Finnish Cancer Registry

Finnish institute for health and welfare

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CANCER IN FINLAND 2022

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Contents

1 Foreword

The Finnish Cancer Registry has completed the cancer statistics on the year 2022 (cancerregistry.fi/statistics/cancer-statistics). For the first time, preliminary data for 2023 were published at the same time as the actual cancer statistics. Compared to the preliminary statistics for 2022 published in the autumn, the number of cases of pancreatic (458 additional cases), lung (520 additional cases) and haematological (412 additional cases) cancer increased as expected. In other respects, the figures changed less.

This report compiles statistical data on new cancer cases, cancer deaths and patient survival, for instance. In addition, the report presents the number of people living with and after cancer, the years of life lost due to cancer and predictions of the cancer burden until 2040. All told, there were 37,268 new cancer cases and 13,287 cancer deaths recorded in 2022. The most common new cases were breast cancer in women and prostate cancer in men, followed by colorectal cancer in both sexes. The most common causes of cancer deaths in women were lung cancer and breast cancer. In men, the most common causes of cancer deaths were lung cancer and prostate cancer.

The previous cancer reports analysed the shortfall in cancer cases due to the Covid-19 pandemic in 2020 (1,600 new cancer cases) and 2021 (900 cases). In the present report, it was estimated that 1,000 new cancer cases remained undetected in 2022. No significant changes in cancer mortality were observed between 2020 and 2022.

For the second time, this report looks at the cancer burden in terms of years of life lost. The Finnish population was estimated to lose more than 190,000 years of life in a single year due to cancer. Women lose the most years of life to breast cancer and men to lung cancer. On average, breast cancer causes a patient to lose 3.3 years of life, lung cancer 11.6 years and prostate cancer 1.2 years.

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 Finnish Cancer Registry was founded. The Cancer Registry's data sources are healthcare providers and pathology laboratories. In particular, cases for which no tissue or cell sample has been obtained may remain unreported. The aim is to improve the data coverage of these 'clinical notifications' through cooperation with health services and developers of patient information systems. The updated statistics on clinical notifications are available on our website (syoparekisteri.fi/tilastot/kliinisten-ilmoitusten-tilasto).

The disclosure of cancer data on 2022 for research purposes began in April 2024. The Finnish Cancer Registry is a research institute under the Cancer Society of Finland that maintains the national register of all diagnosed cancer cases and a register on cervical, breast and colorectal cancer screening. The Finnish Institute for Health and Welfare is the controller of the cancer register 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 and data providers. The reliable knowledge base on cancer provided by comprehensive and long time series lays a solid foundation for both healthcare development and research.

Helsinki, 28 May 2024

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2 Cancer situation in 2022

There were a total of 37 268 new cancer cases diagnosed in Finland in 2022. Of these, 17 622 were diagnosed in women and 19 646 in men. A total of 13 287 people died from cancer in 2022 (Table 1). More than 320,000 Finns who had been diagnosed with cancer were alive at the end of 2022: 56% were women and 44% were men. The five-year relative survival rate of cancer patients monitored between 2020 and 2022 was 70%.

Table 1: New cancer cases and cancer deaths in 2022, cancer prevalence and five-year relative survival ratio of patients in the Finnish population separately for women and men.

Total population	Female	Male
37 268 new cases	**17 622** new cases	**19 646** new cases
13 287 cancer deaths	**6 264** cancer deaths	**7 023** cancer deaths
323 097 living patients	**180 539** living patients	**142 558** living patients
70% five-year survival rate	**71%** five-year survival rate	**69%** five-year survival rate

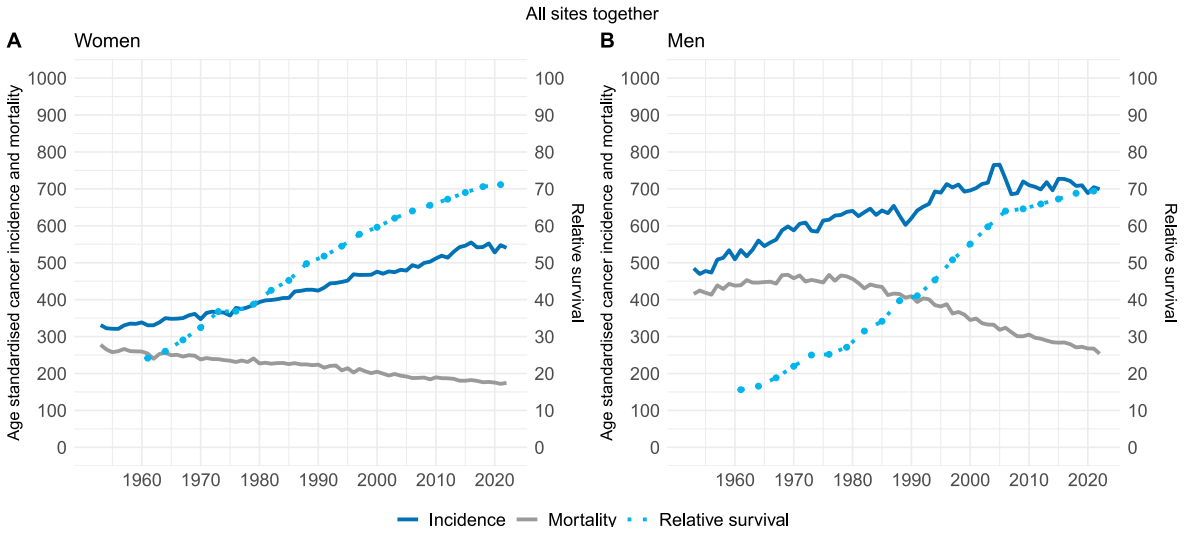

Figure 1: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

Figure (Figure 1) shows the age-standardised cancer incidence and mortality and the relative survival rate of patients from 1953 to 2022. Cancer incidence increased in women by 0.8% on average per year between 1992 and 2019 (Table 12). In men, the previous increase (1.0% per year in 1990–2003, Table 13) has levelled out (-0.2% per year in 2004–2019). The impact of the Covid-19 pandemic on cancer incidence is assessed in chapter 3. Cancer mortality decreased among women and men: on average by 0.5% per year (2006–2022)

in women and by 1.2% per year in men (2008–2022, Table 14 and Table 15). The relative survival rate has improved steadily in women, and the previous rapid improvement in the survival rate in men has slowed down since the early 2000s.

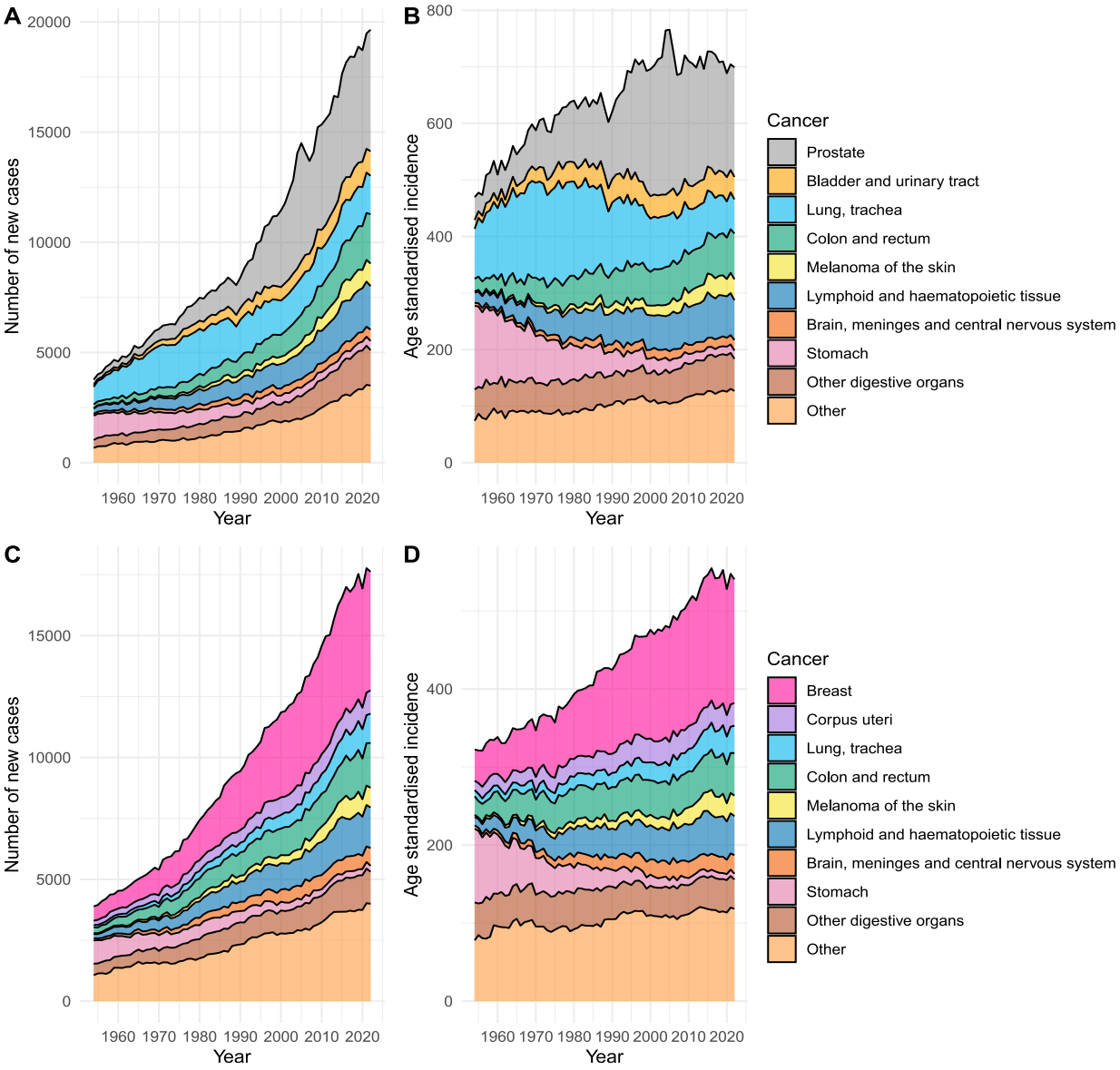

Figure 2: Number and incidence of new cancer cases (per 100,000 person-years and age standardised to the 2014 Finnish population), stratified by cancer type in men (Figures A and B) and women (C and D) in 1953–2022. Other digestive organs include cancer of the oesophagus, small intestine, anus, liver, gallbladder and bile ducts, pancreas and other or unspecified digestive organs.

Figure (Figure 2) shows the annual number of new cancer cases and the age-standardised incidence of the most common types of cancer by gender. 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 650 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 increased throughout the period considered.

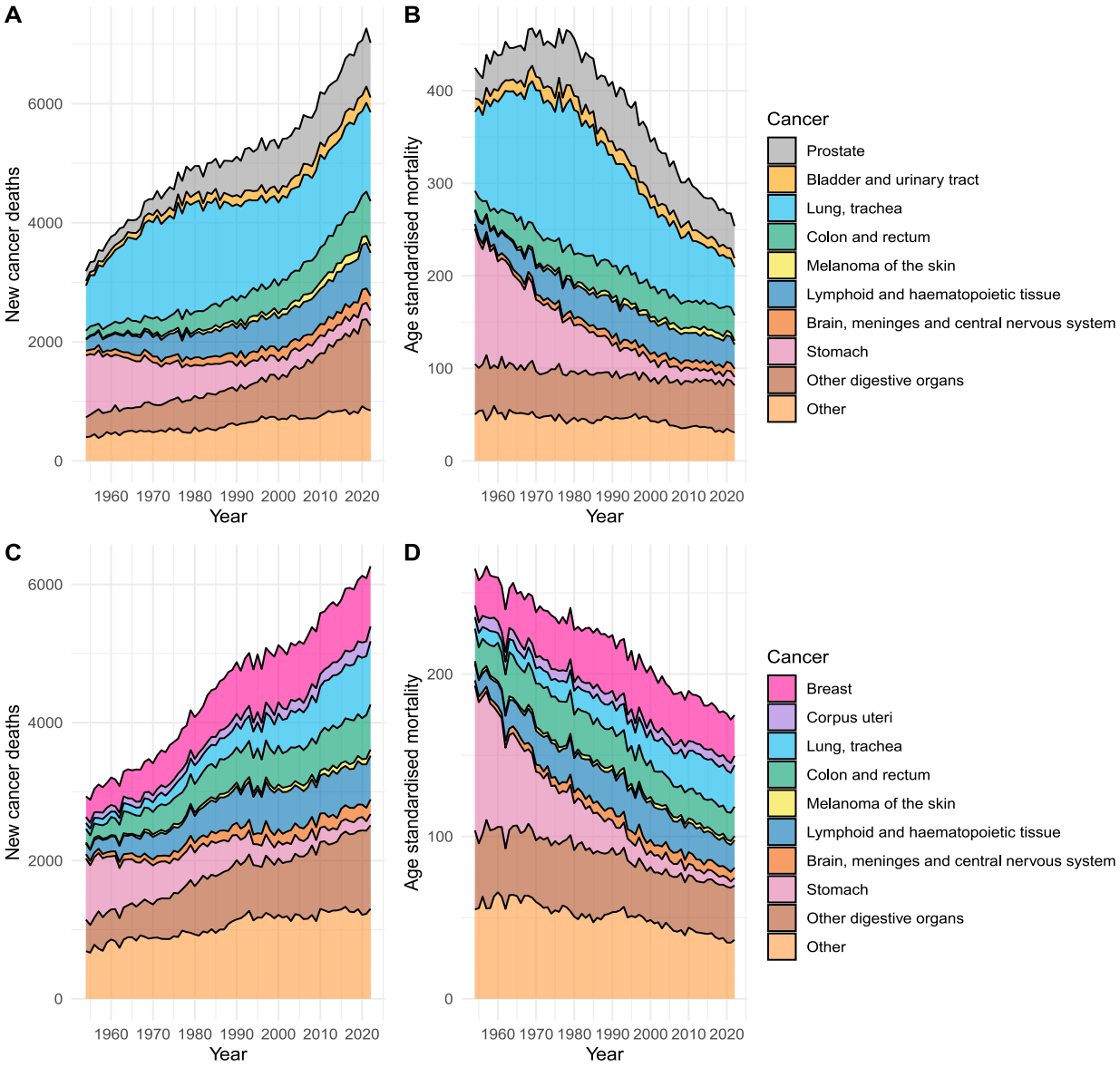

Figure 3: Number of new cancer deaths and mortality rate (per 100,000 person-years and age standardised to the 2014 Finnish population), stratified by cancer type, in men (Figures A and B) and women (C and D) in 1953–2022. Other digestive organs include cancer of the oesophagus, small intestine, anus, liver, gallbladder and bile ducts, pancreas and other or unspecified digestive organs.

Figure (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 mostly 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.

The age-standardised incidence of cancer is predicted to increase moderately (Figure 4). From 2022 to 2040, the average annual increase is projected to be 0.2% for women and 0.1% for men. The decline in mortality is projected to continue. On average, mortality in women is set to decrease by 0.7% per year and mortality in men by 0.6% per year.

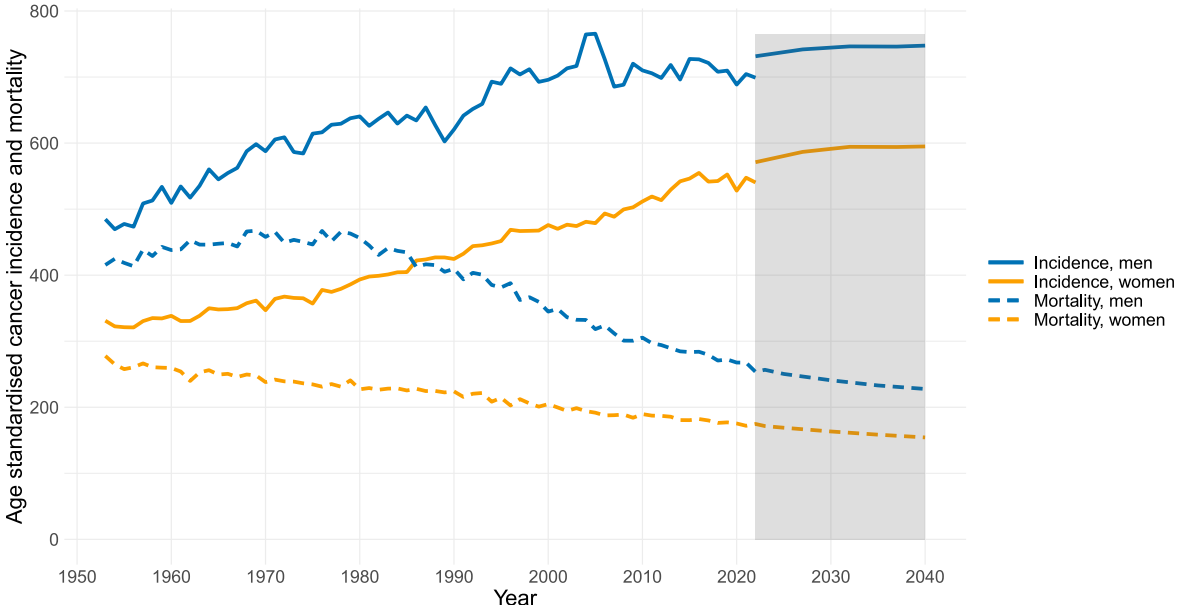

Figure 4: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) in 1953–2022, and projected development until 2040 by sex. The incidence prediction has also been presented for 2022 and is based on the trend observed until 2019.

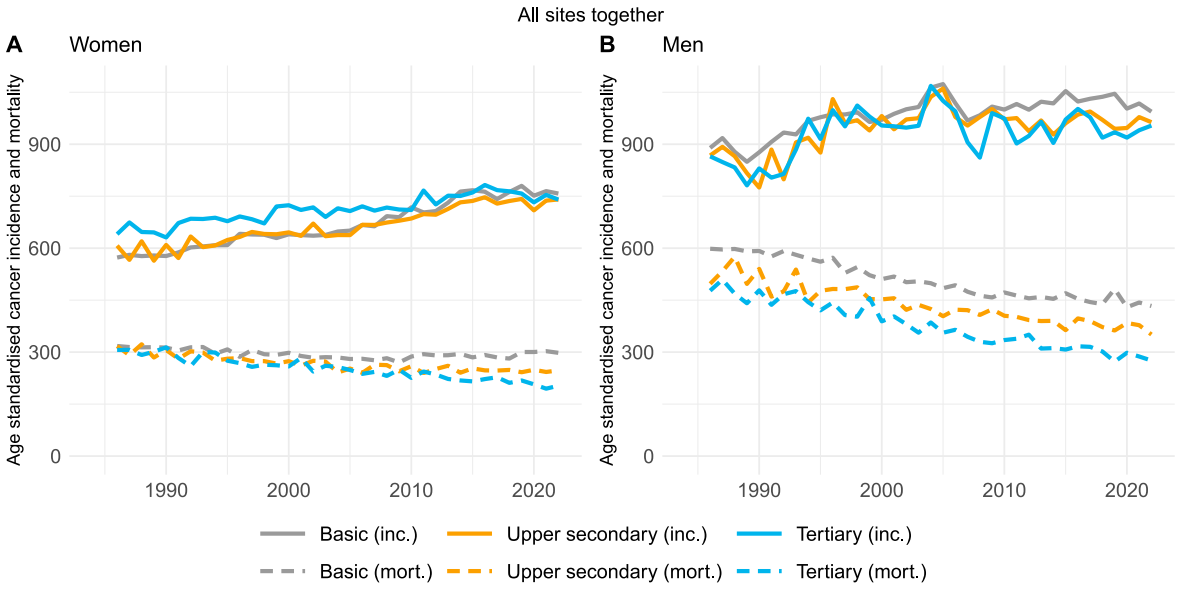

Figure 5: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) in the population aged 25 and over by sex and level of education in 1986–2022.

As a whole, the incidence of cancer and the mortality rate were highest among those with a basic education and lowest among those with a higher education (Figure 5). The greatest differences were observed for lung cancer. However, the incidence of the most common cancer types among women and men, breast cancer and prostate cancer, was highest among people with a higher education. Overall, the greatest differences between educational levels were found in men's cancer mortality, where the mortality rate among those with a basic education was higher than among those with a higher education for all cancers included in the examination. Similarly, the cancer mortality among highly educated women was generally slightly lower than among those with a basic level of education.

3 The Covid-19 pandemic and the cancer burden

The Covid-19 pandemic started in Finland in early 2020, and infections began to spread more widely in March. It was estimated that, because of the pandemic, there were 1,600 fewer cancer cases (4.3%) diagnosed in 2020 than would have been expected without the pandemic (see report: Cancer in Finland 2020).

This report compares the number of cancer cases diagnosed in 2022 with the prediction. The shortfall in the number of cases diagnosed compared with the prediction has been divided into a shortfall caused by a typical delay in registration and a shortfall caused by other reasons (e.g. the effects of the pandemic). The number of cases in 2022 is expected to increase by around 1,000 cases over the next three years, that is, the shortfall due to the registration delay was 2.9% (Table 2). The non-registration-related shortfall in the number of new cancer cases in 2022 was about 1,000 cases (2.8%), based on the previous cancer incidence. The shortfall due to reasons other than delays in cancer registration thus decreased significantly compared to the 2020 shortfall and was close to the 2021 shortfall (2.6% in the 2021 cancer report).

The shortfall due to registration delay was particularly high for pancreatic cancer (16.9%) and lymphatic and haematopoietic cancers (8.5%). This is explained by the fact that data in the cancer register are also supplemented based on death certificate data, and the cause of death is often the first source of data for the registration of these cancers. However, for some people whose death certificate contains a cancer entry, it is possible to trace the year in which the cancer was diagnosed back to the calendar year preceding the year of death.

The shortfalls due to reasons other than registration delay were greatest for breast cancer, melanoma of the skin and prostate cancer: 528 cases (9.8%) for breast cancer, 277 (13.1%) for melanoma of the skin and 212 (3.7%) for prostate cancer. However, there is considerable uncertainty in predicting cancer incidence in both skin and prostate cancers, because changes in the use of early detection methods have a significant impact on cancer incidence and are difficult to predict. The prediction for melanoma of the skin assumed a continued long-term increase. If the increase in incidence were assumed to stop and remain at the average level of 2015–2019, there would be no shortfall at all (-0.2%). The prostate cancer prediction assumed that the incidence would remain at the same average level as in 2015–2019.

Table 2: Number of cases diagnosed in 2022 and prediction based on cancer incidence in preceding years, for all cancers combined and separately for the most common cancers. The shortfall in the number of cases diagnosed compared with the prediction has been divided into a shortfall caused by a typical delay in registration and a shortfall caused by the Covid-19 pandemic.

			Shortfall			
Cancer type	Detected	Prediction	Registration		Other	
All sites together[1]	34 988	37 115	1 079	(2.9 %)	1 048	(2.8 %)
Prostate	5 514	5 747	21	(0.4 %)	212	(3.7 %)
Breast (women)	4 867	5 410	15	(0.3 %)	528	(9.8 %)
Colon and rectum	4 073	3 932	51	(1.3 %)	-191	(-4.9 %)
Lymphoid and haematopoietic tissue	3 640	3 985	339	(8.5 %)	6	(0.2 %)
Lung, trachea	2 947	3 202	178	(5.6 %)	77	(2.4 %)
Skin, squamous cell carcinoma	2 132	2 048	-3	(-0.1 %)	-81	(-4.0 %)
Melanoma of the skin	1 833	2 115	4	(0.2 %)	277	(13.1 %)
Bladder and urinary tract	1 469	1 569	16	(1.0 %)	84	(5.4 %)
Pancreas	1 192	1 527	258	(16.9 %)	77	(5.0 %)
Kidney	1 032	1 119	32	(2.8 %)	56	(5.0 %)

[1] excluding skin cancers other than melanoma of the skin

The number of colorectal cancer cases was around 190 (4.9%) higher than what was expected based on the prediction. The higher-than-expected number of cases is linked to the introduction of colorectal cancer screening in 2022, which allows for earlier detection of colorectal cancers.

Similarly, the number of cancer deaths in 2020–2022 was analysed by comparing the recorded number with the prediction drawn up based on past mortality trends. The numbers of all cancer deaths were close to those predicted (Table 3). In 2020 and 2021 there were slightly more (0.5% and 0.6%) and in 2022 slightly fewer (- 0.7%) cancer deaths than what was expected based on the prediction. A more accurate assessment of mortality trends for individual cancer types will require further investigation.

Table 3: Recorded number of cancer deaths in 2020–2022, prediction based on cancer mortality in previous years and their difference for all cancers combined and separately for the cancers causing most deaths.

Cancersjukdom	ICD-10	År	Observerad	Prediktion	Skillnad	
Alla cancerformer tillsammas	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	2020	13 192	13 130	62	(0.5 %)
		2021	13 355	13 277	78	(0.6 %)
		2022	13 287	13 380	-93	(-0.7 %)
Lunga, luftstrupe	C33-34	2020	2 293	2 351	-58	(-2.5 %)
		2021	2 345	2 369	-24	(-1.0 %)
		2022	2 410	2 379	31	(1.3 %)
Tjock- och ändtarm	C18-20	2020	1 290	1 379	-89	(-6.5 %)
		2021	1 378	1 395	-17	(-1.2 %)
		2022	1 406	1 405	1	(0.1 %)
Lymfatisk, blodbildande och besläktad vävnad	C81-96,D45-47,D76	2020	1 337	1 311	26	(2.0 %)
		2021	1 392	1 320	72	(5.5 %)
		2022	1 358	1 323	35	(2.6 %)
Bukspottkörtel	C25	2020	1 302	1 278	24	(1.9 %)
		2021	1 281	1 315	-34	(-2.6 %)
		2022	1 266	1 349	-83	(-6.1 %)
Prostata	C61	2020	928	936	-8	(-0.8 %)
		2021	976	946	30	(3.2 %)
		2022	920	950	-30	(-3.1 %)
Bröst (kvinnor)	C50	2020	968	892	76	(8.5 %)
		2021	914	891	23	(2.6 %)
		2022	871	888	-17	(-1.9 %)
Lever	C22	2020	459	487	-28	(-5.8 %)
		2021	509	501	8	(1.5 %)
		2022	474	515	-41	(-7.9 %)
Hjärna, centrala nervsystemet	C70-72,D32-33,D42-43	2020	429	430	-1	(-0.3 %)
		2021	436	430	6	(1.4 %)
		2022	455	428	27	(6.2 %)
Magsäck	C16	2020	450	431	19	(4.3 %)
		2021	413	426	-13	(-3.2 %)
		2022	418	420	-2	(-0.4 %)
Urinblåsa och urinvägar	C65-68,D09.0-1,D41.1-9	2020	383	362	21	(5.9 %)
		2021	385	365	20	(5.4 %)
		2022	364	367	-3	(-0.7 %)
Njure	C64	2020	359	345	14	(4.0 %)
		2021	330	347	-17	(-5.0 %)
		2022	352	348	4	(1.0 %)
Matstrupe	C15	2020	335	287	48	(16.6 %)
		2021	323	290	33	(11.5 %)
		2022	306	291	15	(5.0 %)
Gallblåsa, gallvägar	C23-24	2020	299	281	18	(6.5 %)
		2021	329	289	40	(13.8 %)
		2022	320	297	23	(7.9 %)
Hudmelanom	C43	2020	207	226	-19	(-8.3 %)
		2021	199	229	-30	(-13.3 %)
		2022	202	233	-31	(-13.3 %)

4 Statistical methods

4.1 Definitions

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

Mortality Number of deaths attributable to cancer in the population or part of it over a specific period of time. The mortality rate is the number of deaths per 100,000 person-years.

Prevalence The number of people in the population or part of it who have been diagnosed with cancer and who are alive at a specific point in time. The prevalence proportion is the corresponding number in relation to the population.

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 in the population who will develop cancer.

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

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

Age-standardised relative survival rate In this report, an age-standardised relative survival rate for patients diag- nosed in Finland during the most recent three-year period. It is aimed, for example, at improving the compara- bility 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 rate.

The regional statistics are based on the persons' municipality of residence in the year the cancer was diagnosed, except in the case of cancer mortality, where they are based on the municipality of residence in the year of death.

In the statistics presented by educational level, 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 educational level 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

4.2 New cancer cases – incidence

The cancer statistics are based on reports on the number of new **cancer cases diagnosed** lover 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, gender 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 decades (Figure 6). As the population ages, the number of cancers increases, but this does not necessarily mean that the incidence of cancer increases by age group.

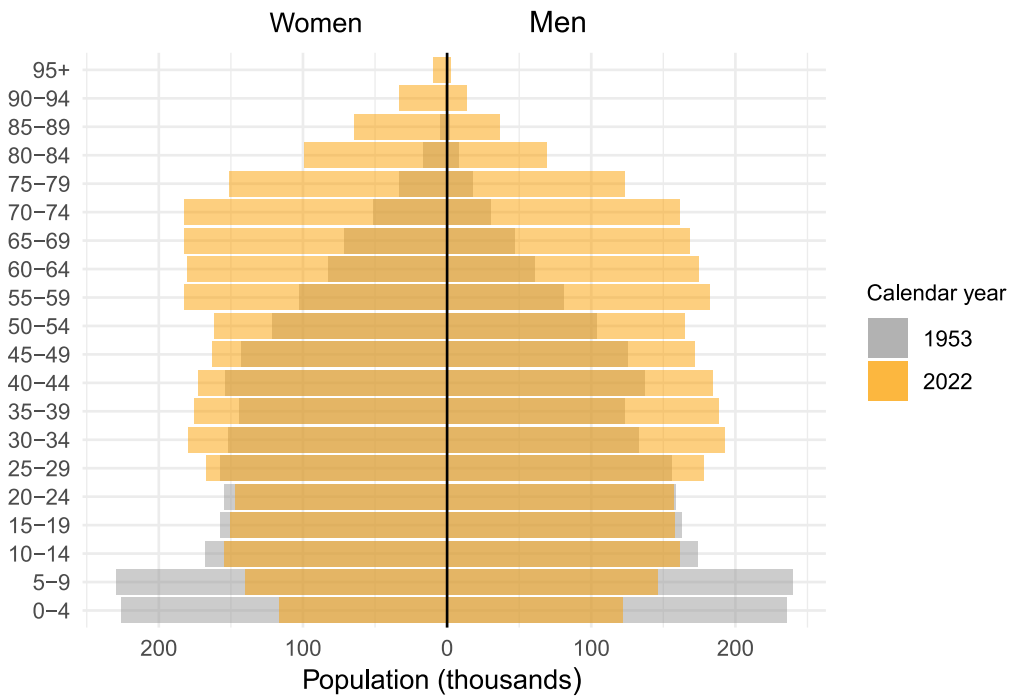

Figure 6: Age structure of the Finnish population by sex in 1953 and 2022.

Age-standardised incidence describes the number of new cancer cases 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. 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.

4.3 Cancer deaths – cancer mortality

The number of deaths attributable to cancer is often reported for a single 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.

4.4 Persons diagnosed with cancer – prevalence

Prevalence refers to the number of people in the population who have been diagnosed with cancer and who are alive at a specific point in time. The prevalence is broken down by time since diagnosis. For example, a five-year figure only includes 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 regional statistics are based on the persons' municipality of residence in the year the cancer was diagnosed.

Prevalence proportion refers to the number of persons diagnosed with cancer in the population relative to the population. For example, a prevalence proportion of 5,000 per 100,000 means that 5,000 persons of 100,000 persons (5% of the population) have a previous cancer diagnosis.

4.5 Risk of cancer and risk of cancer death

Risk of cancer refers to the average lifetime probability in the population of developing cancer. In the present report, the risk assessment is based on the cancer incidence and overall mortality rates of the population in the last five-year period, 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 that.

Risk of developing and dying from cancer refers to the average lifetime probability in the population of developing and dying from cancer. 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. The assessment takes into account that part of the population will avoid dying from cancer because they will die from other causes before that.

4.6 Prognoses for cancer patients – survival

The relative survival rate (patient's prognosis) is calculated by comparing the patient mortality rate with the mortality rate of the Finnish population of the same gender 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 specific period of time after diagnosis if the cancer in question were the only possible cause of death for the patient. Survival is often presented as a five-year relative survival rate.

The age-standardised relative survival rate standardises the age structure of patients across the country to the age structure of patients diagnosed in the most recent three-year period by cancer type and gender. 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 rates. The age-standardised survival rate is missing if no patients are alive in an age group five years after the diagnosis.

4.7 Years of life lost due to cancer

Years of life lost due to cancer have been calculated by estimating the average life expectancy of patients and comparing it with the average life expectancy of a population of the same age and gender. Ten years after the cancer diagnosis, the mortality rate for surviving patients was assumed to be similar to the overall mortality rate for the population of the same age. The exceptions to this are prostate and breast cancer, where it was assumed that after ten years patients would continue to have an annual excess mortality rate of around 1% compared to the mortality in the population. The number of years of life lost for the whole population was obtained by multiplying the patient's average years of life lost by the number of patients diagnosed in a single year (annual average 2012– 2022).

4.8 Time series and change assessment

Long-term development The development of cancer incidence and cancer mortality is measured by an average annual change (percentage). This method assesses whether the age-standardised trend has been steady or whether it has changed during the period considered. If there has been a statistically significant change, two change percentages will be used to describe the development before and after the point of change.

The time series for survival rates is based on patient monitoring in twelve five-year periods: 1962–1966, ..., 2017– 2022. The time series has been age-standardised to the age structure of patients diagnosed in 2017–2022 (by cancer type). The rates 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 rate for as many periods as possible, including in the smallest patient datasets.

The time series coverage for haematological cancers is described in more detail in section 5.3, Time series coverage.

4.9 Predictions of incidence and mortality

The predictions of cancer incidence for 2022–2040 and cancer mortality for 2023–2040 were calculated with the Nordpred statistics programme developed by the Cancer Registry of Norway. The years 2020-2022 were not used as the base for the incidence prediction due to the shortfall in diagnosed cases caused by the Covid-19 pandemic. 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 gender and cancer type based on the last 10–35 years. The incidence prediction assumes that the observed calendar trend will level out over time. The observed linear trend was cut by one-fourth in 2025–2029 and by half from 2030 onwards. The incidence predictions were used to derive predictions of the annual number of new cancer cases by using Statistics Finland's 2021 forecast for Finland's population in 2023–2040.

4.10 Effects of the Covid-19 pandemic on cancer incidence and mortality

The total number of new cancer cases diagnosed in 2022 was compared with a prediction calculated using the method described in section 4.9. The shortfall in the number of cases in 2022 compared with the prediction was divided into 1) a shortfall caused by a typical delay in registration and 2) a shortfall caused by other reasons. The gap caused by registration delay was estimated based on the extent to which the number of cases in the statistical years 2017–2019 was supplemented. Cancer mortality trends were estimated by comparing the number of cancer deaths in 2020–2022 with the prediction. The mortality prediction was calculated using the method described in section 4.9, but based on a time series only going back as far as 2019.

4.11 Regional differences in cancer incidence and mortality

Estimating the incidence and mortality of cancer in small areas yields uncertain results due to statistical random error. The incidence and mortality of the most common cancers were analysed by municipality in 2017–2022 using a Bayesian hierarchical model in which the incidence and mortality rates in neighbouring municipalities are assumed to be similar. This statistical method is a way to reduce the random error of regional estimates. The method was used to estimate the municipalities' age-standardised risk ratio, which describes the average relative difference in age-group incidence and mortality, relative to the municipality's population, compared to the whole country. Credible intervals of 95% are presented for the risk ratios and the average risk ratio of municipalities in the area.

4.12 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 (RR) describes the average relative difference between age-group-specific incidence and mortality rela- tive to the population 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.

5 Data and quality

5.1 Objectives of the Cancer Registry

The Finnish Cancer Registry monitors the cancer burden in the entire Finnish population. This encompasses the number of new cancer cases and cancer deaths, the survival of patients, the risk factors of cancer, 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 such effects 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. Registry employees help in planning cancer research and in choosing research designs.

5.2 Cancer types recorded and reported

The Cancer Registry collects data on all cancer cases diagnosed in Finland. The country's healthcare providers have a statutory obligation to deliver the data to the Registry. A cancer notification must also be made in cases of strong suspicion of cancer, especially in the absence of histological or cytological confirmation.

As the statistics must be comparable over time and with corresponding figures in other countries, they follow the international rules for multiple primary cancers, with the exception of haematological cancers (see section 5.3, Time series coverage). In the case of the brain and the central nervous system, data on all tumours, including benign tumours, are collected in the register and included in the statistics. For the urinary tracts, data are recorded on malign tumours, tumours with an unclear growth tendency and carcinomas in situ. Data are also collected on certain other non-malignant tumours, which are recorded separately from actual cancers, so they are not included in the overall cancer figures. These include basal cell carcinoma of the skin, borderline ovarian tumours, intraductal breast cancers and pre-cancer of the cervix.

The Cancer Registry annually updates data from Statistics Finland on causes of death for all patients included in the register. In addition, the cancer register is updated with information on cancer deaths that have not been reported. In such cases, the cancer data are based solely on the death certificate (death certificate only, DCO).

5.3 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.

Table (Table 4) shows the years of initiation for the time series on haematological cancers, most of which differ from when the registry was started, that is, from 1953 for new cases and cancer deaths and from 1958 for survival statistics.

Table 4: Starting year of time series for incidence, mortality, survival and prevalence for malignant disease groups of the lymphoid and haematopoietic tissues.

Cancer site	ICD-10	Incidence and mortality	Survival	Prevalence, time since diagnosis		
			5-year	1 year	5 years	10 years
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	1953	1958	1953	1957	1962
Hodgkin lymphoma	C81	1953	1958	1953	1957	1962
Mature B-cell neoplasms	–	2007	2012	2007	2011	2016
Chronic lymphatic leukaemia	C91.1	1953	1958	1953	1957	1962
Diffuse B lymphoma	C83.3	2007	2012	2007	2011	2016
Follicular B lymphoma	C82	2007	2012	2007	2011	2016
Myeloma and other plasma cell tumors	C90	1953	1958	1953	1957	1962
Burkitt's lymhoma/leukaemia	C83.7	2007	2012	2007	2011	2016
Marginal zone lymphoma	C83.8	2007	2012	2007	2011	2016
Mantle cell lymphoma	C83.1	2007	2012	2007	2011	2016
Malignant immunoproliferative diseases	C88	2007	2012	2007	2011	2016
Other mature B-cell neoplasms	–	2007	2012	2007	2011	2016
Mature T and NK cell lymphomas/leukaemias	C84	2007	2012	2007	2011	2016
Mature T-cell neoplasias of the skin	C84.0-1	2007	2012	2007	2011	2016
Other T and NK cell lymphomas/leukaemias	C84.3-5	2007	2012	2007	2011	2016
Acute lymphoblastic leukaemia/lymphoma	C91.0	1964	1969	1964	1968	1973
Acute myeloid leukaemia	C92.0	1964	1969	1964	1968	1973
Non-Hodgkin lymphoma, other or unspeficied	C85	2007	2012	2007	2011	2016
Leukaemia, other or unspecified	C95	1964	1969	1964	1968	1973
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3	2007	2012	2007	2011	2016
Chronic myeloid leukaemia	C92.1	1953	1958	1953	1957	1962
Polycythaemia vera	D45	1969	1974	1969	1973	1978
Myelofibrosis	D47.1	1969	1974	1969	1973	1978
Essential thrombocythemia	D47.3	2007	2012	2007	2011	2016
Myeloproliferative neoplasm, other	D47.1	2007	2012	2007	2011	2016
Myelodysplastic syndromes and myelodysplastic/myeloproliferative neoplasms	–	2007	2012	2007	2011	2016
Myelodysplastic syndromes	D46	2007	2012	2007	2011	2016
Myelodysplastic/myeloproliferative neoplasms	–	2007	2012	2007	2011	2016
Other, unspecified or mixed hematological disease	C96, D76	2007	2012	2007	2011	2016
Mastocytosis	C96.2	2007	2012	2007	2011	2016
Histiocytic and denritic cell neoplasms	C96.1, D76	2007	2012	2007	2011	2016
Other, unspecified or mixed hematological disease	C96.7-9	2007	2012	2007	2011	2016

The detection and classification of haematological cancers has changed significantly during the registry's operation. Reliable methods for detecting different forms of the disease only became available in the 1990s. The classification codes used by the Cancer Registry were revised in 2008, and the statistical year 2007 was also reclassified at the same time. New specifications for the coding that guides registration have also been introduced since then. These specifications have made the registry data more detailed for researchers.

For these reasons, the figures for haematological cancers can only be considered reliable from the 2000s onwards, for certain subtypes only from 2007 onwards. In other solid tumours, the time series have been reliable since the 1950s, taking into account a certain reporting deficit.

The Cancer Registry also compiles statistics on basal cell carcinoma of the skin (since 1964) and high-grade cervical dysplasia (dysplasia gravis since 1988 and CIN 3 since 1991).

5.4 Data sources

The Cancer Registry has several independent sources of data. The most important of these are notifications from pathology laboratories (diagnoses). Each year, the Cancer Registry receives more than 330,000 of these notifications. All pathology laboratories in Finland provide data based on the same codes in a structured format (organ of origin or topography and cell type or morphology). They also submit a verbal statement for samples that carry a malignant diagnosis. Electronic submission was introduced in the late 1980s and has been used for more than 30 years.

All healthcare providers are obliged to submit a clinical cancer notification on new cancer cases, that is, a summary of the case at diagnosis. Clinical cancer notifications are essential for cancers where histological confirmation is not available. In addition, clinical data form the basis for recording the cancer stage at the time of diagnosis. Information on cancer cases is also collected through treatment notifications by the care provider, which can typically be submitted in several different ways for different courses and methods of treatment.

All notifications are submitted in electronic format. The Cancer Registry maintains data models and code sets on a server maintained by the Finnish Institute for Health and Welfare, from which the models can be deployed for the collection of structured data.

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.

All clinical cancer information is based on the activity of notifiers, and the low number of notifications is cur- rently a cause for concern. In recent years, the Cancer Registry has received clinical notifications on only around 40% of new cancer cases. Because clinical cancer notifications provide information that is not available from other sources, such as information on cancers that lack histological confirmation, there is a lack of coverage particularly in the case of malignant blood diseases. For the statistical year 2021, we have published the statistics on notifica- tion activity on our website (syoparekisteri.fi/tilastot/kliinisten-ilmoitusten-tilasto). The figures can be examined by hospital district or university hospital for the most common cancers recorded.

5.5 Compilation of cancer data

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. The work is guided by international guidelines and codes (ICD-O-3) for cancer registration. The work is carried out by professionals at the Cancer Registry who are tasked with compiling cancer data, based on the information received, either as new cancer cases or as part of previously diagnosed cases.

Since the statistical year 2018, the creation of case summaries has been partly automated. However, the automated processing is based on structured data and therefore depends on the notification content complying with the data definitions. The automated processing is applied to 13 common cancer types, including meningiomas. The automatically compiled case data for 2022 were checked systematically by using random sampling. The case summaries were found to be of good quality.

With regard to the compilation of cancer data, it is essential that the persons carrying out the cancer registration have sufficient qualifications and competence. The chief medical officer and expert pathologist the Cancer Registry advise on the registration of complex cases. The date of diagnosis of new cancer cases based solely on data from death certificates is specified by using the diagnosis and visit data from the national care register of the Finnish Institute for Health and Welfare, if the data result in an earlier date.

A Gleason score for the spread of prostate cancer is available as a completely new dataset. More than 90% of cases have at least one Gleason score within four months of the cancer diagnosis between 2015 and 2022. The Gleason score coverage is lower for earlier years.

5.6 Quality indicators

Typically, the quality of a cancer registry is described by indicators such as the percentage of microscopically verified cases (%MV) that is, 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 registry several years afterwards. According to the most recent statistics, the %MV for cancers diagnosed in 2022 was 92.4% (92.0% in 2021), the %DCO was 1.6% (1.7% in 2021) and the percentage of cases with unknown primary site was 1.5% (1.3% in 2021). Most of the unknown primary site cases were found in persons aged 70 and older.

6 Incidence and new cancer cases

Figure (Figure 7) shows the age-standardised incidence rates for the most common cancer types and Figure (Figure 8) shows the number of new cancer cases..

Breast cancer was the most common new cancer diagnosed in women in 2022. It had an age-standardised incidence of 158.2 per 100,000 person-years, with a total of 4 867 new cases diagnosed. The second most common new cancer diagnosed was colorectal cancer (incidence 54.5, 1 832 cases), and the third most common was lung and tracheal cancer (incidence 35.2, 1 207 cases).

Prostate cancer was the most common new cancer diagnosed in men in 2022. It had an age-standardised inci- dence of 193.7 per 100,000 person-years, with a total of 5 514 new cases. The second most common new cancer diagnosed in men was colorectal cancer (incidence 80.8, 2 241 new cases), followed by lung and tracheal cancer (incidence 60.5, 1 740 new cases)..

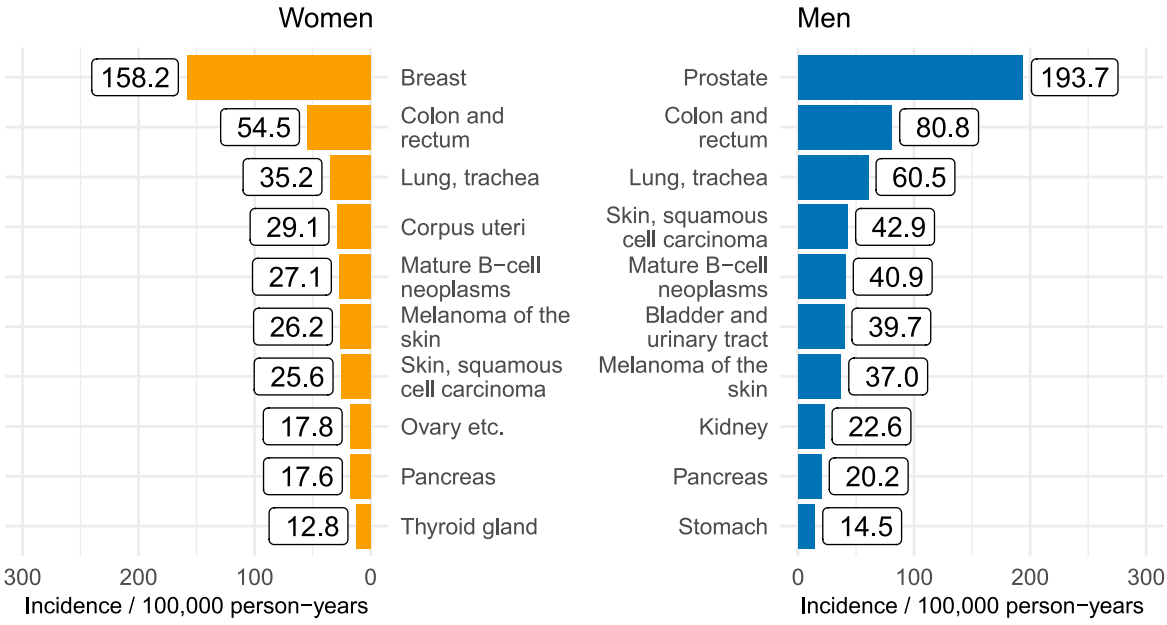

Figure 7: Incidence of cancer among women and men (per 100,000 person-years and age standardised to the 2014 Finnish population) for the most common cancer types in 2022.

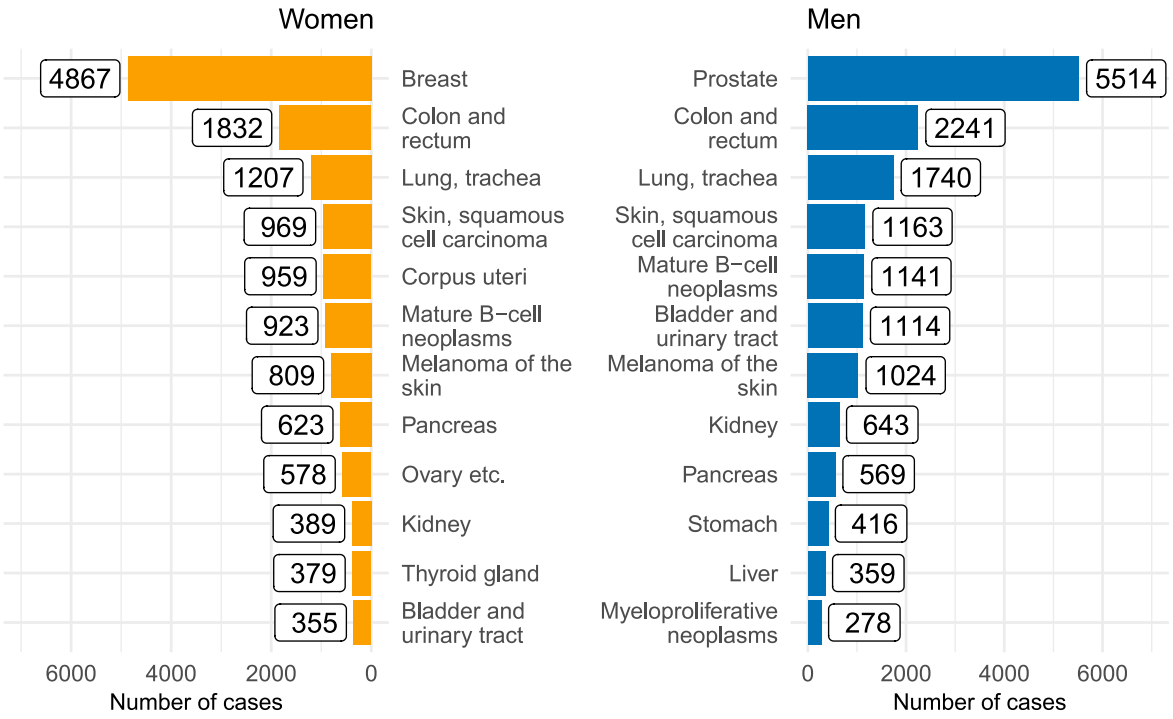

Figure 8: Number of new cancer cases in women and men for the most common cancer types in 2022.

6.1 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. Figure (Figure 9) shows the incidence of cancer in the population under 20 years of age. In 2022, the incidence of cancer among people under 20 years of age was approximately 20 cases per 100,000 persons, with 230 new cases diagnosed. Acute lymphoblastic leukaemia and Hodgkin's lymphoma were among the most common cancer types in children and young adults.

Figures (Figure 10) and (Figure 11) show the incidence of cancer in 2022 in the population aged 20–69 and the population aged 70 and over. The highest incidences in the female population aged 20–69 were recorded for breast cancer (incidence 168.2/100 000, 2 878 new cases), colorectal cancer (42.4, 725 cases) and melanoma of the skin (27.3, 467 cases). In the male population of the same age, the highest incidences were observed for prostate cancer (125.8, 2 212 new cases), colorectal cancer (58, 1 020 cases) and lung and tracheal cancer (32.8, 575 cases).

The most common cancer types in the female population aged 70 and over were breast cancer (372.6/100 000, 1 989 new cases), colorectal cancer (206.4, 1 102 cases) and squamous cell carcinoma of the skin (150.6, 804 cases). In the male population of the same age, the most common cancer types diagnosed were prostate cancer (823.7, 3 302 cases), colorectal cancer (303.6, 1 217 cases) and lung and tracheal cancer (290.4, 1 164 cases).

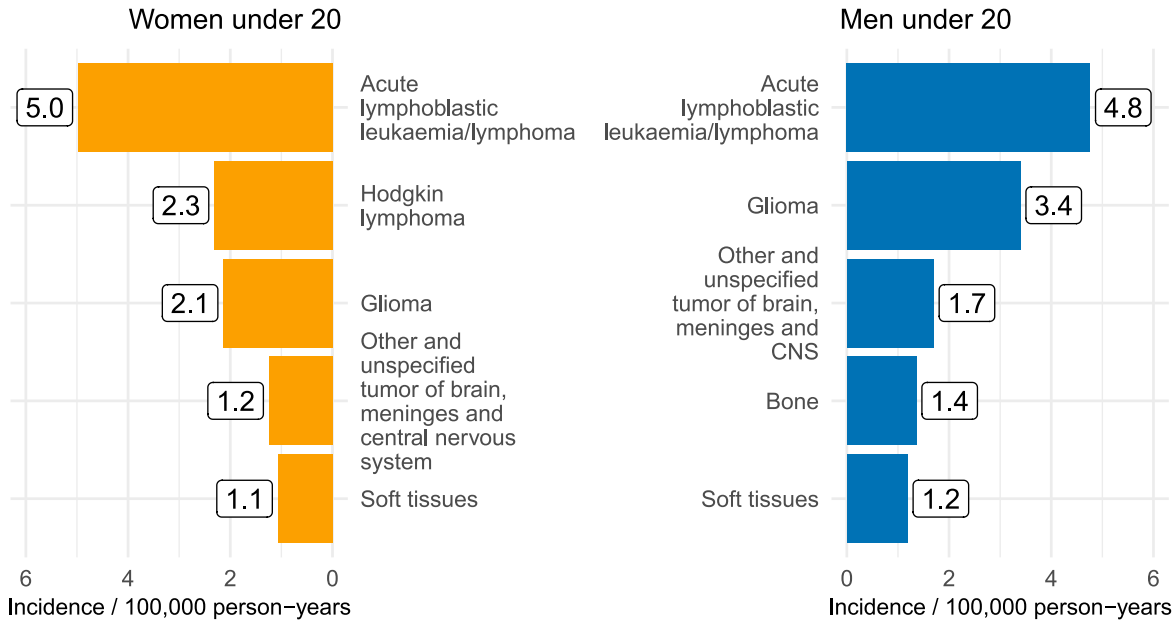

Figure 9: Incidence of cancer among women and men aged under 20 (per 100,000 person-years) for the most common cancer types in 2022.

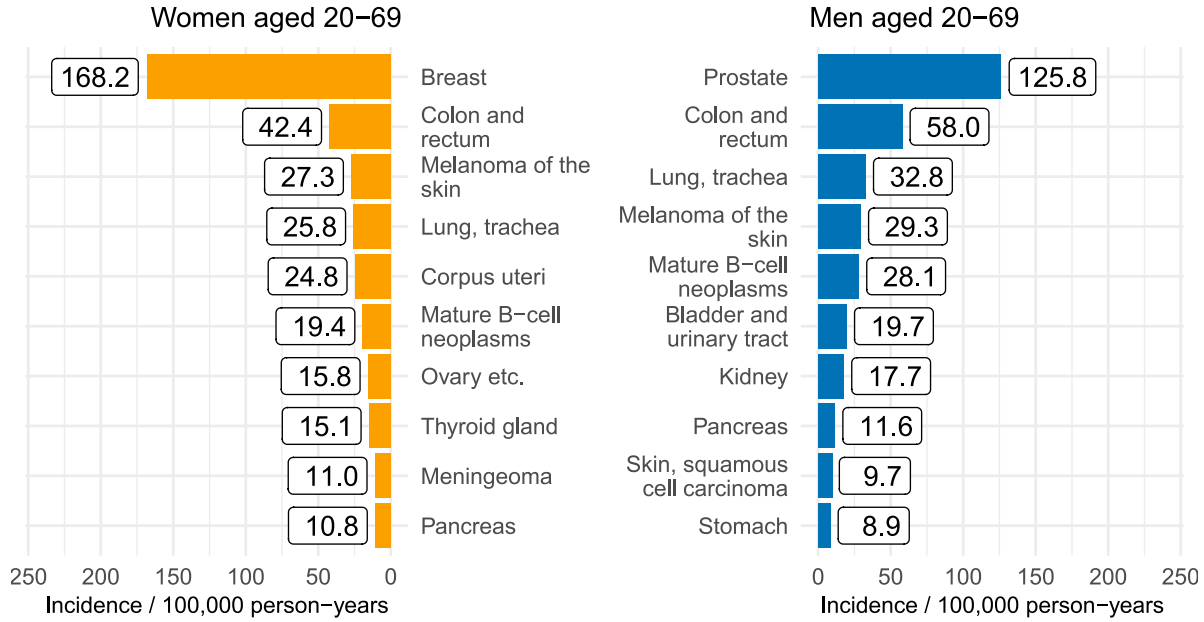

Figure 10: Incidence of cancer among women and men aged 20–69 (per 100,000 person-years) for the most common cancer types in 2022.

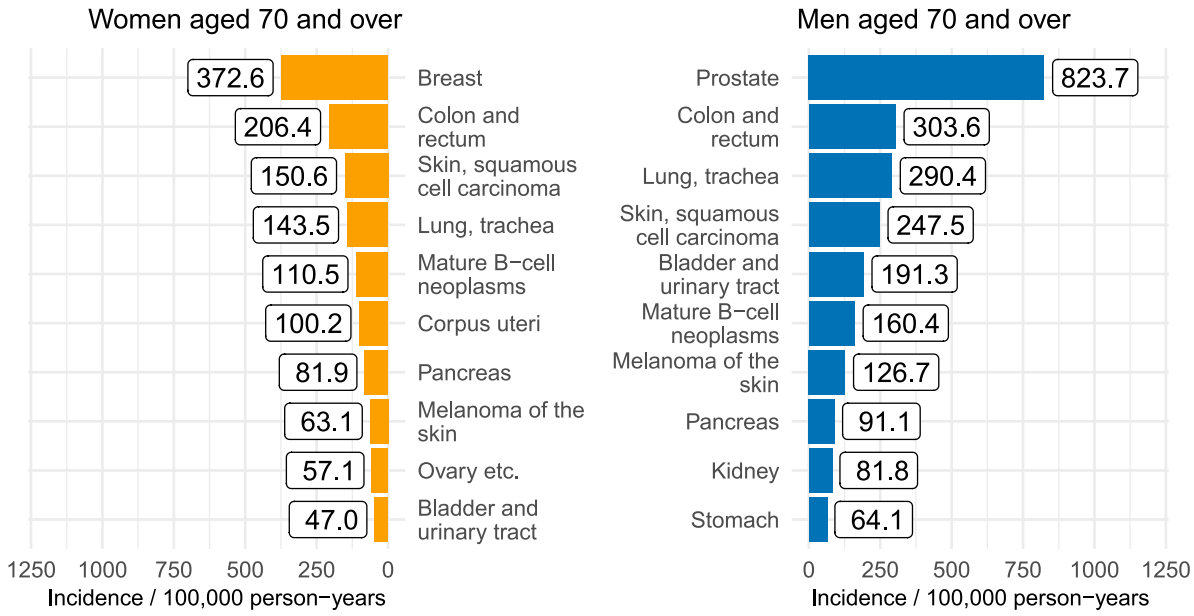

Figure 11: Incidence of cancer among women and men aged 70 and over (per 100,000 person-years) for the most common cancer types in 2022.

6.2 Risk of developing and dying from cancer

Table (Table 5) shows estimates of the proportions of women and men that will develop cancer and the proportions that will die from cancer during their lifetime. On average, 36% of women and 38% of men develop cancer during their lifetime. On average, 17% of women and 20% of men die from cancer. The estimates can be interpreted as a newborn child's lifetime risk of developing and dying from cancer. The estimates assume that a person'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 2018-2022.

Analysed by cancer type, 13.4% of women develop breast cancer and 13.9% of men develop prostate cancer. 3.1% of women die from breast cancer and 3.9% of men die from prostate cancer. According to the estimate, 3.3% of women and 5.3% of men develop lung cancer. On average, 2.7% of women and 4.8% of men die from lung cancer. Given the major changes in smoking habits among both women and men, it is unlikely that these estimates reflect the actual risk of lung cancer in any of the birth cohorts. Fewer and fewer newborns start smoking in later life, which reduces the risk of lung cancer in relation to the estimate.

Table 5: Lifetime risk (%) of developing and dying from cancer. The calculation is based on cancer incidence, cancer mortality and overall mortality in the population in 2018–2022.

		Women		Men	
Cancer site	**ICD-10**	Develop cancer	Die from cancer	Develop cancer	Die from cancer
All sites together	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	36.2	17.3	37.9	20.1
Prostate	C61	–	–	13.9	3.9
Breast	C50	13.4	3.1	0.1	<0.1
Colon and rectum	C18-20	5.0	2.1	5.8	2.6
Lung, trachea	C33-34	3.3	2.7	5.3	4.8
Melanoma of the skin	C43	2.3	0.3	2.7	0.4

7 Mortality

Figure (Figure 12) shows the age-standardised mortality rates and Figure (Figure 13) the number of deaths for the cancers types with the highest mortality. The cancers responsible for the most cancer deaths were lung and tracheal cancer (2 410 deaths), colorectal cancer (1 406 deaths) and pancreatic cancer (1 266 deaths).

The most common cause of cancer death in women was lung and tracheal cancer (mortality 25.4 per 100,000 person-years, 915 deaths). Breast cancer caused the second most deaths (25.2, 871 deaths) and pancreatic cancer the third most deaths (18, 654 deaths) in women.

The most common cause of cancer death in men was lung and tracheal cancer (mortality 52.2 per 100,000 person-years, 1 495 deaths). Prostate cancer caused the second most deaths (34.8, 920 deaths) and colorectal cancer the third most deaths (27.4, 754 deaths) in men.

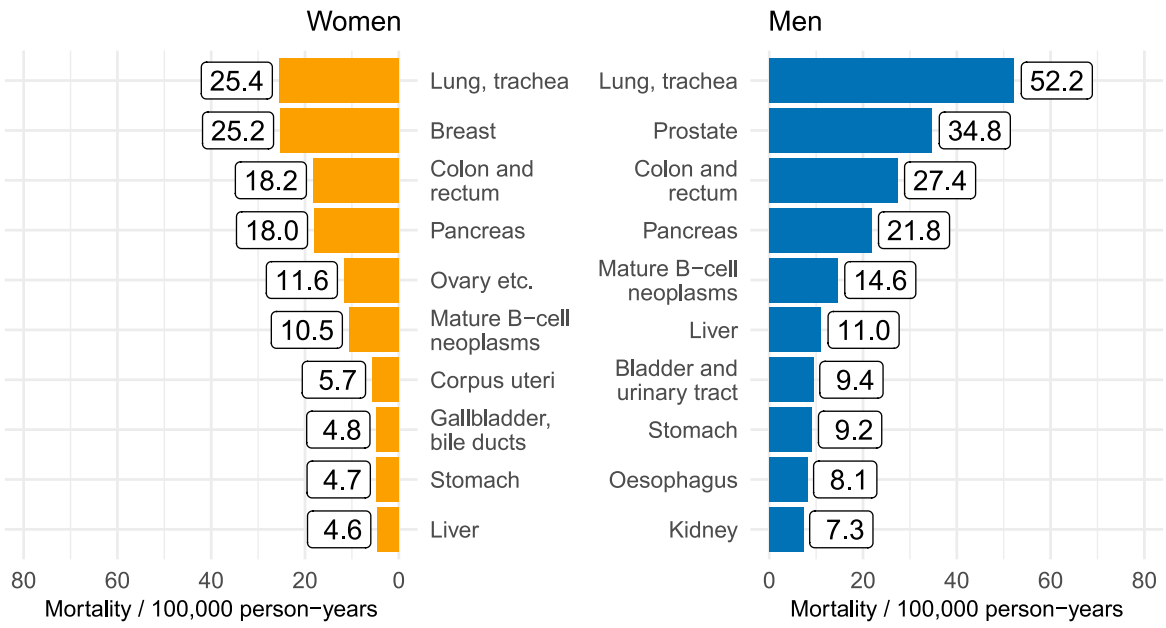

Figure 12: Cancer mortality (per 100,000 person-years and age standardised to the 2014 Finnish population) in women and men for the cancer types with the highest mortality rate in 2022.

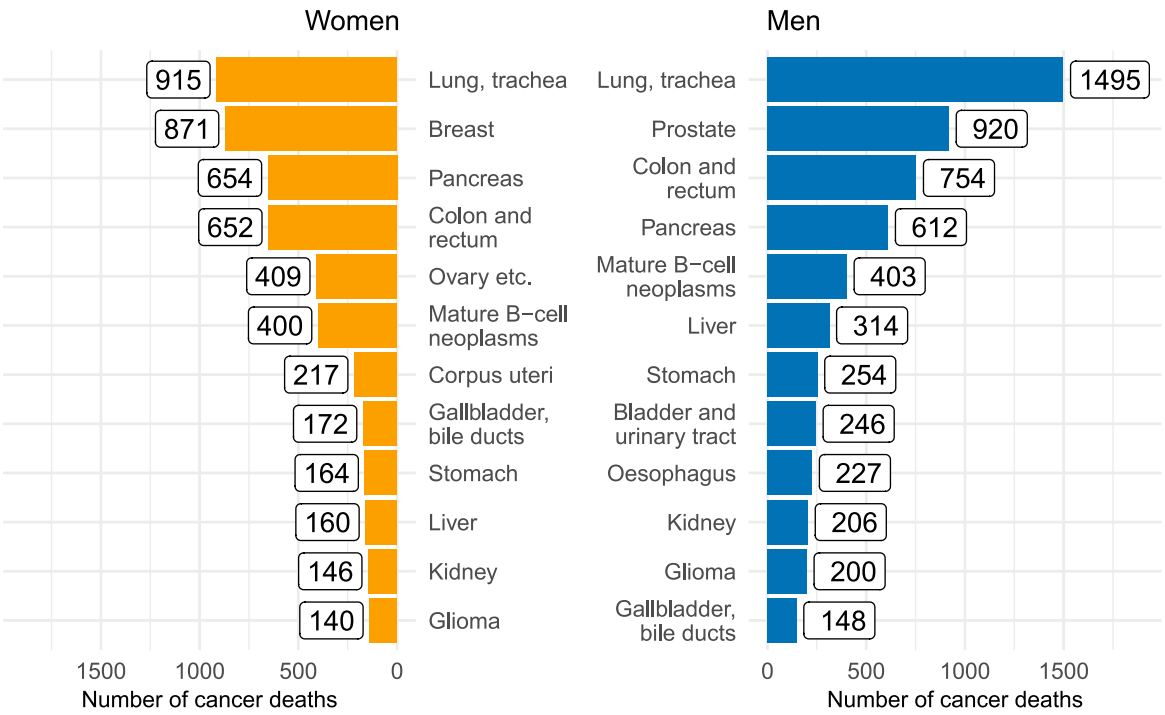

Figure 13: Number of cancer deaths in women and men for the cancer types with the highest mortality rate in 2022.

7.1 Mortality by age group

In 2022, a total of 18 people under 20 years of age died from cancer, and their most common cause of cancer death was brain and central nervous system tumours.

Figures (Figure 14) and (Figure 15) show the cancer mortality (per 100,000 persons in 2022) in the population aged 20–69 and the population aged 70 and over. In women aged 20–69, the main causes of cancer death were breast cancer (mortality rate 17.6, 301 deaths), lung and tracheal cancer (14.6, 247 deaths) and colorectal cancer (10.4, 175 deaths). In men of the same age, the main causes of cancer death were lung and tracheal cancer (25.6, 448 deaths), colorectal cancer (13.0, 225 deaths) and pancreatic cancer (11, 193 deaths).

In women aged 70 and over, the main causes of cancer death were lung and tracheal cancer (124.8, 666 deaths), breast cancer (106.8, 570 deaths) and pancreatic cancer (92.9, 496 deaths). In men aged 70 and over, the main causes of cancer death in 2022 were lung and tracheal cancer (260.4, 1 044 deaths), prostate cancer (205.1, 822 deaths) and colorectal cancer (131, 525 deaths).

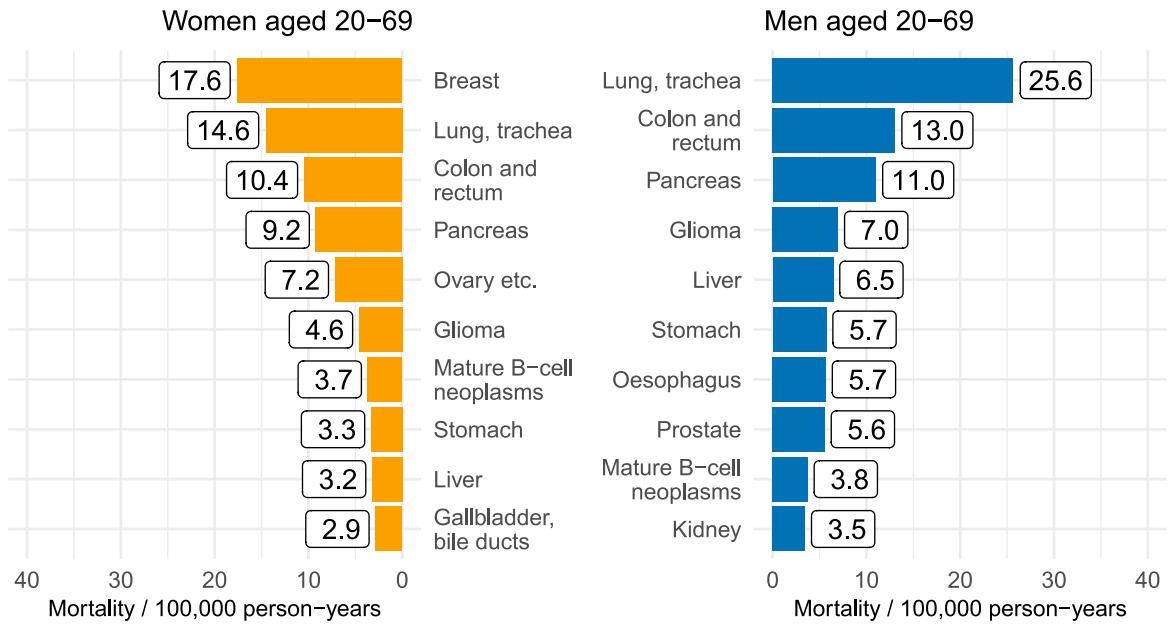

Figure 14: Cancer mortality (per 100,000 person-years) in women and men aged 20–69 for the cancer types with the highest mortality rate in 2022.

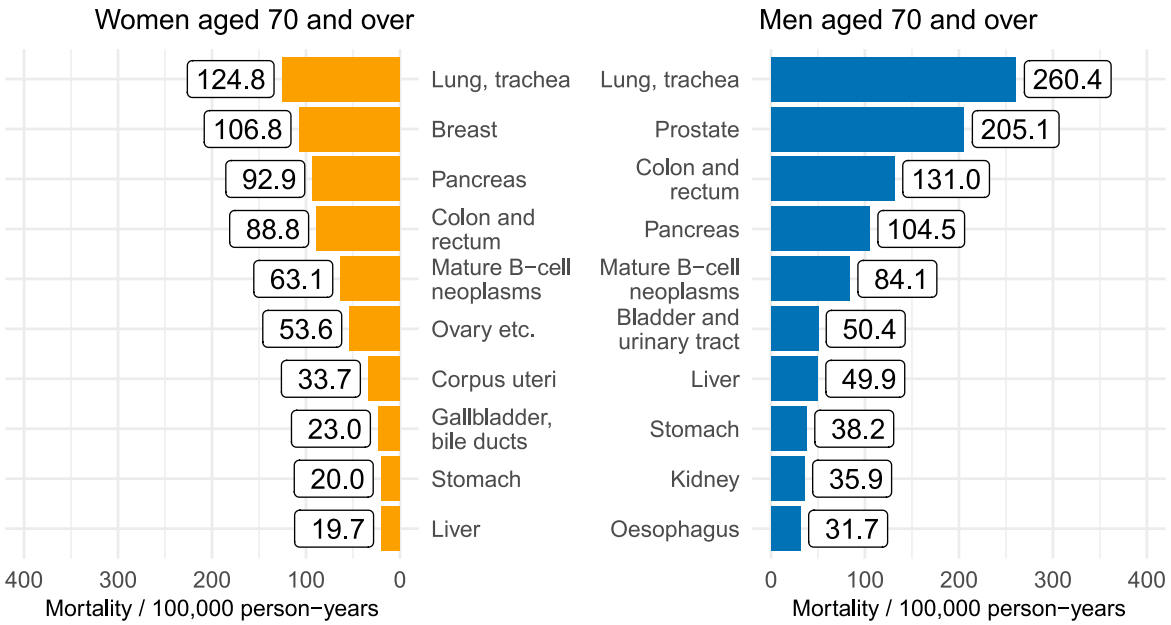

Figure 15: Cancer mortality (per 100,000 person-years) in women and men aged 70 and over for the cancer types with the highest mortality rate in 2022.

8 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 diagnosed, lung cancer has a low prevalence due to its high mortality rate.

At the end of 2022, there were 323 097 people (prevalence) alive in Finland with a past cancer diagnosis. This was equivalent to 5.8% of the Finnish population (prevalence proportion). The most prevalent cancer types are shown by sex in Figure (Figure 16).

At the end of 2022, the prevalence of breast cancer in women was 82 068, the prevalence of colorectal cancer was 15 751 and the prevalence of endometrial cancer was 13 240. The prevalence of prostate cancer at year-end 2022 was 61 514. There were a total of 15 591 men alive with colorectal cancer and 11 027 alive with melanoma of the skin.

Looking only at people with no more than five years since cancer diagnosis (diagnosed in 2018-2022), there were 53 254 women and 53 188 men alive at year-end 2022.

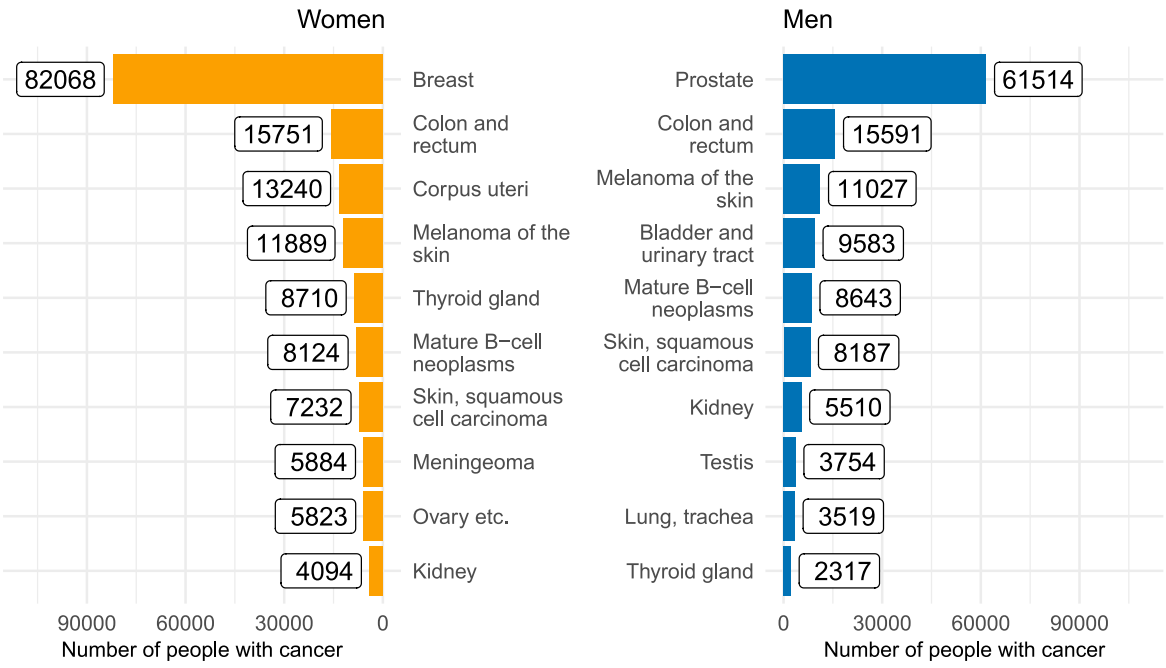

Figure 16: Number of people living with cancer at the end of 2022.

9 Cancer patient survival

The five-year relative survival rate in 2020-2022 was 69% in male patients and 71% in female patients. Compared to the previous period of 2017-2019, the survival rate had increased by 0.6 percentage points in both women and men.

For patients monitored in 2020-2022, the survival rate for breast cancer in women was 92% and the survival rate for prostate cancer was 94% (Figure 17). The average survival rate for colorectal cancer was 69%, while lung cancer had an average survival of 18%. The survival rate for pancreatic cancer was only 7%. Among these five cancer types, the survival rate for women increased the most for lung cancer (by 1.4 percentage points from 2017-2019 to 2020-2022), and the survival rate for men increased the most for colorectal cancer (3.6 percentage points).

Figures (Figure 18 and Figure 19) and Tables (Tables 10 and Tables 11) show the survival rates for three age groups: patients diagnosed with cancer aged 0–54, 55–74 and 75 and over. The survival rates in the youngest age group were higher than those of the older age groups for most cancer types. For breast cancer and melanoma of the skin in women, the survival rates were approximately the same for persons under 55 years of age and persons aged 55-74. For women aged 75 and over, however, the survival rates were lower than for the other age groups. In lung cancer, the survival rates clearly differed between people under 55 years of age and people aged 55–74. The five-year survival rate of women diagnosed with lung cancer at under 55 years of age was 48%; the corresponding rates for women diagnosed at 55–74 and at 75 and over were 25% and 17%, respectively.

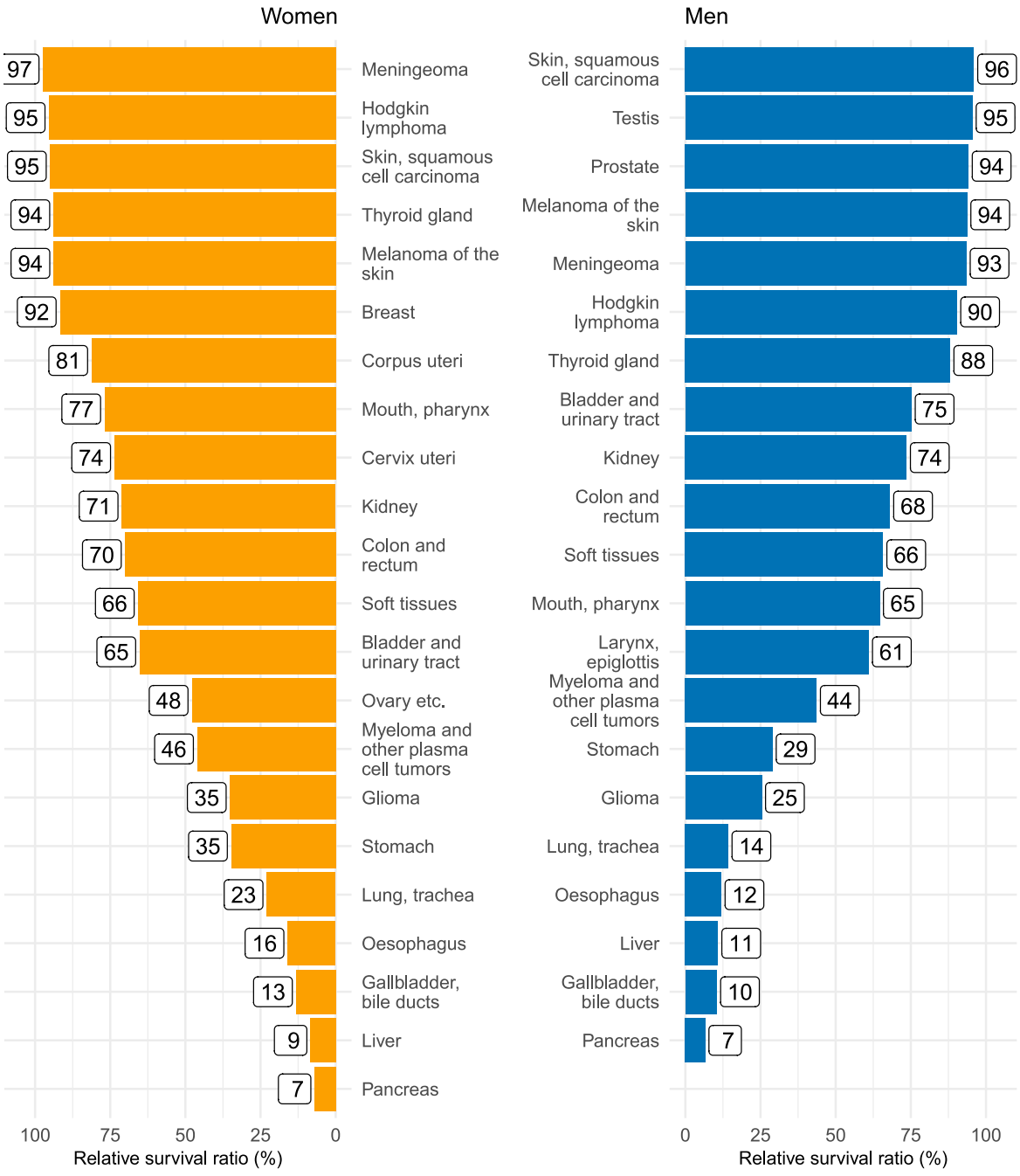

Figure 17: Five-year relative survival ratios (%) in patients followed up in 2020-2022 by sex and cancer type. The survival ratios for laryngeal cancer in women and breast cancer in men are not presented due to a small number of cases.

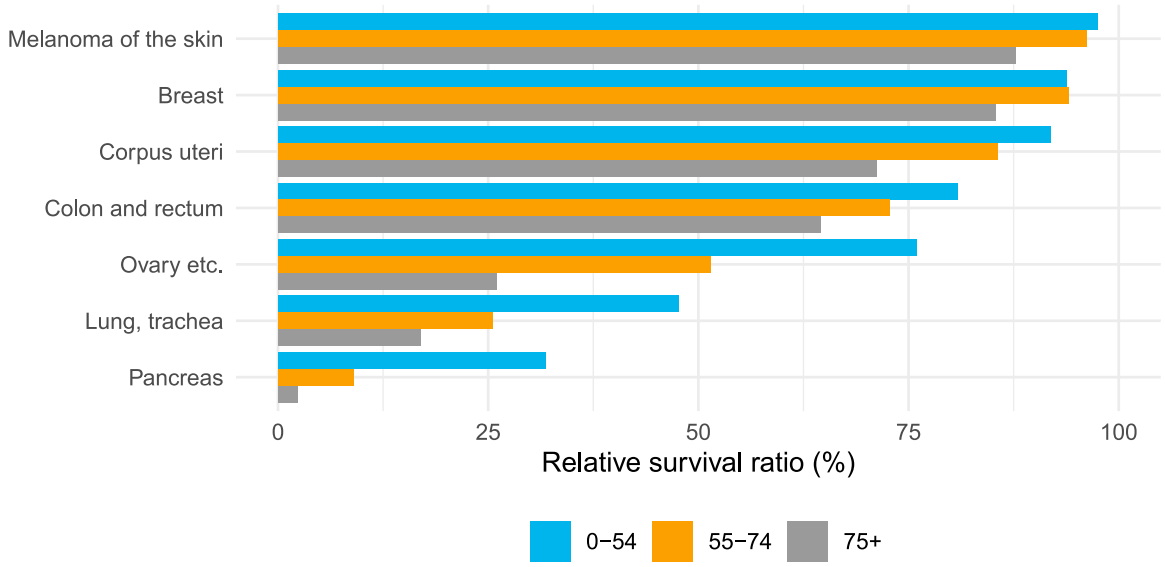

Figure 18: Five-year relative survival ratios (%) in female patients followed up in 2020-2022 by age group (under 55, 55–74 and 75 and over) for the seven most common cancer types in women (excl. mature B-cell neoplasms and cutaneous squamous cell carcinoma).

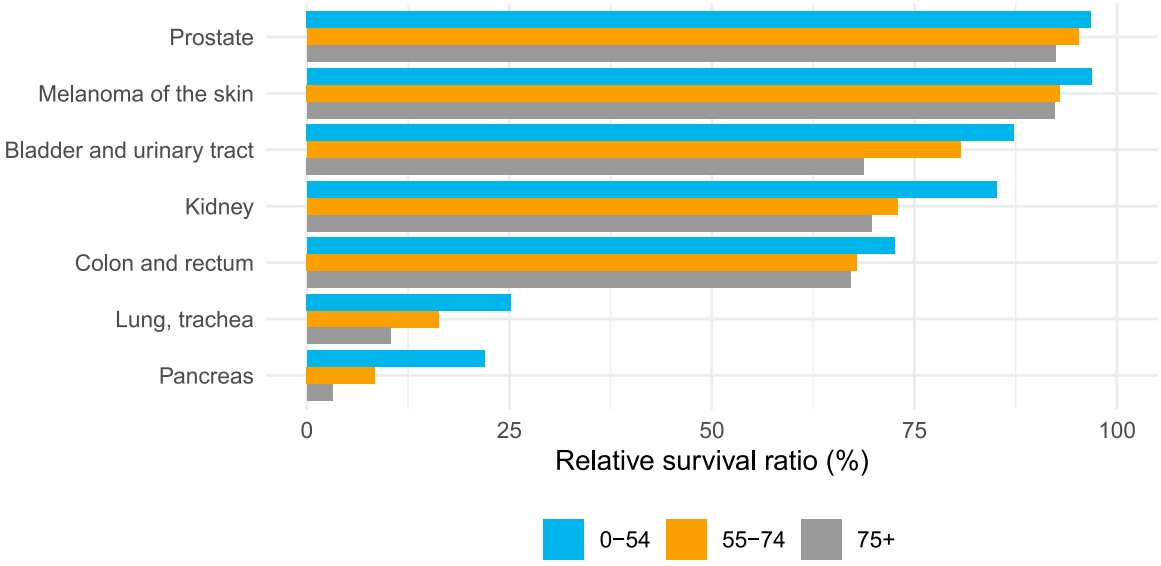

Figure 19: Five-year relative survival ratios (%) in male patients followed up in 2020-2022 by age group (under 55, 55–74 and 75 and over) for the seven most common cancer types in men (excl. mature B-cell neoplasms and cutaneous squamous cell carcinoma).

10 Years of life lost due to cancer

It was estimated that a total of around 192 000 years of life are lost in the population in a single year due to cancer (Table 6). Women lose 95 300 years and men 96 500 years.

In the population as a whole, lung cancer caused the greatest number of years of life lost (34 600 years). The next greatest number of years of life lost was due to lymphatic and haematopoietic cancers (18 200), followed by colorectal cancer (17 400), pancreatic cancer (17 000) and breast cancer (16 300). For other cancer types, the combined years of life lost by men and women were significantly lower. Women lose the greatest number of years of life due to breast cancer. For men, the number of years of life lost to prostate cancer (6 190) was slightly lower than the number of years of life lost to pancreatic cancer (8 260).

Figures (Figure 20 ja Figure 21) show the average age at cancer diagnosis and estimates of average patient life expectancy and years of life lost due to cancer for cancers diagnosed between 2013 and 2022. The number of years of life lost by a cancer patient is affected not only by the length of life after cancer, but also by the age of onset. The average age of onset ranged from 36 years for men with testicular cancer to 80 years for women with squamous cell carcinoma of the skin. Cancer can reduce life expectancy, particularly in young people.

The average age of onset for women diagnosed with breast cancer was 65 years. They were expected to live an average of 19.6 years after the cancer diagnosis and to lose 3.3 years of life, as they would have been expected to live 22.9 years based on population mortality. The number of years of life lost in the population as a whole is also affected by the incidence of cancer. On average, 4 925 women were diagnosed with breast cancer each year between 2013 and 2022. It was estimated that a total of 16 300 years of life were lost in the female population in a single year due to breast cancera (Table 6, coloured area Figure 20).

The average age at diagnosis for prostate cancer patients was 72 years. They were expected to live an average of 13.2 years after the cancer diagnosis and to lose 1.2 years of life. Between 2013 and 2022, an average of 5 162 cases of prostate cancer were diagnosed each year. On average, 6 190 years of life are lost in the population in a single year due to prostate cancer (Table 6, coloured area Figure 21).

Table 6: Number of years of life lost to cancer in a single year, by gender and cancer type. Calculation includes cancer cases diagnosed in 2013–2022.

Cancer site	ICD-10	Women	Men	Total
All sites together	C00-96,D09.0-1,D32-33,D41-43,D45-47,D76	95 300	96 500	192 000
Lung, trachea	C33-34	13 700	20 800	34 600
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	8 760	9 470	18 200
Colon and rectum	C18-20	7 990	9 380	17 400
Pancreas	C25	8 770	8 260	17 000
Breast	C50	16 300	56	16 300
Liver	C22	2 470	4 660	7 120
Stomach	C16	2 840	4 050	6 880
Prostate	C61	–	6 190	6 190
Glioma	–	2 580	3 460	6 040
Ovary etc.	C48.1-2 (Serous), C56, C57.0-4	5 770	–	5 770
Kidney	C64	2 100	3 210	5 310
Mouth, pharynx	C00-14	1 300	3 220	4 520
Oesophagus	C15	1 180	3 260	4 440
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	1 310	3 030	4 340
Gallbladder, bile ducts	C23-24	2 160	1 650	3 810
Corpus uteri	C54	2 860	–	2 860
Melanoma of the skin	C43	858	1 320	2 180
Soft tissues	C48-49	712	872	1 580
Cervix uteri	C53	1 360	–	1 360
Skin, squamous cell carcinoma	C44 (Squamous cell)	574	577	1 150
Larynx, epiglottis	C32	141	720	861
Thyroid gland	C73	417	372	789
Meningeoma	–	299	230	529
Testis	C62	–	295	295
Other sites	–	10 900	11 400	22 300

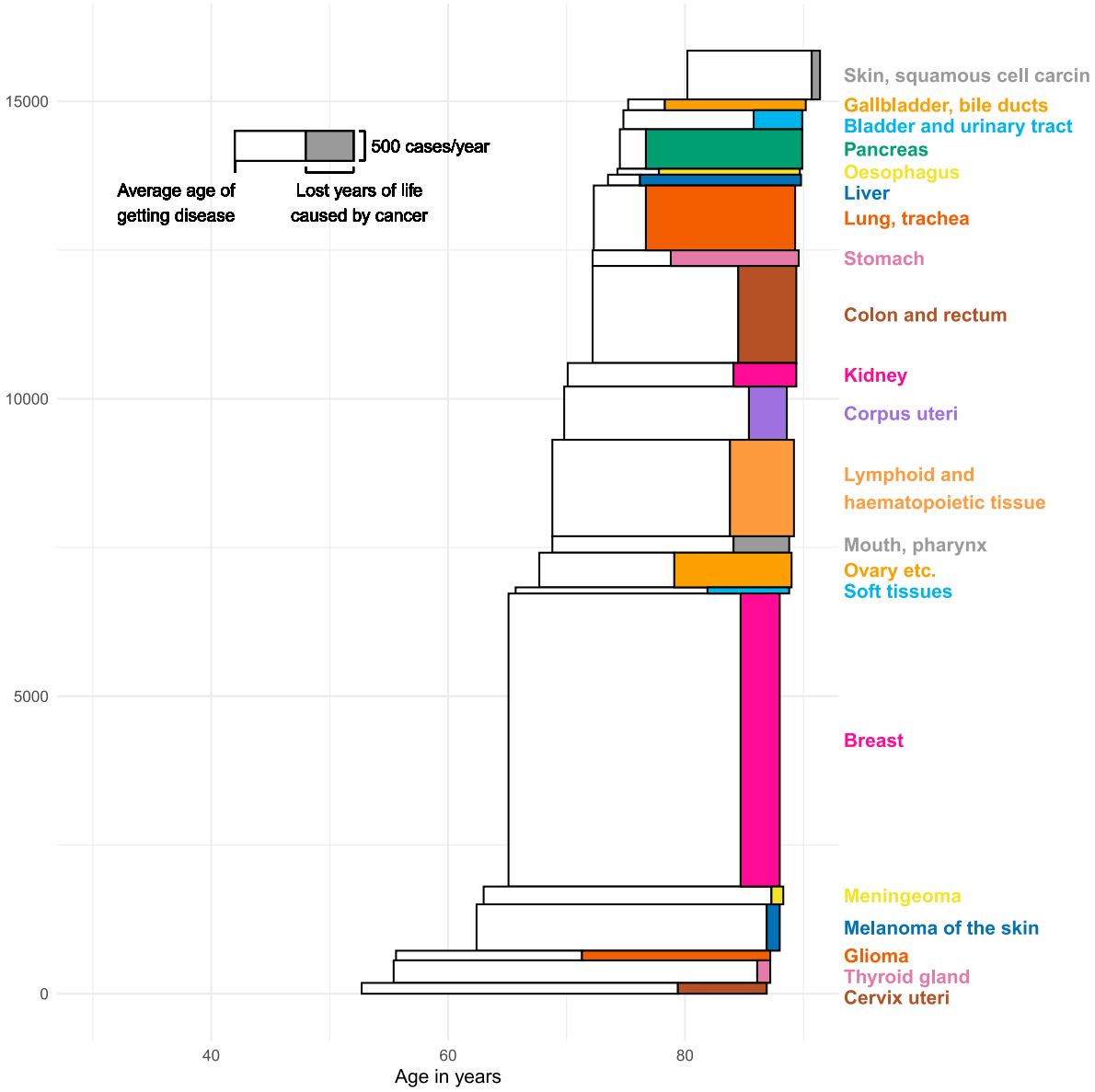

Figure 20: Average age of onset, life expectancy after diagnosis and years of life lost to cancer for women by cancer type in patients diagnosed 2013–2022.

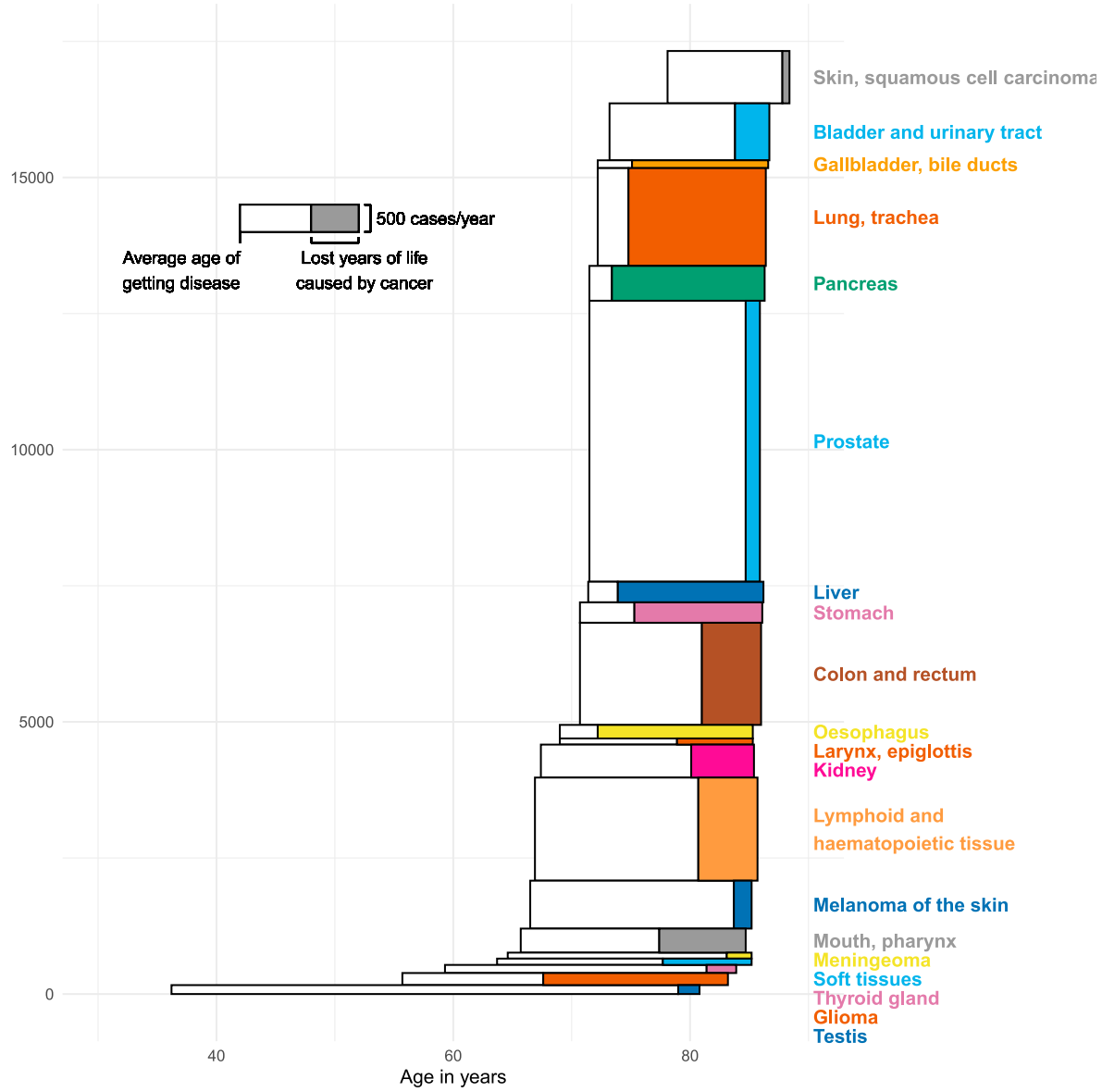

Figure 21: Average age of onset, life expectancy after diagnosis and years of life lost to cancer for men by cancer type in patients diagnosed 2013–2022.

11 Time series

Figures Figure 22 – Figure 30 show the time series for the incidence and mortality of cancer and the five-year relative survival rate of patients in line with the ICD-10 classification. Changes in incidence and mortality since the beginning of the 1990s are presented in tables Table 12 – Table 15. The change is shown as an average annual change percentage. If there has been a statistically significant change, separate percentages are presented for two consecutive calendar-year periods. In assessing the change percentage in incidence, the time series was examined only until 2019, so that the shortfall caused by the Covid-19 pandemic in the number of cases in 2020 would not affect the estimate of the long-term change percentage.

1. **Lip:** In men, incidence and mortality have decreased. In women, both incidence and mortality have remained low. The survival rate has been around 90% in recent years (Figure 22).
2. **Pharynx:** Incidence has risen in the 2000s. In men, the incidence is about three times higher than in women. Mortality has remained at the same level. The survival rate has increased steadily since the 1990s and is currently around 70% among women and around 60% among men (Figure 22).
3. **Oesophagus:** Incidence and mortality decreased until the early 2000s. In men, the incidence has shown a slight increase in the 2000s. The survival rate has increased slowly and is currently around 20% among women and 15% among men (Figure 22).
4. **Stomach:** Incidence and mortality have decreased throughout the observation period. The survival rate has remained at around 30% among women and around 25% among men during the 2000s (Figure 23).
5. **Colon and rectum:** Incidence has increased among women and especially among men. Mortality has de-creased since the 1990s. The survival rate has increased and is currently around 70% among both women and men (Figure 23).
6. **Liver:** Incidence and mortality have increased, more so among men than among women. The survival rate has increased slowly and is currently around 10% (Figure 23).
7. **Gallbladder, bile ducts:** Incidence increased until the 1980s and has decreased since then, especially among women. The survival rate has increased slowly and is currently around 15% among women and 10% among men (Figure 24).
8. **Pancreas:** Incidence and mortality have remained at the same level since the 1980s among both women and men. Survival is currently above 5% (Figure 24).
9. **Larynx:** Among men, incidence and mortality have decreased since the 1970s. Among women, both incidence and mortality have remained low. Survival has long been steady at around 60% (Figure 24).
10. **Lung, trachea:** Among women, incidence and mortality have increased throughout the period considered. Among men, the increase started to decline at the end of the 1970s. The incidence among men is still almost twice as high as the incidence among women. The survival rate has increased to over 20% among women and to nearly 15% among men (Figure 25).
11. **Breast, women:** Incidence has increased throughout the observation period. Mortality began to fall in the 1990s. Survival is currently at around 90% (Figure 25).
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 rate has increased and is currently above 90% (Figure 25).

13. **Cervix uteri:** IIncidence 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. Survival is currently above 70% (Figure 25).
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 rate increased until the early 2000s and is currently above 80% (Figure 25).
15. **Ovary, etc.:** Incidence and mortality increased until the 1990s and then began to decrease. Survival has remained at around 45% during the 2000s (Figure 26).
16. **Testis:** Incidence increased sharply from the 1980s onwards, but the increase levelled out in the 2010s. Mortality and survival have remained at the same level since the 1990s. Survival is currently at around 95% (Figure 26).
17. **Kidney:** Incidence and mortality increased in women until the 1990s. In the 2000s, incidence among men first declined and later began to rise again. Among women, incidence has remained at the same level since the 1990s. Mortality has decreased in the 2000s. The survival rate has kept increasing in the 2000s and is currently above 70% (Figure 26).
18. **Bladder and urinary tract:** Among women, mortality increased until the 1990s and has since remained at the same level. Among men, incidence peaked in the mid-1990s. After that, it first decreased and later levelled out. Among men, the incidence is about four times higher than among women. Mortality has decreased since the 1970s. The survival rate has increased and is currently around 70% among women and 75% among men (Figure 26).
19. **Melanoma of the skin:** Incidence increased until the mid-2010s. Among women, mortality has remained at the same level since the 1970s. The mortality among men increased until the mid-2010s, but considerably more moderately than the incidence. Survival is currently above 90% (Figure 27).
20. **Squamous cell carcinoma of the skin:** Incidence has increased throughout the observation period. Among men, the increase in incidence has accelerated in the 2000s. Mortality has remained very low, and survival has remained above 90% (Figure 27).
21. **Glioma:** Incidence has increased throughout the observation period. Mortality increased until the 1990s, after which it has remained at the same level among women and continued to grow among men. The survival rate has increased slowly and is currently around 30% among women and 25% among men (Figure 27).
22. **Meningioma:** Incidence increased until the 2000s and has since then remained steady. The incidence among women is more than double that among men. Mortality has been low and has further declined since the 1990s. The survival rate has increased and is currently around 95% (Figure 28).
23. **Thyroid gland:** Incidence has increased among women and men. The incidence among women is more than double that among men. Among women, mortality has declined since the early 1990s. Among men, mortality has remained at the same level since the early 1990s. The survival rate is currently around 95% among women and 85% among men (Figure 28).
24. **Soft tissues:** Incidence increased among women until the 1990s. Among men, the incidence increased throughout the observation period. There have been no changes in mortality in either women or men. Survival is currently at around 60% (Figure 28).
25. **Hodgkin lymphoma:** Incidence has remained at the same level since the early 1990s, but mortality continued to decline in the 1990s. The survival rate has increased and is currently around 90% (Figure 29).
26. **Myeloma and other plasma cell tumours:** Incidence and mortality increased until the late 1980s among both women and men. Since then, incidence has remained at the same level but mortality has decreased. The survival rate has increased and is currently around 45% among both women and men (Figure 29).

27. **Acute lymphoblastic leukaemia/lymphoma:** Incidence has remained at the same level since the 1980s, but mortality has decreased. The survival rate has increased considerably and is currently above 75% (Figure 29).
28. **Chronic lymphatic leukaemia:** Incidence and mortality have decreased since the 1980s among both women and men. The survival rate has increased steadily and is currently above 80% among women and around 75% among men (Figure 30).
29. **Acute myeloid leukaemia:** Incidence has remained at the same level since the 1980s, but mortality has declined. The survival rate has increased clearly since the 1980s and is currently around 25% among women and 20% among men (Figure 30).
30. **Chronic myeloid leukaemia:** Incidence and mortality have decreased throughout the observation period for both women and men. The survival rate has increased particularly strongly in the 2000s and is currently above 70% (Figure 30).

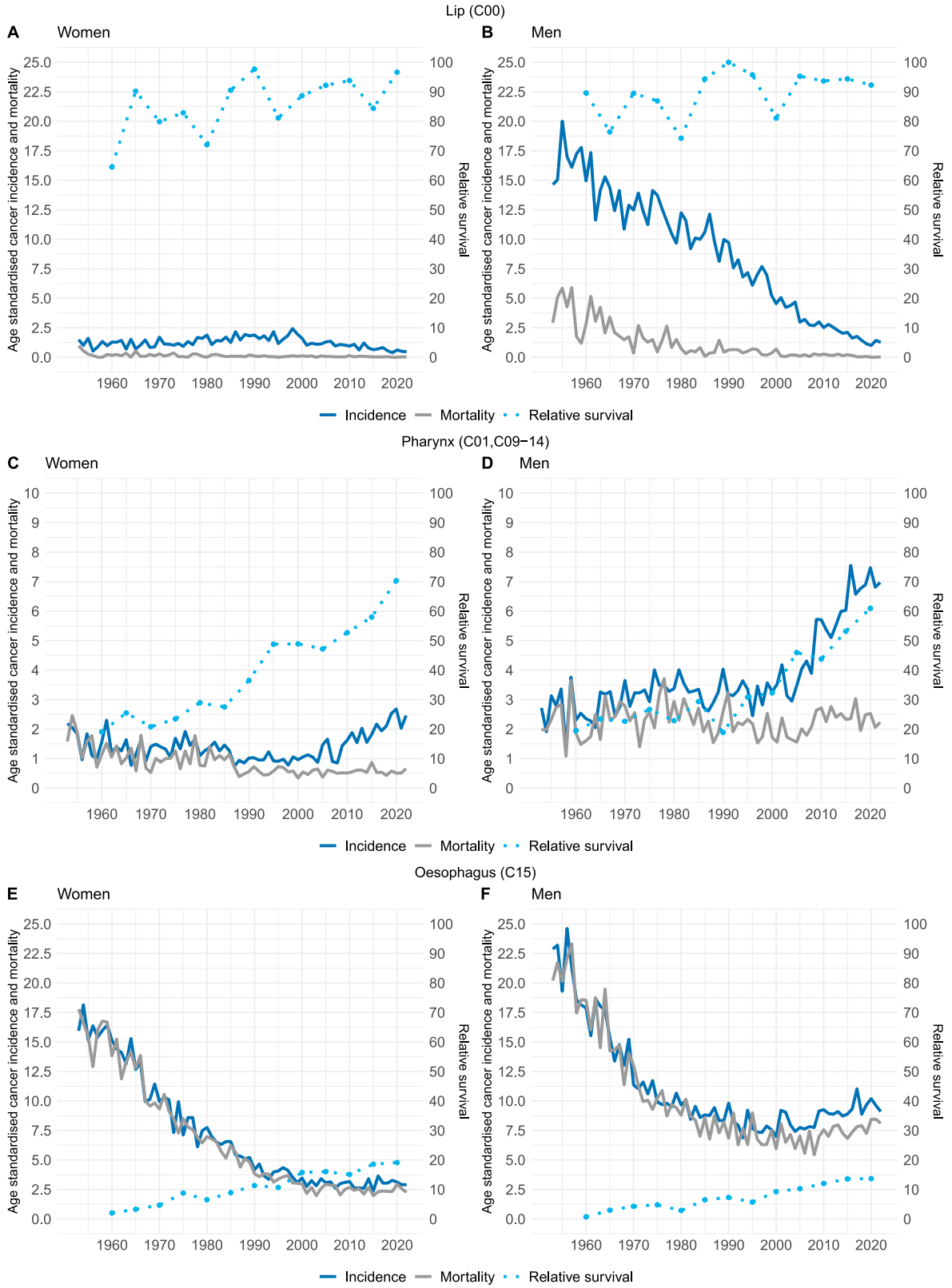

Figure 22: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

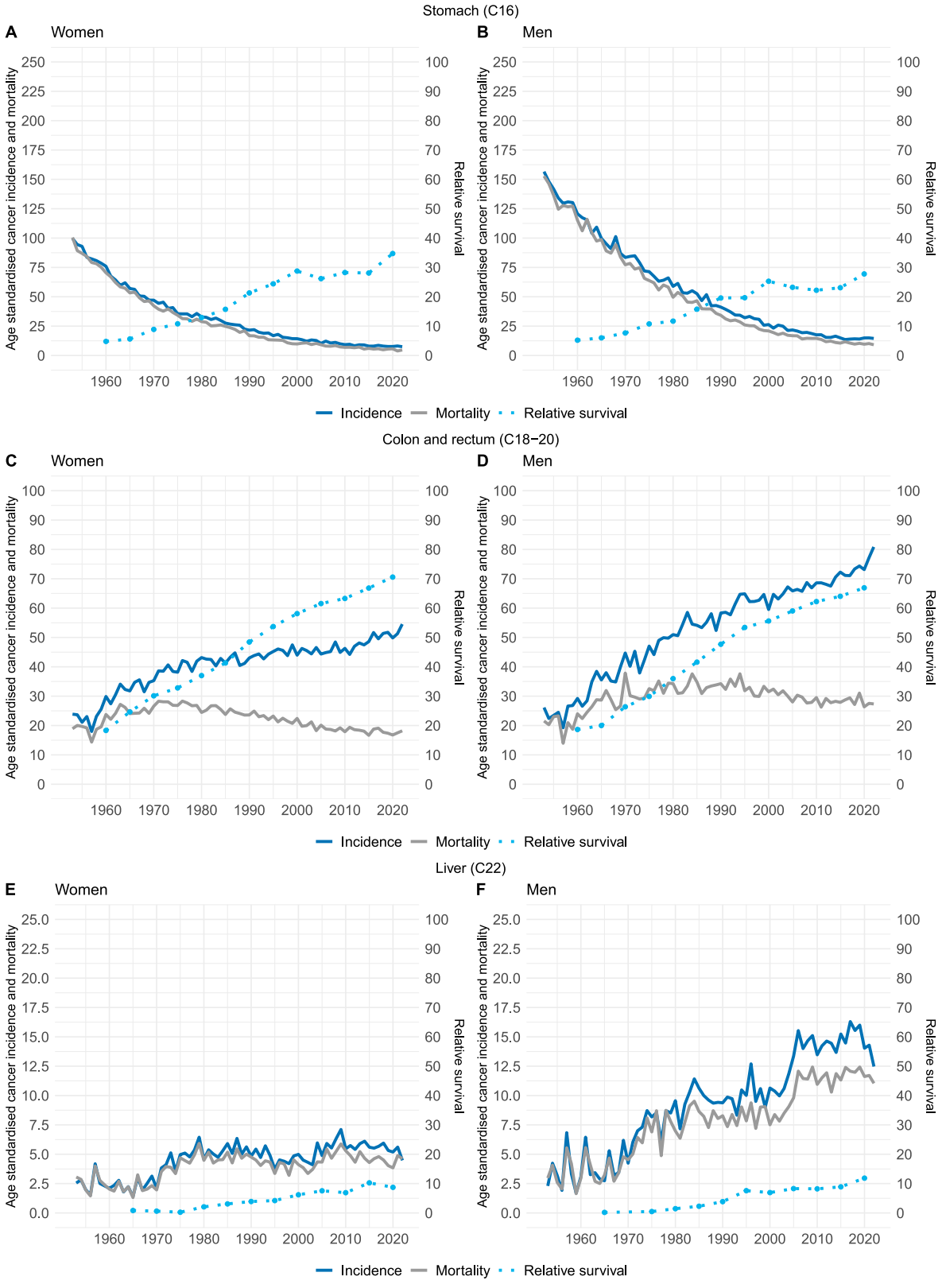

Figure 23: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

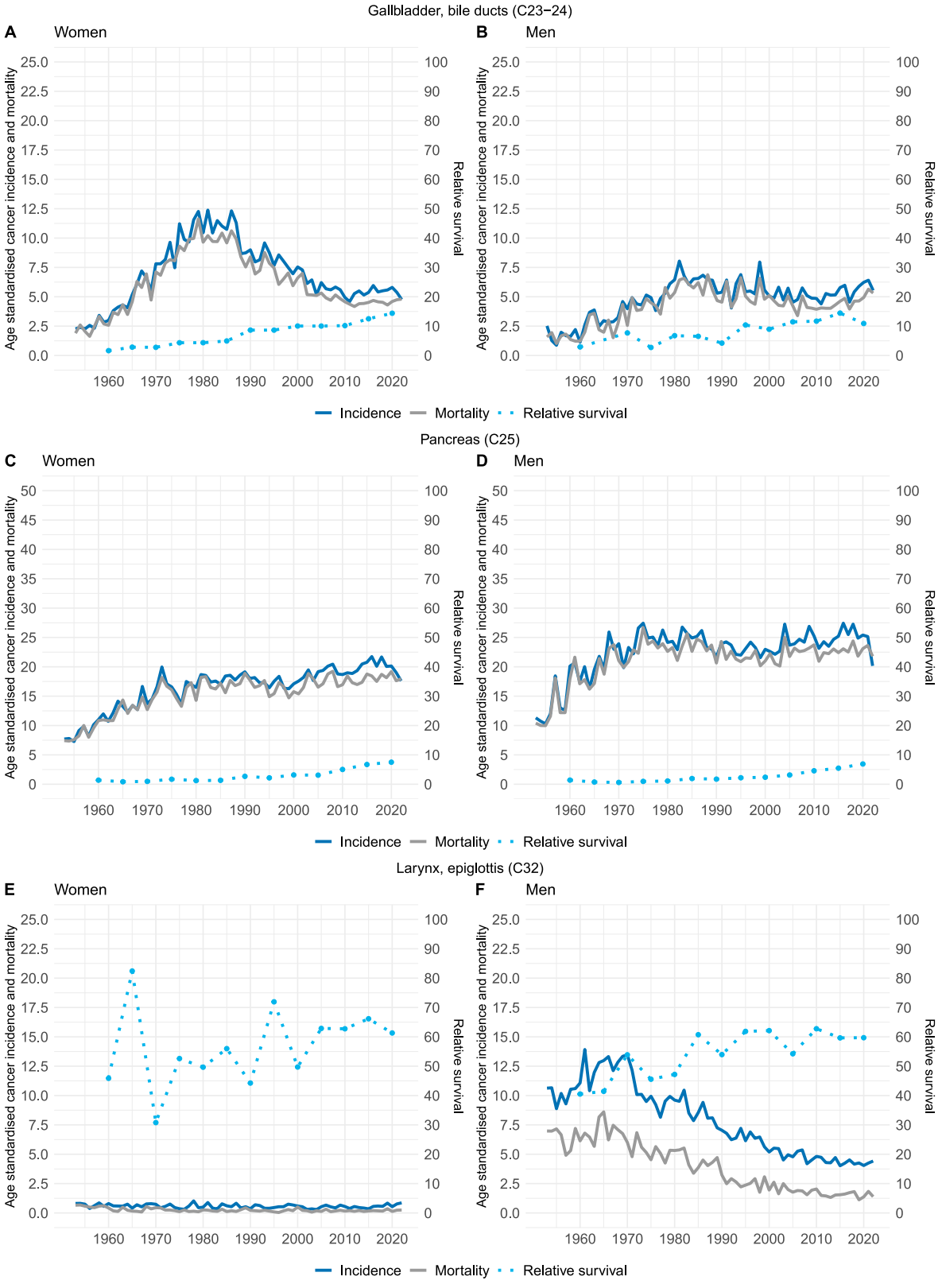

Figure 24: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

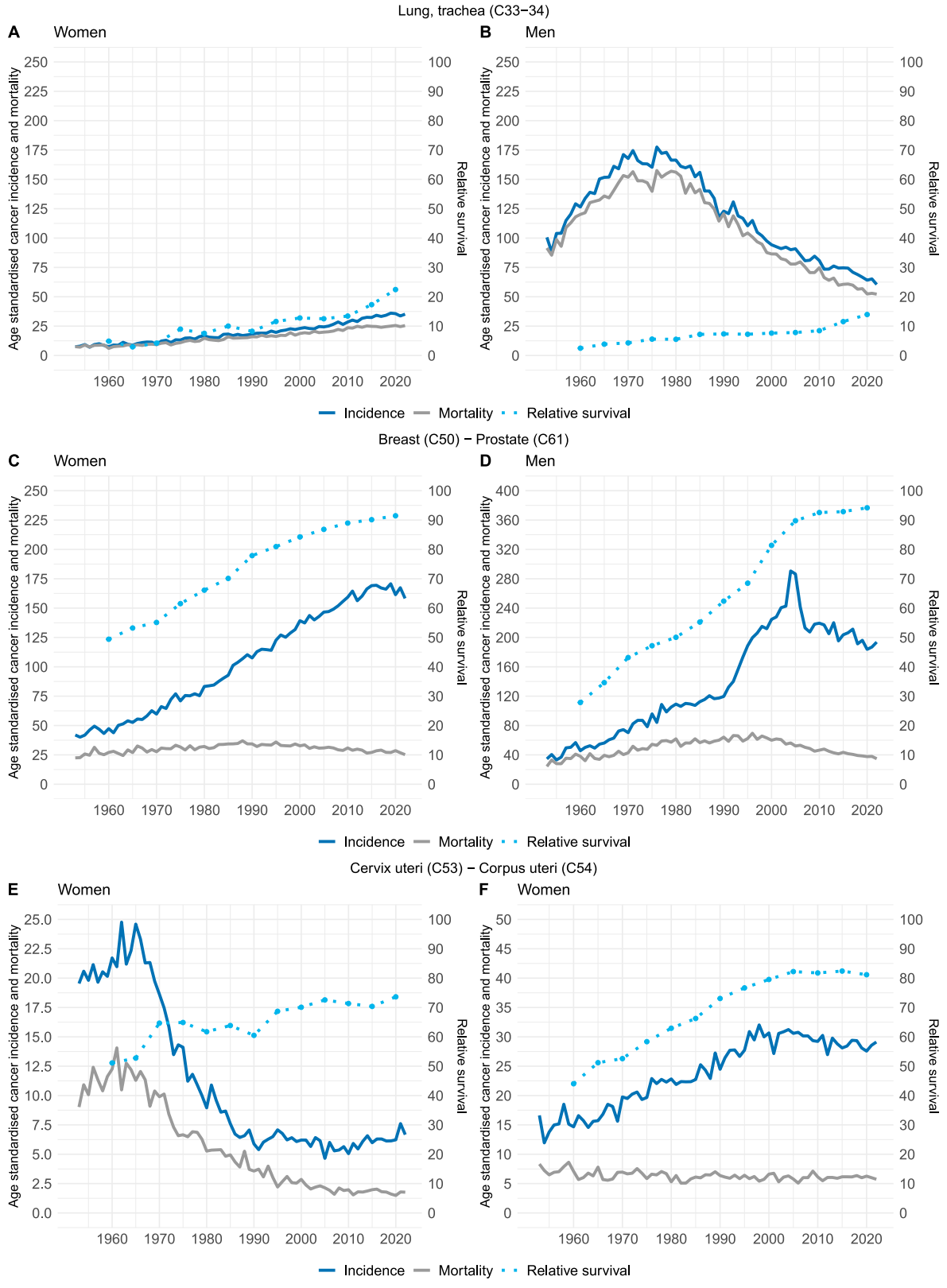

Figure 25: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

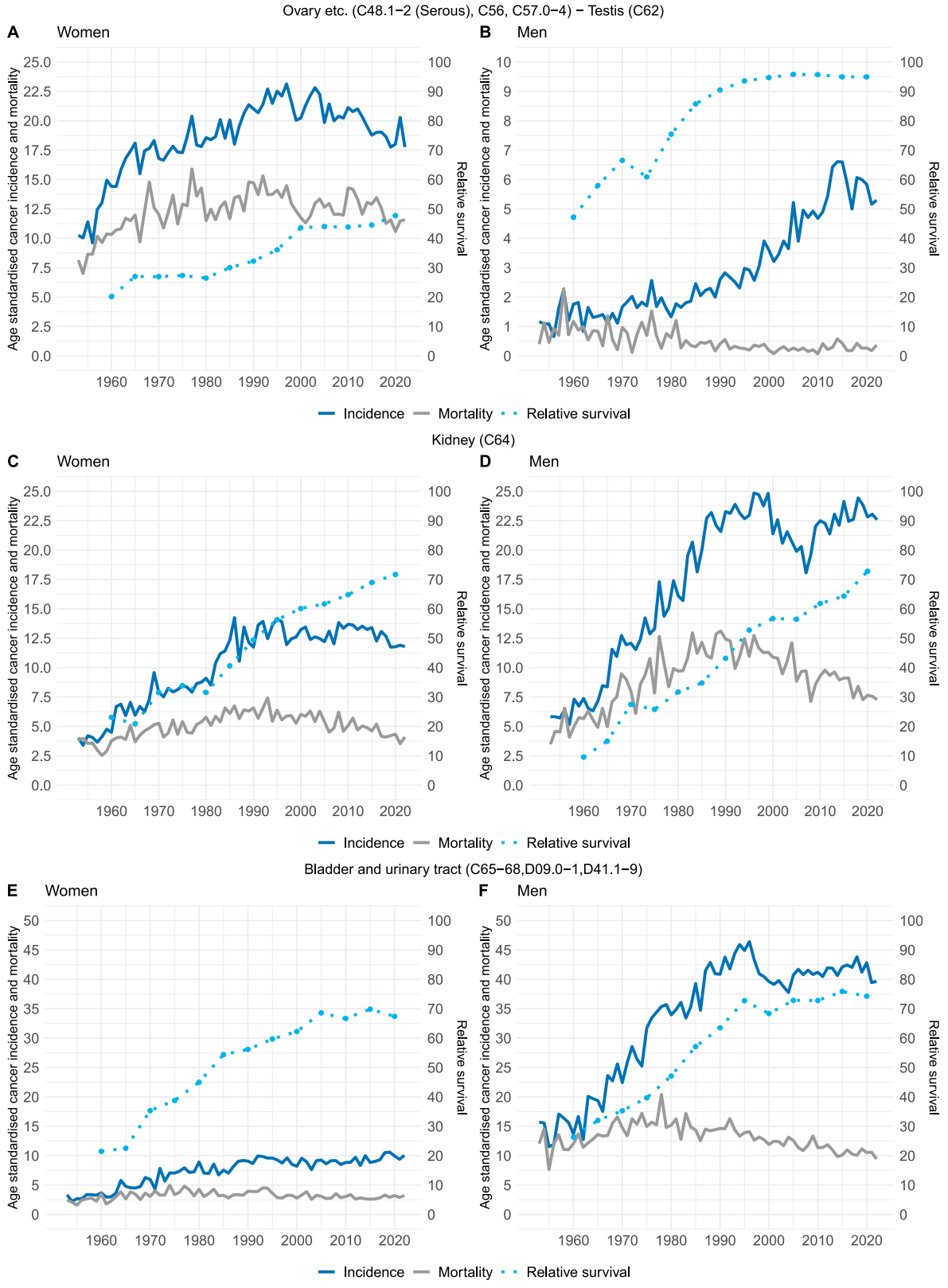

Figure 26: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

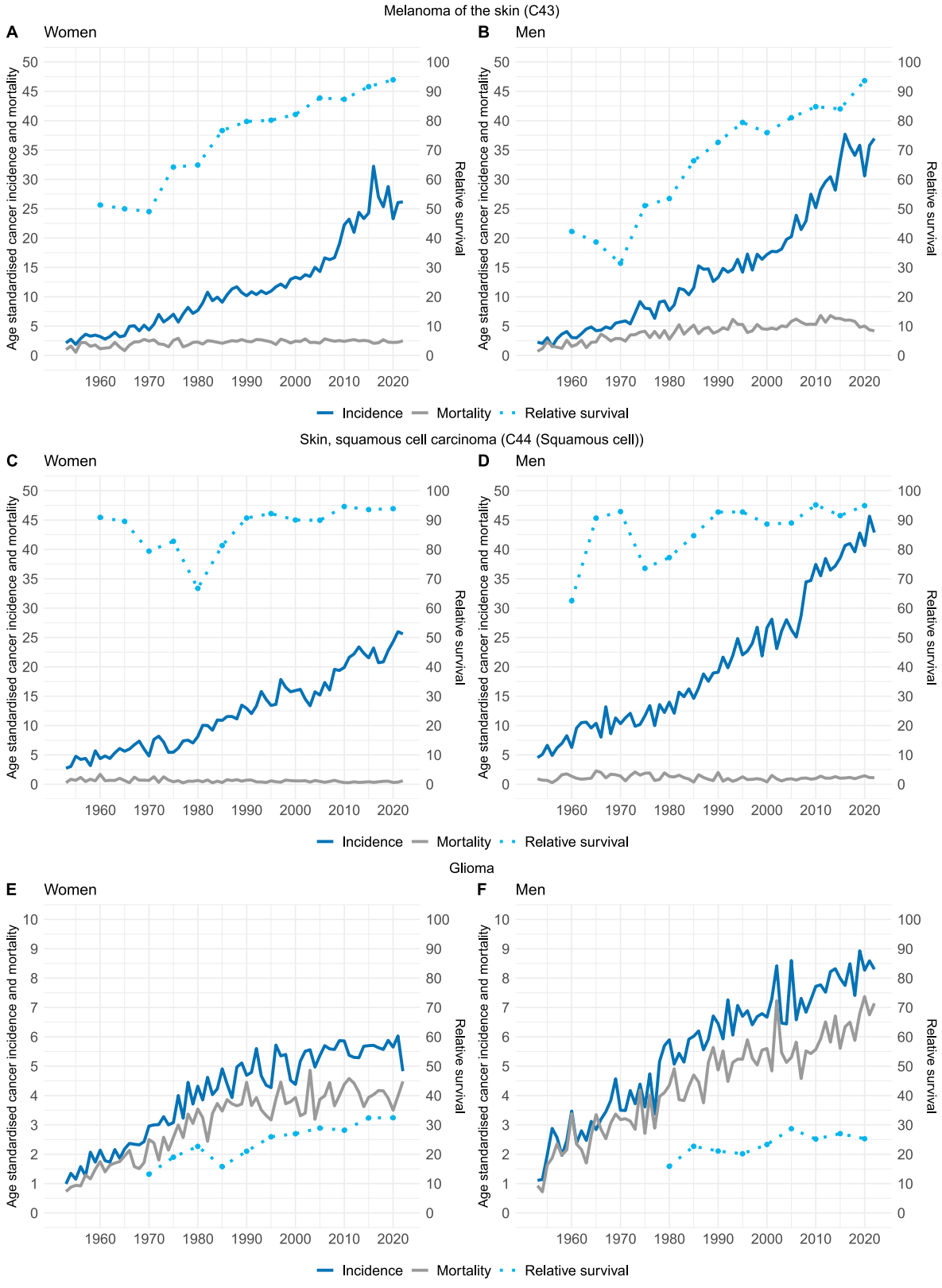

Figure 27: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

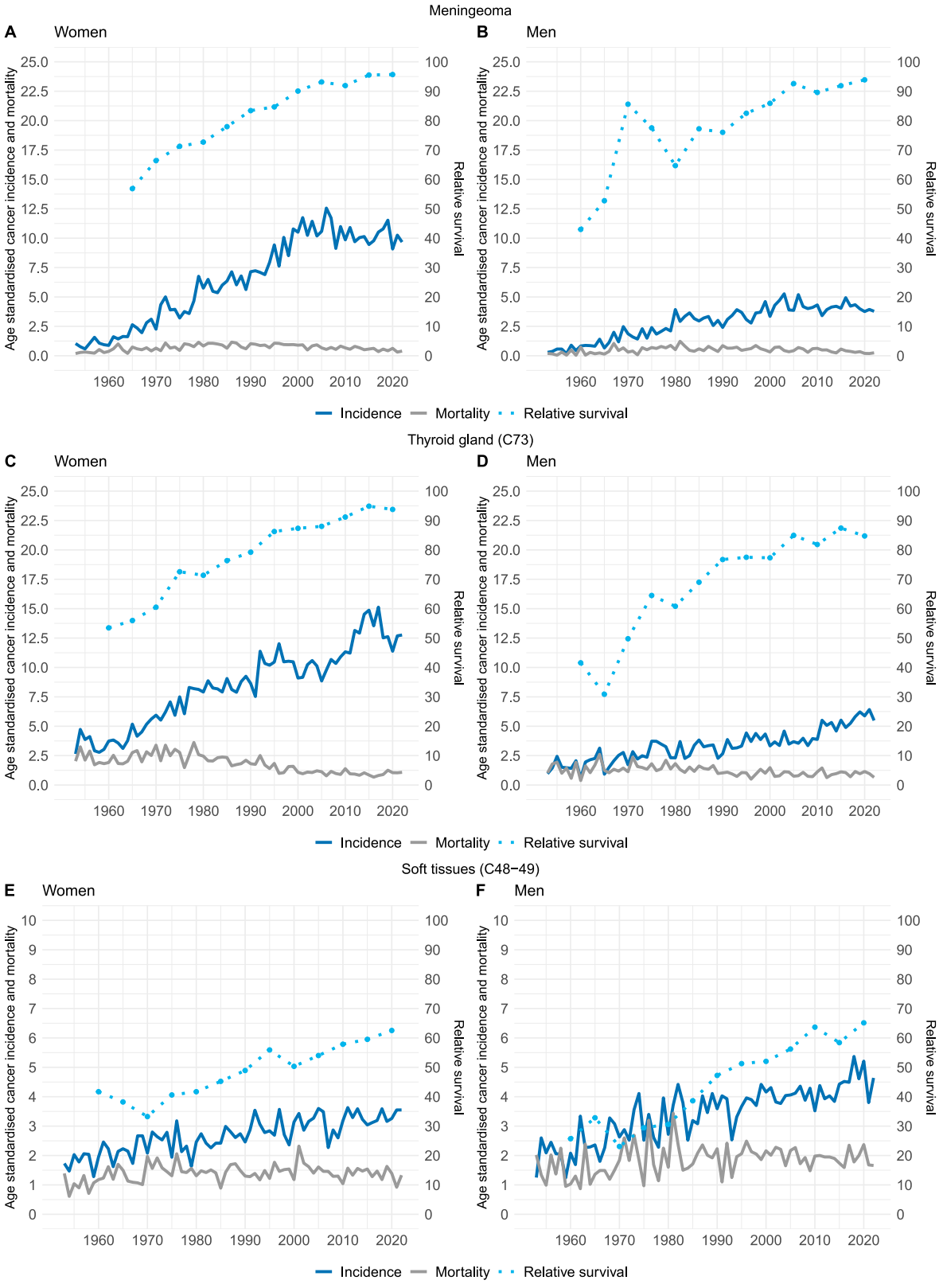

Figure 28: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

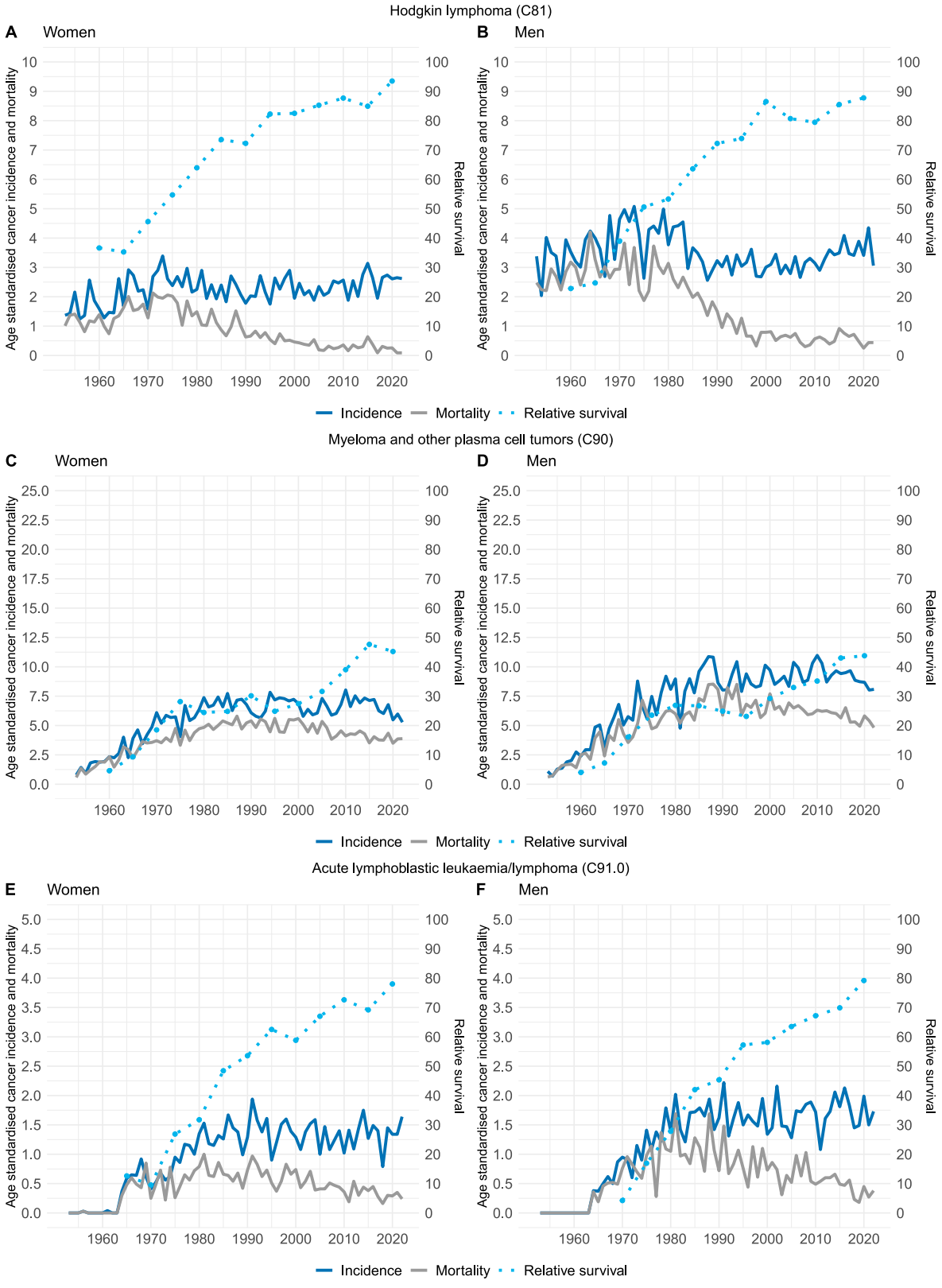

Figure 29: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

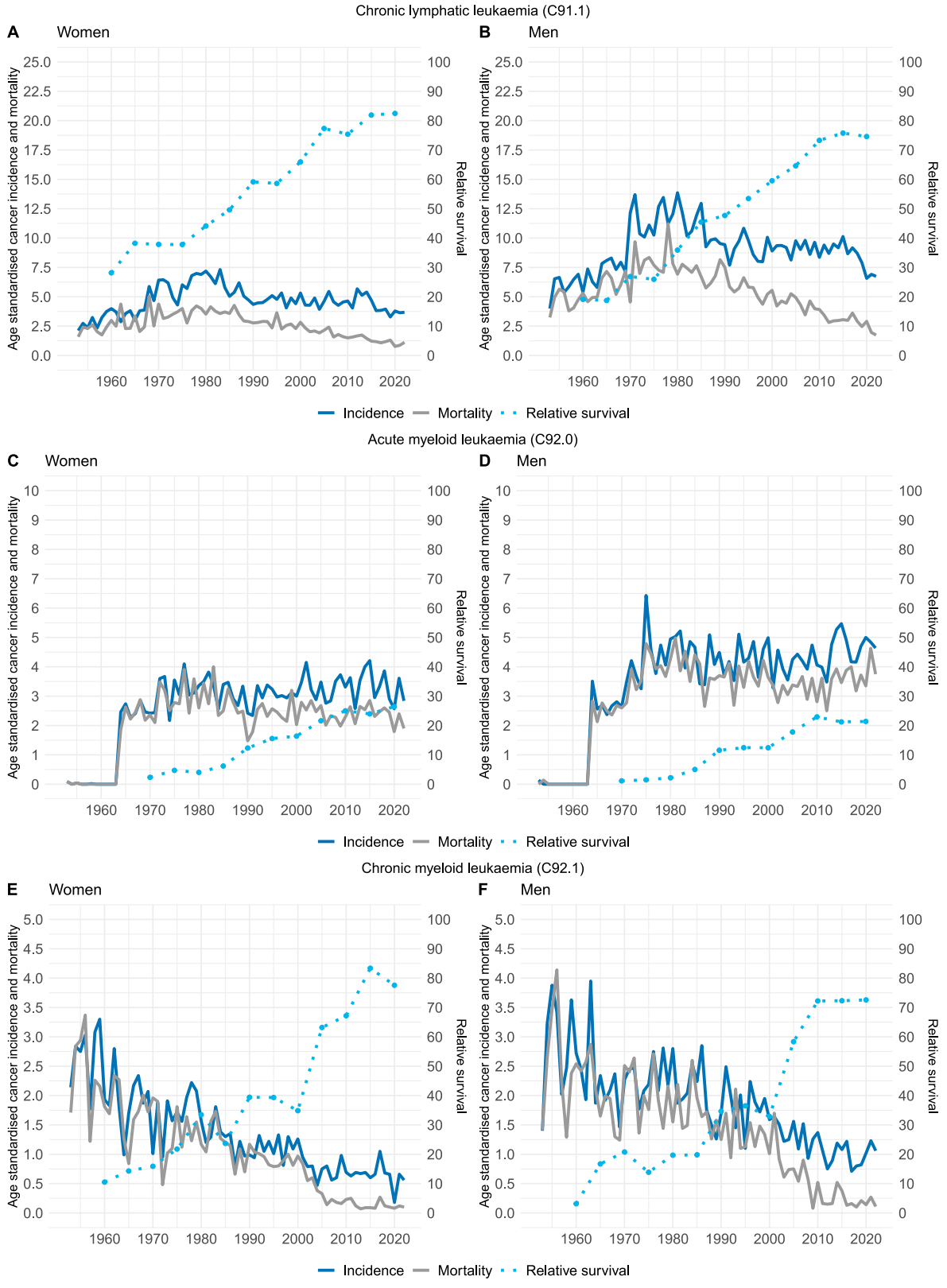

Figure 30: Cancer incidence and mortality (per 100,000 person-years and age-standardised to the 2014 Finnish population) and age-standardised five-year relative survival ratio (%) by sex in 1953–2022.

12 Predictions

The predicted number of new cancer cases diagnosed in 2040 is approximately 48 500 (Table 7). The annual number of cases is projected to increase by 24% compared to the prediction for 2022. The increase is mainly due to population ageing. The number of cancer cases in persons aged 75 and older will increase by 63% from 15 810 cases to 25 800 cases (Figure 31). The number of cases in persons under 75 years of age will remain almost unchanged in the coming years. The age-standardised incidence of cancer is expected to rise by 3%: by 4% in women and 2% in men.

The prediction for prostate cancer is not based on a model that makes use of 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 will remain at the same level as in 2015–2019. In prostate cancer, the number of cases will increase from 5 747 to 6 830 (19% increase, Table 7). In breast cancer, the increase from 5 410 to 6 070 cases (12% increase, Table 7) will be more moderate than in prostate cancer, as the incidence of breast cancer stops increasing after the age of 65. The incidence of prostate cancer increases with age and peaks at 80 years of age.

When looking at the most common cancers types, the number of cases of melanoma of the skin will increase proportionally the most (39%, Table 7). The exceptionally large increase is due to a considerable increase in age- standardised incidence of melanoma of the skin, and the increase is projected to continue (by 20% from 2022 to 2040, Table 7).

The prediction of the incidence of lung cancer shows a clear difference between men and women (Table 7). In women, the age-standardised incidence is projected to increase until 2032. In 2040, the number of cases of lung cancer will have increased by 21% compared to 2022. 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 5%.

According to the prediction, age-standardised cancer mortality will continue to decrease (Table 7). The mortality from all cancers combined will decrease on average by 11% from 2022 to 2040: by 12% in women and 10% in men. In 2040, a total of 16 000 people will die from cancer, which is 20% more than in 2022. The biggest decrease in mortality will be recorded for melanoma of the skin ((39%) and lung cancer in men (28%). Mortality due to lung cancer will also decrease in women (on average by 11%), but the prediction varies by age group. Mortality will decrease by 39% in people aged 65–74. In older women, mortality due to lung cancer will increase by 7%.

Table 7: Prediction of the number of new cancer cases, the age standardised incidence, the number of cancer deaths and the age-standardised mortality in 2040 as well as the relative change (in percentages) from 2022 for all cancers and the seven most common cancer type groups. The prediction for lung cancer is presented by sex. The change in number of cases and in incidence has been calculated in relation to the prediction for 2022.

		Number of cases		Incidence		Deaths from cancer		Mortality	
Cancer site	**ICD-10**	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	48 500	24 %	671.2	3 %	16 000	20 %	191.0	-11 %
Prostate	C61	6 830	19 %	201.7	0 %	1 330	45 %	30.8	-11 %
Breast (women)	C50	6 070	12 %	179.8	2 %	909	4 %	20.9	-17 %
Colon and rectum	C18-20	5 170	31 %	69.3	8 %	1 840	31 %	22.0	-3 %
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	5 000	26 %	67.3	3 %	1 530	13 %	17.4	-19 %
Melanoma of the skin	C43	2 940	39 %	43.5	20 %	174	-14 %	2.0	-39 %
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	2 100	33 %	27.5	4 %	650	78 %	6.9	9 %
Lung, trachea (men)	C33-34	2 000	5 %	56.9	-14 %	1 360	-9 %	37.5	-28 %
Lung, trachea (women)	C33-34	1 580	21 %	37.0	-1 %	1 040	14 %	22.5	-11 %

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

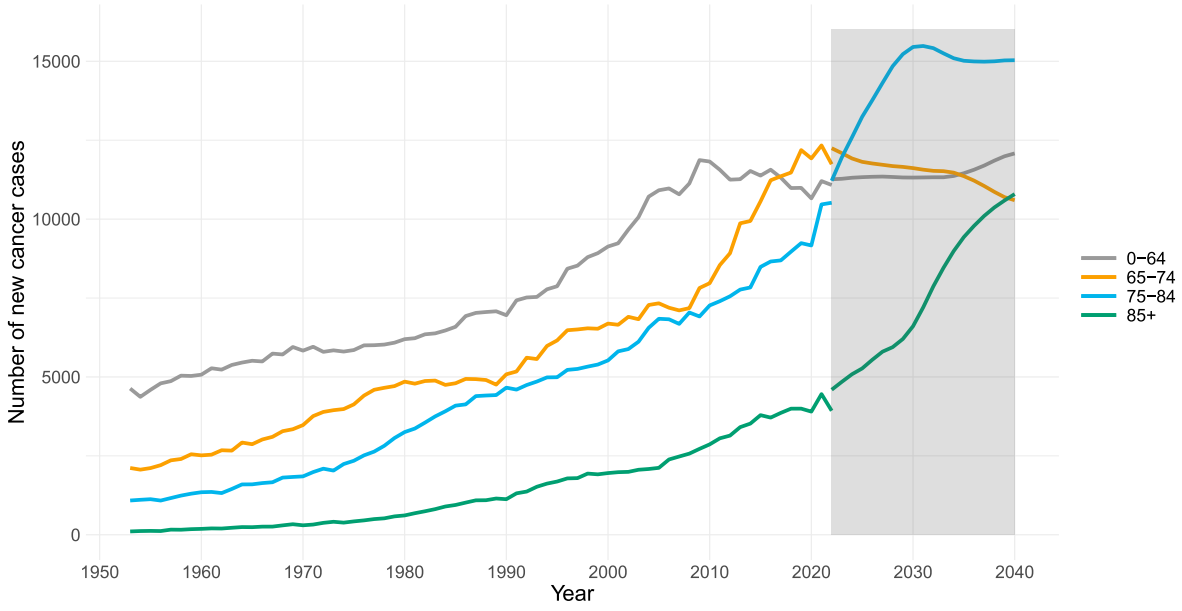

Figure 31: Annual number of new cancer cases diagnosed in 1953–2022 and the projected development until 2040 in different age groups. The prediction has also been presented for 2022 and is based on the trend observed until 2019.

13 Regional differences in cancer burden

Regional differences in cancer incidence and cancer mortality were estimated for the years 2018–2022. The analysis targeted all cancers combined and the four most common cancer types.

All cancers combined (Figure 32): The regional variation in cancer incidence was slightly higher in men than in women. In women, the incidence risk ratio varied between 0.89 and 1.15; that is, the cancer incidence in the municipality was at its best 11% lower and at its worst 15% higher than in the whole country on average. In men, the range of relative regional differences in incidence was slightly wider: 0.90-1.22. In women, the risk ratio for cancer mortality was 0.91-1.16 in mainland Finland, but 1.05-1.16 (on average 1.11, 95% probability interval [1.00, 1.24]) in the municipalities of Åland. In men, the mortality risk ratios varied between 0.91 and 1.11, and the Åland municipalities deviated less from the rest of Finland than in women.

Breast, women (Figure 33): The incidence of breast cancer was lowest in the Kainuu region (average risk ratio 0.84 [0.77, 0.91]) and highest in the Helsinki capital region (on average 1.19 [1.12, 1.28]). In municipalities with a high incidence of cancer, cancer mortality was also often high. In the incidence of breast cancer, the risk ratio range was 0.80-1.34, where as in mortality it was 0.79-1.26. Helsinki had a high mortality rate in breast cancer (1.26 [1.14, 1.39]).

Prostate (Figure 33): In men, the regional differences in the incidence of cancer were greatest in the case of prostate cancer. The incidence of prostate cancer was lowest in the Wellbeing Services County of Vantaa and Kerava (average risk ratio 0.81 [0.74, 0.88]) and in Helsinki (0.84 [0.80, 0.89]) and highest on Åland (on average 1.31 [1.14, 1.49]). In municipalities with the highest incidence, the incidence was more than 80% higher than in municipalities with the lowest incidence (risk ratio range 0.79-1.46). The difference in mortality due to prostate cancer was smaller (range 0.84-1.25).

Colon and rectum (Figure 34): The incidence and mortality of colorectal cancer was lowest in Northern Finland; for example in municipalities in Lapland the average risk ratio for women was 0.90 [0.80, 1.00] and for men 0.87 [0.80, 0.95]. The highest incidence was recorded among women on Åland (1.16 [0.97, 1.40]) and in the Kymenlaakso region (1.14 [1.02, 1.29]) and among men on Åland (1.11 [0.98, 1.28]) and in Southwest Finland (1.07 [1.02, 1.13]). In women, the mortality rate of colorectal cancer was highest on Åland (risk ratio range 1.07-1.23, on average 1.13 [0.88, 1.46]). The regional differences in mortality were smaller in men than in women.

Lung, trachea (Figure 35): For the four most common cancer types, the regional differences in the cancer burden were highest for lung cancer in women: the incidence risk ratio ranged from 0.78 to 1.45 and the mortality risk ratio from 0.76 to 1.86. The incidence of lung cancer in women was particularly high in Helsinki (1.42 [1.30, 1.54]) and Lapland (on average 1.32 [1.14, 1.51]). As for lung cancer in men, the variation was significantly lower: 0.86-1.31 for incidence and 0.81-1.40 for mortality. The regional differences in incidence and mortality were very similar, as those affected often die from cancer regardless of their area.

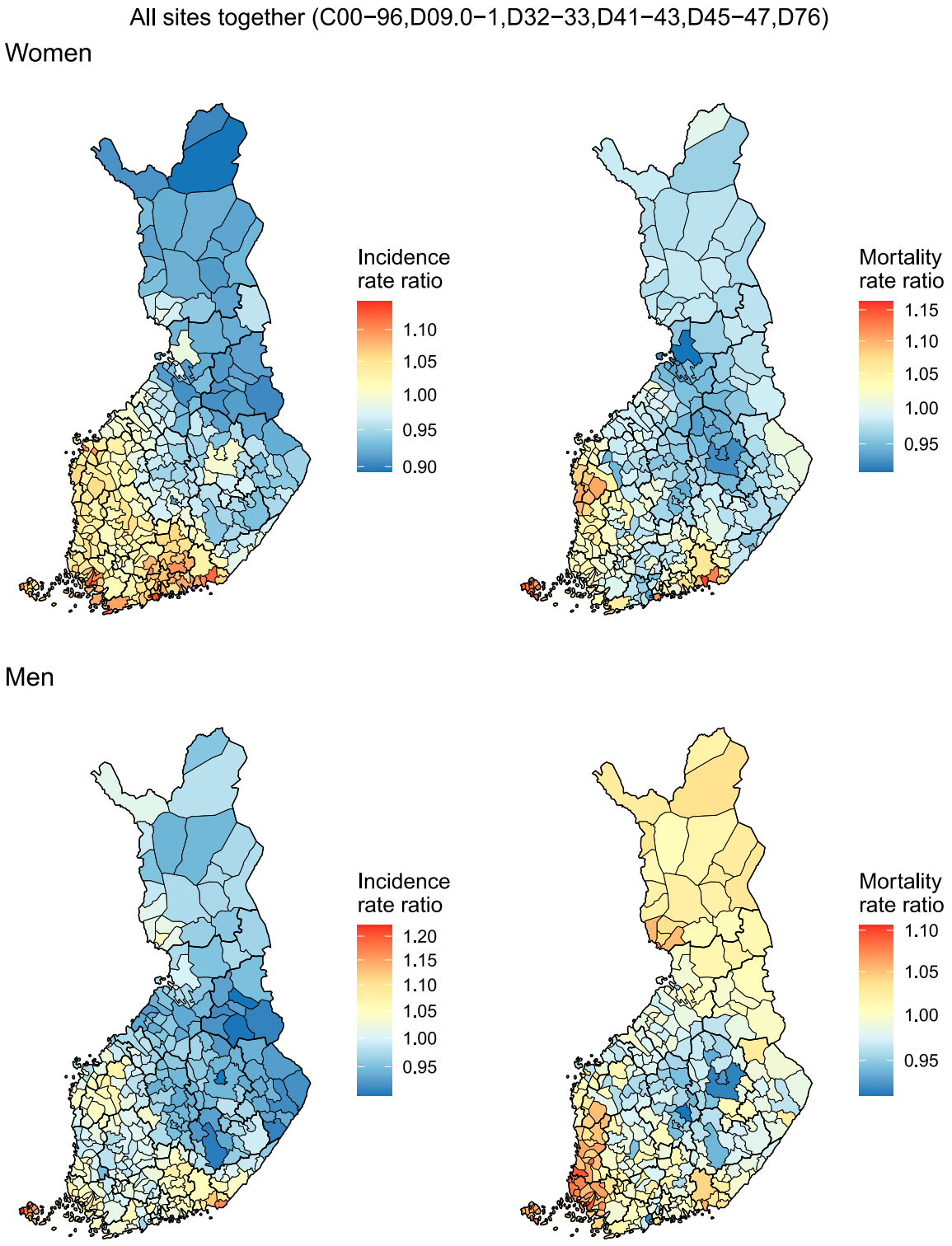

Figure 32: Relative regional differences in overall cancer incidence and mortality by sex in 2018–2022.

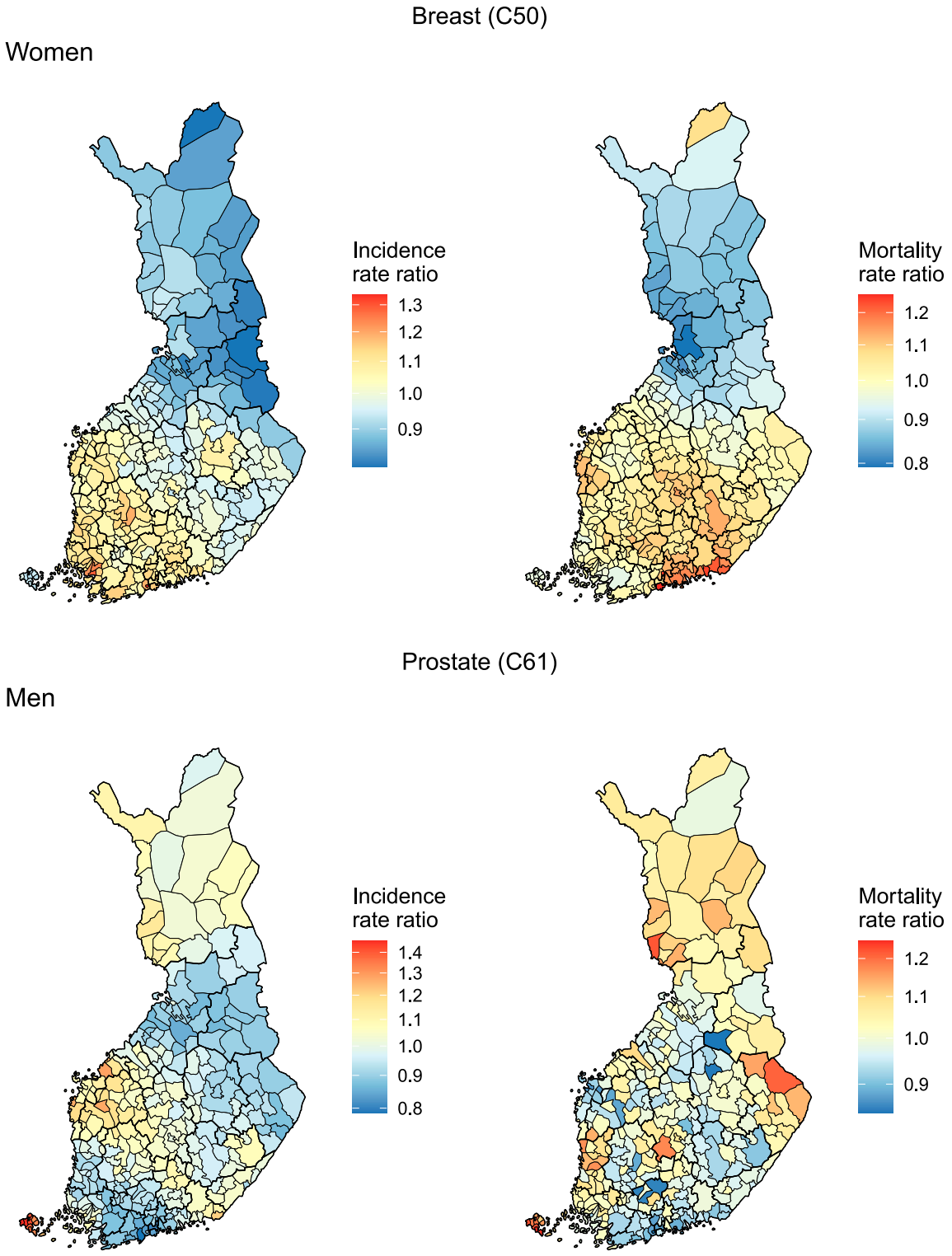

Figure 33: Relative regional differences in incidence and mortality of breast cancer in women and prostate cancer by sex in 2018–2022.

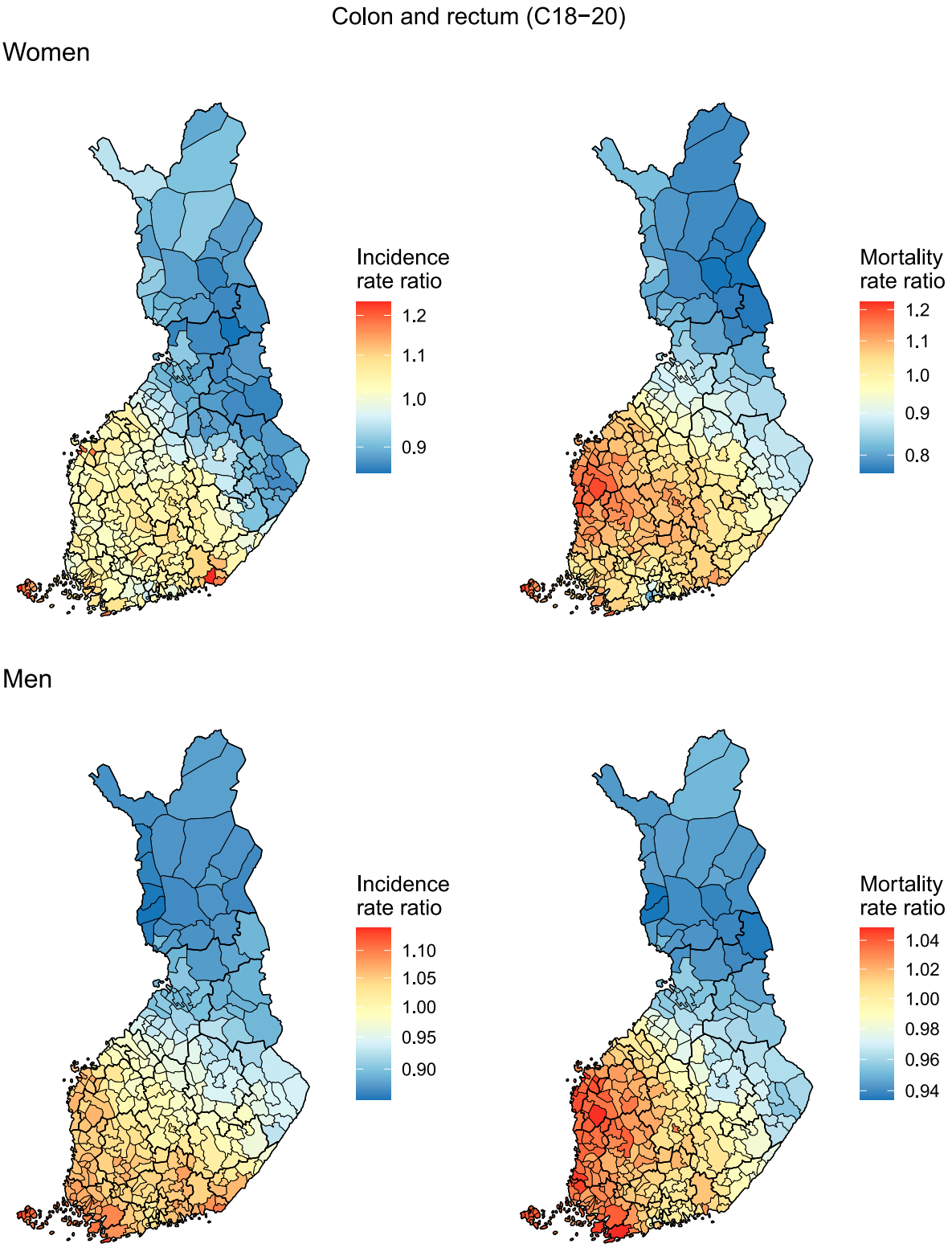

Figure 34: Relative regional differences in incidence and mortality of colorectal cancer by sex in 2018–2022.

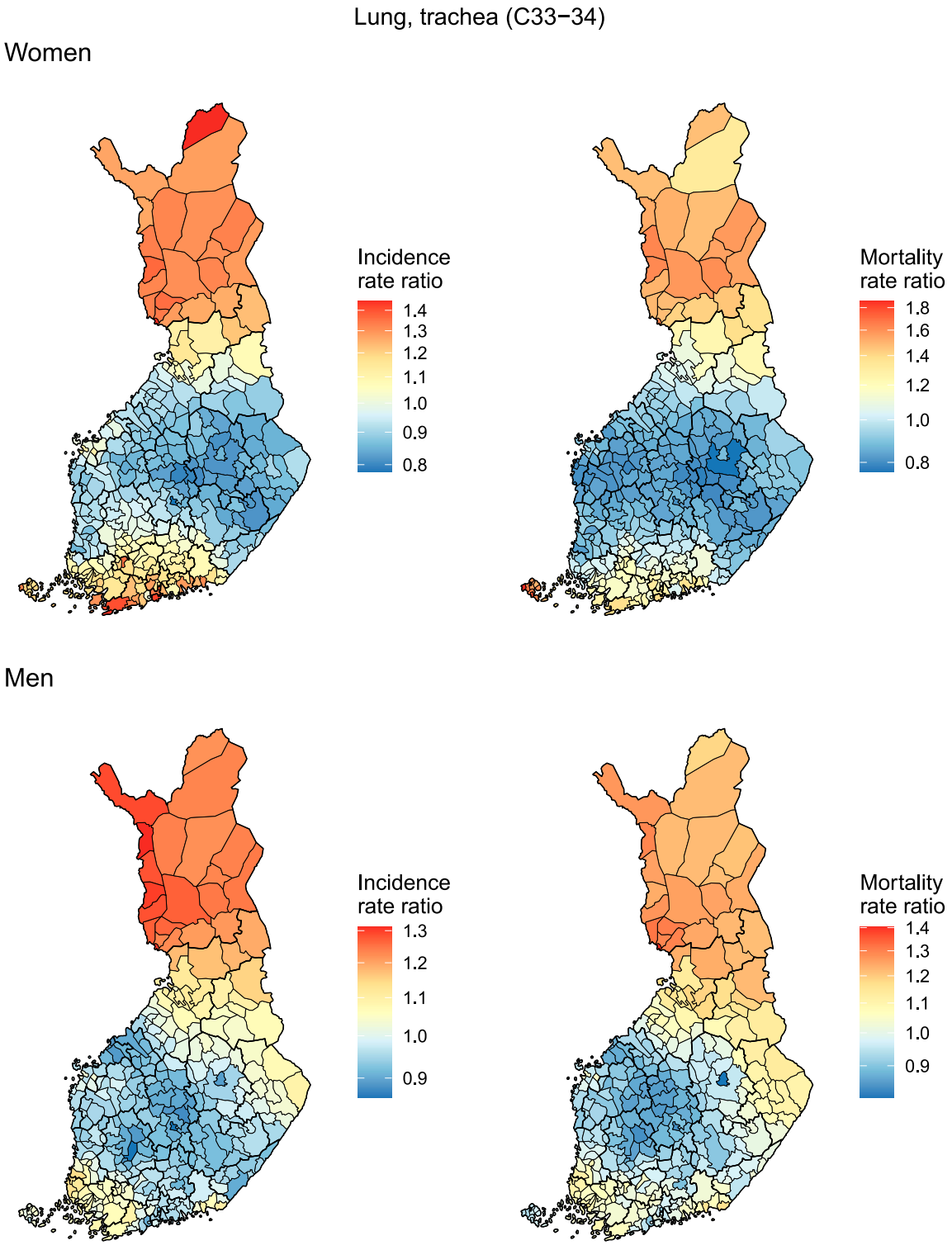

Figure 35: Relative regional differences in incidence and mortality of lung cancer by sex in 2018–2022.

14 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 Figure 36 – Figure 39 show the age-standardised cancer incidence and cancer mortality rates for women and men aged 25 and over per 100,000 person-years by level of education. In terms of incidence, the analysis covered the ten most common cancer types. In terms of mortality, it covered 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.

14.1 Cancer incidence by level of education

In women, the differences between educational levels in the incidence of cancer (Figure 36) 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 (76.4 vs. 32, risk ratio (RR) at basic level 2.24, 95% confidence interval [2.08, 2.42]). The incidence of cervical cancer was also highest at the basic level and lowest among the highly educated (12.8 vs. 6.9, RR at basic level 1.82 [1.52, 2.20]). The differences in the incidence of melanoma of the skin were also considerable, albeit in the opposite direction. The incidence was highest at the tertiary level (44.4) and lowest at the basic level (26.8, RR 0.62 [0.57, 0.68] compared to those with a higher education).

Breast cancer was also more common among those with a tertiary level education (259.3) than among those with a basic education (198.3). At the basic education level, compared to those with a higher education, the RR of breast cancer was 0.78 [0.75, 0.81]. At the basic level, 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: the incidence was approximately 4% higher at the basic level (74.4) than at the tertiary level (70.1), RR 1.04 [0.99, 1.11].

In men, the greatest differences in cancer incidence between education levels were observed in lung and tracheal cancer (Figure 37). The incidence of lung and tracheal cancer at the basic education level was approximately 2.5 times higher than among highly educated people (128.7 vs. 48.5); the RR at the basic level was 2.64 [2.48, 2.81] compared to the tertiary level). The incidence of liver and stomach cancer was also highest among those with a basic level of education (24.9 and 23.8) and lowest among those with a higher education (15.2 and 15.4). The incidence of liver cancer and stomach cancer was therefore more than 1.5 times higher among those with a basic level of education compared to those with a higher education (RR 1.62 [1.44, 1.82] for liver cancer and RR 1.57 [1.39, 1.77] for stomach cancer). Prostate cancer in turn was less common at the basic level than at the tertiary level (251.4 vs. 285.8, RR 0.88 [0.86, 0.91]). The differences in the incidence of colorectal cancer between the basic and tertiary education levels were small and not statistically significant (105.1 vs. 104.7, RR 1.02 [0.97, 1.07]).

Figure 36: 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 in 2018–2022.

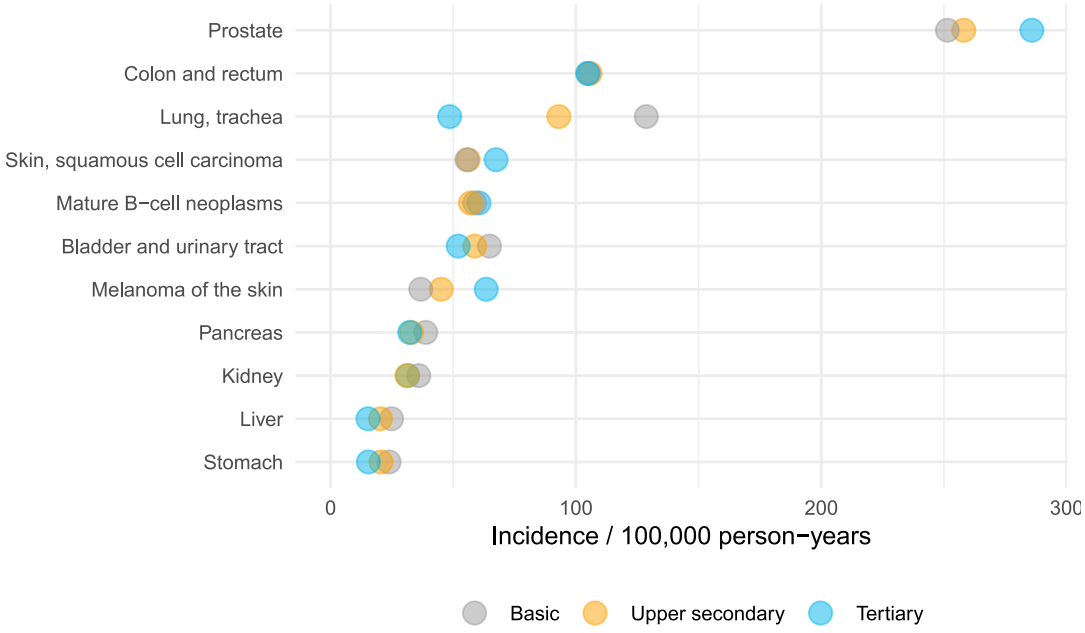

Figure 37: Incidence of cancer in men (per 100,000 person-years and age-standardised to the 2014 Finnish population) in the population aged over 25 by level of education in 2018–2022.

14.2 Cancer mortality by level of education

Cancer mortality also showed differences between educational levels. In women, the mortality rate was overall highest at the basic level of education (Figure 38). The highest and statistically significant difference was observed for cervical cancer, where the mortality was nearly three times higher among those with a basic level of education than among those with a higher education (4.1 vs. 1.2, RR 2.93 [2.01, 4.27]). For lung and tracheal cancer, the difference was 2.5-fold (55.5 vs. 20.4, RR 2.62 [2.39, 2.87]). There was also a more than 1.5-fold difference in liver cancer mortality between the basic and the tertiary level (7.7 at basic level vs 4.4 at tertiary level, RR 1.65 [1.34, 2.02]). In the case of breast cancer mortality, there were no differences between education levels (RR 1.03 [0.96, 1.12]). Pancreatic cancer mortality was 26% higher among those with a basic level of education than among those with a higher education (29.5 vs. 22.6, RR 1.26 [1.14, 1.38]).

In men, the mortality rate was highest at the basic and lowest at the tertiary level of education for nearly all cancer types examined (Figure 39). The difference was particularly marked in the case of lung and tracheal cancer, where the mortality among men with basic-level qualifications was more than 2.5 times higher than among men with a tertiary education level (108.1 vs. 39.2, RR 2.79 [2.61, 2.99]). The difference in mortality was also significant in the case of oesophageal cancer, where the mortality at the basic education level was double the mortality at the tertiary level (14.3 vs. 7.4, RR 1.91 [1.62, 2.26]). For stomach cancer, the mortality at the basic level was 54% higher than at the tertiary level (15.7 vs. 10.3, RR 1.54 [1.33, 1.78]). In the case of colorectal cancer and prostate cancer, the mortality rate among those with a basic level of education was about one-third higher than among those with a tertiary level of education: 44 vs. 34.4 (RR 1.30 [1.19, 1.41]) for colorectal cancer and 58.5 vs. 43.5 (RR 1.35 [1.25, 1.45]) for prostate cancer.

Figure 38: Cancer mortality in women (per 100,000 person-years and age-standardised to the 2014 Finnish pop- ulation) in the population aged over 25 by level of education in 2018–2022.

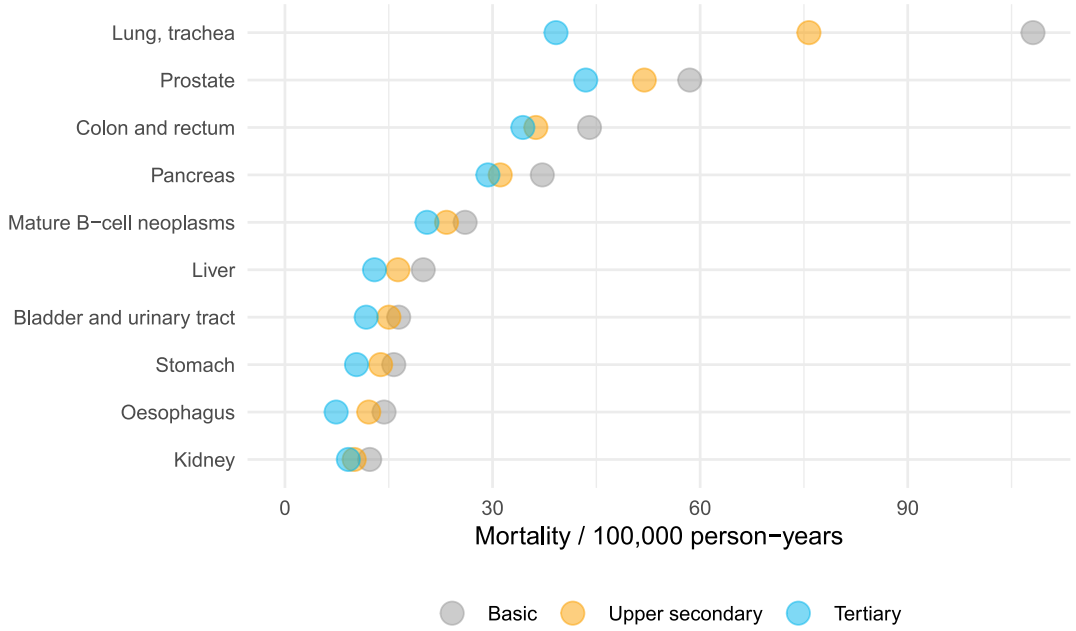

Figure 39: Cancer mortality in men (per 100,000 person-years and age-standardised to the 2014 Finnish popula- tion) in the population aged over 25 by level of education in 2018–2022.

15 Tables

15.1 Incidence, mortality and prevalence

Table 8: Number and age-standardised rate of new cancer cases and deaths in 2022 and number and age-standardised proportion of cancer survivors in the population on 31 December 2022, female.

		Incidence		Mortality		Prevalence	
Cancer site	ICD-10	Count	Rate[1]	Count	Rate[1]	Count	Proportion[2]
All sites together	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	17622	540.39	6264	174.72	180539	5442.7
Mouth, pharynx	C00-14	303	9.38	80	2.24	2913	87.8
Lip	C00	17	0.47	–	0.03	276	7.1
Tongue	C02	80	2.42	25	0.71	743	22.4
Salivary glands	C07-08	32	1.02	6	0.16	556	17.1
Mouth, other or unspecified	C03-06	99	3.01	26	0.69	775	22.6
Pharynx	C01,C09-14	75	2.46	22	0.66	626	20.3
Digestive organs	C15-26	3395	99.54	2024	56.32	20157	576.3
Oesophagus	C15	101	2.91	79	2.26	252	7.1
Stomach	C16	250	7.49	164	4.72	1561	44.9
Small intestine	C17	89	2.72	38	1.01	773	23.2
Colon and rectum	C18-20	1832	54.54	652	18.19	15751	446.1
Colon	C18	1282	37.74	439	12.16	10502	295.9
Rectum, rectosigmoid	C19-20	550	16.79	213	6.03	5350	152.9
Anus	C21	41	1.26	12	0.32	365	11.1
Liver	C22	154	4.48	160	4.62	286	8.5
Gallbladder, bile ducts	C23-24	169	4.77	172	4.80	385	10.9
Pancreas	C25	623	17.60	654	17.95	854	26.1
Digestive organs, other and unspecified	C26	136	3.77	93	2.44	107	3.2
Respiratory and intrathoracic organs	C30-39	1282	37.48	948	26.38	3843	112.3
Nose, sinuses	C30-31	15	0.44	9	0.26	165	5.0
Larynx, epiglottis	C32	27	0.86	8	0.25	171	5.1
Lung, trachea	C33-34	1207	35.18	915	25.45	3376	97.9
Other or unspecified respiratory or intrathoracic organs	C37-39	33	1.01	16	0.43	145	4.6
Breast	C50	4867	158.25	871	25.19	82068	2467.3
Female genital organs	C51-58	1912	58.84	787	21.93	23419	687.4
Cervix uteri	C53	191	6.67	56	1.77	3212	108.9
Corpus uteri	C54	959	29.12	217	5.74	13240	367.7
Ovary etc.	C48.1-2 (Serous), C56, C57.0-4	578	17.77	409	11.58	5823	177.8
Vulva	C51	108	3.13	43	1.11	956	27.2
Vagina	C52	25	0.74	14	0.40	172	5.0
Placenta	C58	0	0.00	0	0.00	81	2.8
Female genital, other and unspecified	C55,C57.5-9	51	1.40	48	1.32	168	4.8
Urinary organs	C64-68,D09.0-1,D41.1-9	744	21.83	264	7.32	6950	197.4
Kidney	C64	389	11.79	146	4.10	4094	119.5
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	355	10.05	118	3.22	2888	78.7
Skin	C43-44	1841	53.51	120	3.27	19732	577.8
Melanoma of the skin	C43	809	26.16	88	2.50	11889	372.1
Skin, squamous cell carcinoma	C44 (Squamous cell)	969	25.60	25	0.59	7232	186.4
Skin, other	C44 (Other)	63	1.74	7	0.18	899	26.6
Eye	C69	23	0.75	8	0.22	471	14.5
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	724	23.72	211	6.38	9178	291.2
Glioma	–	145	4.83	140	4.48	1515	54.1
Meningeoma	–	291	9.67	13	0.40	5884	179.4
CNS, nerve sheet tumor	–	26	0.90	–	0.04	1102	34.6
Other and unspecified tumor of brain, meninges and central nervous system	–	262	8.32	57	1.47	767	26.2
Endocrine glands	C73-75	419	14.12	43	1.21	9045	295.2
Thyroid gland	C73	379	12.76	39	1.08	8710	283.9
Adrenal gland	C74	29	1.00	–	0.08	261	9.0
Other endocrine glands	C75	11	0.36	–	0.04	86	2.7
Mesothelioma	C45	33	0.98	21	0.57	61	1.8
Bone	C40-41	29	0.98	11	0.33	449	15.2
Soft tissues	C48-49	115	3.55	47	1.33	1249	38.9
Peripheral nerves, autonomic nervous system	C47	5	0.17	0	0.00	115	4.1
Illdefined or unknown	C76,C80	265	7.22	194	5.15	586	17.4
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	1665	50.09	635	16.87	15386	474.6
Hodgkin lymphoma	C81	73	2.62	–	0.09	1717	61.0

Table 8: (continuation)

Cancer site	ICD-10	Incidence		Mortality		Prevalence	
		Count	Rate[1]	Count	Rate[1]	Count	Proportion[2]
Mature B-cell neoplasms	–	923	27.06	400	10.52	8124	236.1
Chronic lymphatic leukaemia	C91.1	131	3.68	45	1.12	1381	38.4
Diffuse B lymphoma	C83.3	332	9.76	136	3.62	2489	73.1
Follicular B lymphoma	C82	143	4.17	38	1.01	2064	60.0
Myeloma and other plasma cell tumors	C90	179	5.28	146	3.88	1135	33.5
Burkitt's lymhoma/leukaemia	C83.7	6	0.20	–	0.04	72	2.4
Marginal zone lymphoma	C83.8	70	2.11	10	0.24	692	20.2
Mantle cell lymphoma	C83.1	28	0.82	16	0.41	217	6.2
Malignant immunoproliferative diseases	C88	28	0.85	7	0.18	205	5.8
Other mature B-cell neoplasms	–	6	0.19	–	0.02	76	2.3
Mature T and NK cell lymphomas/leukaemias	C84	52	1.62	21	0.60	532	16.8
Mature T-cell neoplasias of the skin	C84.0-1	19	0.61	–	0.07	281	8.9
Other T and NK cell lymphomas/leukaemias	C84.3-5	33	1.01	19	0.54	253	8.0
Acute lymphoblastic leukaemia/lymphoma	C91.0	42	1.64	7	0.24	927	34.7
Acute myeloid leukaemia	C92.0	91	2.84	68	1.90	634	21.5
Non-Hodgkin lymphoma, other or unspeficied	C85	65	1.70	34	0.84	795	23.1
Leukaemia, other or unspecified	C95	12	0.29	14	0.38	86	2.8
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3	294	9.19	29	0.75	2343	71.7
Chronic myeloid leukaemia	C92.1	17	0.56	–	0.10	277	9.3
Polycythaemia vera	D45	68	2.10	6	0.14	548	16.2
Myelofibrosis	D47.1	26	0.84	6	0.18	239	7.1
Essential thrombocythemia	D47.3	143	4.49	8	0.21	1063	32.4
Myeloproliferative neoplasm, other	D47.1	40	1.20	5	0.13	329	10.1
Myelodysplastiset ja myelodysplastiset/-proliferatiiviset oireyhtymät	–	108	2.95	58	1.51	295	8.4
Myelodysplastic syndromes	D46	91	2.46	47	1.22	235	6.8
Myelodysplastic/myeloproliferative neoplasms	–	17	0.49	11	0.29	61	1.7
Other, unspecified or mixed hematological disease	C96, D76	5	0.19	–	0.04	118	4.1
Mastocytosis	C96.2	–	0.04	0	0.00	58	2.0
Histiocytic and denritic cell neoplasms	C96.1, D76	–	0.07	–	0.04	50	1.8
Other, unspecified or mixed hematological disease	C96.7-9	–	0.08	0	0.00	10	0.3
Not included above							
Basal cell carcinoma of the skin	C44 (Basal cell)	5059	149.43	0	0.00	67907	1900.4
Basal cell carcinoma of the genitals	C51-53,C60-63 (Basal cell)	9	0.28	0	0.00	148	4.0
Cervix uteri, non-invasive neoplasms	N87.1-2, D06	2885	106.44	0	0.00	36084	1313.8
Vagina and vulva non-invasive neoplasms	N89-N90,D07.1-2	259	8.90	0	0.00	1610	53.7
Carcinoma in situ of the breast	D05	612	20.85	0	0.00	9504	293.5
Ductal carcinoma on situ of the breast	D05.1	541	18.60	0	0.00	8674	268.2
Lobular carcinoma in situ of the breast	D05.0	33	1.20	0	0.00	606	19.0
Other or unspecified carcinoma in situ of the breast	D05.7-9	38	1.04	0	0.00	224	6.4
Borderline tumour of the ovary	D39	185	6.22	13	0.31	3342	108.7

[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 9: Number and age-standardised rate of new cancer cases and deaths in 2022 and number and age-standardised proportion of cancer survivors in the population on 31 December 2022, male.

		Incidence		Mortality		Prevalence	
Cancer site	ICD-10	Count	Rate[1]	Count	Rate[1]	Count	Proportion[2]
All sites together	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	19646		7023	253.64	142558	5057.4
Mouth, pharynx	C00-14	459	16.71	147	5.31	3927	141.2
Lip	C00	35	1.26	–	0.04	563	21.4
Tongue	C02	88	3.23	28	1.04	788	28.2
Salivary glands	C07-08	49	1.76	10	0.40	466	16.7
Mouth, other or unspecified	C03-06	94	3.49	45	1.60	750	26.6
Pharynx	C01,C09-14	193	6.97	63	2.23	1413	50.3
Digestive organs	C15-26	4263	152.18	2433	87.36	20400	726.7
Oesophagus	C15	256	9.10	227	8.11	606	21.0
Stomach	C16	416	14.53	254	9.15	1639	58.0
Small intestine	C17	114	4.12	35	1.23	796	28.2
Colon and rectum	C18-20	2241	80.84	754	27.35	15591	558.1
Colon	C18	1341	48.61	458	16.76	9099	328.0
Rectum, rectosigmoid	C19-20	900	32.23	296	10.59	6678	236.8
Anus	C21	29	1.00	12	0.44	173	6.1
Liver	C22	359	12.47	314	11.04	658	22.8
Gallbladder, bile ducts	C23-24	158	5.54	148	5.32	310	10.6
Pancreas	C25	569	20.16	612	21.79	781	27.2
Digestive organs, other and unspecified	C26	121	4.42	77	2.94	99	3.4
Respiratory and intrathoracic organs	C30-39	1936	67.56	1563	54.67	4868	166.8
Nose, sinuses	C30-31	42	1.52	15	0.56	232	8.3
Larynx, epiglottis	C32	122	4.42	39	1.39	974	34.1
Lung, trachea	C33-34	1740	60.46	1495	52.24	3519	119.4
Other or unspecified respiratory or intrathoracic organs	C37-39	32	1.16	14	0.50	176	6.1
Breast	C50	30	1.12	5	0.20	301	10.8
Male genital organs	C60-63	5723	201.14	943	35.61	65640	2309.5
Penis	C60	55	2.00	10	0.40	404	14.5
Prostate	C61	5514	193.69	920	34.75	61514	2161.5
Testis	C62	150	5.30	11	0.37	3754	134.6
Male genital, other and unspecified	C63	–	0.15	–	0.08	75	2.6
Urinary organs	C64-68,D09.0-1,D41.1-9	1757	62.24	452	16.71	14956	531.8
Kidney	C64	643	22.58	206	7.28	5510	194.8
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	1114	39.66	246	9.43	9583	341.9
Skin	C43-44	2272	82.93	151	5.62	19618	718.7
Melanoma of the skin	C43	1024	36.96	114	4.20	11027	397.0
Skin, squamous cell carcinoma	C44 (Squamous cell)	1163	42.88	29	1.12	8187	308.2
Skin, other	C44 (Other)	85	3.09	8	0.30	902	32.7
Eye	C69	33	1.18	17	0.58	466	16.7
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	514	18.60	244	8.86	4857	173.2
Glioma	–	230	8.30	200	7.14	1613	57.8
Meningeoma	–	108	3.78	7	0.25	1731	61.1
CNS, nerve sheet tumor	–	32	1.18	–	0.07	921	33.1
Other and unspecified tumor of brain, meninges and central nervous system	–	144	5.35	35	1.40	651	23.4
Endocrine glands	C73-75	182	6.48	25	0.92	2605	93.1
Thyroid gland	C73	155	5.49	18	0.65	2317	82.8
Adrenal gland	C74	21	0.77	–	0.12	202	7.3
Other endocrine glands	C75	6	0.22	–	0.15	90	3.2
Mesothelioma	C45	60	2.09	62	2.12	110	3.7
Bone	C40-41	29	1.06	11	0.42	488	17.6
Soft tissues	C48-49	128	4.64	47	1.66	1301	46.9
Peripheral nerves, autonomic nervous system	C47	7	0.24	–	0.14	119	4.3
Illdefined or unknown	C76,C80	278	10.27	196	7.32	503	17.8
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	1975	70.58	723	26.15	16636	588.0
Hodgkin lymphoma	C81	87	3.06	13	0.44	2075	74.2
Mature B-cell neoplasms	–	1141	40.85	403	14.60	8643	303.5
Chronic lymphatic leukaemia	C91.1	191	6.74	47	1.74	1864	65.0
Diffuse B lymphoma	C83.3	384	13.77	150	5.48	2542	89.6
Follicular B lymphoma	C82	148	5.25	26	0.93	1562	54.5
Myeloma and other plasma cell tumors	C90	224	8.08	136	4.82	1237	43.5
Burkitt's lymhoma/leukaemia	C83.7	13	0.46	–	0.08	191	6.8
Marginal zone lymphoma	C83.8	48	1.68	7	0.28	441	15.5
Mantle cell lymphoma	C83.1	75	2.70	24	0.87	491	17.2
Malignant immunoproliferative diseases	C88	51	1.90	8	0.31	276	9.9

Table 9: (continuation)

Cancer site	ICD-10	Incidence		Mortality		Prevalence	
		Count	Rate[1]	Count	Rate[1]	Count	Proportion[2]
Other mature B-cell neoplasms	–	7	0.26	–	0.09	270	9.6
Mature T and NK cell lymphomas/leukaemias	C84	87	3.05	30	1.09	628	22.4
Mature T-cell neoplasias of the skin	C84.0-1	28	0.98	–	0.09	353	12.6
Other T and NK cell lymphomas/leukaemias	C84.3-5	59	2.08	28	1.00	282	10.0
Acute lymphoblastic leukaemia/lymphoma	C91.0	46	1.73	11	0.38	1068	38.2
Acute myeloid leukaemia	C92.0	128	4.64	104	3.75	541	19.3
Non-Hodgkin lymphoma, other or unspeficied	C85	52	1.92	26	0.98	1390	49.4
Leukaemia, other or unspecified	C95	15	0.54	16	0.55	97	3.5
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3	278	9.86	37	1.29	2014	71.4
Chronic myeloid leukaemia	C92.1	30	1.06	–	0.11	345	12.4
Polycythaemia vera	D45	77	2.74	7	0.25	535	18.9
Myelofibrosis	D47.1	44	1.54	14	0.48	234	8.2
Essential thrombocythemia	D47.3	88	3.10	–	0.14	727	25.8
Myeloproliferative neoplasm, other	D47.1	39	1.41	9	0.32	280	9.9
Myelodysplastiset ja myelodysplastiset/-proliferatiiviset oireyhtymät	–	134	4.70	81	3.01	319	11.0
Myelodysplastic syndromes	D46	112	3.99	71	2.64	245	8.5
Myelodysplastic/myeloproliferative neoplasms	–	22	0.71	10	0.37	75	2.5
Other, unspecified or mixed hematological disease	C96, D76	7	0.24	–	0.05	113	4.1
Mastocytosis	C96.2	–	0.07	–	0.03	49	1.8
Histiocytic and denritic cell neoplasms	C96.1, D76	–	0.10	–	0.03	55	2.0
Other, unspecified or mixed hematological disease	C96.7-9	–	0.07	0	0.00	9	0.3
Not included above							
Basal cell carcinoma of the skin	C44 (Basal cell)	4451	159.25	–	0.04	53924	1949.2
Basal cell carcinoma of the genitals	C51-53,C60-63 (Basal cell)	0	0.00	0	0.00	10	0.4
Carcinoma in situ of the breast	D05	–	0.14	0	0.00	31	1.1
Ductal carcinoma on situ of the breast	D05.1	–	0.10	0	0.00	25	0.9
Lobular carcinoma in situ of the breast	D05.0	0	0.00	0	0.00	0	0.0
Other or unspecified carcinoma in situ of the breast	D05.7-9	–	0.04	0	0.00	6	0.2

[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

15.2 Survival of cancer patients

Table 10: Five-year relative survival rates in cancer patients followed up in 2020-2022 by age group, female.

		5-year relative survival (%)			
			Age at diagnosis		
Cancer site	ICD-10	All	0-54	55-74	75+
All sites together	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	71	89	75	58
Mouth, pharynx	C00-14	77	90	77	69
Digestive organs	C15-26	45	67	47	37
Oesophagus	C15	16	36	15	13
Stomach	C16	35	56	39	24
Colon and rectum	C18-20	70	81	73	65
Colon	C18	69	81	71	64
Rectum, rectosigmoid	C19-20	72	80	76	65
Liver	C22	9	14	10	6
Gallbladder, bile ducts	C23-24	13	44	16	6
Pancreas	C25	7	32	9	2
Respiratory and intrathoracic organs	C30-39	24	52	27	18
Lung, trachea	C33-34	23	48	25	17
Breast	C50	92	94	94	85
Female genital organs	C51-58	67	84	71	52
Cervix uteri	C53	74	86	58	44
Corpus uteri	C54	81	92	86	71
Ovary etc.	C48.1-2 (Serous), C56, C57.0-4	48	76	51	26
Urinary organs	C64-68,D09.0-1,D41.1-9	68	87	73	57
Kidney	C64	71	90	72	61
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	65	77	75	55
Skin	C43-44	94	98	95	92
Melanoma of the skin	C43	94	98	96	88
Skin, squamous cell carcinoma	C44 (Squamous cell)	95	100	94	95
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	70	88	70	44
Glioma	–	35	74	15	5
Meningeoma	–	97	100	97	96
Endocrine glands	C73-75	93	97	94	78
Thyroid gland	C73	94	99	94	77
Soft tissues	C48-49	66	90	61	58
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	69	92	79	45
Hodgkin lymphoma	C81	95	100	93	61
Mature B-cell neoplasms	–	68	90	79	48
Myeloma and other plasma cell tumors	C90	46	85	63	23

Table 11: Five-year relative survival rates in cancer patients followed up in 2020-2022 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	69	79	69	66
Mouth, pharynx	C00-14	65	78	61	65
Digestive organs	C15-26	42	53	42	40
Oesophagus	C15	12	16	14	7
Stomach	C16	29	37	30	25
Colon and rectum	C18-20	68	73	68	67
Colon	C18	66	71	65	66
Rectum, rectosigmoid	C19-20	71	75	72	68
Liver	C22	11	19	11	9
Gallbladder, bile ducts	C23-24	10	35	13	5
Pancreas	C25	7	22	8	3
Respiratory and intrathoracic organs	C30-39	18	36	20	12
Larynx, epiglottis	C32	61	67	66	49
Lung, trachea	C33-34	14	25	16	10
Male genital organs	C60-63	94	95	95	92
Prostate	C61	94	97	95	92
Testis	C62	95	95	98	135
Urinary organs	C64-68,D09.0-1,D41.1-9	75	86	78	69
Kidney	C64	74	85	73	70
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	75	87	81	69
Skin	C43-44	94	97	94	94
Melanoma of the skin	C43	94	97	93	92
Skin, squamous cell carcinoma	C44 (Squamous cell)	96	97	96	96
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	47	70	39	30
Glioma	–	25	53	11	5
Meningeoma	–	93	96	91	97
Endocrine glands	C73-75	86	92	80	89
Thyroid gland	C73	88	94	81	89
Soft tissues	C48-49	66	75	64	62
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	62	90	70	39
Hodgkin lymphoma	C81	90	97	83	74
Mature B-cell neoplasms	–	64	88	73	46
Myeloma and other plasma cell tumors	C90	44	82	57	24

15.3 Long-term changes, incidence

Table 12: Average annual percent change in incidence in 1990-2019, female.

		Trend change and period	
Cancer site	ICD-10	1. trend	2. trend
All sites together	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	1.8% (1990-1991)	0.8% (1992-2019)
Mouth, pharynx	C00-14	1.1% (1990-2019)	–
Lip	C00	1.2% (1990-1997)	-5.1% (1998-2019)
Pharynx	C01,C09-14	0.1% (1990-2002)	5.0% (2003-2019)
Digestive organs	C15-26	-0.6% (1990-2010)	1.3% (2011-2019)
Oesophagus	C15	-2.1% (1990-2011)	2.6% (2012-2019)
Stomach	C16	-4.1% (1990-2007)	-2.8% (2008-2019)
Colon and rectum	C18-20	0.2% (1990-2010)	1.6% (2011-2019)
Colon	C18	0.3% (1990-2005)	1.2% (2006-2019)
Rectum, rectosigmoid	C19-20	-0.4% (1990-2013)	2.8% (2014-2019)
Liver	C22	0.9% (1990-2019)	–
Gallbladder, bile ducts	C23-24	-2.8% (1990-2010)	1.3% (2011-2019)
Pancreas	C25	-2.1% (1990-1994)	0.9% (1995-2019)
Respiratory and intrathoracic organs	C30-39	2.3% (1990-2019)	–
Larynx, epiglottis	C32	0.3% (1990-2019)	–
Lung, trachea	C33-34	2.3% (1990-2019)	–
Breast	C50	2.2% (1990-1999)	1.2% (2000-2019)
Female genital organs	C51-58	2.0% (1990-1995)	-0.2% (1996-2019)
Cervix uteri	C53	-0.1% (1990-2019)	–
Corpus uteri	C54	2.3% (1990-1997)	-0.2% (1998-2019)
Ovary etc.	C48.1-2 (Serous), C56, C57.0-4	1.6% (1990-1994)	-0.7% (1995-2019)
Urinary organs	C64-68,D09.0-1,D41.1-9	0.0% (1990-2019)	–
Kidney	C64	0.0% (1990-2019)	–
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	-0.2% (1990-2015)	6.2% (2016-2019)
Skin	C43-44	2.0% (1990-2002)	3.4% (2003-2019)
Melanoma of the skin	C43	2.3% (1990-2000)	4.8% (2001-2019)
Skin, squamous cell carcinoma	C44 (Squamous cell)	2.0% (1990-2019)	–
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	2.5% (1990-2000)	-0.2% (2001-2019)
Glioma	–	0.7% (1990-2019)	–
Meningeoma	–	4.5% (1990-2000)	-0.3% (2001-2019)
Endocrine glands	C73-75	0.2% (1990-2005)	2.9% (2006-2019)
Thyroid gland	C73	0.1% (1990-2004)	2.6% (2005-2019)
Soft tissues	C48-49	0.5% (1990-2019)	–
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	1.1% (1990-2019)	–
Hodgkin lymphoma	C81	0.7% (1990-2019)	–
Mature B-cell neoplasms	–		
Chronic lymphatic leukaemia	C91.1	0.2% (1990-2013)	-7.2% (2014-2019)
Myeloma and other plasma cell tumors	C90	0.2% (1990-2019)	–
Acute lymphoblastic leukaemia/lymphoma	C91.0	-0.4% (1990-2019)	–
Acute myeloid leukaemia	C92.0	0.7% (1990-2019)	–
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3		
Chronic myeloid leukaemia	C92.1	-2.1% (1990-2019)	–

Table 13: Average annual percent change in incidence in 1990-2019, 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	1.0% (1990-2003)	-0.2% (2004-2019)
Mouth, pharynx	C00-14	-0.7% (1990-2004)	1.6% (2005-2019)
Lip	C00	-6.5% (1990-2019)	–
Pharynx	C01,C09-14	1.6% (1990-2003)	4.8% (2004-2019)
Digestive organs	C15-26	-0.7% (1990-1999)	0.5% (2000-2019)
Oesophagus	C15	-6.8% (1990-1992)	1.2% (1993-2019)
Stomach	C16	-4.1% (1990-2011)	-2.2% (2012-2019)
Colon and rectum	C18-20	0.8% (1990-2019)	–
Colon	C18	3.7% (1990-1993)	0.8% (1994-2019)
Rectum, rectosigmoid	C19-20	0.4% (1990-2019)	–
Liver	C22	2.0% (1990-2019)	–
Gallbladder, bile ducts	C23-24	-1.0% (1990-2009)	2.0% (2010-2019)
Pancreas	C25	0.6% (1990-2019)	–
Respiratory and intrathoracic organs	C30-39	-3.0% (1990-2001)	-1.7% (2002-2019)
Larynx, epiglottis	C32	-1.9% (1990-2019)	–
Lung, trachea	C33-34	-3.2% (1990-2001)	-1.8% (2002-2019)
Male genital organs	C60-63	5.9% (1990-2002)	-1.9% (2003-2019)
Prostate	C61	6.0% (1990-2002)	-2.1% (2003-2019)
Testis	C62	4.4% (1990-2013)	-1.8% (2014-2019)
Urinary organs	C64-68,D09.0-1,D41.1-9	-1.1% (1990-2003)	0.7% (2004-2019)
Kidney	C64	-1.2% (1990-2006)	1.5% (2007-2019)
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	-1.2% (1990-2001)	0.4% (2002-2019)
Skin	C43-44	1.8% (1990-2001)	3.5% (2002-2019)
Melanoma of the skin	C43	1.8% (1990-2000)	4.3% (2001-2019)
Skin, squamous cell carcinoma	C44 (Squamous cell)	2.6% (1990-2019)	–
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	0.3% (1990-2019)	–
Glioma	–	0.7% (1990-2019)	–
Meningeoma	–	2.9% (1990-2002)	-0.5% (2003-2019)
Endocrine glands	C73-75	0.6% (1990-2007)	4.2% (2008-2019)
Thyroid gland	C73	1.0% (1990-2007)	4.0% (2008-2019)
Soft tissues	C48-49	0.8% (1990-2019)	–
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	0.6% (1990-2002)	1.4% (2003-2019)
Hodgkin lymphoma	C81	0.6% (1990-2019)	–
Mature B-cell neoplasms	–		
Chronic lymphatic leukaemia	C91.1	0.0% (1990-2019)	–
Myeloma and other plasma cell tumors	C90	0.9% (1990-2009)	-1.2% (2010-2019)
Acute lymphoblastic leukaemia/lymphoma	C91.0	0.5% (1990-2019)	–
Acute myeloid leukaemia	C92.0	0.4% (1990-2019)	–
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3		
Chronic myeloid leukaemia	C92.1	-2.8% (1990-2019)	–

15.4 Long-term changes, mortality

Table 14: Average annual percent change in cancer mortality in 1990-2022, female.

		Trend change and period	
Cancer site	ICD-10	1. trend	2. trend
All sites together	C00-96,D09.0-1,D32-33, D41-43,D45-47,D76	-1.0% (1990-2005)	-0.5% (2006-2022)
Mouth, pharynx	C00-14	-0.2% (1990-2022)	–
Lip	C00	-3.0% (1990-2022)	–
Pharynx	C01,C09-14	0.0% (1990-2022)	–
Digestive organs	C15-26	-2.5% (1990-1998)	-0.6% (1999-2022)
Oesophagus	C15	-3.4% (1990-2002)	-0.6% (2003-2022)
Stomach	C16	-4.1% (1990-2022)	–
Colon and rectum	C18-20	-1.6% (1990-2006)	-0.5% (2007-2022)
Colon	C18	-1.5% (1990-2003)	-0.2% (2004-2022)
Rectum, rectosigmoid	C19-20	-1.7% (1990-2022)	–
Liver	C22	-8.1% (1990-1991)	0.5% (1992-2022)
Gallbladder, bile ducts	C23-24	-2.9% (1990-2011)	0.8% (2012-2022)
Pancreas	C25	-2.7% (1990-1994)	0.5% (1995-2022)
Respiratory and intrathoracic organs	C30-39	1.9% (1990-2012)	0.7% (2013-2022)
Larynx, epiglottis	C32	0.3% (1990-2022)	–
Lung, trachea	C33-34	1.9% (1990-2013)	0.6% (2014-2022)
Breast	C50	-0.8% (1990-2022)	–
Female genital organs	C51-58	-1.2% (1990-2000)	0.0% (2001-2022)
Cervix uteri	C53	-2.5% (1990-2022)	–
Corpus uteri	C54	0.1% (1990-2022)	–
Ovary etc.	C48.1-2 (Serous), C56, C57.0-4	-0.4% (1990-2022)	–
Urinary organs	C64-68,D09.0-1,D41.1-9	-1.2% (1990-2022)	–
Kidney	C64	-1.4% (1990-2022)	–
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	-4.8% (1990-1996)	-0.4% (1997-2022)
Skin	C43-44	-0.1% (1990-2022)	–
Melanoma of the skin	C43	-0.1% (1990-2022)	–
Skin, squamous cell carcinoma	C44 (Squamous cell)	-1.1% (1990-2022)	–
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	-0.5% (1990-2022)	–
Glioma	–	0.4% (1990-2022)	–
Meningeoma	–	-2.6% (1990-2022)	–
Endocrine glands	C73-75	-3.2% (1990-2005)	-0.4% (2006-2022)
Thyroid gland	C73	-5.5% (1990-2001)	-0.4% (2002-2022)
Soft tissues	C48-49	-0.2% (1990-2022)	–
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	0.8% (1990-1994)	-1.5% (1995-2022)
Hodgkin lymphoma	C81	-3.8% (1990-2022)	–
Mature B-cell neoplasms	–		
Chronic lymphatic leukaemia	C91.1	-3.4% (1990-2022)	–
Myeloma and other plasma cell tumors	C90	-1.1% (1990-2022)	–
Acute lymphoblastic leukaemia/lymphoma	C91.0	-3.3% (1990-2022)	–
Acute myeloid leukaemia	C92.0	31.5% (1990-1991)	-0.3% (1992-2022)
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3		
Chronic myeloid leukaemia	C92.1	-8.2% (1990-2022)	–

Table 15: Average annual percent change in cancer mortality in 1990-2022, 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% (1990-2007)	-1.2% (2008-2022)
Mouth, pharynx	C00-14	0.3% (1990-2022)	–
Lip	C00	-6.7% (1990-2022)	–
Pharynx	C01,C09-14	0.6% (1990-2022)	–
Digestive organs	C15-26	-1.6% (1990-2001)	-0.2% (2002-2022)
Oesophagus	C15	-0.5% (1990-2005)	1.5% (2006-2022)
Stomach	C16	-4.3% (1990-2013)	-2.2% (2014-2022)
Colon and rectum	C18-20	-0.7% (1990-2022)	–
Colon	C18	-0.2% (1990-2022)	–
Rectum, rectosigmoid	C19-20	-1.3% (1990-2022)	–
Liver	C22	1.8% (1990-2018)	-3.2% (2019-2022)
Gallbladder, bile ducts	C23-24	-1.4% (1990-2010)	3.1% (2011-2022)
Pancreas	C25	0.2% (1990-2022)	–
Respiratory and intrathoracic organs	C30-39	-3.3% (1990-2001)	-2.3% (2002-2022)
Larynx, epiglottis	C32	-2.3% (1990-2022)	–
Lung, trachea	C33-34	-3.3% (1990-2000)	-2.4% (2001-2022)
Male genital organs	C60-63	0.0% (1990-1997)	-2.5% (1998-2022)
Prostate	C61	0.0% (1990-1997)	-2.5% (1998-2022)
Testis	C62	0.5% (1990-2022)	–
Urinary organs	C64-68,D09.0-1,D41.1-9	-1.6% (1990-2022)	–
Kidney	C64	-1.8% (1990-2022)	–
Bladder and urinary tract	C65-68,D09.0-1,D41.1-9	-1.4% (1990-2022)	–
Skin	C43-44	1.0% (1990-2015)	-5.4% (2016-2022)
Melanoma of the skin	C43	1.0% (1990-2016)	-7.4% (2017-2022)
Skin, squamous cell carcinoma	C44 (Squamous cell)	0.8% (1990-2022)	–
Brain, meninges and central nervous system	C70-72,D32-33,D42-43	-0.1% (1990-2022)	–
Glioma	–	0.0% (1990-2006)	1.7% (2007-2022)
Meningeoma	–	-3.2% (1990-2022)	–
Endocrine glands	C73-75	-0.7% (1990-2022)	–
Thyroid gland	C73	-0.2% (1990-2022)	–
Soft tissues	C48-49	-0.4% (1990-2022)	–
Lymphoid and haematopoietic tissue	C81-96,D45-47,D76	-1.2% (1990-2022)	–
Hodgkin lymphoma	C81	-11.0% (1990-1997)	-1.1% (1998-2022)
Mature B-cell neoplasms	–		
Chronic lymphatic leukaemia	C91.1	-3.2% (1990-2019)	-21.6% (2020-2022)
Myeloma and other plasma cell tumors	C90	-1.0% (1990-2022)	–
Acute lymphoblastic leukaemia/lymphoma	C91.0	-2.9% (1990-2022)	–
Acute myeloid leukaemia	C92.0	-1.0% (1990-2009)	1.7% (2010-2022)
Myeloproliferative neoplasms	C92.1,D45,D47.1,D47.3		
Chronic myeloid leukaemia	C92.1	0.3% (1990-1997)	-10.5% (1998-2022)

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