pancreas	C25	589	17.84	635	18.69	713	23.1
Digestive organs, other and unspecified	C26	107	3.12	74	2.08	83	2.6
Respiratory and intrathoracic organs	C30-39	1089	33.94	836	25.30	3015	94.0
Nose, sinuses	C30-31	19	0.63	9	0.29	162	5.2
Larynx, epiglottis	C32	16	0.52	5	0.16	152	4.7
Lung, trachea	C33-34	1035	32.20	812	24.57	2599	80.7
Other or unspecified respiratory or intrathoracic organs	C37-39	19	0.58	10	0.28	109	3.6
Breast	C50	4934	165.66	873	27.14	74001	2345.7
Female genital organs	C51-58	1871	60.00	774	23.54	22334	688.6
Cervix uteri	C53	169	5.91	57	1.82	2956	100.9
Corpus uteri	C54	920	29.23	211	6.35	12721	376.6
Ovary etc.	C56, C57.1-4, C48.1-2 (Serous)	549	17.81	361	11.18	5525	176.7
Vulva	C51	119	3.63	38	1.13	858	25.8
Vagina	C52	25	0.76	16	0.47	141	4.4
Placenta	C58	-	0.08	0	0.00	80	2.7
Female genital, other and unspecified	C55, C57.5-9	87	2.59	91	2.60	260	8.0
Urinary organs	C64-68, D09.0-1, D41.1-9	728	22.50	261	7.40	6423	193.4
Kidney	C64	381	12.11	142	4.09	3823	117.8
Bladder and urinary tract	C65-68, D09.0-1, D41.1-9	347	10.39	119	3.30	2625	76.3
Skin	C43-44	1581	47.89	115	3.39	16912	516.1
Melanoma of the skin	C43	766	25.33	88	2.68	10144	327.9
Skin, squamous cell carcinoma	C44 (Squamous cell)	755	20.84	19	0.50	6137	168.0
Skin, other	C44 (Other)	60	1.72	8	0.21	848	26.1
Eye	C69	21	0.70	13	0.42	463	14.9
Brain, meninges and central nervous system	C70-72, D32-33, D42-43	595	19.68	207	6.42	8358	274.2
Glioma	-	163	5.60	125	4.16	1441	52.0
Meningeoma	-	320	10.60	20	0.57	5433	172.9
CNS, nerve sheet tumor	-	35	1.24	-	0.02	1059	34.4
Other and unspecified tumor of brain, meninges and CNS	-	77	2.24	61	1.66	507	17.6
Endocrine glands	C73-75	387	13.65	35	1.04	8218	276.9
Thyroid gland	C73	352	12.44	30	0.89	7970	268.3
Adrenal gland	C74	29	1.02	5	0.15	199	7.0
Other endocrine glands	C75	6	0.20	0	0.00	57	1.9
Mesothelioma	C45	20	0.62	23	0.67	44	1.4
Bone	C40-41	15	0.50	12	0.36	398	13.7
Soft tissues	C48-49	105	3.47	40	1.15	1126	36.2
Peripheral nerves, autonomic nervous system	C47	-	0.07	-	0.03	112	4.0
Illdefined or unknown	C76, C80	250	6.97	182	4.93	693	21.5
Lymphoid and haematopoietic tissue	C81-96, D45-47, D76	1495	47.46	570	16.32	12892	417.6
Hodgkin lymphoma	C81	74	2.64	11	0.31	1558	56.0
Mature B-cell neoplasms	-	881	27.68	346	9.75	6244	193.2

Table 4: (jatkoa)

Cancer site	ICD-10	Incidence		Mortality		Prevalence	
		Number	Rate ¹	Number	Rate ¹	Number	Proportion ²
<i>Chronic lymphatic leukaemia</i>	C91.1	122	3.70	45	1.18	1249	37.4
<i>Diffuse B lymphoma</i>	C83.3	290	9.18	110	3.16	1739	54.4
<i>Follicular B lymphoma</i>	C82	191	6.09	30	0.88	1509	47.4
<i>Myeloma and other plasma cell tumors</i>	C90	166	5.15	132	3.75	977	30.0
<i>Burkitt's lymphoma/leukaemia</i>	C83.7	-	0.07	0	0.00	51	1.8
<i>Marginal zone lymphoma</i>	C83.8	55	1.79	11	0.30	466	14.5
<i>Mantle cell lymphoma</i>	C83.1	36	1.16	16	0.43	166	5.2
<i>Malignant immunoproliferative diseases</i>	C88	17	0.48	-	0.05	146	4.4
<i>Other mature B-cell neoplasms</i>	-	-	0.06	0	0.00	78	2.4
<i>Mature T and NK cell lymphomas/leukaemias</i>	C84	67	2.20	25	0.76	436	14.2
<i>Mature T-cell neoplasias of the skin</i>	C84.0-1	26	0.84	-	0.03	239	7.8
<i>Other T and NK cell lymphomas/leukaemias</i>	C84.3-5	41	1.36	24	0.74	199	6.5
<i>Acute lymphoblastic leukaemia/lymphoma</i>	C91.0	22	0.77	5	0.16	826	30.8
<i>Acute myeloid leukaemia</i>	C92.0	110	3.56	85	2.60	541	18.9
<i>Non-Hodgkin lymphoma, other or unspecified</i>	C85	47	1.37	23	0.62	1580	49.3
<i>Leukaemia, other or unspecified</i>	C95	6	0.17	6	0.16	89	3.0
<i>Myeloproliferative neoplasms</i>	C92.1,D45,D47.1,D47.3	218	6.97	27	0.82	1468	47.1
<i>Chronic myeloid leukaemia</i>	C92.1	14	0.48	-	0.12	242	8.4
<i>Polycythaemia vera</i>	D45	38	1.16	9	0.27	332	10.1
<i>Myelofibrosis</i>	D47.1	31	0.95	5	0.16	213	6.6
<i>Essential thrombocythemia</i>	D47.3	66	2.09	-	0.12	494	15.8
<i>Myeloproliferative neoplasm, other</i>	D47.1	69	2.29	5	0.15	244	8.0
<i>Myelodysplastic syndromes and myelodysplastic/myeloproliferative neoplasms</i>	-	63	1.84	42	1.14	167	5.2
<i>Myelodysplastic syndromes</i>	D46	50	1.46	35	0.94	129	4.0
<i>Myelodysplastic/myeloproliferative neoplasms</i>	-	13	0.39	7	0.20	39	1.2
<i>Other, unspecified or mixed hematological disease</i>	C96, D76	7	0.27	0	0.00	100	3.7
<i>Mastocytosis</i>	C96.2	5	0.19	0	0.00	51	1.9
<i>Histiocytic and dendritic cell neoplasms</i>	C96.1, D76	-	0.08	0	0.00	40	1.5
<i>Other, unspecified or mixed hematological disease</i>	C96.7-9	0	0.00	0	0.00	9	0.3
Not included above							
<i>Basal cell carcinoma of the skin</i>	C44 (Basal cell)	4969	153.44	-	0.02	59183	1753.7
<i>Basal cell carcinoma of the genitals</i>	C51-53,C60-63 (Basal cell)	13	0.39	0	0.00	107	3.1
<i>Cervix uteri, non-invasive neoplasms</i>	N87.1-2, Do6	1896	70.63	0	0.00	27595	1009.4
<i>Vagina and vulva non-invasive neoplasms</i>	N89-N90,Do7.1-2	174	6.12	0	0.00	802	27.3
<i>Carcinoma in situ of the breast</i>	Do5	629	21.83	0	0.00	7655	247.8
<i>Ductal carcinoma in situ of the breast</i>	Do5.1	582	20.23	0	0.00	7004	227.0
<i>Lobular carcinoma in situ of the breast</i>	Do5.0	33	1.17	0	0.00	530	17.1
<i>Other or unspecified carcinoma in situ of the breast</i>	Do5.7-9	14	0.43	0	0.00	121	3.8
<i>Borderline tumour of the ovary</i>	D39	160	5.62	6	0.15	2990	100.2

¹ per 100 000 person-years and age-standardised to the population of Finland in 2014

² per 100 000 persons and age-standardised to the population of Finland in 2014

Table 5: Number and age-standardised rate of new cancer cases and deaths in 2018 and number and age-standardised proportion of cancer survivors in the population on 31 December 2018, male

Cancer site	ICD-10	Incidence		Mortality		Prevalence	
		Number	Rate ¹	Number	Rate ¹	Number	Proportion ²
All sites together	C00-96, D09.0-1, D32-33 D41-43, D45-47, D76	17836	685.16	6803	270.51	126202	4840.8
Mouth, pharynx	C00-14	447	16.59	133	5.12	3535	135.5
Lip	C00	37	1.45	-	0.03	721	30.8
Tongue	C02	95	3.48	26	0.99	657	24.6
Salivary glands	C07-08	34	1.30	14	0.57	406	15.3
Mouth, other or unspecified	C03-06	96	3.54	39	1.50	660	24.5
Pharynx	C01, C09-14	185	6.82	53	2.03	1121	41.3
Digestive organs	C15-26	3765	145.31	2307	90.39	17334	670.4
Oesophagus	C15	230	8.57	210	7.91	512	19.0
Stomach	C16	354	13.81	241	9.58	1479	57.9
Small intestine	C17	98	3.74	30	1.22	632	23.6
Colon and rectum	C18-20	1865	72.13	682	27.10	13230	514.9
<i>Colon</i>	C18	1085	42.34	422	16.86	7733	302.7
<i>Rectum, rectosigmoid</i>	C19-20	780	29.79	260	10.24	5628	217.1
Anus	C21	21	0.81	10	0.40	140	5.3
Liver	C22	344	13.22	306	11.98	524	19.5
Gallbladder, bile ducts	C23-24	121	4.75	117	4.63	241	9.1
Pancreas	C25	617	23.77	633	24.44	653	24.2
Digestive organs, other and unspecified	C26	115	4.50	78	3.13	69	2.6
Respiratory and intrathoracic organs	C30-39	1881	70.94	1548	59.32	4449	165.5
Nose, sinuses	C30-31	28	1.06	12	0.47	212	8.1
Larynx, epiglottis	C32	112	4.15	47	1.82	943	35.3
Lung, trachea	C33-34	1710	64.53	1473	56.37	3197	118.6
Other or unspecified respiratory or intrathoracic organs	C37-39	31	1.20	16	0.66	119	4.4
Breast	C50	33	1.24	5	0.20	282	11.1
Male genital organs	C60-63	5226	198.36	935	40.02	58749	2267.6
Penis	C60	34	1.31	10	0.42	348	13.2
Prostate	C61	5016	190.68	914	39.18	55118	2134.9
Testis	C62	169	6.07	11	0.43	3305	120.4
Male genital, other and unspecified	C63	7	0.29	0	0.00	69	2.6
Urinary organs	C64-68, D09.0-1, D41.1-9	1733	67.04	453	18.46	13214	513.2
Kidney	C64	633	23.92	213	8.42	4677	176.5
Bladder and urinary tract	C65-68, D09.0-1, D41.1-9	1100	43.12	240	10.04	8650	341.0
Skin	C43-44	1914	77.00	173	6.99	16288	647.7
Melanoma of the skin	C43	892	34.03	146	5.80	9063	345.3
Skin, squamous cell carcinoma	C44 (Squamous cell)	945	39.78	21	0.94	6692	282.7
Skin, other	C44 (Other)	77	3.20	6	0.25	859	33.8
Eye	C69	20	0.77	18	0.68	456	17.2
Brain, meninges and central nervous system	C70-72, D32-33, D42-43	402	15.08	209	8.00	4489	166.2
Glioma	-	203	7.41	161	5.88	1539	56.0
Meningeoma	-	114	4.34	7	0.29	1628	61.2
CNS, nerve sheet tumor	-	29	1.08	0	0.00	884	33.1
Other and unspecified tumor of brain, meninges and CNS	-	56	2.25	41	1.83	492	17.9
Endocrine glands	C73-75	186	6.89	41	1.52	2196	81.4
Thyroid gland	C73	157	5.79	31	1.15	1974	73.3
Adrenal gland	C74	27	1.03	9	0.33	151	5.5
Other endocrine glands	C75	-	0.08	-	0.04	74	2.7
Mesothelioma	C45	76	2.88	75	2.89	101	3.6
Bone	C40-41	23	0.87	13	0.48	471	17.4
Soft tissues	C48-49	138	5.27	43	1.78	1178	44.7
Peripheral nerves, autonomic nervous system	C47	0	0.00	0	0.00	116	4.3
Illdefined or unknown	C76, C80	233	9.40	171	7.04	513	19.2
Lymphoid and haematopoietic tissue	C81-96, D45-47, D76	1758	67.50	679	27.62	13906	517.5
Hodgkin lymphoma	C81	89	3.34	18	0.72	1853	67.5
Mature B-cell neoplasms	-	1083	41.55	416	17.09	7022	263.1
<i>Chronic lymphatic leukaemia</i>	C91.1	198	7.66	68	2.92	1648	62.0
<i>Diffuse B lymphoma</i>	C83.3	370	14.26	132	5.37	1982	74.5
<i>Follicular B lymphoma</i>	C82	131	4.86	25	1.03	1195	44.2
<i>Myeloma and other plasma cell tumors</i>	C90	193	7.48	131	5.31	1015	38.1
<i>Burkitt's lymphoma/leukaemia</i>	C83.7	15	0.56	5	0.19	157	5.7
<i>Marginal zone lymphoma</i>	C83.8	51	1.92	9	0.41	325	12.3
<i>Mantle cell lymphoma</i>	C83.1	76	2.97	40	1.60	405	15.3
<i>Malignant immunoproliferative diseases</i>	C88	36	1.36	5	0.23	183	6.9

Table 5: (jatkoa)

Cancer site	ICD-10	Incidence		Mortality		Prevalence	
		Number	Rate ¹	Number	Rate ¹	Number	Proportion ²
<i>Other mature B-cell neoplasms</i>	-	13	0.48	-	0.04	256	9.6
Mature T and NK cell lymphomas/leukaemias	C84	85	3.28	36	1.40	531	20.2
<i>Mature T-cell neoplasias of the skin</i>	C84.0-1	23	0.84	-	0.04	284	10.9
<i>Other T and NK cell lymphomas/leukaemias</i>	C84.3-5	62	2.44	35	1.36	248	9.3
Acute lymphoblastic leukaemia/lymphoma	C91.0	40	1.45	6	0.23	945	33.8
Acute myeloid leukaemia	C92.0	90	3.38	84	3.18	425	15.6
Non-Hodgkin lymphoma, other or unspecified	C85	53	2.18	25	1.09	1624	61.3
Leukaemia, other or unspecified	C95	14	0.59	13	0.56	96	3.6
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3	206	7.74	26	1.02	1329	49.3
<i>Chronic myeloid leukaemia</i>	C92.1	16	0.59	-	0.04	288	10.6
<i>Polycythaemia vera</i>	D45	44	1.69	6	0.22	307	11.3
<i>Myelofibrosis</i>	D47.1	31	1.14	10	0.38	199	7.2
<i>Essential thrombocythemia</i>	D47.3	59	2.18	-	0.12	362	13.6
<i>Myeloproliferative neoplasm, other</i>	D47.1	56	2.14	6	0.25	209	7.8
Myelodysplastic syndromes and myelodysplastic/ myeloproliferative neoplasms	-	94	3.84	54	2.29	154	6.0
<i>Myelodysplastic syndromes</i>	D46	71	2.89	48	2.03	108	4.2
<i>Myelodysplastic/myeloproliferative neoplasms</i>	-	23	0.95	6	0.26	46	1.8
Other, unspecified or mixed hematological disease	C96, D76	-	0.15	-	0.04	100	3.6
<i>Mastocytosis</i>	C96.2	-	0.07	-	0.04	46	1.7
<i>Histiocytic and dendritic cell neoplasms</i>	C96.1, D76	-	0.04	0	0.00	45	1.6
<i>Other, unspecified or mixed hematological disease</i>	C96.7-9	-	0.04	0	0.00	9	0.3
Not included above							
Basal cell carcinoma of the skin	C44 (Basal cell)	4505	175.92	0	0.00	46741	1852.4
Basal cell carcinoma of the genitals	C51-53,C60-63 (Basal cell)	0	0.00	0	0.00	12	0.5
Carcinoma in situ of the breast	D05	-	0.12	0	0.00	19	0.8
<i>Ductal carcinoma in situ of the breast</i>	D05.1	-	0.12	0	0.00	17	0.7
<i>Lobular carcinoma in situ of the breast</i>	D05.0	0	0.00	0	0.00	0	0.0
<i>Other or unspecified carcinoma in situ of the breast</i>	D05.7-9	0	0.00	0	0.00	-	0.1

¹ per 100 000 person-years and age-standardised to the population of Finland in 2014

² per 100 000 persons and age-standardised to the population of Finland in 2014

12.2 Survival of cancer patients

Table 6: Five-year relative survival rates in cancer patients followed up in 2016–2018 by age group, female

Cancer site	ICD-10	5-year relative survival (%)			
		Age at diagnosis			
		All	0-54	55-74	75+
All sites together	C00-96,D09.0-1,D32-33 D41-43,D45-47,D76	70	88	74	56
Mouth, pharynx	C00-14	75	86	75	66
Digestive organs	C15-26	43	62	45	35
Oesophagus	C15	-	-	29	8
Stomach	C16	30	38	36	19
Colon and rectum	C18-20	67	77	69	62
Liver	C22	7	19	8	4
Gallbladder, bile ducts	C23-24	14	28	15	11
Pancreas	C25	6	26	7	2
Respiratory and intrathoracic organs	C30-39	22	39	25	14
Lung, trachea	C33-34	20	33	23	12
Breast	C50	91	93	94	83
Female genital organs	C51-58	65	79	68	52
Cervix uteri	C53	71	86	59	32
Corpus uteri	C54	81	87	83	77
Ovary etc.	C56, C57.1-4, C48.1-2 (Serous)	44	70	48	23
Urinary organs	C64-68,D09.0-1,D41.1-9	71	91	74	62
Kidney	C64	72	93	74	60
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	70	85	75	63
Skin	C43-44	94	98	95	92
Melanoma of the skin	C43	93	98	95	87
Skin, squamous cell carcinoma	C44 (Squamous cell)	96	99	95	96
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	68	86	69	34
Glioma	-	34	67	13	10
Meningeoma	-	94	96	96	82
Endocrine glands	C73-75	94	99	93	80
Thyroid gland	C73	96	100	95	82
Soft tissues	C48-49	59	77	64	34
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	65	88	74	40
Hodgkin lymphoma	C81	88	100	78	38
Mature B-cell neoplasms	-	68	87	78	48
<i>Myeloma and other plasma cell tumors</i>	C90	45	81	58	21

Table 7: Five-year relative survival rates in cancer patients followed up in 2016–2018 by age group, male

Cancer site	ICD-10	5-year relative survival (%)			
		Age at diagnosis			
		All	0-54	55-74	75+
All sites together	C00-96,D09.0-1,D32-33 D41-43,D45-47,D76	68	79	68	62
Mouth, pharynx	C00-14	64	81	60	63
Digestive organs	C15-26	39	51	40	36
Oesophagus	C15	14	15	17	10
Stomach	C16	24	33	25	19
Colon and rectum	C18-20	65	70	66	61
Liver	C22	8	11	11	5
Gallbladder, bile ducts	C23-24	-	-	16	7
Pancreas	C25	6	25	8	1
Respiratory and intrathoracic organs	C30-39	16	33	18	10
Larynx, epiglottis	C32	54	71	54	49
Lung, trachea	C33-34	13	23	15	8
Male genital organs	C60-63	93	96	95	89
Prostate	C61	93	97	95	89
Testis	C62	96	97	90	57
Urinary organs	C64-68,D09.0-1,D41.1-9	72	85	75	65
Kidney	C64	66	81	68	54
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	74	90	79	68
Skin	C43-44	91	93	91	90
Melanoma of the skin	C43	90	93	90	87
Skin, squamous cell carcinoma	C44 (Squamous cell)	91	91	93	91
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	51	74	43	29
Glioma	-	-	62	10	-
Meningeoma	-	96	99	96	92
Endocrine glands	C73-75	86	94	81	71
Thyroid gland	C73	88	97	82	70
Soft tissues	C48-49	63	72	68	46
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	59	88	67	32
Hodgkin lymphoma	C81	85	98	67	48
Mature B-cell neoplasms	-	62	86	72	41
<i>Myeloma and other plasma cell tumors</i>	C90	39	76	49	18

12.3 Short-term changes, incidence

Table 8: Average annual number, incidence and change coefficient of new cancer cases from 2009–2013 to 2014–2018, female

Cancer site	ICD-10	Number		Incidence		Change coefficient	
		2009-2013	2014-2018	2009-2013	2014-2018	Est	Confidence interval
All sites together	C00-96,D09.0-1,D32-33 D41-43,D45-47,D76	14816	16485	513.7	538.2	1.05	(1.04, 1.06)
Mouth, pharynx	C00-14	236	264	8.1	8.6	1.09	(1.00, 1.18)
Lip	C00	30	24	1.0	0.7	0.88	(0.69, 1.12)
Pharynx	C01,C09-14	47	54	1.7	1.9	1.18	(0.98, 1.41)
Digestive organs	C15-26	2747	3118	92.5	97.7	1.05	(1.03, 1.08)
Oesophagus	C15	85	99	2.8	3.1	1.02	(0.89, 1.17)
Stomach	C16	270	259	9.1	8.2	0.90	(0.83, 0.97)
Colon and rectum	C18-20	1358	1576	46.0	49.7	1.08	(1.05, 1.12)
<i>Colon</i>	C18	932	1084	31.5	33.9	1.09	(1.04, 1.13)
<i>Rectum, rectosigmoid</i>	C19-20	426	492	14.6	15.8	1.08	(1.01, 1.14)
Liver	C22	178	175	5.9	5.4	0.91	(0.83, 1.00)
Gallbladder, bile ducts	C23-24	157	173	5.2	5.3	1.03	(0.93, 1.14)
Pancreas	C25	563	641	18.9	19.9	1.04	(0.99, 1.10)
Respiratory and intrathoracic organs	C30-39	892	1078	31.0	34.5	1.13	(1.09, 1.18)
Larynx, epiglottis	C32	15	15	0.5	0.5	0.92	(0.66, 1.28)
Lung, trachea	C33-34	839	1017	29.2	32.5	1.14	(1.09, 1.19)
Breast	C50	4475	4920	159.2	167.4	1.05	(1.03, 1.07)
Female genital organs	C51-58	1717	1821	60.3	59.8	1.01	(0.98, 1.04)
Cervix uteri	C53	155	174	5.6	6.2	1.11	(1.00, 1.22)
Corpus uteri	C54	825	881	29.0	28.8	1.01	(0.97, 1.06)
Ovary etc.	C56, C57.1-4, C48.1-2 (Serous)	577	565	20.4	18.6	0.93	(0.88, 0.98)
Urinary organs	C64-68,D09.0-1,D41.1-9	655	704	22.3	22.2	0.99	(0.94, 1.04)
Kidney	C64	393	397	13.5	12.8	0.95	(0.89, 1.01)
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	262	307	8.8	9.5	1.04	(0.96, 1.12)
Skin	C43-44	1361	1604	45.5	50.3	1.13	(1.10, 1.17)
Melanoma of the skin	C43	623	781	22.0	26.4	1.21	(1.15, 1.27)
Skin, squamous cell carcinoma	C44 (Squamous cell)	673	752	21.3	21.7	1.06	(1.01, 1.11)
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	570	586	20.3	19.9	0.97	(0.92, 1.02)
Glioma	-	151	162	5.5	5.7	1.01	(0.91, 1.11)
Meningeoma	-	287	295	10.3	10.1	0.97	(0.90, 1.05)
Endocrine glands	C73-75	344	424	12.5	15.0	1.21	(1.13, 1.29)
Thyroid gland	C73	328	396	11.9	14.1	1.19	(1.11, 1.28)
Soft tissues	C48-49	92	96	3.2	3.1	1.03	(0.91, 1.18)
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	1352	1511	46.5	48.8	1.04	(1.00, 1.07)
Hodgkin lymphoma	C81	63	73	2.3	2.6	1.06	(0.91, 1.24)
Mature B-cell neoplasms	-						
<i>Chronic lymphatic leukaemia</i>	C91.1	138	130	4.7	4.0	0.93	(0.83, 1.03)
<i>Myeloma and other plasma cell tumors</i>	C90	204	189	7.0	6.0	0.86	(0.79, 0.94)
Acute lymphoblastic leukaemia/lymphoma	C91.0	34	36	1.3	1.3	1.08	(0.87, 1.34)
Acute myeloid leukaemia	C92.0	97	106	3.3	3.4	1.05	(0.92, 1.19)
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3						
<i>Chronic myeloid leukaemia</i>	C92.1	20	18	0.7	0.6	0.86	(0.64, 1.14)

Table 9: Average annual number, incidence and change coefficient of new cancer cases from 2009–2013 to 2014–2018, male

Cancer site	ICD-10	Number		Incidence		Change coefficient	
		2009-2013	2014-2018	2009-2013	2014-2018	Est	Confidence interval
All sites together	C00-96,D09.0-1,D32-33 D41-43,D45-47,D76	15680	17588	709.0	705.5	1.00	(0.99, 1.01)
Mouth, pharynx	C00-14	372	423	15.7	16.4	1.06	(0.99, 1.13)
Lip	C00	54	41	2.6	1.8	0.66	(0.55, 0.79)
Pharynx	C01,C09-14	135	173	5.5	6.6	1.17	(1.05, 1.30)
Digestive organs	C15-26	3144	3657	143.8	147.2	1.02	(1.00, 1.04)
Oesophagus	C15	206	238	9.1	9.2	1.03	(0.95, 1.13)
Stomach	C16	364	356	16.8	14.4	0.85	(0.80, 0.91)
Colon and rectum	C18-20	1483	1768	67.8	71.3	1.04	(1.01, 1.08)
<i>Colon</i>	C18	875	1045	40.5	42.6	1.04	(1.00, 1.08)
<i>Rectum, rectosigmoid</i>	C19-20	609	722	27.3	28.8	1.05	(1.00, 1.10)
Liver	C22	314	355	14.4	14.3	0.99	(0.93, 1.07)
Gallbladder, bile ducts	C23-24	102	125	4.9	5.1	1.09	(0.96, 1.23)
Pancreas	C25	537	624	24.6	25.0	1.00	(0.95, 1.05)
Respiratory and intrathoracic organs	C30-39	1846	1938	84.0	77.4	0.92	(0.90, 0.95)
Larynx, epiglottis	C32	106	111	4.5	4.3	0.94	(0.83, 1.06)
Lung, trachea	C33-34	1697	1775	77.6	71.0	0.92	(0.89, 0.95)
Male genital organs	C60-63	4986	5280	223.0	208.9	0.95	(0.94, 0.97)
Prostate	C61	4804	5068	216.1	201.1	0.95	(0.93, 0.96)
Testis	C62	144	167	5.3	6.0	1.21	(1.09, 1.34)
Urinary organs	C64-68,D09.0-1,D41.1-9	1386	1603	63.5	65.0	1.02	(0.99, 1.06)
Kidney	C64	511	585	22.2	23.0	1.04	(0.98, 1.10)
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	875	1018	41.3	42.0	1.01	(0.97, 1.06)
Skin	C43-44	1416	1818	67.9	76.4	1.12	(1.09, 1.16)
Melanoma of the skin	C43	652	860	28.3	33.8	1.20	(1.15, 1.26)
Skin, squamous cell carcinoma	C44 (Squamous cell)	702	886	36.5	39.5	1.06	(1.01, 1.11)
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	398	422	16.3	16.2	1.02	(0.95, 1.08)
Glioma	-	197	214	7.7	8.0	1.04	(0.95, 1.14)
Meningeoma	-	96	112	4.0	4.3	1.08	(0.95, 1.22)
Endocrine glands	C73-75	137	158	5.5	6.0	1.15	(1.03, 1.28)
Thyroid gland	C73	119	138	4.7	5.2	1.14	(1.02, 1.28)
Soft tissues	C48-49	93	113	4.0	4.5	1.08	(0.95, 1.23)
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	1509	1753	67.1	69.9	1.04	(1.01, 1.07)
Hodgkin lymphoma	C81	85	95	3.2	3.5	1.11	(0.97, 1.27)
Mature B-cell neoplasms	-						
<i>Chronic lymphatic leukaemia</i>	C91.1	195	208	9.0	8.4	0.97	(0.89, 1.06)
<i>Myeloma and other plasma cell tumors</i>	C90	207	211	9.6	8.5	0.90	(0.82, 0.98)
Acute lymphoblastic leukaemia/lymphoma	C91.0	42	50	1.6	1.8	1.15	(0.95, 1.39)
Acute myeloid leukaemia	C92.0	95	109	4.2	4.4	1.09	(0.96, 1.24)
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3						
<i>Chronic myeloid leukaemia</i>	C92.1	23	23	1.0	0.9	0.85	(0.66, 1.11)

12.4 Short-term changes, mortality

Table 10: Average annual number, mortality and change coefficient of cancer deaths from 2009–2013 to 2014–2018, female

Cancer site	ICD-10	Number		Mortality		Change coefficient	
		2009-2013	2014-2018	2009-2013	2014-2018	Est	Confidence interval
All sites together	C00-96,D09.0-1,D32-33 D41-43,D45-47,D76	5590	5857	186.8	179.9	0.97	(0.95, 0.99)
Mouth, pharynx	C00-14	68	77	2.3	2.4	1.06	(0.91, 1.23)
Lip	C00	2	1	0.1	0.0	0.67	(0.27, 1.66)
Pharynx	C01,C09-14	16	18	0.6	0.6	1.11	(0.81, 1.53)
Digestive organs	C15-26	1758	1866	57.8	56.5	0.97	(0.94, 1.00)
Oesophagus	C15	75	76	2.5	2.3	0.88	(0.76, 1.02)
Stomach	C16	211	180	7.0	5.5	0.82	(0.75, 0.90)
Colon and rectum	C18-20	572	602	18.7	18.1	0.97	(0.92, 1.02)
Colon	C18	395	419	12.9	12.5	0.97	(0.91, 1.04)
Rectum, rectosigmoid	C19-20	177	183	5.8	5.6	0.95	(0.87, 1.05)
Liver	C22	155	149	5.1	4.6	0.91	(0.82, 1.00)
Gallbladder, bile ducts	C23-24	137	151	4.5	4.5	0.99	(0.89, 1.11)
Pancreas	C25	519	595	17.3	18.2	1.03	(0.98, 1.09)
Respiratory and intrathoracic organs	C30-39	711	811	24.4	25.5	1.05	(1.00, 1.10)
Larynx, epiglottis	C32	5	5	0.2	0.2	0.94	(0.54, 1.62)
Lung, trachea	C33-34	681	784	23.5	24.6	1.06	(1.01, 1.11)
Breast	C50	861	869	29.5	27.6	0.95	(0.91, 0.99)
Female genital organs	C51-58	691	764	23.4	23.8	1.01	(0.96, 1.06)
Cervix uteri	C53	52	57	1.8	1.9	1.03	(0.86, 1.22)
Corpus uteri	C54	185	200	6.1	6.1	0.99	(0.90, 1.08)
Ovary etc.	C56, C57.1-4, C48.1-2 (Serous)	376	397	13.0	12.5	0.95	(0.89, 1.01)
Urinary organs	C64-68,D09.0-1,D41.1-9	245	251	8.0	7.4	0.94	(0.87, 1.02)
Kidney	C64	152	153	5.0	4.6	0.94	(0.85, 1.04)
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	93	98	2.9	2.8	0.95	(0.83, 1.08)
Skin	C43-44	95	101	3.1	3.0	0.96	(0.84, 1.09)
Melanoma of the skin	C43	75	77	2.5	2.4	0.96	(0.83, 1.11)
Skin, squamous cell carcinoma	C44 (Squamous cell)	11	15	0.3	0.4	1.10	(0.77, 1.58)
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	195	191	6.7	6.1	0.92	(0.84, 1.01)
Glioma	-	119	118	4.3	4.0	0.93	(0.82, 1.04)
Meningeoma	-	21	17	0.7	0.5	0.79	(0.59, 1.05)
Endocrine glands	C73-75	39	37	1.3	1.1	0.86	(0.70, 1.05)
Thyroid gland	C73	31	29	1.0	0.8	0.82	(0.65, 1.03)
Soft tissues	C48-49	39	43	1.3	1.4	1.14	(0.93, 1.39)
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	584	584	19.2	17.4	0.95	(0.90, 1.00)
Hodgkin lymphoma	C81	8	12	0.3	0.3	1.23	(0.81, 1.87)
Mature B-cell neoplasms	-						
Chronic lymphatic leukaemia	C91.1	51	45	1.6	1.2	0.86	(0.72, 1.04)
Myeloma and other plasma cell tumors	C90	130	129	4.3	3.9	0.94	(0.84, 1.06)
Acute lymphoblastic leukaemia/lymphoma	C91.0	10	10	0.4	0.3	0.89	(0.60, 1.32)
Acute myeloid leukaemia	C92.0	69	82	2.3	2.5	1.14	(0.98, 1.33)
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3						
Chronic myeloid leukaemia	C92.1	5	4	0.2	0.1	0.61	(0.35, 1.07)

Table II: Average annual number, mortality and change coefficient of cancer deaths from 2009–2013 to 2014–2018, male

Cancer site	ICD-10	Number		Mortality		Change coefficient	
		2009-2013	2014-2018	2009-2013	2014-2018	Est	Confidence interval
All sites together	C00-96, D09.0-1, D32-33, D41-43, D45-47, D76	6180	6668	297.4	280.2	0.94	(0.92, 0.95)
Mouth, pharynx	C00-14	127	136	5.6	5.4	0.97	(0.87, 1.08)
Lip	C00	3	3	0.2	0.1	0.91	(0.43, 1.92)
Pharynx	C01, C09-14	60	63	2.5	2.5	0.93	(0.79, 1.10)
Digestive organs	C15-26	1918	2200	90.8	90.6	0.99	(0.97, 1.02)
Oesophagus	C15	167	189	7.5	7.5	1.03	(0.93, 1.13)
Stomach	C16	280	258	13.3	10.7	0.81	(0.75, 0.87)
Colon and rectum	C18-20	577	672	28.1	28.3	1.01	(0.96, 1.07)
<i>Colon</i>	C18	334	402	16.5	17.1	1.04	(0.97, 1.11)
<i>Rectum, rectosigmoid</i>	C19-20	243	270	11.6	11.2	0.98	(0.90, 1.06)
Liver	C22	244	292	11.4	11.9	1.00	(0.92, 1.08)
Gallbladder, bile ducts	C23-24	83	107	4.0	4.5	1.12	(0.98, 1.28)
Pancreas	C25	485	571	22.5	23.1	1.02	(0.96, 1.08)
Respiratory and intrathoracic organs	C30-39	1532	1529	71.1	62.2	0.87	(0.85, 0.90)
Larynx, epiglottis	C32	36	41	1.6	1.7	0.91	(0.74, 1.12)
Lung, trachea	C33-34	1471	1462	68.3	59.5	0.87	(0.85, 0.90)
Male genital organs	C60-63	857	919	46.0	42.0	0.89	(0.85, 0.93)
Prostate	C61	843	899	45.4	41.2	0.89	(0.85, 0.92)
Testis	C62	6	10	0.2	0.4	1.55	(0.95, 2.52)
Urinary organs	C64-68, D09.0-1, D41.1-9	421	435	21.1	18.8	0.89	(0.84, 0.95)
Kidney	C64	200	207	9.4	8.6	0.92	(0.85, 1.01)
Bladder and urinary tract	C65-68, D09.0-1, D41.1-9	220	228	11.8	10.2	0.86	(0.79, 0.94)
Skin	C43-44	156	176	7.5	7.5	1.03	(0.93, 1.14)
Melanoma of the skin	C43	131	146	6.0	6.1	1.04	(0.93, 1.16)
Skin, squamous cell carcinoma	C44 (Squamous cell)	18	22	1.1	1.1	0.98	(0.73, 1.31)
Brain, meninges and central nervous system	C70-72, D32-33, D42-43	196	214	8.4	8.4	1.00	(0.91, 1.09)
Glioma	-	147	164	5.9	6.2	1.03	(0.93, 1.14)
Meningeoma	-	11	9	0.5	0.4	0.66	(0.44, 0.98)
Endocrine glands	C73-75	29	31	1.4	1.3	0.98	(0.77, 1.23)
Thyroid gland	C73	20	24	1.0	1.0	1.02	(0.78, 1.35)
Soft tissues	C48-49	41	45	1.9	1.9	0.99	(0.81, 1.21)
Lymphoid and haematopoietic tissue	C81-96, D45-47, D76	615	688	29.9	29.6	0.96	(0.91, 1.01)
Hodgkin lymphoma	C81	12	18	0.5	0.7	1.22	(0.86, 1.73)
Mature B-cell neoplasms	-						
<i>Chronic lymphatic leukaemia</i>	C91.1	68	68	3.4	3.1	0.81	(0.69, 0.94)
<i>Myeloma and other plasma cell tumors</i>	C90	126	136	6.2	5.8	0.93	(0.83, 1.04)
Acute lymphoblastic leukaemia/lymphoma	C91.0	14	12	0.6	0.5	0.85	(0.60, 1.20)
Acute myeloid leukaemia	C92.0	70	91	3.2	3.7	1.16	(1.00, 1.34)
Myeloproliferative neoplasms	C92.1, D45, D47.1, D47.3						
<i>Chronic myeloid leukaemia</i>	C92.1	4	5	0.2	0.2	0.92	(0.51, 1.67)

12.5 Long-term changes, incidence

Table 12: Average annual percent change in incidence in 1990–2018, female

Cancer site	ICD-10	Trend change and period	
		1. trend	2. trend
All sites together	C00-96, D09.0-1, D32-33 D41-43, D45-47, D76	1% (1990-2018)	-
Mouth, pharynx	C00-14	1% (1990-2018)	-
Lip	C00	-3% (1990-2018)	-
Pharynx	C01, C09-14	3% (1990-2018)	-
Digestive organs	C15-26	-0.8% (1990-2005)	0.3% (2005-2018)
Oesophagus	C15	-2.1% (1990-2012)	2.2% (2012-2018)
Stomach	C16	-4% (1990-2018)	-
Colon and rectum	C18-20	0.2% (1990-2011)	1.6% (2011-2018)
<i>Colon</i>	C18	0.3% (1990-2006)	1.3% (2006-2018)
<i>Rectum, rectosigmoid</i>	C19-20	-0.4% (1990-2014)	3.2% (2014-2018)
Liver	C22	1.3% (1990-2014)	-4.8% (2014-2018)
Gallbladder, bile ducts	C23-24	-2.8% (1990-2011)	0.6% (2011-2018)
Pancreas	C25	0% (1990-2018)	-
Respiratory and intrathoracic organs	C30-39	2% (1990-2018)	-
Larynx, epiglottis	C32	0% (1990-2018)	-
Lung, trachea	C33-34	2% (1990-2018)	-
Breast	C50	2.2% (1990-2000)	1.2% (2000-2018)
Female genital organs	C51-58	1.9% (1990-1996)	-0.2% (1996-2018)
Cervix uteri	C53	0% (1990-2018)	-
Corpus uteri	C54	2.3% (1990-1998)	-0.2% (1998-2018)
Ovary etc.	C56, C57.1-4, C48.1-2 (Serous)	-1% (1990-2018)	-
Urinary organs	C64-68, D09.0-1, D41.1-9	0% (1990-2018)	-
Kidney	C64	0% (1990-2018)	-
Bladder and urinary tract	C65-68, D09.0-1, D41.1-9	0% (1990-2018)	-
Skin	C43-44	1.9% (1990-2003)	3.6% (2003-2018)
Melanoma of the skin	C43	2.3% (1990-2002)	5% (2002-2018)
Skin, squamous cell carcinoma	C44 (Squamous cell)	2.3% (1990-2016)	-4.2% (2016-2018)
Brain, meninges and central nervous system	C70-72, D32-33, D42-43	2.2% (1990-2003)	-0.6% (2003-2018)
Glioma	-	1% (1990-2018)	-
Meningeoma	-	4.6% (1990-2001)	-0.5% (2001-2018)
Endocrine glands	C73-75	0% (1990-2006)	3.3% (2006-2018)
Thyroid gland	C73	0.1% (1990-2006)	3.1% (2006-2018)
Soft tissues	C48-49	0% (1990-2018)	-
Lymphoid and haematopoietic tissue	C81-96, D45-47, D76	3.9% (1990-1993)	0.7% (1993-2018)
Hodgkin lymphoma	C81	1% (1990-2018)	-
Mature B-cell neoplasms	-	-	-
<i>Chronic lymphatic leukaemia</i>	C91.1	0.1% (1990-2014)	-7.3% (2014-2018)
<i>Myeloma and other plasma cell tumors</i>	C90	0% (1990-2016)	-11.6% (2016-2018)
Acute lymphoblastic leukaemia/lymphoma	C91.0	0% (1990-2018)	-
Acute myeloid leukaemia	C92.0	1% (1990-2018)	-
Myeloproliferative neoplasms	C92.1, D45, D47.1, D47.3	-	-
<i>Chronic myeloid leukaemia</i>	C92.1	-3% (1990-2018)	-

Table 13: Average annual percent change in incidence in 1990–2018, male

Cancer site	ICD-10	Trend change and period	
		1. trend	2. trend
All sites together	C00-96, D09.0-1, D32-33 D41-43, D45-47, D76	1% (1990-2004)	-0.3% (2004-2018)
Mouth, pharynx	C00-14	-0.8% (1990-2005)	1.6% (2005-2018)
Lip	C00	-6% (1990-2018)	-
Pharynx	C01, C09-14	1.5% (1990-2004)	5% (2004-2018)
Digestive organs	C15-26	-0.7% (1990-2000)	0.3% (2000-2018)
Oesophagus	C15	-2% (1990-1997)	1.2% (1997-2018)
Stomach	C16	-4% (1990-2018)	-
Colon and rectum	C18-20	1% (1990-2018)	-
<i>Colon</i>	C18	3.7% (1990-1994)	0.8% (1994-2018)
<i>Rectum, rectosigmoid</i>	C19-20	0% (1990-2018)	-
Liver	C22	2.6% (1990-2009)	0.2% (2009-2018)
Gallbladder, bile ducts	C23-24	-1% (1990-2018)	-
Pancreas	C25	0% (1990-2018)	-
Respiratory and intrathoracic organs	C30-39	-3.1% (1990-2001)	-1.9% (2001-2018)
Larynx, epiglottis	C32	-2% (1990-2018)	-
Lung, trachea	C33-34	-3.1% (1990-2001)	-2% (2001-2018)
Male genital organs	C60-63	5.9% (1990-2004)	-2.1% (2004-2018)
Prostate	C61	6% (1990-2003)	-2.2% (2003-2018)
Testis	C62	4.4% (1990-2015)	-4.1% (2015-2018)
Urinary organs	C64-68, D09.0-1, D41.1-9	-1.1% (1990-2004)	0.7% (2004-2018)
Kidney	C64	-1.2% (1990-2007)	1.5% (2007-2018)
Bladder and urinary tract	C65-68, D09.0-1, D41.1-9	-1.2% (1990-2003)	0.5% (2003-2018)
Skin	C43-44	1.8% (1990-2002)	3.6% (2002-2018)
Melanoma of the skin	C43	1.8% (1990-2002)	4.5% (2002-2018)
Skin, squamous cell carcinoma	C44 (Squamous cell)	3% (1990-2018)	-
Brain, meninges and central nervous system	C70-72, D32-33, D42-43	0% (1990-2018)	-
Glioma	-	1% (1990-2018)	-
Meningeoma	-	2.9% (1990-2003)	-0.5% (2003-2018)
Endocrine glands	C73-75	0.6% (1990-2008)	4% (2008-2018)
Thyroid gland	C73	1% (1990-2008)	3.8% (2008-2018)
Soft tissues	C48-49	1% (1990-2018)	-
Lymphoid and haematopoietic tissue	C81-96, D45-47, D76	1% (1990-2018)	-
Hodgkin lymphoma	C81	0% (1990-2018)	-
Mature B-cell neoplasms	-	-	-
<i>Chronic lymphatic leukaemia</i>	C91.1	0.1% (1990-2015)	-5.3% (2015-2018)
<i>Myeloma and other plasma cell tumors</i>	C90	0.8% (1990-2010)	-2.4% (2010-2018)
Acute lymphoblastic leukaemia/lymphoma	C91.0	1% (1990-2018)	-
Acute myeloid leukaemia	C92.0	0% (1990-2018)	-
Myeloproliferative neoplasms	C92.1, D45, D47.1, D47.3	-	-
<i>Chronic myeloid leukaemia</i>	C92.1	-3% (1990-2018)	-

12.6 Long-term changes, mortality

Table 14: Average annual percent change in cancer mortality in 1990–2018, female

Cancer site	ICD-10	Trend change and period	
		1. trend	2. trend
All sites together	C00-96,D09.0-1,D32-33 D41-43,D45-47,D76	-1% (1990-2006)	-0.5% (2006-2018)
Mouth, pharynx	C00-14	0% (1990-2018)	-
Lip	C00	-2% (1990-2018)	-
Pharynx	C01,C09-14	0% (1990-2018)	-
Digestive organs	C15-26	-2.5% (1990-1999)	-0.7% (1999-2018)
Oesophagus	C15	-2% (1990-2018)	-
Stomach	C16	-4% (1990-2018)	-
Colon and rectum	C18-20	-1.6% (1990-2007)	-0.3% (2007-2018)
<i>Colon</i>	C18	-1.6% (1990-2004)	0.1% (2004-2018)
<i>Rectum, rectosigmoid</i>	C19-20	-2% (1990-2018)	-
Liver	C22	1% (1990-2018)	-
Gallbladder, bile ducts	C23-24	-2.9% (1990-2012)	1.1% (2012-2018)
Pancreas	C25	-2.9% (1990-1995)	0.6% (1995-2018)
Respiratory and intrathoracic organs	C30-39	2% (1990-2018)	-
Larynx, epiglottis	C32	-1% (1990-2018)	-
Lung, trachea	C33-34	2% (1990-2018)	-
Breast	C50	-1% (1990-2018)	-
Female genital organs	C51-58	-1.5% (1990-2002)	0.5% (2002-2018)
Cervix uteri	C53	-3% (1990-2018)	-
Corpus uteri	C54	0% (1990-2018)	-
Ovary etc.	C56, C57.1-4, C48.1-2 (Serous)	-1.8% (1990-2001)	0.4% (2001-2018)
Urinary organs	C64-68,D09.0-1,D41.1-9	-1% (1990-2018)	-
Kidney	C64	-1% (1990-2018)	-
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	-4.5% (1990-1997)	-0.6% (1997-2018)
Skin	C43-44	0% (1990-2018)	-
Melanoma of the skin	C43	0% (1990-2018)	-
Skin, squamous cell carcinoma	C44 (Squamous cell)	-2% (1990-2018)	-
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	0% (1990-2018)	-
Glioma	-	0% (1990-2018)	-
Meningeoma	-	-2% (1990-2018)	-
Endocrine glands	C73-75	-2% (1990-2018)	-
Thyroid gland	C73	-3% (1990-2018)	-
Soft tissues	C48-49	0% (1990-2018)	-
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	0% (1990-1998)	-1.8% (1998-2018)
Hodgkin lymphoma	C81	-3% (1990-2018)	-
Mature B-cell neoplasms	-	-	-
<i>Chronic lymphatic leukaemia</i>	C91.1	-3% (1990-2018)	-
<i>Myeloma and other plasma cell tumors</i>	C90	-1% (1990-2018)	-
Acute lymphoblastic leukaemia/lymphoma	C91.0	-3% (1990-2018)	-
Acute myeloid leukaemia	C92.0	30.6% (1990-1992)	0% (1992-2018)
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3	-	-
<i>Chronic myeloid leukaemia</i>	C92.1	-3% (1990-1999)	-11.6% (1999-2018)

Table 15: Average annual percent change in cancer mortality in 1990–2018, male

Cancer site	ICD-10	Trend change and period	
		1. trend	2. trend
All sites together	C00-96,D09.0-1,D32-33 D41-43,D45-47,D76	-1.7% (1990-2008)	-1.2% (2008-2018)
Mouth, pharynx	C00-14	0% (1990-2018)	-
Lip	C00	-7% (1990-2018)	-
Pharynx	C01,C09-14	-4.4% (1990-1997)	1.6% (1997-2018)
Digestive organs	C15-26	-1.6% (1990-2002)	-0.2% (2002-2018)
Oesophagus	C15	-0.5% (1990-2006)	1.6% (2006-2018)
Stomach	C16	-4% (1990-2018)	-
Colon and rectum	C18-20	-1% (1990-2018)	-
<i>Colon</i>	C18	0% (1990-2018)	-
<i>Rectum, rectosigmoid</i>	C19-20	-1% (1990-2018)	-
Liver	C22	2% (1990-2018)	-
Gallbladder, bile ducts	C23-24	-1% (1990-2018)	-
Pancreas	C25	0% (1990-2018)	-
Respiratory and intrathoracic organs	C30-39	-3.3% (1990-2001)	-2.4% (2001-2018)
Larynx, epiglottis	C32	-2% (1990-2018)	-
Lung, trachea	C33-34	-3.3% (1990-2001)	-2.4% (2001-2018)
Male genital organs	C60-63	0.1% (1990-1998)	-2.5% (1998-2018)
Prostate	C61	0.1% (1990-1998)	-2.6% (1998-2018)
Testis	C62	0% (1990-2018)	-
Urinary organs	C64-68,D09.0-1,D41.1-9	-2% (1990-2018)	-
Kidney	C64	-2% (1990-2018)	-
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	-1% (1990-2018)	-
Skin	C43-44	1% (1990-2018)	-
Melanoma of the skin	C43	1% (1990-2018)	-
Skin, squamous cell carcinoma	C44 (Squamous cell)	0% (1990-2018)	-
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	0% (1990-2018)	-
Glioma	-	0% (1990-2018)	-
Meningeoma	-	-3% (1990-2018)	-
Endocrine glands	C73-75	-1% (1990-2018)	-
Thyroid gland	C73	0% (1990-2018)	-
Soft tissues	C48-49	0% (1990-2018)	-
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	-1% (1990-2018)	-
Hodgkin lymphoma	C81	-6.5% (1990-2008)	6.1% (2008-2018)
Mature B-cell neoplasms	-	-	-
<i>Chronic lymphatic leukaemia</i>	C91.1	-3% (1990-2018)	-
<i>Myeloma and other plasma cell tumors</i>	C90	-1% (1990-2018)	-
Acute lymphoblastic leukaemia/lymphoma	C91.0	-2% (1990-2018)	-
Acute myeloid leukaemia	C92.0	0% (1990-2018)	-
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3	-	-
<i>Chronic myeloid leukaemia</i>	C92.1	0.3% (1990-1999)	-12.2% (1999-2018)

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