

Cancer in Norway 2019

Cancer incidence, mortality, survival
and prevalence in Norway



Cancer in Norway 2019

Editor-in-chief:

Inger Kristin Larsen

Editorial team:

IK Larsen, B Møller, TB Johannesen, TE Robsahm, TK Grimsrud, S Larønningen, AH Seglem, J Gulbrandsen, E Jakobsen, G Ursin

Data management and analyses:

B Aagnes, S Aaserud, MB Jerm, Y Nilssen

Coding staff:

TV Antonsen, I Aune, HH Brenn, RW Bråten, ØL Carlsen, C Cin, AH Dahlen, L Enerstvedt, I Forberg, SEO Frøland, ME Gismarvik, K Grape, MN Haneborg, S Hansen, I Hatle, IH Heien, I Herredsvella, G Kjølberg, KO Knudsen, T Lane, IM Larsson, TL Lindvik, W Melbye, KL Nilsen, T Nygård, S Nymoene, SS Olsen, AV Owren, J Pavlova, M Silva, MG Thoresen, L Thyssell, A Tysvær, K Østby

Recommended reference:

Cancer Registry of Norway. Cancer in Norway 2019 - Cancer incidence, mortality, survival and prevalence in Norway. Oslo: Cancer Registry of Norway, 2020.

ISSN: 0806-3621

General requests for cancer information, data or possible research collaboration are welcome, and should be sent to datautlevering@kreftregisteret.no.

Cancer in Norway 2019

Cancer incidence, mortality, survival and prevalence in Norway

Foreword

Close to 35 000 new cancer cases were reported in Norway for 2019. Rates are increasing for some major cancers, such as breast cancer and non-melanoma skin cancer, whereas others are leveling out or decreasing, such as colorectal cancer and prostate cancer.

This is, however, an unusual year, and we are experiencing a delay in reporting which likely affect the numbers in this report. Paradoxically and unfortunately, the ongoing Covid-19 pandemic has created more uncertainty in the numbers for 2019 than we have had in previous years. The Cause of Death Registry has had to prioritize coding of 2020 deaths in near real-time to ensure correct counts of Covid-19 deaths. We therefore have not received information from the last 20% of 2019 deaths. As some fatal cancers are only reported on death certificates, we have estimated that we will lack about 250 cases at the time of publication of this report. These are cases that are normally traced back from reported deaths. This means that for lung, pancreas, colon and prostate cancer, the case numbers are probably 20–40 lower than we would expect at this time. The cancer registry is a dynamic database, and deficits or errors will be corrected as soon as the case reports come in, but at present we have to be careful in the interpretation of the trends for some cancers.

The cancer rates for 2019 are interesting by themselves, but they will also constitute important comparison rates for years to come. Our health seeking behavior in 2019 was similar to preceding years. This all changed with the Covid-19 pandemic in early 2020. Not only has the pandemic affected elective surgery and cancer screening, but our general health seeking behavior also seems to have changed. We expect the pandemic to affect cancer rates for 2020 and possibly for years to come. This leaves 2019 as the last “normal” pre-Covid-19 year to which we will be comparing future cancer rates.

In last year's report (CIN 2018), we provided rates of cancer in immigrants for the first time, as part of a special issue. From this year onwards, these statistics will be a standard part of our main report. We hope other European countries will follow our example and start reporting cancer rates in major immigrant groups. We need to follow public health challenges in all parts of the population.

For this year's report, there are some developments in incidence and survival that warrant further comment.

The incidence of prostate cancer appears to have stabilized and even declined the last few years. We do not know if this is due to a decline in PSA testing. It is also possible that PSA testing in previous years has removed the “prevalence peak” of these cancers, and that the rate therefore now will remain steady.

Lung cancer rates have been declining in men for the past decade. Among women, there is no such visible decline yet, to the contrary, rates are still rising in women above age 70. Smoking cessation remains important. There are some good news for lung cancer, however. Survival rates are steadily improving, and 5-year relative survival for localized disease is now above 70% for women and above 60% for men, while for regional disease survival is slightly above 30% for women and slightly below for men.

The number of breast cancers continues to increase. From the previous to the current 5-year period, this is particularly notable for women in their 70s. We suspect that some women continue screening privately after they receive their final invitation to the national screening programme. The increase among women in their 50s and 60s is not quite as strong. Part of this increase in incidence may be due to an underlying risk increase caused by more prevalent unfavourable lifestyle factors, and part could be due to diagnostic advances. Tomosynthesis is a sensitive imaging method that may detect small tumors, in particular in older postmenopausal breasts where the breast tissue has been replaced with fatty tissue. While tomosynthesis is not optimal as a screening tool, it appears to be increasingly used in the clinical setting.

Long-term trends, i.e. back to 2005–2009, show that breast cancer incidence rates have increased in women under age 40. This may partly be due to increased monitoring of young women who are genetically predisposed to develop breast cancer.

Survival of advanced breast cancer continues to improve. Part of this improvement may be better treatment, but part could be artefactual. Increased use of advanced imaging methods such as positron emission tomography and magnetic resonance imaging may have resulted in more correct staging over time. This could also explain why rates of stage IV breast cancer has increased slightly and not declined, which otherwise would be an expected effect from the national screening programme.

Perhaps the greatest news in survival is the strong improvement in the rates of stage IV melanoma, in both genders. Are we finally starting to see the effect of immunotherapy? Norway approved the first main drug (ipilimumab) in October 2014, and more drugs have become available in subsequent years, bringing new and improved tools to the clinicians and patients with severe melanoma disease.

The best means to handle melanoma, however, still is prevention. Although the rates seem to have stabilized the last couple of years, over a longer time period the rates for melanoma increase in both genders. The rates for non-melanoma skin cancer are still increasing, also in the past few years, and in both genders. Reducing excess sun exposure and reducing the use of tanning beds remain an important priority.

County-specific rates are subject to variation because of small numbers, but there are some interesting trends. The south-western county of Rogaland has for a while had high cancer rates, in particular among men. Their prostate cancer rates remain substantially higher than other counties. Interestingly, while Rogaland in the early

2000s had high mortality rates, the past 5 years they have been close to or even below the national average. This could be a result of early detection and treatment of prostate cancer, which, although with substantial side effects, may have improved prostate-specific mortality.

There are many other interesting trends that could be commented on. We hope you will find the report useful, and suggest that you seek more information in our online statistical databank for Norwegian data:

<https://sb.kreftregisteret.no/insidens/?lang=en>

and the NORDCAN 2.0 platform for Nordic data:

<https://nordcan.iarc.fr/en>

A lot of work goes into this report. Thank you to all healthcare workers who diagnose and treat cancer. A special thanks to the hospital staff members who submit reports to us, and to everyone who has contributed to the report: our coding personnel, database managers, statistical and editorial staff. We would not have such reliable numbers without you.

Oslo, October 2020
Giske Ursin, MD, PhD
Director

Contents

1	Definitions	1
2	Summary	2
3	Data and data sources	4
3.1	The population of Norway	4
3.2	The Cancer Registry of Norway	5
3.3	Sources of information	7
3.4	Incidence and mortality data	8
3.5	Data quality	11
3.6	Completeness and timeliness	11
4	Statistical methods	14
4.1	Incidence and mortality	14
4.2	Prevalence	15
4.3	Survival	16
5	Incidence	18
5.1	New cancer cases	18
5.2	Incidence by age	20
5.3	Male to female ratios	24
5.4	Incidence trends	25
5.5	Cumulative risk	27
5.6	Incidence tables	27
6	Prevalence	78
7	Mortality	81
8	Survival	84
9	Trends in incidence, mortality and survival, Norway 1965–2019	99

List of Figures

3.1	Sources of information and the process of cancer registration at the Cancer Registry of Norway	7
4.1	Comparison of population weights	15
5.1	Percentage distribution of cancer incidence by age, 2015–2019	20
5.2	The most frequent types of cancer by age and sex, 2015–2019	22
	A All ages	22
	B 0–14 years	22
	C 15–24 years	22
	D 25–49 years	23
	E 50–69 years	23
	F 70+ years	23
5.3	Time trends in age-standardised (Norwegian standard) incidence rates for selected cancers, 1960–2019	25
5.4	Cumulative risk of developing cancer (%) by the age of 75 for selected cancers, 2015–2019	28
7.1	Age-standardised (Norwegian standard) mortality rates per 100 000 person-years for selected cancers, 2018	82
8.1	Relative survival (RS) up to 15 years after diagnosis by sex and age, 2015–2019	91
	A All sites (ICD-10 C00–96)	91
	B Mouth, pharynx (ICD-10 C00–14)	91
	C Oesophagus (ICD-10 C15)	91
	D Stomach (ICD-10 C16)	92
	E Colon (ICD-10 C18)	92
	F Rectum, rectosigmoid (ICD-10 C19–20)	92
	G Liver (ICD-10 C22)	93
	H Gallbladder, bile ducts (ICD-10 C23–24)	93
	I Pancreas (ICD-10 C25)	93
	J Lung, trachea (ICD-10 C33–34)	94
	K Melanoma of the skin (ICD-10 C43)	94
	L Breast (ICD-10 C50)	94
	M Cervix uteri (ICD-10 C53)	95
	N Corpus uteri (ICD-10 C54)	95
	O Ovary etc. (ICD-10 C56, C57.0–4, C48.2)	95
	P Prostate (ICD-10 C61)	96
	Q Testis (ICD-10 C62)	96
	R Kidney (excl. renal pelvis) (ICD-10 C64)	96
	S Urinary tract (ICD-10 C65–68)	97
	T Central nervous system (ICD-10 C70–72)	97
	U Thyroid gland (ICD-10 C73)	97
	V Hodgkin lymphoma (ICD-10 C81)	98
	W Non-Hodgkin lymphoma (ICD-10 C82–86, C96)	98
	X Leukaemia (ICD-10 C91–95)	98
9.1	Trends in incidence and mortality rates and 5-year relative survival proportions	101
	A All sites (ICD-10 C00–96)	101
	B Mouth, pharynx (ICD-10 C00–14)	101
	C Oesophagus (ICD-10 C15)	101
	D Stomach (ICD-10 C16)	102

E	Colon (ICD-10 C18)	102
F	Rectum, rectosigmoid (ICD-10 C19–20)	102
G	Liver (ICD-10 C22)	103
H	Gallbladder, bile ducts (ICD-10 C23–24)	103
I	Pancreas (ICD-10 C25)	103
J	Lung, trachea (ICD-10 C33–34)	104
K	Melanoma of the skin (ICD-10 C43)	104
L	Kidney (excl. renal pelvis) (ICD-10 C64)	104
M	Breast (ICD-10 C50)	105
N	Cervix uteri (ICD-10 C53)	105
O	Prostate (ICD-10 C61)	105
P	Corpus uteri (ICD-10 C54)	105
Q	Testis (ICD-10 C62)	105
R	Ovary etc. (ICD-10 C56, C57.0–4, C48.2)	105
S	Urinary tract (ICD-10 C65–68)	106
T	Central nervous system (ICD-10 C70–72)	106
U	Thyroid gland (ICD-10 C73)	106
V	Hodgkin lymphoma (ICD-10 C81)	107
W	Non-Hodgkin lymphoma (ICD-10 C82–86, C96)	107
X	Leukaemia (ICD-10 C91–95)	107

List of Tables

2.1	Summary of cancer statistics for selected cancers	3
3.1	Norwegian mid-year population 2019 by five-year age group and sex	4
3.2	Number of first generation immigrants by country per 1 January 2020	5
3.3	Status of the clinical registries, October 2020	6
3.4	Description of ICD-10 codes	9
3.5	Percentage distribution of morphologically verified (MV) and death certificate only (DCO) cases by primary site, 2015–2019	12
3.6	Registered cancer cases in Norway 2018, as obtained from the incidence registry 23 September 2019 and 18 September 2020	13
5.1	Number and age-standardised rates of new cases by primary site and sex, 2019	19
5.2	Median age at diagnosis at different time periods by primary site	21
5.3	Sex ratio (male:female) of age-adjusted rates (Norwegian standard) in 1985–1989 and 2015–2019 for selected cancers, sorted in descending order in last period	24
5.4	Cumulative risk of developing cancer (%) by age of 75 by primary site and sex, 2015–2019	29
5.5	Number of new cases by primary site and year, 2010–2019, males	30
5.6	Number of new cases by primary site and year, 2010–2019, females	31
5.7	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and year, 2010–2019, males	32
5.8	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and year, 2010–2019, females	33
5.9	Average annual number of new cases by primary site and five-year age group, 2015–2019, males	34
5.10	Average annual number of new cases by primary site and five-year age group, 2015–2019, females	36
5.11	Age-specific incidence rates per 100 000 person-years by primary site and five-year age group, 2015–2019, males	38
5.12	Age-specific incidence rates per 100 000 person-years by primary site and five-year age group, 2015–2019, females	40
5.13	Average annual number of new cases by primary site and five-year period, 1960–2019, males	42
5.14	Average annual number of new cases by primary site and five-year period, 1960–2019, females	44
5.15	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and five-year period, 1960–2019, males	46
5.16	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and five-year period, 1960–2019, females	48
5.17	Average annual number of new cases by primary site and county, 2015–2019, males	50
5.18	Average annual number of new cases by primary site and county, 2015–2019, females	52
5.19	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and county, 2015–2019, males	54
5.20	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and county, 2015–2019, females	56
5.21	Average annual number of new cases for selected cancers by stage and period of diagnosis, 1960–2019, males	58
5.22	Average annual number of new cases for selected cancers by stage and period of diagnosis, 1960–2019, females	62
5.23	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years for selected cancers by stage and period of diagnosis, 1960–2019, males	66
5.24	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years for selected cancers by stage and period of diagnosis, 1960–2019, females	70

5.25	Average annual number of new cases by primary site and origin, 2015–2019, males	74
5.26	Average annual number of new cases by primary site and origin, 2015–2019, females	75
5.27	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and origin, 2015–2019, males	76
5.28	Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and origin, 2015–2019, females	77
6.1	Prevalence of cancers 31 December 2009 and 31 December 2019, both sexes	79
6.2	Prevalence of patients diagnosed with distant metastases during lifetime, by health region, both sexes	80
7.1	Number of cancer deaths by primary site and sex, 2018	83
8.1	Five-year relative survival by primary site, stage and period of diagnosis, 1980–2019, males	86
8.2	Five-year relative survival by primary site, stage and period of diagnosis, 1980–2019, females	88
8.3	1-, 5-, 10-, and 15-year relative survival (%) with 95% confidence interval by primary site and sex. Period approach, 2015–2019	90

Chapter 1 Definitions

Incidence The number of new cases of a disease in a defined population within a specific period of time.

Incidence rate The number of new cases that arise in a population (incidence) divided by the number of people who are at risk of getting cancer in the same period. The rate is expressed per 100 000 person-years. Person-years is a metric that combines persons and time (in years) as the denominator in rates.

Crude rate Unadjusted rates, often estimated for the entire population, with no standardisation by age.

Age-specific rate A rate calculated within an age stratum, often a five-year interval.

Age-standardisation A procedure for adjusting rates, e.g. incidence rates, designed to minimize the disturbing effects of differences in age composition when comparing rates for different populations (observed by geographical residence or over different time periods). The adjusted rates are referred to as age-standardised (or age-adjusted) rates. For this report, we use a standard chosen to be the Norwegian mid-year population in 2014 (referred to in the text as Norwegian standard).

Prevalence Prevalence is the number or proportion of a population that has the disease at a given point in

time. In this report we use lifetime cancer prevalence that can be defined as the number of living individuals having ever been diagnosed with cancer.

Relative survival The observed survival after a given period of time in a patient group, divided by the expected survival of a comparable group in the general population, comparable with respect to key factors affecting survival such as age, sex and calendar year of observation. Relative survival is thus determined by the mortality experienced by the patients regardless of whether an excess mortality (or even deficiency) may be attributable or linked to the disease under investigation. A key advantage is that it does not require cause-of-death information.

Conditional relative survival The probability of surviving an additional number of years given that the person has already survived a certain number of years. As time from diagnosis lengthens, this statistic becomes more informative to survivors than the conventional relative survival estimate. A five-year conditional relative survival that reaches close to 100% some number of years after diagnosis indicates that from that point, there is little or no excess mortality in the patient group.

Most definitions are based on Last & al, 2001^[1].

Chapter 2 Summary

The aim of the annual publication of Cancer in Norway is to provide detailed cancer statistics. This publication should help health professionals, policy-makers and researchers to identify and make decisions about areas that need more attention and investigation. This publication may also be valuable for the media, educators and members of the public with an interest in cancer. Due to random variation in incidence rates from one year to another, cancer trends should be interpreted by examining the rates over the past several years. Furthermore, the numbers for 2019 might be slightly underreported due to delayed notification of cancer cases. The present report is published before the complete numbers of deaths in 2019 was received from the Cause of Death Registry, and for this year's report we have received fewer death certificates than usual. A more detailed estimate of this possible underreporting is given below. The report is available online at:

<https://www.kreftregisteret.no/>

Incidence data are also available at the Cancer Registry of Norway's online statistics:

<https://www.kreftregisteret.no/Registrene/data-og-statistikk/statistikkbank/>

Incidence

A total of 34 979 new cancer cases were reported in 2019: 53.5% were among men and 46.5% were among women. The most frequent types of cancer in men in 2015–2019 were prostate, lung, colon and bladder (including the urinary tract), whereas breast, lung, colon cancer and melanoma of the skin were the most frequent cancers in women.

The incidence rate for all sites combined has been relatively stable in men (increased by 0.1%) and increased by 5.3% in women when comparing the last five-year period (2015–2019) with the previous one (2010–2014). For the most common cancers in men, the largest incidence increase in rates was observed for non-melanoma and melanoma skin cancers. On the positive side, the rates for lung and prostate cancer continue to decrease.

For the most common cancers in women, the strongest increase in incidence rate occurred for non-melanoma and melanoma skin cancers, lung and breast cancer. A reduction in rates was seen for cancer in ovary and corpus uteri. A notable decrease is observed for cancer of the central nervous system in both men and women. We have previously suggested that this might be due to underreporting.

About 7.7% of cancers in men and 8.4% of cancers in women occur in immigrants.

Prevalence

At the end of 2019 a total of 294 855 persons were alive after having had at least one cancer diagnosis at some point in time.

Mortality

There were 11 049 deaths from cancer in Norway in 2018¹. Cancer of the lung accounts for 19% of the cancer mortality, followed by colorectal cancer (14%), prostate cancer (8%) and female breast cancer (5%). Together these cancer sites account for nearly 50% of the cancer mortality.

Survival

There has been a slight increase in the five-year relative survival for most cancers when comparing the five-year period (2015–2019) with the previous one. For the most common cancers, the largest increase in survival is observed for lung cancer:

Prostate cancer: Increased from 94.6% to 95.5%.

Breast cancer: Increased from 90.7% to 92.0%.

Lung cancer (M): Increased from 16.6% to 22.7%.

Lung cancer (F): Increased from 22.1% to 29.2%.

Colon cancer (M): Increased from 63.0% to 68.1%.

Colon cancer (F): Increased from 68.2% to 71.1%.

Rectum cancer (M): Increased from 69.4% to 71.1%.

Rectum cancer (F): Increased from 69.4% to 71.5%.

¹The mortality data from the Cause of Death Registry for 2019 was not complete when this report was published, and therefore the figures reports for 2018.

Of note

Death certificates: We are aware that there is a delay in the processing of death certificates for 2019 due to the COVID-19 pandemic, as the Cause of Death Registry needed to prioritize the registration of deaths caused by the corona virus. We have only received 73% of the expected number of death certificates, and we have estimated that this corresponds to missing information on approximately 250 cases.

Cervical cancer: The Cancer in Norway reports from 2015 to 2018 contained an error in staging of cervical cancer. Stage, as reported by the clinician, was not used in this period due to an error in mapping from electronic clinical reporting. The traditional staging (localized stage, regional stage, distant stage and unknown) with in-house conversion to FIGO staging was

used instead. This caused too high survival estimates for stage IV. For the 2019 report we have changed this, and have for all years chosen to use solely the FIGO stage as reported on the clinical report. The proportion of unknown stage is high with this method (36%) and we are working to see if we in later reports can implement in-house methods to decrease this proportion.

Survival estimates: In this year's report, three changes have been made; First, the Pohar Perme estimator has replaced the Ederer II estimator. Second, patients 90 year or older at diagnosis are not included in the analysis. Finally, we now use monthly lifetable intervals, which provide more correct (higher) survival estimates for the period predictions for the last calendar period, especially for cancer sites with poor survival. See Chapter 4 for more details.

Table 2.1: Summary of cancer statistics for selected cancers

ICD-10	Site	Sex	Incidence cases, 2019 ¹	Incidence rate, 2015–19 ²	Change in rate (%) ³	Mortality rate, 2018 ⁴	Five-year relative survival (%)	
							2010–14	2015–19
C00–96	All sites	M	18 706	726.0	-0.7	239.4	72.4	76.0
		F	16 273	558.4	4.5	172.0	72.0	75.4
C18	Colon	M	1 438	58.2	-1.9	23.9	63.0	68.1
		F	1 541	53.5	4.1	19.5	68.2	71.1
C19–20	Rectum, rectosigmoid	M	777	31.6	-5.8	8.9	69.4	71.1
		F	539	18.9	-6.8	5.2	69.4	71.5
C33–34	Lung, trachea	M	1 659	66.3	-7.5	45.4	16.6	22.7
		F	1 661	54.9	8.2	34.3	22.1	29.2
C43	Melanoma of the skin	M	1 202	44.2	16.3	7.6	85.1	88.6
		F	1 128	39.0	12.6	3.8	91.6	94.0
C44	Skin, non-melanoma	M	1 485	54.3	24.6	...	...	...
		F	1 256	34.4	23.4	...	...	...
C50	Breast	F	3 726	129.5	7.4	22.0	90.7	92.0
C53	Cervix uteri	F	368	14.0	11.4	3.2	80.2	82.3
C54	Corpus uteri	F	828	27.6	-2.2	2.1	84.2	86.6
C56, C57.0–4, C48.2	Ovary etc.	F	528	18.6	-4.6	10.4	46.9	50.3
C61	Prostate	M	4 877	194.4	-7.9	42.4	94.6	95.5
C62	Testis	M	303	11.1	-7.1	0.4	98.4	98.6
C65–68	Urinary tract	M	1 332	51.9	7.4	12.0	76.3	79.5
		F	446	15.7	3.5	3.4	70.1	75.7
C70–72	Central nervous system	M	418	17.5	-19.0	9.0	62.4	59.6
		F	486	19.2	-17.2	5.8	78.2	75.6
C73	Thyroid gland	M	147	4.9	26.4	0.5	89.1	89.3
		F	303	11.2	21.3	0.7	92.2	94.5
C82–86, C96	Non-Hodgkin lymphoma	M	662	23.7	2.3	5.5	72.1	77.0
		F	495	16.3	-1.9	4.3	77.2	79.9
C91–95	Leukaemia	M	734	28.4	6.4	9.5	63.1	67.5
		F	545	19.8	10.6	5.5	69.5	74.1

¹ Number of new cases.

² Age-standardised (Norwegian std.) incidence rates per 100 000 person-years.

³ Percent change in age-standardised incidence rate from 2010–14 to 2015–19.

⁴ Age-standardised (Norwegian std.) mortality rates per 100 000 person-years. The mortality rates are presented for 2018 as complete numbers for 2019 is not yet received from the Cause of Death Registry.

... Not estimated in this report.

Chapter 3 Data and data sources

3.1 The population of Norway

By January 1st 2020 the total number of inhabitants in Norway was 5 367 580^[2]. Table 3.1 shows the age structure by sex for the Norwegian mid-year population in 2019. When the first census in Norway took place in 1769, the number of inhabitants was 739 180. The population has increased remarkably since then, and the growth is expected to continue the next few decades. The

total number of inhabitants in Norway has increased by 61% from 1953 to 2020, largely because of rising life expectancy and, more recently, due to increase in net immigration. The size of the population is expected reach 6 million before 2050^{1[3]}. The elderly will represent an increasing proportion of the population of Norway over the next decades. Recent updates from Statistics Norway estimate that the proportion of persons 70 years or older will increase from 12%, in 2020, to 21% in 2050^[4].

Table 3.1: Norwegian mid-year population 2019 by five-year age group and sex

Age group	Males	Females	Total
0–4	150 633	141 831	292 464
5–9	162 831	154 843	317 674
10–14	165 325	157 081	322 406
15–19	164 442	155 119	319 561
20–24	176 405	164 626	341 031
25–29	189 654	181 402	371 056
30–34	188 658	180 940	369 598
35–39	182 417	171 943	354 360
40–44	179 220	169 643	348 863
45–49	193 453	183 836	377 289
50–54	189 362	179 626	368 988
55–59	167 786	161 014	328 800
60–64	153 703	151 780	305 483
65–69	136 585	137 554	274 139
70–74	126 400	131 222	257 622
75–79	79 989	90 226	170 215
80–84	48 311	63 152	111 463
85+	40 647	76 245	116 892

The immigrant population

The immigrant population is heterogeneous with respect to length of stay, country of birth and reason for immigration. The first-generation immigrants consists of persons from over 200 countries and comprises 14.7% of the total population. An additional 3.5% of the Norwegian population are second-generation immigrants (born in Norway with two foreign born parents). Today, immigrants from Poland are the largest immigrant group with 101 153 persons. Immigrants from Lithuania (40 632) and Sweden (35 568) are the second and third largest im-

migrant groups, when classifying immigrants by country of birth^[5]. In 2018, the CRN Regulations were revised to allow the Registry to collect and process data on country of birth, and data on cancer incidence among immigrants is now included in the yearly report. As mentioned above, Norway has immigrants from more than 200 countries, and the number of immigrants from most of these countries are small. There are also few cancer cases among immigrants, both because it is a relatively young population and because they have a lower risk of most cancers compared to the Norwegian-born pop-

¹ Considered the scenario of medium national growth

ulation^[6]. Therefore, it is not possible to provide data statistics by country of birth, and immigrants are instead categorised in 6 groups, of which cancer statistics are presented for 5 (We do not present data for immigrants from Latin America and the Caribbean due to too few cases). The categorisation is mostly based on

the continent of birth. Europe was roughly divided in two based on geography, gross national income and cancer incidence. Table 3.2 shows the countries included in each group. The countries are listed according to the number of immigrants and restricted to countries with more than 1000 immigrants.

Table 3.2: Number of first generation immigrants by country per 1 January 2020

Number of first generation immigrants	Nordic countries	Western Europe, North America and Oceania	Other European Countries	Middle East and Africa	Asia	Latin America and the Caribbean*
>100 000			Poland			
40 000–49 999			Lithuania			
30 000–39 999	Sweden					
20 000–29 999		Germany		Somalia Iraq Eritrea	Philippines Pakistan Thailand	
10 000–19 999	Denmark	United Kingdom	Russia Romania Bosnia and Herzegovina Turkey Latvia Kosovo	Iran	Afghanistan India Vietnam	
1 000–9 999	Iceland Finland	United States Netherlands Spain France Italy Portugal Canada Australia Switzerland Austria Belgium Ireland	Serbia Bulgaria Ukraine Croatia Estonia Hungary Slovakia Greece North Macedonia Albania Czech Republic Moldova Belarus	Ethiopia Morocco Sudan DR Congo Palestine Lebanon Ghana Uganda Nigeria Kenya Egypt Algeria The Gambia South Africa Tunisia Burundi	China Sri Lanka Myanmar Nepal Indonesia South Korea Bangladesh Japan Kazakhstan	Chile Brazil Colombia Mexico Peru Venezuela Argentina Cuba

* Not shown as a separate group in table 5.25, 5.26, 5.27 and 5.28 due to few cancer cases.

3.2 The Cancer Registry of Norway

The Cancer Registry of Norway (CRN) has, since the implementation of a directive from the Ministry of Health and Social Affairs in January 1952, systematically collected notifications on cancer occurrence for the Norwegian population. The registration is considered to be close to complete from 1953, and a comprehensive study on data quality estimates the completeness to be 98.8%

for the registration period 2001–2005^[7]. The following conditions are mandatory to report to the CRN:

- All malignant neoplasms and precancerous disorders.
- All benign tumours of the central nervous system and meninges.

The Regulations for the collection and processing of data in the CRN (CRN Regulations (*Kreftregisterforskriften*)) came into force in 2002^[8].

Main objectives

The main objectives of the CRN can be summarized as the following:

- Collect data on cancer occurrence and describe the distribution of cancer and changes over time.
- Provide a basis for research on the aetiology, diagnostic procedures, natural course of the disease, and effects of treatment in order to determine appropriate preventive measures and to improve the quality of medical care.
- Provide advice and information to public authorities and the public about preventive measures.
- Perform epidemiological research of high international standard.

The incidence registry

The incidence registry contains basic data items collected from clinicians and pathologists, as well as data from the Norwegian Patient Registry (NPR) and the Cause of Death Registry. As of 18 September 2020, the incidence registry contained information registered since 1953 on 2 034 897 cancer cases (including premalignant and

some benign conditions) in 1 615 075 persons. The incidence registry is updated continuously with information on both new cases and cases diagnosed previous years. A total of 5 309 869 notifications have been registered since 1969 (single notifications were not registered earlier).

The clinical registries

Clinical registries, i.e. comprehensive registration schemes dedicated to specific cancers, are established to provide detailed information about diagnostic procedures, pathology-examinations, treatment and follow-up. The aims are to provide data for monitoring patient outcome and survival, and to be an empirical basis for scientific studies concerning prognostic factors and treatment outcomes, as well as for evaluation of the quality of cancer care. Several clinical registries are now established, and the ongoing and expanding activities of these clinical registries are a major focus for CRN. Each clinical registry has an advisory board consisting of multidisciplinary experts from clinical and research milieus in Norway. These experts advise on the contents and activities of each clinical registry and its strategic direction. Registries are integrated in the CRN coding and registration activities. Table 3.3 shows the status of the clinical registries as of October 2020. Recent reports (in Norwegian) from these registries are found here:

<https://www.kreftregisteret.no/Generelt/Rapporter/Arsrapport-fra-kvalitetsregistrene/>.

Table 3.3: Status of the clinical registries, October 2020

Clinical registry for	Clinical reference/ project group	Established with extended data*	Clinical parameters for electronical report specified	Electronical report form in use	National status
Colorectal cancer	Yes	Yes	Yes	Yes	2009
Prostate cancer	Yes	Yes	Yes	Yes	2009
Breast cancer	Yes	Yes	Yes	Yes	2013
Childhood cancer	Yes	Yes	Yes	Yes	2013
Gynecological cancer**	Yes	Yes	Yes	Yes	2013
Lung cancer	Yes	Yes	Yes	Yes	2013
Lymphomas and lymphoid leukaemias	Yes	Yes	Yes	Yes	2013
Melanoma of the skin	Yes	Yes	Yes	Yes	2013
Oesophagus and stomach cancer	Yes	Yes	Yes	Yes	***
Sarcoma	Yes	Yes	Yes	Yes	***
Central nervous system	Yes	No	No	No	***
Urinary tract	Yes	No	Yes	No	***
Hematological cancer	Yes	No	No	No	***
Pancreatic cancer	Yes	No	Yes	No	***

* Either by having a separate clinical report form and/or by having a database with extended information beyond the incidence registry.

** Established for ovarian and cervical cancer, and will be extended to include all gynecological cancer.

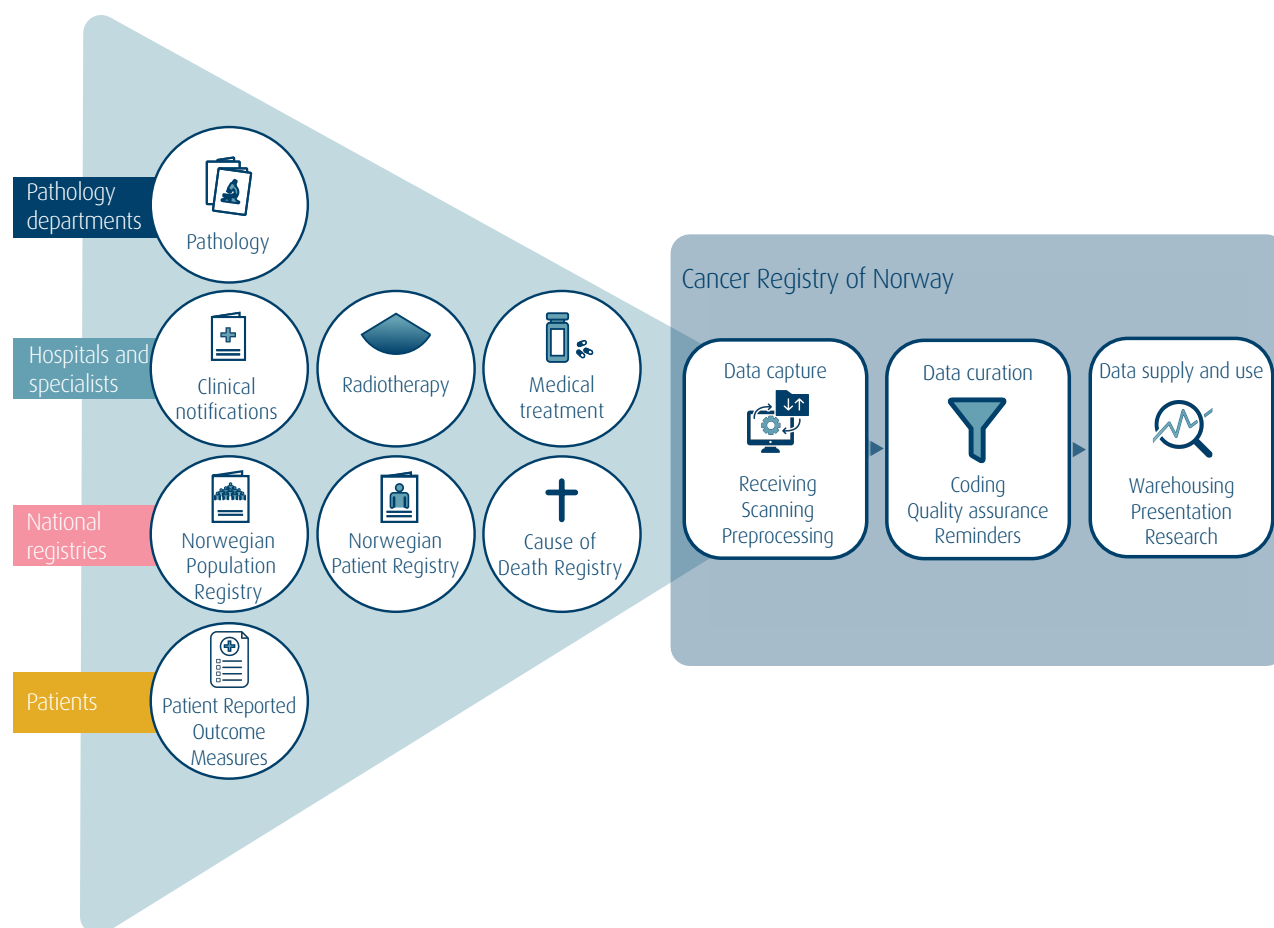
*** Funding has been applied for.

3.3 Sources of information

The sources of information and the notification process are illustrated in Figure 3.1. Information from clinical notifications, pathology reports and death certificates are the main sources that enables the CRN to code and

store data on cancer patients in Norway. Information from the Norwegian Patient Registry (NPR) is an important additional source for identifying cancer cases. The information is identified and linked by the personal identification number system that was established in Norway in 1964.

Figure 3.1: Sources of information and the process of cancer registration at the Cancer Registry of Norway



Information from pathology departments, hospitals and specialists

at the Norwegian Health Network. More information about KREMT can be found at:

The CRN Regulations, as issued by the Ministry of Health and Social Affairs, require all health institutions in Norway involved in cancer diagnostics, treatment and follow-up to report to the CRN. Reporting should be done as soon as possible after end of diagnostics or treatment. The clinical registries use specific forms with extended information relevant for each cancer site. In addition, there are two generic forms for reporting solid or non-solid tumours not yet included in a clinical registry. These forms provide information on primary site, stage of disease, the basis for the diagnosis and primary treatment given to the patient. Clinical notifications are sent using the CRN electronical reporting service (KREMT)

<https://www.kreftregisteret.no/Registrene/Innrapportering/KREMT---Kreftregisterets-elektroniske-meldetjeneste/>

Pathology reports from hospitals and independent laboratories provide histological, cytological or autopsy information. More than half of the pathology reports received in the CRN are now sent electronically. The aim is to further reduce the amount of paper copies over the next couple of years by having even more pathology departments report electronically.

Dispatching of reminders to clinicians

It is mandatory to report clinical information on all new cases of cancer, except those diagnosed at autopsy. Thus, at least one clinical notification should be registered for each cancer case. In those cases where the clinical notification is missing, a reminder is sent via the KREMT-portal to the hospital/ward/physician responsible for the treatment.

Information from national registries

The Norwegian Population Registry

The CRN receives monthly updates on patients' vital status from the Norwegian Population Registry. These data are used to estimate incidence rates and long-term survival patterns and trends.

The Norwegian Patient Registry

Since 2002, the CRN has received data from the Patient Administrative Data System (PAS) used in all Norwegian hospitals. Information was first sent directly from the hospitals, and from 2010 it has been provided by the NPR. The data contain information regarding patients who have been treated for premalignant and malignant conditions, and reminders are sent to clinicians for all cancer cases not previously registered in the CRN. The NPR is a key source in finding information on unreported cases (Figure 3.1).

Cause of Death Registry

In addition, the Cause of Death Registry, run by the Norwegian Institute of Public Health, send death certificates and information on cause of death throughout the year. The automated procedure that matches registered cancer cases to death certificates is important for maintaining quality control, facilitating a high level of completeness and ensuring validity of the CRN data items. Death certificates also represent a complementary source of information on new cancer cases which are not previously reported, or where the diagnosis differs. Cancer cases first identified from death certificates are traced back to the health institution responsible for the treatment of

the patient to verify the diagnosis and, if possible, get clinical information about the case.

Patient Reported Outcome Measures

Every year, more than 34 000 persons are diagnosed with cancer. The patients are heterogeneous, but they have in common having received some form of treatment, either surgery, and/or radiotherapy, chemotherapy, or symptom directed palliative therapy. Extensive cancer treatments sometime cause harmful complications and late side effects, which may also affect the quality of life. The CRN has now started to invite patients with prostate, breast and colorectal cancer to research projects and population surveys to gain better knowledge in this field, and other cancers will be included in the next few years. The results from these Patient Reported Outcome Measures (PROMs) will provide valuable information that can be used to improve current health care and optimise future treatment strategies for cancer patients.

3.4 Incidence and mortality data

The incidence data presented in the first part of this report are based on an extraction from the incidence registry on 18 September 2020. The tables and figures in general represent either the latest year of complete incidence (2019) or the latest five-year period (2015–2019). Population data, stratified by year, sex and age, are provided by Statistics Norway.

Registered codes from ICD-7, ICD-O-2 and ICD-O-3 are converted to ICD-10 using a combination of topography and morphology. The main cancer types are tabulated according to their ICD-10 categories.

Table 3.4 gives a detailed description of specific morphologies that are included or excluded in all cancer statistics presented in the present report. The “All sites” figure comprises all malignant neoplasms (ICD-10 C00–96) and the D-diagnoses listed in Table 3.4. Corresponding mortality data coded in ICD-10 were obtained from the Cause of Death Registry and are presented in the same ICD-10 categories as for the rest of this report. Of notice is that in the subsequent tables and figures the D-codes are not shown in labels due to lack of space.

Table 3.4: Description of ICD-10 codes

ICD-10	Site	Comments
C00–96	All sites	Includes the following D-diagnoses: D32–33, D35.2–35.4, D42–43, D44.3–44.5 and D45–47. Excludes all basal cell carcinomas of all topographies
C00	Lip	Includes the following ICD-10 codes: C00.0–2, C00.6, C00.8 (only included if Lip NOS), C00.9
C02–06	Oral cavity	Includes the following ICD-10 codes: C00.3–5, C00.8 (if the tumor is in mucosa of upper or lower lip), C02.0–4, C02.8–9, C03.0–9, C04.0–9, C05.0, C05.8, C05.9, C06.0–9
C07–08	Salivary glands	Includes the following ICD-10 codes: C07.9, C08.0–9
C09–10, C01, C14	Oropharynx	Includes the following ICD-10 codes: C01.9, C05.1–2, C09.0–9, C10.0–9, C14.0–8
C11	Nasopharynx	Includes the following ICD-10 codes: C11.0–9
C12–13	Hypopharynx	Includes the following ICD-10 codes: C12.9, C13.0–9
C25	Pancreas	Includes neuroendocrine tumours
C38	Heart, mediastinum and pleura	Excludes mesotheliomas (which are included in C45)
C48–49	Soft tissues etc.	Includes retroperitoneum and peritoneum (C48). In women, cases in peritoneum (C48.2) are excluded, as these are included in ovary etc. (C56, C57.0–4, C48.2)
C50	Breast	Excludes Pagets disease
C56, C57.0–4, C48.2	Ovary etc.	Excludes borderline tumours. Includes the following sites: Neoplasms in peritoneum (C48.2, epithelial tumours), fallopian tube (C57.0), broad ligament (C57.1), round ligament (C57.2), parametrium (C57.3), uterine adnexa, unspecified (C57.4) and epithelial tumors supposed to originate from tube, ovary or peritoneum
C64	Kidney (excl. renal pelvis)	Excludes non-invasive tumours
C65	Renal pelvis	Includes non-invasive papillary tumours, dysplasia and carcinoma in situ
C66	Ureter	Includes non-invasive papillary tumours, dysplasia and carcinoma in situ
C67	Bladder	Includes non-invasive papillary tumours, dysplasia and carcinoma in situ
C68	Other and unspecified urinary organs	Includes non-invasive papillary tumours, dysplasia and carcinoma in situ
C70	Meninges	Includes benign tumours (D32–33, D42–43)
C71	Brain	Includes benign tumours (D32–33, D42–43)
C72	Spinal cord, cranial nerves and other parts of central nervous system	Includes benign tumours (D32–33, D42–43)
C75	Other endocrine glands and related structures	Includes benign tumours (D35.2–35.4, D44.3–44.5)
C90	Multiple myeloma	Includes plasmacytomas (C90.2–3)
C92	Myeloid leukaemia	Includes myelodysplastic syndrome (D46)
C95	Leukaemia of unspecified cell type	Includes polycythaemia vera (D45) and other unspecified tumours in lymphatic or hematopoietic tissue (D47)

Multiple primary neoplasms

Multiple primaries occur where two or more primary cancers develop within the same organ (or a pair of organs), as opposed to a recurrence or progression of an existing cancer. They may occur at the same time (synchronous), or in sequences (metachronous).

The rules of multiple primary neoplasms states that when counting cases, only one tumour is recognized as arising in an organ or a pair of organs or tissue. This means that for this report, only the first invasive tumour of a defined histological type is counted within one two-digit topography code (ICD-O-3) (for example breast C50). A new cancer of the same histological group many years later in the same organ will thus not be counted. If there are different histological diagnoses, for example an adenocarcinoma and a sarcoma in the same organ, these will be counted as two cancer cases. Some organs are considered as only one organ in this respect (for example trachea C33 and lung C34). The recommendations for counting multiple primary neoplasms were outlined by the IARC/WHO/ENCR/IACR Working group in 2004, available at:

http://www.iacr.com.fr/images/doc/MPrules_july2004.pdf.

Multifocal tumours are counted only once. This is also the case for the systemic cancers like lymphomas, leukaemias, kaposi's sarcomas and mesotheliomas.

The rules are followed with the following exceptions:

For metachronous cases within the same histological group, i.e. cancer cases considered to be histologically similar, the case with the first date of diagnosis is reported. For synchronous cases the case with the most severe metastasis status is reported. If the metastasis status is equal, the case that was registered first is reported. This differs from the IARC rules where the numeric-

ally highest ICD-O morphology code is included, even if it occurs at a later point of time or if it has a less severe metastasis status at the same point of time. Non-specific groups are considered as separate morphology groups. We thus might report a slightly higher number of cases than if the IARC rules had been followed strictly (as described in Table 25, page 26, World health Organization International Classification of Diseases for Oncology, third edition, first revision, 2013)^[9].

Extent of disease

In the present report we have classified stage as follows:

Localised stage: All cases where the tumor is confined to the primary organ.

Regional stage: All cases where the tumor has invaded neighbouring tissue outside of the primary organ or metastasised to regional lymph nodes.

Distant stage: All cases where the tumor has metastasised to other organs or distant lymph nodes.

Unknown: All cases where the primary origin of the tumor is not known and cases with insufficient information to set stage.

For some cases, the Cancer Registry of Norway only receive histological reports and no clinical notifications. A large proportion of these cases lack verified information on metastases at the time of diagnosis.

The following rules are used to set a specific stage for these patients: If a patient has major surgery and there is no clinical or pathological information that indicates metastasis, the patient is considered to have localised disease. If only a cytology or biopsy exist for the case, and there is no information about extent of disease, the patient is registered with an unknown stage.

3.5 Data quality

A comprehensive assessment of the data quality in the CRN was conducted in 2007^[7]. Larsen & al. reported that the coding and classification systems in general follow international standards. Estimated overall completeness was 98.8% for the registration period 2001–2005, a lower completeness was observed for haematological malignancies and cancers of the central nervous system. Practical aspects and techniques for addressing the data quality at a cancer registry, including the documentation of comparability, validity and timeliness were reviewed in 2009^[10]. Methods for the evaluation of registry completeness were also assessed the same year^[11].

Two indicators of accuracy are shown in Table 3.5, namely the percentage of cases morphologically verified (MV%), and the percentage of death certificate only registrations (DCO%).

3.6 Completeness and timeliness

Table 3.6 shows the number of cancer cases diagnosed in 2018 as extracted on 23 September 2019 (for CIN 2018), and on 18 September 2020.

The number of cancer cases diagnosed in 2018 reported and appearing in this issue (CIN 2019) are 533 (1.6%) higher than reported in the previous Cancer in Norway (CIN 2018). In the last years, the report has been published before we receive the complete numbers of deaths from the Cause of Death Registry (CDR). In CIN 2018 we received 98% of the expected numbers of deaths from the CDR before publication. It is worth noting that incomplete numbers from the CDR at publication mostly affect cancers with high mortality rates and/or a high percentage of cases based on a death certificate only (DCO-cases), such as liver, pancreas, and lung cancers (see Table 3.5).

Table 3.5: Percentage distribution of morphologically verified (MV) and death certificate only (DCO) cases by primary site, 2015–2019

ICD-10	Site	Cases	MV (%)	DCO (%)
C00–96	All sites	171 837	93.2	1.4
C00–14	Mouth, pharynx	3 234	98.9	0.3
C00	Lip	479	100.0	0.0
C02–06	Oral cavity	1 085	99.0	0.2
C07–08	Salivary glands	343	98.0	0.6
C09–10, C01, C14	Oropharynx	1 132	98.7	0.6
C11	Nasopharynx	72	98.6	0.0
C12–13	Hypopharynx	123	100.0	0.0
C15–26	Digestive organs	34 709	90.0	1.8
C15	Oesophagus	1 516	95.2	1.0
C16	Stomach	2 241	94.8	1.6
C17	Small intestine	985	95.6	1.2
C18	Colon	15 216	94.9	1.2
C19–20	Rectum, rectosigmoid	6 784	97.7	0.4
C21	Anus	502	92.4	0.2
C22	Liver	1 580	65.0	4.2
C23–24	Gallbladder, bile ducts	791	73.2	5.7
C25	Pancreas	4 366	68.2	3.5
C26	Other digestive organs	728	85.6	11.4
C30–34, C38	Respiratory organs	17 255	86.6	2.3
C30–31	Nose, sinuses	201	98.5	0.5
C32	Larynx, epiglottis	537	98.1	0.6
C33–34	Lung, trachea	16 437	86.2	2.3
C38	Heart, mediastinum and pleura	80	61.3	16.3
C40–41	Bone	289	97.6	0.7
C43	Melanoma of the skin	11 090	99.8	0.1
C44	Skin, non-melanoma	11 558	99.7	0.1
C45	Mesothelioma	406	93.3	1.2
C47	Autonomic nervous system	43	97.7	2.3
C48–49	Soft tissues	620	96.5	1.1
C50	Breast	17 857	99.3	0.4
C51–58	Female genital organs	9 051	97.4	1.0
C51–52, C57.7–9	Other female genital	621	95.7	2.6
C53	Cervix uteri	1 834	99.3	0.4
C54	Corpus uteri	3 915	99.0	0.4
C55	Uterus, other	46	67.4	21.7
C56, C57.0–4, C48.2	Ovary etc.	2 623	94.9	1.4
C58	Placenta	12	83.3	0.0
C60–63	Male genital organs	27 146	95.9	0.9
C61	Prostate	25 311	95.6	1.0
C62	Testis	1 495	99.8	0.0
C60, C63	Other male genital	340	98.8	0.9
C64–68	Urinary organs	13 279	96.4	1.0
C64	Kidney (excl. renal pelvis)	4 505	93.0	1.9
C65–68	Urinary tract	8 774	98.1	0.6
C69	Eye	395	57.5	0.0
C70–72	Central nervous system	4 918	72.8	2.3
C73	Thyroid gland	2 142	99.3	0.4
C37, C74–75	Other endocrine glands	939	66.1	1.3
C39, C76, C80	Other or unspecified	1 518	54.6	31.9
C81–96	Lymphoid/haematopoietic tissue	15 388	91.2	1.2
C81	Hodgkin lymphoma	779	99.9	0.1
C82–86, C96	Non-Hodgkin lymphoma	5 395	98.6	0.4
C88	Immunoproliferative disease	358	98.3	0.8
C90	Multiple myeloma	2 418	92.1	0.8
C91–95	Leukaemia	6 438	83.1	2.1

Table 3.6: Registered cancer cases in Norway 2018, as obtained from the incidence registry 23 September 2019 and 18 September 2020

ICD-10	Site	Cases diagnosed 2018 as of			
		23.9.2019	18.9.2020	Difference	%
C00-96	All sites	34 190	34 723	533	1.6
C00-14	Mouth, pharynx	655	663	8	1.2
C00	Lip	79	82	3	3.8
C02-06	Oral cavity	244	244	0	0.0
C07-08	Salivary glands	73	73	0	0.0
C09-10, C01, C14	Oropharynx	226	230	4	1.8
C11	Nasopharynx	15	16	1	6.7
C12-13	Hypopharynx	18	18	0	0.0
C15-26	Digestive organs	6 946	7 073	127	1.8
C15	Oesophagus	318	324	6	1.9
C16	Stomach	392	400	8	2.0
C17	Small intestine	174	183	9	5.2
C18	Colon	3 068	3 093	25	0.8
C19-20	Rectum, rectosigmoid	1 360	1 377	17	1.3
C21	Anus	90	97	7	7.8
C22	Liver	321	337	16	5.0
C23-24	Gallbladder, bile ducts	145	154	9	6.2
C25	Pancreas	909	947	38	4.2
C26	Other digestive organs	169	161	-8	-4.7
C30-34, C38	Respiratory organs	3 529	3 576	47	1.3
C30-31	Nose, sinuses	38	41	3	7.9
C32	Larynx, epiglottis	127	128	1	0.8
C33-34	Lung, trachea	3 351	3 393	42	1.3
C38	Heart, mediastinum and pleura	13	14	1	7.7
C40-41	Bone	58	59	1	1.7
C43	Melanoma of the skin	2 325	2 340	15	0.6
C44	Skin, non-melanoma	2 461	2 466	5	0.2
C45	Mesothelioma	66	68	2	3.0
C47	Autonomic nervous system	9	10	1	11.1
C48-49	Soft tissues	110	114	4	3.6
C50	Breast	3 596	3 593	-3	-0.1
C51-58	Female genital organs	1 747	1 831	84	4.8
C51-52, C57.7-9	Other female genital	135	134	-1	-0.7
C53	Cervix uteri	355	375	20	5.6
C54	Corpus uteri	797	805	8	1.0
C55	Uterus, other	13	13	0	0.0
C56, C57.0-4, C48.2	Ovary etc.	444	501	57	12.8
C58	Placenta	3	3	0	0.0
C60-63	Male genital organs	5 229	5 256	27	0.5
C61	Prostate	4 848	4 871	23	0.5
C62	Testis	316	320	4	1.3
C60, C63	Other male genital	65	65	0	0.0
C64-68	Urinary organs	2 645	2 643	-2	-0.1
C64	Kidney (excl. renal pelvis)	897	916	19	2.1
C65-68	Urinary tract	1 748	1 727	-21	-1.2
C69	Eye	82	82	0	0.0
C70-72	Central nervous system	885	923	38	4.3
C73	Thyroid gland	408	424	16	3.9
C37, C74-75	Other endocrine glands	163	183	20	12.3
C39, C76, C80	Other or unspecified	319	313	-6	-1.9
C81-96	Lymphoid/haematopoietic tissue	2 957	3 106	149	5.0
C81	Hodgkin lymphoma	154	154	0	0.0
C82-86, C96	Non-Hodgkin lymphoma	1 078	1 088	10	0.9
C88	Immunoproliferative disease	65	76	11	16.9
C90	Multiple myeloma	455	488	33	7.3
C91-95	Leukaemia	1 205	1 300	95	7.9

Chapter 4 Statistical methods

In this report, we use four measures to describe the burden and risk of cancer: *incidence*, *mortality*, *prevalence* and *survival*.

4.1 Incidence and mortality

Incidence and mortality refer to the number of new cases and deaths, respectively. Both measures can be expressed as the absolute number, or as the rate, taking into account the size of the population at risk. Rates are essential for the comparisons of groups, and within a group over time. The denominator is the underlying person-time at risk in which the new cases or deaths in the numerator arise. Cancer incidence and mortality are presented in this report both as numbers and rates. Several different types of rates are also used in this report. We use the mid-year population (calculated as the mean of the population as obtained by January 1st and December 31st) as the denominator in the calculation of rates. For periods with several years, we use the sum of mid-year populations.

Age-specific rates

There are compelling reasons for adjusting for the distribution of age when comparing cancer risk in populations. Age is a strong determinant of cancer risk. The crude rate, is a rate based on the frequency of cancer in the entire population irrespective of age. Although this measure is useful as an indicator of the total cancer burden, its utility in comparing cancer risk between different populations is severely limited when the age distribution differs between the groups, or where demographic changes in the size and age structure of a population have occurred over time.

To obtain a more accurate picture of the true risk of cancer, rates can be calculated for specific age strata, usually grouped in five-year intervals. The age-specific rate for age group i , denoted as r_i , is obtained by dividing the number of events, d_i , by the corresponding person-years, Y_i . As rates are most often given per 100 000 person-years we multiply by 100 000:

$$r_i = \frac{d_i}{Y_i} \cdot 100000$$

Usually, rates are provided separately for males and females, because of the different patterns by sex both in

terms of number of cases (see Table 5.9 and 5.10) and persons under risk (see Table 3.1). Age- and sex-specific incidence and mortality rates are the basis of epidemiological analysis of cancer frequency data. Table 3.1

Age-standardised rates

To facilitate comparisons, a summary rate is derived that takes into account age-specific rates in each comparison group. The summary measure that appears in this report is the age-standardised rate (ASR), a statistic that is independent of the effects of age, thus allowing comparisons of cancer risk between different groups and over time. The calculation of the ASR is an example of direct standardisation, whereby the observed age-specific rates are applied to a standard population. The population size or proportion in each age group of the standard population are known as the weights to be used in the standardisation process. The ASR is calculated as:

$$ASR = \frac{\sum_i r_i w_i}{\sum_i w_i}$$

where w_i is a weight given a reference population.

The World Standard Population^[12,13] has been used as reference population in several previous report of Cancer in Norway. Since Cancer in Norway 2014 we have used the Norwegian mid-year population in 2014 as the reference population. This standard is referred to as the *Norwegian standard*.

The two standards, using 18 age groups, are shown in Figure 4.1, and it clearly illustrates the difference between them: The Norwegian standard has higher weights for the oldest age groups.

The main advantage of using the Norwegian standard as the reference population is that we are getting age-standardised rates that resemble the crude rates for the Norwegian population. The main disadvantage is that the rates are not comparable with national rates from other countries. Table 5.1 shows the ASR in 2019 with the two different standards.

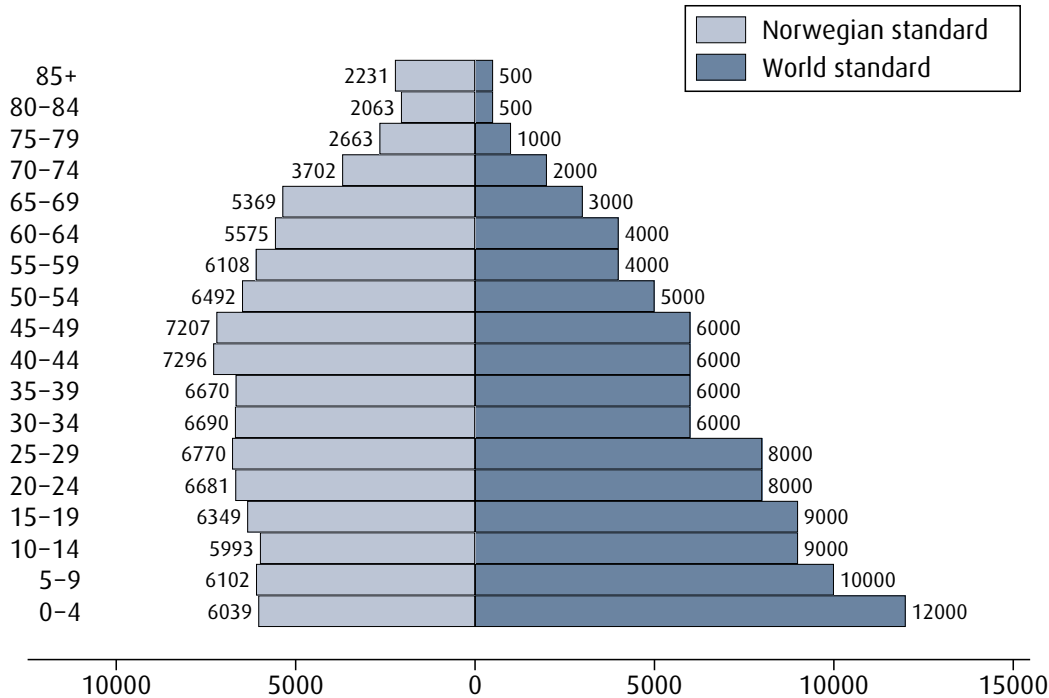
Of notice is that, in general, the ASRs with Norwegian standard gives twice as high rates as the ASRs with World standard. This is because the World standard has lower weights for the oldest age groups. Cancers that have the highest incidence rates in the youngest age groups

(e.g. testicular cancer) are less affected by the choice of reference population.

Age-standardised incidence rates (World standard) are available at:

<https://sb.kreftregisteret.no/insidens>

Figure 4.1: Comparison of population weights



Cumulative risk

The cumulative risk is the probability that an individual will develop the cancer under study during a certain age span, in the absence of other competing causes of death^[14]. The age span over which the risk is accumulated must be specified, and in this report, the range 0–74 years is used and provides an approximation of the risk of developing cancer. If before the age of 75 the cumulative risk is less than 10%, as is the case for most cancer forms, it is reasonably approximated by the cumulative rate. This is the summation of the age-specific rates over each year of age from birth to a defined upper age limit. As age-specific incidence rates are computed according to five-year age groups, the cumulative rate is five times the sum of the age-specific rates calculated over the five-year age groups, assuming the age-specific rates are the same for all ages within the five-year age stratum:

$$\text{Cumulative rate} = 5 \sum_i r_i$$

The cumulative rate has several advantages compared to age-standardised rates. First, as a form of direct standardisation, the problem of choosing an arbitrary reference population is eliminated. Second, as an approx-

imation to the cumulative risk, it has a greater intuitive appeal, and is more directly interpretable as a measurement of lifetime risk, assuming no other causes of death are in operation. The precise mathematical relationship between the two is:

$$\text{Cumulative risk} = 1 - e^{-\text{Cumulative rate}}$$

4.2 Prevalence

Prevalence is the number or proportion of a population that has the disease at a given point in time. It is a complex measure of cancer incidence, mortality, and other factors affecting individuals after diagnosis and treatment.

Prevalence is a useful measure of the number of persons requiring care for chronic illnesses such as hypertension and diabetes. For cancer, on the other hand, many patients diagnosed in the past may now be considered cured, that is to say they no longer have a greater risk of death. However, there may be special needs and disabilities subsequent to cancer disease and treatment, thus it is likely that the number of prevalent cancer cases also represents a useful measure.

Cancer prevalence can be defined as the number of persons alive having ever been diagnosed with cancer. Such a measure can easily be derived from the CRN data, given the registration of cases and complete follow up over many years. We provide additional estimates that may be useful for quantifying care burden. Therefore, this report shows the numbers of persons alive on December 31st 2019 who were previously diagnosed with cancer during the last year, one to four years, five to nine years, and 10 or more years.

We also show the number of patients who have been diagnosed with metastatic disease or local recurrence with metastasis and who were alive at various specific time points. This is another estimate of how the cancer burden has increased over time.

4.3 Survival

The survival time of a cancer patient is defined as the time that elapses between a cancer diagnosis and subsequent death, emigration or end of follow-up. A common measure of survival is five-year observed survival, which represents the percentage of patients still alive five years after their date of diagnosis.

Follow-up data

To estimate long-term survival patterns and trends, vital statistics of patients diagnosed with cancer during 1965–2019 were obtained from the National Population Registry and Statistics Norway through to December 31st 2019.

The 23 most common cancers were selected for analysis, grouped according to their respective ICD-10 categories. About 3% of cases were excluded as they were either registered on death certificate only (DCO), emigrated before diagnosis, or had zero survival time. It has been shown that exclusion of patients with a prior cancer diagnosis, which often is associated with a poorer prognosis, may artificially elevate estimates of survival^[15]. Therefore patients with previous cancer diagnoses were included in each site-specific analysis. However, to provide an estimate of “all sites” survival, analysis was restricted to first primary cancers. While the inclusion of multiple primaries has been recommended for comparative purposes, the corresponding reduction in the overall survival estimates has been shown to be negligible. In Norway, the effect of their inclusion has been shown to reduce five-year survival by less than a percentage point^[16].

Survival results should be interpreted with caution. Survival of prostate cancer and breast cancer has been af-

ected by PSA testing and mammographic screening, respectively.

Relative survival (net survival)

Not all deaths among cancer patients are due to the cancer under study. Deaths resulting from other causes will lower the survival and may possibly invalidate comparisons between populations. Relative survival is calculated to circumvent this problem by providing an estimate of *net survival* the survival in a hypothetical world where the cancer is the only possible cause of death.

Relative survival is calculated as the observed survival proportion in a patient group divided by the expected survival of a comparable group in the general population with respect to age, sex and calendar year of investigation. At each time, $t(\text{year})$, since diagnosis, the relative survival from the cancer, $R(t)$, is defined as follows:

$$R(t) = \frac{S_O(t)}{S_E(t)}$$

where $S_O(t)$ is the *observed survival* of cancer patients, the *expected survival*, $S_E(t)$, is based on the general population survival using national population life tables from Statistics Norway by sex, one-year age group and calendar year. Age standardised relative survival (net survival) was estimated by the Stata program `stnet`^[17] using the Pohar Perme estimator^[18]. The estimates were age standardised applying weights to individuals^[19,20] based on the age distribution of the patient group the last five year period 2015–2019 (females and males combined for all groups, other than “All sites” where sex-specific weights were used).

For patient cohorts with complete five-year follow-up the *cohort* method was used.

With traditional cohort-based analyses, the most up-to-date estimates of long-term survival pertains to patients diagnosed in the distant past, with corresponding profiles of prognosis. A more up-to date picture of the current survival is obtained using the period method. In this report we used a five-year period window (2015–2019) to *predict* relative survival up to 15 years for patients diagnosed in 2015–2019 (Table 8.3 and Figure 8.1). The period approach consists of the pieces of survival experience observed in the period 2015–2019 for patients diagnosed up to 15 years ago. Thus, patients diagnosed in 2014–2019 contribute with (part of) their survival experience the first year of follow up, patients diagnosed in 2013–2018 contribute to the second year of follow-up, patients diagnosed in 2012–2017 contribute to the third year of follow-up and so on.

When analysing time trends in five-year relative survival (Figure 9.1) a rolling five-year window was used to obtain smoother curves. For patients with (potential) five-year observation the cohort approach was used. Thus, estimates for e.g. 2014 is based on patients diagnosed in 2010–2014. Estimates for 2019 were obtained using the most recent five-year period window, while estimates for the years where only part of the cohort had complete follow-up (2015–2018) were obtained using a combination of the cohort and period approach to ensure that minimal survival experience from patients diagnosed in the past was used.

Estimation was performed for groups with 30 or more patients at start of follow-up.

A detailed description of the methods can be found in supplement:

<https://www.kreftregisteret.no/globalassets/cancer-in-norway/2019/cin-2019supmeth.pdf>

Conditional relative survival

Cancer survivors want information on their current prognosis, once they have survived a certain period of time. Conditional survival is a key indicator in this respect, estimating survival proportions given that patients have already survived a certain duration of time^[21,22].

The time at which five-year relative survival reaches 100% is the point from which there is no excess mortality among the cancer patients, and their survival is equivalent to survival in the general population. We present estimates of sex-specific five-year relative survival conditional on being alive 1 to 10 years after diagnosis in Figure 8.1.

Estimates were not plotted when there were less than twenty patients alive ($n < 20$).

Chapter 5 Incidence

5.1 New cancer cases

In 2019, there were 34 979 new cases of cancer (in 34 108 individuals) recorded in Norway, of which 18 706 cases were diagnosed in men, and 16 273 in women (Table 5.1). Cancers of the prostate, female breast, lung and colon were the most common cancers and accounted for 43% of the new cancer cases in 2019.

In men, prostate cancer continued to be the leading site for cancer incidence, with 4877 new cases; followed by lung (1659 cases) and colon cancer (1438 cases). Breast cancer remained the most frequent cancer site in women, with 3726 new cases; followed by lung cancer (1661 cases) and colon cancer (1541 cases).

When this report was completed (October 2020) we had received information on 73% of the expected number of deaths for 2019 from the Cause of Death Registry. This means that this year's publication lack information on approximately 250 cases that are registered on basis on a death certificate only.

When comparing the rates in the most recent five-year period (2015–2019) with the previous one (2010–2014) (Tables 5.15 and 5.16) we observe that:

- The rate for all cancers combined have been stable for men, while the rate increased by 4.9% for women.
- The rate of prostate cancer has decreased by 7.4%.
- The rate of breast cancer has increased by 7.7%.
- The rate of lung cancer for women has increased with 8.6% and the rate of lung cancer in men has declined by 6.9%.
- The rates of colon cancer have decreased by 1.4% in men, and increased by 4.5% in women, while the rates for rectum cancer have declined by 5.3% in men and 6.5% in women.
- The rates of skin melanoma have increased by 16.9% in men and 12.9% in women.

- For non-melanoma skin cancer, the rates have increased with 25.4% in men and 23.8% in women.
- Among more uncommon cancers, the notable increase in the rates for liver and thyroid cancer in both genders continues.
- We are aware of a reduction in CNS cases. We have previously suggested that this has been due to underreporting. Preliminary analyses (not shown in this report) suggest that the reduction is limited to benign cases and all ages above 30 years.

In 2015–2019, 8% of all cancer cases occurred in immigrants, and for the majority of cancers immigrants have lower incidence rates compared to Norwegian-borns. The exceptions are lung, liver and stomach cancers, which have higher rates among some immigrants. The incidence numbers and rates presented in Tables 5.25–5.28 must be interpreted with caution as the number of cancer cases among immigrants are low and prone to random variation.

Of note

Cervical cancer: The Cancer in Norway reports from 2015 to 2018 contained an error in staging of cervical cancer. Stage, as reported by the clinician, was not used in this period due to an error in mapping from electronic clinical reporting. The traditional staging (localized stage, regional stage, distant stage and unknown) with in-house conversion to FIGO staging was used instead. This caused too high survival estimates for stage IV. For the 2019 report we have changed this and have for all years chosen to use solely the FIGO stage as reported on the clinical report. The proportion of unknown stage is high with this method (36%) and we are working to see if we in later reports can implement in-house methods to decrease this proportion. We are also working with clinicians with the aim to increase the reporting of stage.

Table 5.1: Number and age-standardised rates of new cases by primary site and sex, 2019

ICD-10	Site	Cases			Age-standardised rates			
		Males	Females	Total	Norwegian std.		World std.	
					Males	Females	Males	Females
C00-96	All sites	18 706	16 273	34 979	698.5	555.5	358.4	320.4
C00-14	Mouth, pharynx	423	225	648	15.6	7.7	8.8	4.5
C00	Lip	51	46	97	2.0	1.5	0.8	0.8
C02-06	Oral cavity	117	80	197	4.3	2.7	2.3	1.5
C07-08	Salivary glands	28	26	54	1.1	0.9	0.6	0.5
C09-10, C01, C14	Oropharynx	198	63	261	7.1	2.3	4.5	1.5
C11	Nasopharynx	7	5	12	0.3	0.2	0.2	0.1
C12-13	Hypopharynx	22	5	27	0.8	0.2	0.4	0.1
C15-26	Digestive organs	3 736	3 142	6 878	139.6	103.8	69.0	52.8
C15	Oesophagus	228	85	313	8.3	2.8	4.3	1.3
C16	Stomach	279	161	440	10.6	5.4	4.8	3.0
C17	Small intestine	123	81	204	4.5	2.7	2.5	1.5
C18	Colon	1 438	1 541	2 979	54.5	50.7	26.1	24.9
C19-20	Rectum, rectosigmoid	777	539	1 316	28.7	18.1	15.0	9.8
C21	Anus	40	72	112	1.4	2.5	0.8	1.5
C22	Liver	227	115	342	8.5	3.8	4.3	2.0
C23-24	Gallbladder, bile ducts	77	88	165	2.9	2.9	1.4	1.5
C25	Pancreas	496	388	884	18.3	12.6	9.0	6.1
C26	Other digestive organs	51	72	123	1.9	2.4	0.8	1.1
C30-34, C38	Respiratory organs	1 780	1 701	3 481	66.1	56.2	31.3	28.8
C30-31	Nose, sinuses	26	19	45	1.0	0.6	0.5	0.3
C32	Larynx, epiglottis	85	19	104	3.2	0.6	1.6	0.3
C33-34	Lung, trachea	1 659	1 661	3 320	61.6	54.9	29.1	28.1
C38	Heart, mediastinum and pleura	10	2	12	0.4	0.1	0.1	0.0
C40-41	Bone	39	19	58	1.5	0.7	1.3	0.6
C43	Melanoma of the skin	1 202	1 128	2 330	44.9	39.4	24.4	24.7
C44	Skin, non-melanoma	1 485	1 256	2 741	60.6	40.0	22.2	16.5
C45	Mesothelioma	78	15	93	3.1	0.5	1.2	0.2
C47	Autonomic nervous system	3	4	7	0.1	0.2	0.1	0.2
C48-49	Soft tissues	85	64	149	3.3	2.2	1.9	1.4
C50	Breast	27	3 726	3 753	1.0	133.0	0.4	85.2
C51-58	Female genital organs		1 852	1 852		64.1		39.1
C51-52, C57.7-9	Other female genital		116	116		3.9		1.9
C53	Cervix uteri		368	368		13.7		10.7
C54	Corpus uteri		828	828		28.2		15.7
C55	Uterus, other		9	9		0.3		0.1
C56, C57.0-4, C48.2	Ovary etc.		528	528		18.0		10.5
C58	Placenta		3	3		0.1		0.1
C60-63	Male genital organs	5 245		5 245	191.2		103.9	
C61	Prostate	4 877		4 877	177.5		91.8	
C62	Testis	303		303	11.2		10.7	
C60, C63	Other male genital	65		65	2.5		1.3	
C64-68	Urinary organs	1 971	718	2 689	73.7	23.9	36.3	12.6
C64	Kidney (excl. renal pelvis)	639	272	911	23.2	9.2	13.5	5.2
C65-68	Urinary tract	1 332	446	1 778	50.4	14.7	22.8	7.4
C69	Eye	34	42	76	1.3	1.5	0.9	1.0
C70-72	Central nervous system	418	486	904	15.4	17.4	11.0	12.7
C73	Thyroid gland	147	303	450	5.3	11.2	3.6	8.3
C37, C74-75	Other endocrine glands	88	82	170	3.2	3.0	2.3	2.3
C39, C76, C80	Other or unspecified	134	163	297	5.4	5.2	2.2	2.3
C81-96	Lymphoid/haematopoietic tissue	1 811	1 347	3 158	67.4	45.6	37.6	26.9
C81	Hodgkin lymphoma	68	78	146	2.4	2.9	2.1	2.8
C82-86, C96	Non-Hodgkin lymphoma	662	495	1 157	24.6	16.5	13.4	9.0
C88	Immunoproliferative disease	51	19	70	1.9	0.6	0.9	0.3
C90	Multiple myeloma	296	210	506	10.8	7.0	5.7	3.5
C91-95	Leukaemia	734	545	1 279	27.7	18.6	15.6	11.4

5.2 Incidence by age

The vast majority of cancers in Norway, over 90% in men and 85% in women, are diagnosed among people aged 50 years or more (Figure 5.1). In men, 52% of all new cases occur in men 70 years old or more, while 40% of the cases are diagnosed in men aged 50 to 69 years. In women, 47% of all cases are diagnosed at age 70 years or older, and 39% are diagnosed in the age group 50 to 69 years. In the age group 25 to 49 years, a smaller proportion of the cancers are diagnosed in men (7%) than women (13%). About 1% of all cancers occurs in children and young adults (younger than 25 years), with equal frequencies in boys and girls.

Table 5.2 shows the median age at diagnosis at different time periods. For all sites combined, the median age at diagnosis is 69 years, and this has been stable over the last decades. However, there is some variation between the sites. Cancer in the autonomic nervous system, a very rare cancer, has the lowest median age at diagnosis. Among the more common cancers, testis has the lowest median age at diagnosis (36 years). Non-melanoma skin cancer, on the other hand, has the highest median age (79 years). Among the most common cancers, the median

age at diagnosis is 62 years for breast and 69 years for prostate cancer. For these two cancer sites there has been a reduction in median age at diagnosis with 4 and 5 years, respectively, in the latest period 2015–2019 compared to the 1980s. For lung cancers and melanoma of the skin, the median age at diagnosis has increased. Changes in median age at diagnosis may be influenced by changes in the age distribution of the population, by diagnostic intensity and by the age-specific incidence rates at different periods. Thus, it might be difficult to interpret patterns and trends without information about these factors.

Figure 5.2 shows the most common cancer types by gender and age at diagnosis. The most commonly occurring cancers in boys and girls (0–14 years old) were tumours in the central nervous system and leukaemia. Tumour in the central nervous system was previously the most common cancer among young girls (15–24 years), but it has been bypassed by melanoma of the skin and Hodgkin lymphoma. Testicular cancer was by far the most common cancer in young men (15–24 years). Prostate cancer was the most frequent cancer in men above 50, while breast cancer was the lead in women aged 25 through 69. Colon cancer was slightly more common than breast cancer in women above age 70.

Figure 5.1: Percentage distribution of cancer incidence by age, 2015–2019

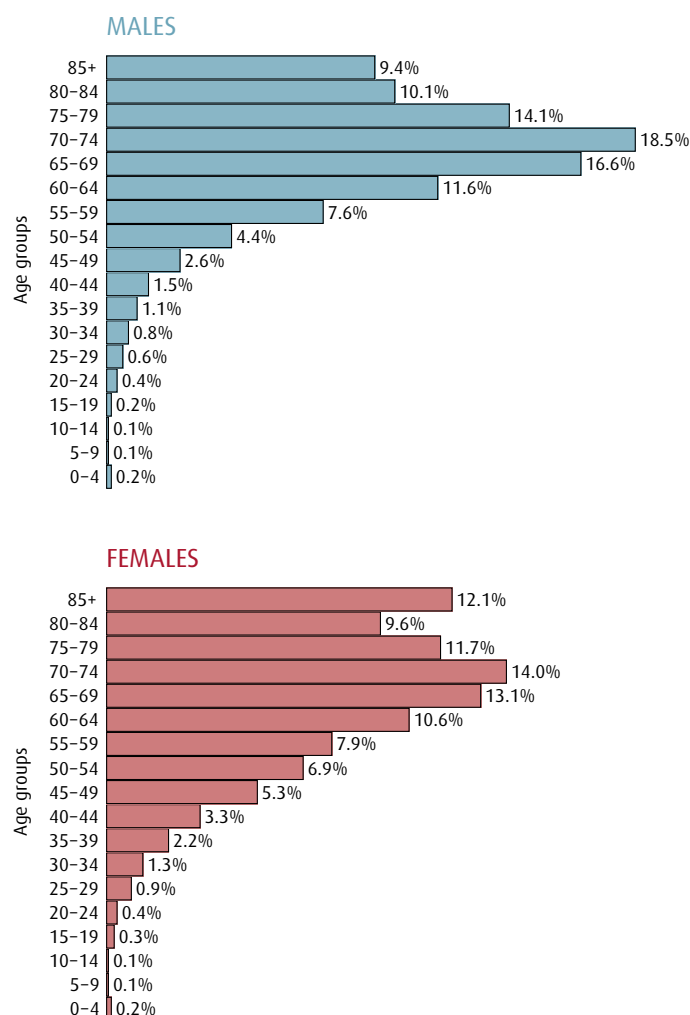


Table 5.2: Median age at diagnosis at different time periods by primary site

ICD-10	Site	Median age in			
		1985-89	1995-99	2005-09	2015-19
C00-96	All sites	70.0	70.0	69.0	69.0
C00-14	Mouth, pharynx	67.0	66.0	65.0	67.0
C00	Lip	72.0	71.0	73.0	75.0
C02-06	Oral cavity	67.0	66.0	67.0	68.0
C07-08	Salivary glands	66.0	68.0	65.0	67.0
C09-10, C01, C14	Oropharynx	63.0	61.0	61.0	63.0
C11	Nasopharynx	61.0	61.0	56.0	60.0
C12-13	Hypopharynx	66.0	68.0	65.5	69.0
C15-26	Digestive organs	72.0	74.0	73.0	72.0
C15	Oesophagus	69.0	71.0	70.0	70.0
C16	Stomach	73.0	75.0	74.0	73.0
C17	Small intestine	69.0	71.0	67.0	69.0
C18	Colon	72.0	74.0	74.0	73.0
C19-20	Rectum, rectosigmoid	71.0	72.0	71.0	70.0
C21	Anus	67.0	70.0	64.0	66.0
C22	Liver	72.0	72.0	71.0	71.0
C23-24	Gallbladder, bile ducts	74.0	75.0	73.0	72.0
C25	Pancreas	73.0	74.0	74.0	72.0
C26	Other digestive organs	79.0	80.0	78.0	73.0
C30-34, C38	Respiratory organs	68.0	69.0	70.0	71.0
C30-31	Nose, sinuses	70.0	67.0	67.0	69.0
C32	Larynx, epiglottis	66.0	68.0	66.0	69.0
C33-34	Lung, trachea	68.0	70.0	70.0	71.0
C38	Heart, mediastinum and pleura	69.5	72.0	72.0	75.5
C40-41	Bone	35.0	39.5	46.0	51.0
C43	Melanoma of the skin	56.0	58.0	62.0	66.0
C44	Skin, non-melanoma	76.0	77.0	79.0	79.0
C45	Mesothelioma	67.0	70.0	73.0	75.0
C47	Autonomic nervous system	25.0	34.5	31.0	16.0
C48-49	Soft tissues	63.0	65.0	62.0	65.0
C50	Breast	66.0	62.0	61.0	62.0
C51-58	Female genital organs	63.0	63.0	64.0	65.0
C51-52, C57.7-9	Other female genital	74.0	74.0	73.0	71.0
C53	Cervix uteri	52.0	49.0	48.0	45.0
C54	Corpus uteri	65.0	66.0	66.0	68.0
C55	Uterus, other	78.0	80.0	79.0	79.0
C56, C57.0-4, C48.2	Ovary etc.	65.0	65.0	65.0	67.0
C58	Placenta	29.0	29.0	31.5	34.0
C60-63	Male genital organs	74.0	73.0	69.0	69.0
C61	Prostate	74.0	74.0	70.0	69.0
C62	Testis	32.0	33.0	34.0	36.0
C60, C63	Other male genital	69.0	71.0	67.0	70.0
C64-68	Urinary organs	71.0	72.0	72.0	71.0
C64	Kidney (excl. renal pelvis)	69.0	70.0	68.0	67.0
C65-68	Urinary tract	72.0	73.0	73.0	73.0
C69	Eye	65.0	63.0	63.0	64.0
C70-72	Central nervous system	58.0	57.0	59.0	60.0
C73	Thyroid gland	55.0	53.0	54.0	54.0
C37, C74-75	Other endocrine glands	48.0	51.0	53.0	57.0
C39, C76, C80	Other or unspecified	73.0	75.0	78.0	78.0
C81-96	Lymphoid/haematopoietic tissue	68.0	69.0	68.0	69.0
C81	Hodgkin lymphoma	39.0	33.0	38.5	44.0
C82-86, C96	Non-Hodgkin lymphoma	66.0	67.0	66.0	70.0
C88	Immunoproliferative disease	71.0	74.0	72.0	73.0
C90	Multiple myeloma	72.0	74.0	72.0	71.0
C91-95	Leukaemia	69.0	69.0	70.0	70.0

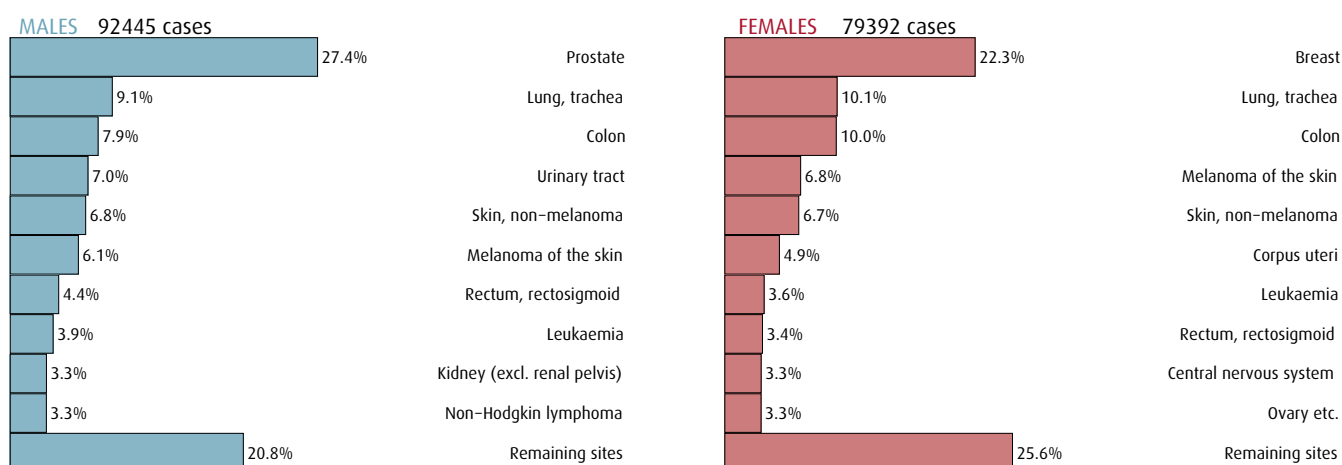
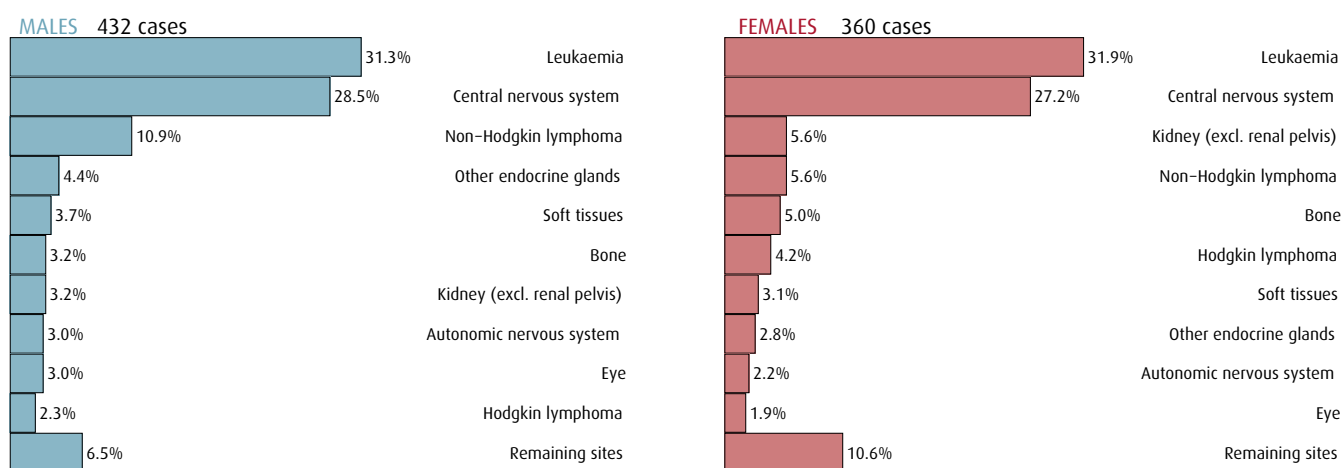
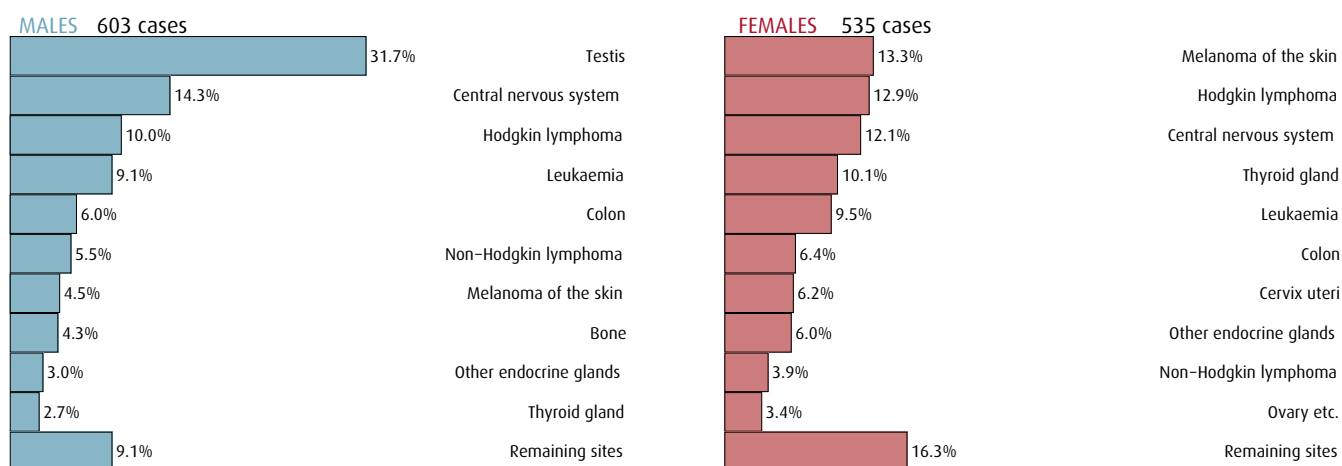
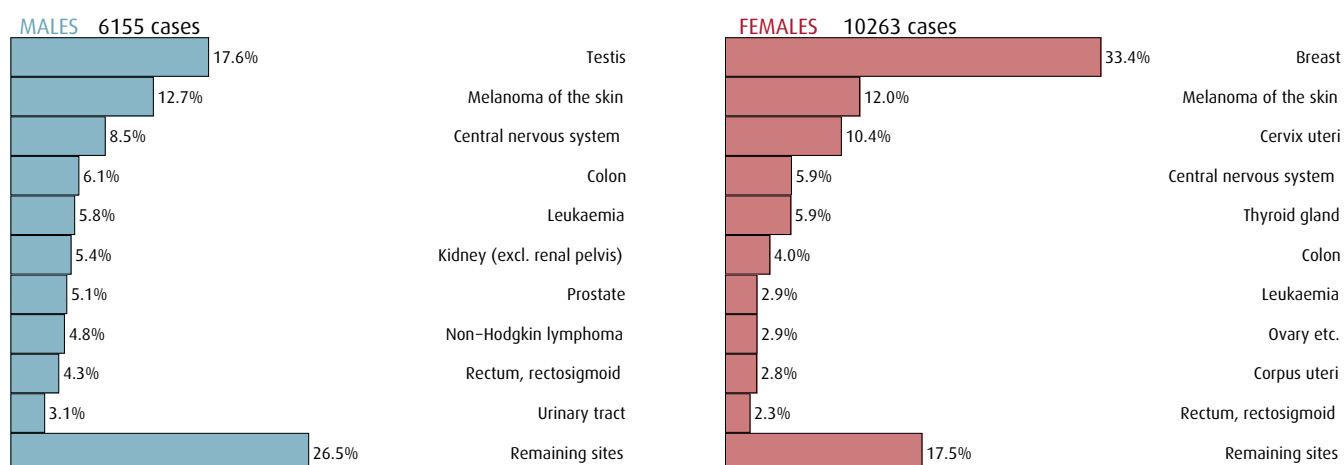
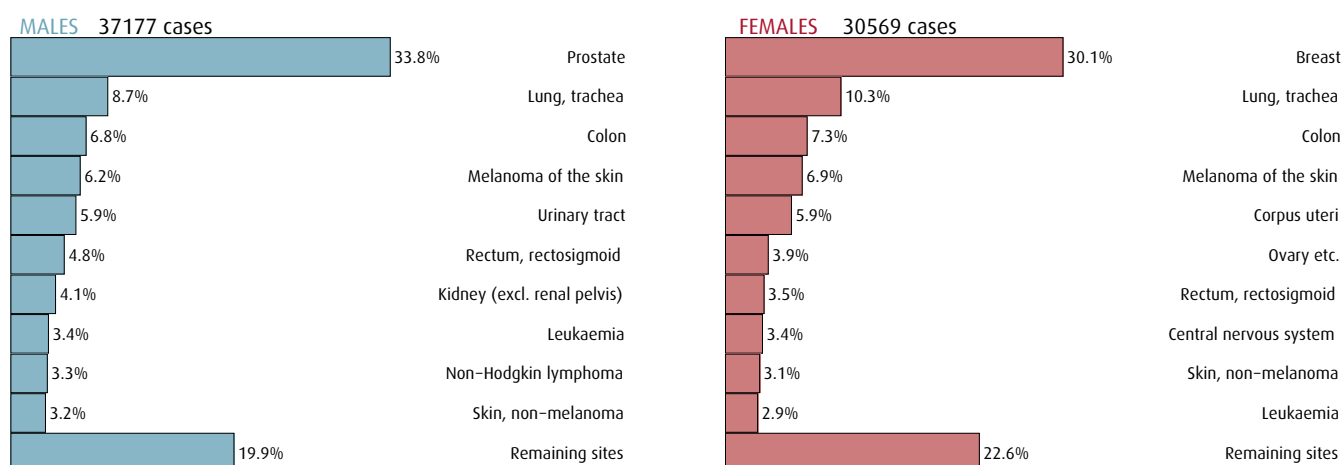
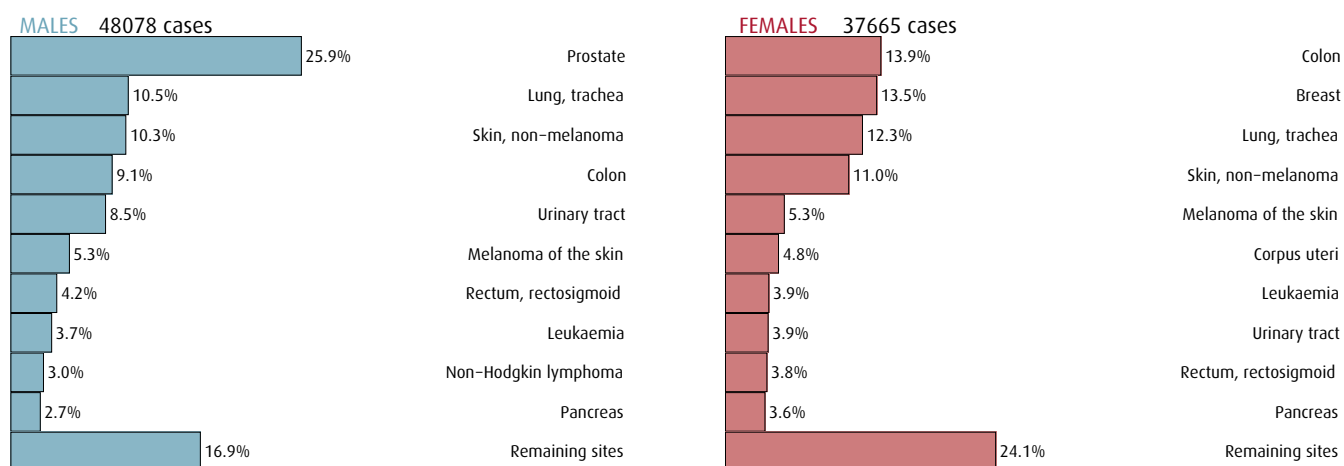
Figure 5.2: The most frequent types of cancer by age and sex, 2015–2019**Figure 5.2-A: All ages****Figure 5.2-B: 0–14 years****Figure 5.2-C: 15–24 years**

Figure 5.2: The most frequent types of cancer by age and sex, 2015–2019**Figure 5.2-D: 25–49 years****Figure 5.2-E: 50–69 years****Figure 5.2-F: 70+ years**

5.3 Male to female ratios

The age-standardised rates and male to female ratio (M:F) for selected cancer types in 1985–1989 and 2015–2019 are shown in Table 5.3. Men tend to have higher incidence rates for most cancer types in both time periods, except for cancer of anus, thyroid gland and central nervous system. The highest M:F ratios were observed for mesothelioma, several sites of the head and neck, and for cancers in the urinary tract.

Some cancers, including cancer of the head and neck, urinary tract, kidney, liver, stomach, rectum and leukaemia, are consistently more common in men. The decline in the M:F ratios for several cancers over the last 30 years is largely a result of a more rapid increase in the incidence rates in women.

For lung cancer, the increase in rate in women has been accompanied by a levelling off and a slight decline in the rate in men, and the M:F ratio is now at 1.2 compared to 3.4 in the late 1980s.

Table 5.3: Sex ratio (male:female) of age-adjusted rates (Norwegian standard) in 1985–1989 and 2015–2019 for selected cancers, sorted in descending order in last period

ICD-10	Site	1985–89			2015–19		
		M	F	M:F ratio	M	F	M:F ratio
C00–96	All sites	525.9	386.2	1.4	726.0	558.4	1.3
C12–13	Hypopharynx	1.5	0.3	5.5	0.8	0.1	5.8
C45	Mesothelioma	2.2	0.3	8.4	2.7	0.5	5.6
C32	Larynx, epiglottis	6.1	0.5	11.2	3.4	0.7	4.6
C38	Heart, mediastinum and pleura	0.4	0.2	1.8	0.5	0.1	3.5
C15	Oesophagus	5.5	1.6	3.4	8.7	2.7	3.3
C65–68	Urinary tract	43.9	12.1	3.6	51.9	15.7	3.3
C09–10, C01, C14	Oropharynx	1.7	0.7	2.5	6.4	2.1	3.1
C88	Immunoproliferative disease	0.6	0.3	2.0	1.9	0.8	2.4
C64	Kidney (excl. renal pelvis)	14.2	7.8	1.8	23.2	10.2	2.3
C22	Liver	3.6	1.9	1.9	8.0	3.9	2.1
C16	Stomach	31.9	15.8	2.0	11.3	5.7	2.0
C19–20	Rectum, rectosigmoid	30.4	18.1	1.7	31.6	18.9	1.7
C11	Nasopharynx	0.7	0.2	3.7	0.3	0.2	1.7
C90	Multiple myeloma	9.7	6.1	1.6	11.1	7.0	1.6
C44	Skin, non-melanoma	22.8	12.0	1.9	54.3	34.4	1.6
C30–31	Nose, sinuses	1.4	0.7	1.9	0.9	0.6	1.6
C17	Small intestine	1.4	1.2	1.2	4.4	2.9	1.5
C00	Lip	5.3	0.7	7.2	2.1	1.5	1.5
C82–86, C96	Non-Hodgkin lymphoma	14.3	10.5	1.4	23.7	16.3	1.5
C02–06	Oral cavity	4.9	2.7	1.8	4.8	3.2	1.5
C81	Hodgkin lymphoma	2.4	1.6	1.5	3.4	2.4	1.4
C91–95	Leukaemia	13.6	8.4	1.6	28.4	19.8	1.4
C48–49	Soft tissues	2.3	2.1	1.1	2.7	2.0	1.4
C25	Pancreas	18.0	12.6	1.4	18.0	14.1	1.3
C47	Autonomic nervous system	0.3	0.4	0.9	0.2	0.1	1.3
C40–41	Bone	1.0	0.7	1.5	1.2	0.9	1.3
C07–08	Salivary glands	0.8	0.6	1.4	1.4	1.1	1.2
C33–34	Lung, trachea	63.7	18.5	3.4	66.3	54.9	1.2
C18	Colon	43.0	38.2	1.1	58.2	53.5	1.1
C26	Other digestive organs	3.2	3.4	0.9	2.8	2.6	1.1
C23–24	Gallbladder, bile ducts	2.8	3.5	0.8	3.1	2.7	1.1
C69	Eye	1.3	1.0	1.3	1.6	1.4	1.1
C39, C76, C80	Other or unspecified	16.2	11.1	1.5	6.0	5.3	1.1
C43	Melanoma of the skin	18.2	20.4	0.9	44.2	39.0	1.1
C37, C74–75	Other endocrine glands	2.3	2.0	1.2	3.5	3.5	1.0
C70–72	Central nervous system	13.0	12.1	1.1	17.5	19.2	0.9
C21	Anus	0.7	1.3	0.6	1.2	2.5	0.5
C73	Thyroid gland	2.5	6.5	0.4	4.9	11.2	0.4

5.4 Incidence trends

Figure 5.3: Time trends in age-standardised (Norwegian standard) incidence rates for selected cancers, 1960–2019

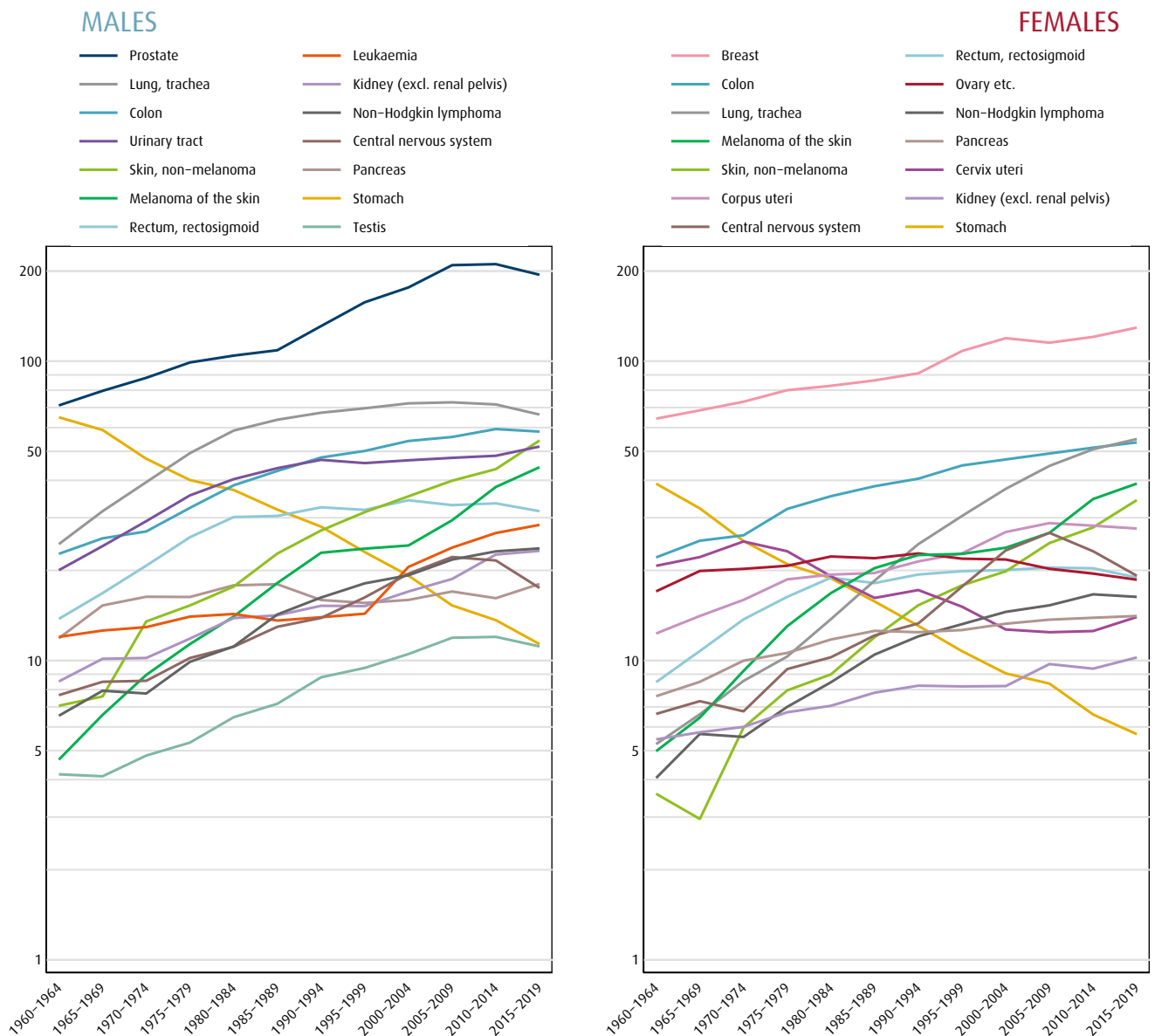


Figure 5.3 depicts time trends in incidence over six decades for some selected cancers. The incidence rates have increased in Norway for most cancer types since the first observation period. The upward trends have been most pronounced for lung cancer among women and skin cancer (both melanoma and non-melanoma) in both genders. Stomach cancer is the only cancer that has had a steady decline in incidence since early 1950s. The rates of ovarian cancer have been fairly stable since the 1950s, while for cervical cancer, the rate declined from mid 1970s to late 1990s, but has stabilised, and even had a small increase in the most recent years. For most cancers, it is difficult to give a proper explanation of the incidence trends over time, even for cancers with known risk factors. Rates may also be influenced by diagnostic methods,

screening activities, and changes in life expectancy or age distribution. Below we have given a short description of the trends for selected sites, and listed some known factors that most possibly have influenced the trends.

Stomach cancer is the only cancer that has had a sharp and consistent decline. In the first observation period, stomach cancer was the most common cancer in men and second most common cancer in women, in line with observations of cancer mortality reported by Norwegian general practitioners one hundred years ago^[23]. The monotonous drop in incidence over six decades reflects improvement in hygiene and environmental exposures. Changes in the prevalence of *Helicobacter pylori* infection and in dietary habits (refrigerators) are likely

contributors to this trend. The decline illustrates the vast potential for primary prevention worldwide. Interestingly, the causes of stomach cancer were not adequately known until the 1980s, and the waning of the rates has been a chance phenomenon rather than an intended one.

Prostate cancer has been the most common cancer in men for many decades, and the age-standardised incidence rate has tripled since registration started in the early 1950s. A dramatic upsurge came from around 1990 with changes in diagnostic practice with unorganised screening and testing in the primary health care system. The introduction and subsequent widespread use of the Prostate Specific Antigen (PSA) test, followed by biopsies, are considered the main explanation for the increased rate. The rate is now stable with a yearly incidence of about 200 new cases per 100 000 person-years.

Breast cancer has been the most common cancer in women since the establishment of the Cancer Registry of Norway, and during this period the incidence rate has doubled. There has been a monotonous increase in the rate up to 1990s with a steeper increase in the mid-1990s followed by a slight decline between 2005 and 2009. The Norwegian Breast Cancer Screening Programme started in 1996, and gradually expanded to become nationwide by 2005. The programme invites women aged 50–69 years to biennial mammography. The implementation of the screening programme explains much of the increasing incidence trend from the mid-1990s to 2005. The figures for recent years indicate that there is again an increase in incidence, and age-specific rates (not shown) indicate that the increase is primarily limited to the age group 60–79 years.

Lung cancer in women has almost had a tenfold increase since early 1950s. Some years ago the rate seemed to flatten off, but in 2018 we observed the highest rate ever (details are shown in Table 5.8). As we expect that the rates for 2019 is underestimated, we do not believe that the peak of lung cancer incidence is reached among women. It is worth noting that the lung cancer rate in women recently passed the level of another increasing cancer type, that of the colon. The age-specific incidence trends for women show that the increase in rates is limited to the oldest age groups (above 70 years), and that there has been a levelling off in the rates for women below 70 years (data not shown). In men, the incidence has been levelling off over the last two decades, and a slight overall decline is now observed (Table 5.7).

Colon and rectum cancer incidence rates are sometimes presented combined. However, the incidence trends for these cancers differ — colon cancer has increased steadily throughout the registration period. For the last decade the rate has levelled off for men, but it is still increasing among women, whereas the incidence of rectal cancer has remained relatively stable over the last three decades in both sexes.

Skin cancer i.e. skin melanoma and non-melanoma are cancers of concern. From being rare in 1953, they now rank among the leading cancers in men and women alike. The rates have had a remarkable increase over the last two decades, especially among men and women in the oldest age groups (above 70 years), and are still rising, (Table 5.7 and 5.8) most probably is caused by adverse sunbathing habits.

Cervical cancer has had a downward incidence trend since the early 1970s. This is probably a result of identification and treatment of premalignant conditions as part of an organised screening programme. In 2009, vaccination against human papilloma virus (HPV) was introduced as part of the Norwegian Childhood Immunisation Programme for girls born in 1997 and after. A catch-up program was implemented in November 2016. In 2018, the programme also offered vaccination to boys. Still, we do not expect this primary prevention to affect the incidence rate for another 15 to 20 years. Furthermore, it is of concern that we have observed a slight increase in the incidence in the last five-year period.

The incidence rates of **tumours in the central nervous system** has declined in recent years. We believe that this is due to underreporting, and as shown in Tables 5.23–5.24 the reduction in rates is limited to non-malignant cases.

For **testicular cancer** and **non-Hodgkin lymphoma**, for example, genetic factors play a role, while other determinants are largely unknown.

Even if rates were to remain stable over the next 15 years, the number of new cases would increase as a result of the joint effects of population growth and aging. The NORDCAN project (<http://www-dep.iarc.fr/nordcan.htm>) provides online access to predictions of incidence and mortality in the Nordic countries.

Trends in cancer incidence for all sites are given in Tables 5.15–5.16, and detailed trends in incidence, mortality and survival for 23 cancers are provided in Chapter 9.

5.5 Cumulative risk

Figure 5.4 and Table 5.4 show the cumulative risk of cancer in men and women. One in three Norwegians will develop a cancer before the age of 75. The risk of prostate cancer is the highest in men, as one in eight will have a diagnosis by the age of 75. The risk of breast cancer is the highest in women, with 9.0%, indicating that one in eleven Norwegian women will be diagnosed with the disease before turning 75. In both gender, lung and colon cancer rank second and third.

5.6 Incidence tables

Tables 5.5–5.28 provide further information on cancer incidence in Norway. The number of incident cases and rates are tabulated according to year of diagnosis (Tables 5.5–5.8), age group (Tables 5.9–5.12), five-year period (Tables 5.13–5.16), county of residence (Tables 5.17–5.20), stage (Tables 5.21–5.24), and continent of birth (Tables 5.25–5.28).

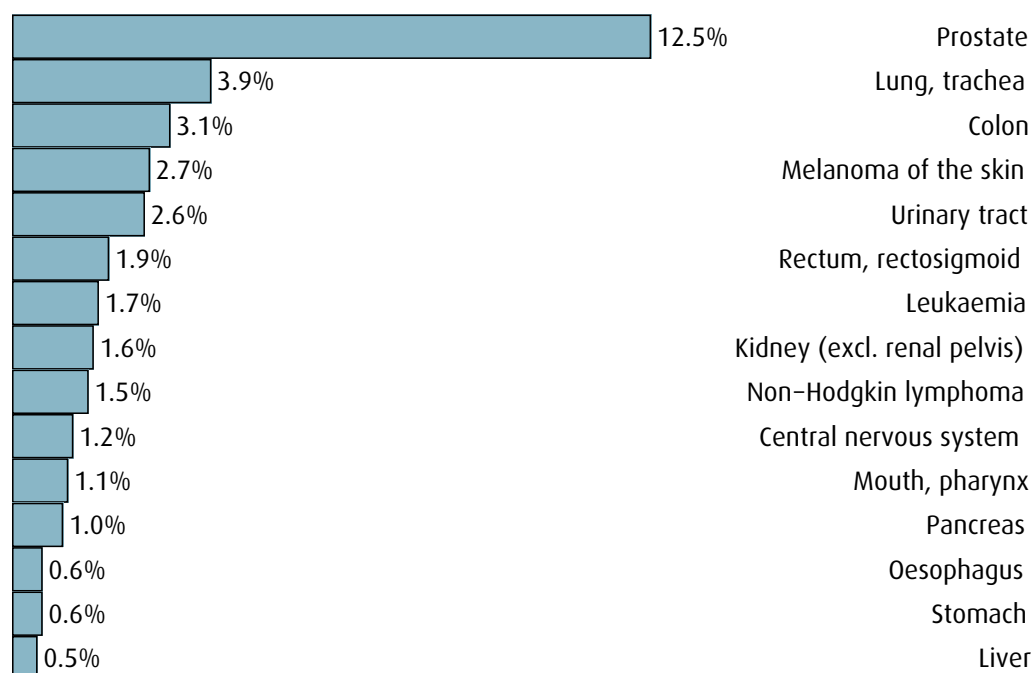
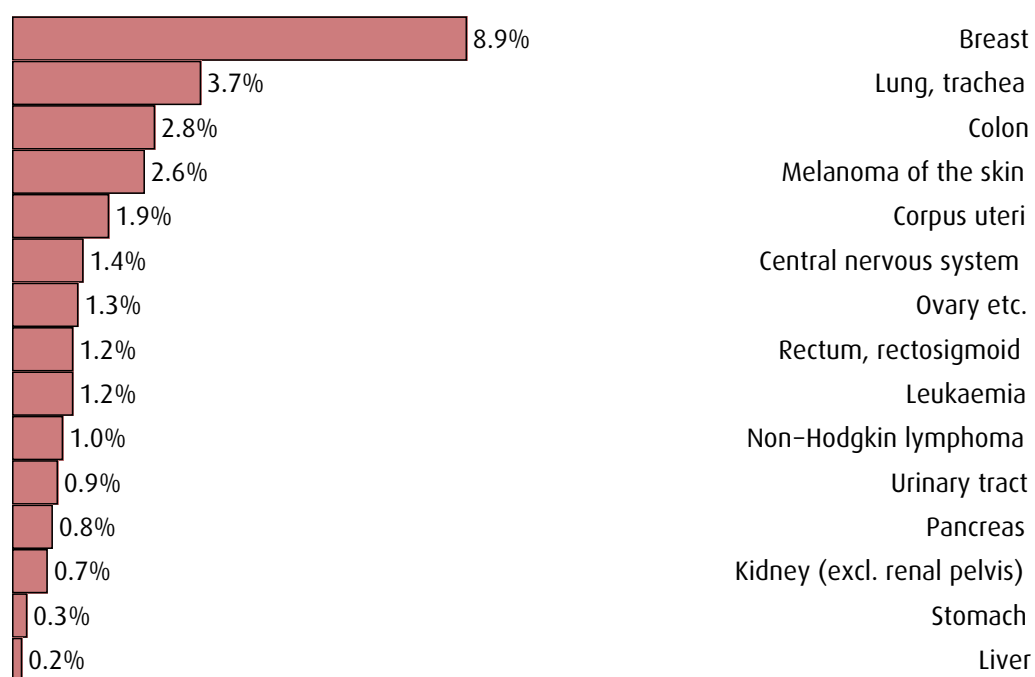
Figure 5.4: Cumulative risk of developing cancer (%) by the age of 75 for selected cancers, 2015–2019**MALES****FEMALES**

Table 5.4: Cumulative risk of developing cancer (%) by age of 75 by primary site and sex, 2015–2019

ICD-10	Site	Males	Females
C00–96	All sites	35.4	30.2
C00–14	Mouth, pharynx	1.1	0.5
C00	Lip	0.1	0.1
C02–06	Oral cavity	0.3	0.2
C07–08	Salivary glands	0.1	0.1
C09–10, C01, C14	Oropharynx	0.5	0.2
C11	Nasopharynx	0.0	0.0
C12–13	Hypopharynx	0.1	0.0
C15–26	Digestive organs	8.1	6.0
C15	Oesophagus	0.6	0.2
C16	Stomach	0.6	0.3
C17	Small intestine	0.3	0.2
C18	Colon	3.1	2.8
C19–20	Rectum, rectosigmoid	1.9	1.2
C21	Anus	0.1	0.2
C22	Liver	0.5	0.2
C23–24	Gallbladder, bile ducts	0.2	0.1
C25	Pancreas	1.0	0.8
C26	Other digestive organs	0.1	0.2
C30–34, C38	Respiratory organs	4.1	3.8
C30–31	Nose, sinuses	0.1	0.0
C32	Larynx, epiglottis	0.2	0.1
C33–34	Lung, trachea	3.9	3.7
C38	Heart, mediastinum and pleura	0.0	0.0
C40–41	Bone	0.1	0.1
C43	Melanoma of the skin	2.7	2.6
C44	Skin, non-melanoma	1.7	1.3
C45	Mesothelioma	0.1	0.0
C47	Autonomic nervous system	0.0	0.0
C48–49	Soft tissues	0.2	0.1
C50	Breast	0.1	8.9
C51–58	Female genital organs		4.4
C51–52, C57.7–9	Other female genital		0.2
C53	Cervix uteri		1.0
C54	Corpus uteri		1.9
C55	Uterus, other		0.0
C56, C57.0–4, C48.2	Ovary etc.		1.3
C58	Placenta		0.0
C60–63	Male genital organs	13.4	
C61	Prostate	12.5	
C62	Testis	0.8	
C60, C63	Other male genital	0.1	
C64–68	Urinary organs	4.2	1.6
C64	Kidney (excl. renal pelvis)	1.6	0.7
C65–68	Urinary tract	2.6	0.9
C69	Eye	0.1	0.1
C70–72	Central nervous system	1.2	1.4
C73	Thyroid gland	0.4	0.8
C37, C74–75	Other endocrine glands	0.3	0.3
C39, C76, C80	Other or unspecified	0.2	0.2
C81–96	Lymphoid/haematopoietic tissue	4.1	2.8
C81	Hodgkin lymphoma	0.3	0.2
C82–86, C96	Non-Hodgkin lymphoma	1.5	1.0
C88	Immunoproliferative disease	0.1	0.0
C90	Multiple myeloma	0.6	0.4
C91–95	Leukaemia	1.7	1.2

Table 5.5: Number of new cases by primary site and year, 2010–2019, **males**

ICD-10	Site	Year									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
C00–96	All sites	15 292	16 415	16 771	16 820	17 456	18 096	18 543	18 502	18 598	18 706
C00–14	Mouth, pharynx	313	327	361	337	405	402	406	394	429	423
C00	Lip	60	71	62	48	62	58	50	51	50	51
C02–06	Oral cavity	93	83	108	112	115	119	122	124	137	117
C07–08	Salivary glands	28	18	30	28	45	36	43	28	44	28
C09–10, C01, C14	Oropharynx	109	121	131	126	149	159	161	156	174	198
C11	Nasopharynx	8	12	14	8	11	8	7	11	12	7
C12–13	Hypopharynx	15	22	16	15	23	22	23	24	12	22
C15–26	Digestive organs	3 235	3 144	3 329	3 442	3 492	3 648	3 719	3 687	3 857	3 736
C15	Oesophagus	187	181	175	200	224	221	214	218	241	228
C16	Stomach	300	325	285	306	307	298	308	285	241	279
C17	Small intestine	73	88	104	89	98	104	117	118	107	123
C18	Colon	1 299	1 232	1 301	1 338	1 367	1 436	1 451	1 465	1 503	1 438
C19–20	Rectum, rectosigmoid	745	700	752	802	813	796	845	800	843	777
C21	Anus	33	21	24	16	29	22	34	35	28	40
C22	Liver	127	130	138	178	145	183	193	188	223	227
C23–24	Gallbladder, bile ducts	87	60	86	96	71	80	86	65	84	77
C25	Pancreas	321	337	403	362	382	442	407	440	497	496
C26	Other digestive organs	63	70	61	55	56	66	64	73	90	51
C30–34, C38	Respiratory organs	1 683	1 769	1 785	1 722	1 785	1 753	1 834	1 871	1 831	1 780
C30–31	Nose, sinuses	19	23	32	35	30	15	25	28	24	26
C32	Larynx, epiglottis	106	100	98	105	114	87	86	72	105	85
C33–34	Lung, trachea	1 548	1 636	1 644	1 574	1 631	1 644	1 706	1 756	1 692	1 659
C38	Heart, mediastinum and pleura	10	10	11	8	10	7	17	15	10	10
C40–41	Bone	27	29	33	18	29	33	31	27	34	39
C43	Melanoma of the skin	748	874	895	851	1 038	1 044	1 082	1 172	1 175	1 202
C44	Skin, non-melanoma	822	863	894	914	1 013	1 062	1 117	1 268	1 343	1 485
C45	Mesothelioma	79	64	66	78	58	67	62	74	54	78
C47	Autonomic nervous system	6	5	5	5	7	4	2	8	8	3
C48–49	Soft tissues	52	67	82	79	62	68	56	72	62	85
C50	Breast	13	27	27	35	24	24	31	33	28	27
C60–63	Male genital organs	4 573	5 318	5 285	5 264	5 343	5 537	5 667	5 441	5 256	5 245
C61	Prostate	4 260	4 993	4 921	4 884	4 960	5 184	5 291	5 088	4 871	4 877
C62	Testis	267	286	321	332	325	293	290	289	320	303
C60, C63	Other male genital	46	39	43	48	58	60	86	64	65	65
C64–68	Urinary organs	1 445	1 527	1 600	1 627	1 758	1 840	1 918	1 886	1 897	1 971
C64	Kidney (excl. renal pelvis)	486	520	532	537	581	582	608	587	638	639
C65–68	Urinary tract	959	1 007	1 068	1 090	1 177	1 258	1 310	1 299	1 259	1 332
C69	Eye	38	26	29	34	49	44	40	43	41	34
C70–72	Central nervous system	491	515	538	511	537	503	432	480	457	418
C73	Thyroid gland	80	76	92	106	116	105	141	136	121	147
C37, C74–75	Other endocrine glands	109	127	147	117	128	94	110	84	92	88
C39, C76, C80	Other or unspecified	146	165	123	147	153	152	144	125	146	134
C81–96	Lymphoid/haematopoietic tissue	1 432	1 492	1 480	1 533	1 459	1 715	1 751	1 701	1 767	1 811
C81	Hodgkin lymphoma	82	69	89	74	81	111	94	95	92	68
C82–86, C96	Non-Hodgkin lymphoma	553	506	525	547	535	610	612	554	608	662
C88	Immunoproliferative disease	35	36	52	38	42	48	49	45	47	51
C90	Multiple myeloma	207	245	211	239	209	264	270	287	283	296
C91–95	Leukaemia	555	636	603	635	592	682	726	720	737	734

Table 5.6: Number of new cases by primary site and year, 2010–2019, **females**

ICD-10	Site	Year									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
C00–96	All sites	13 363	13 911	13 819	14 262	15 061	15 552	15 667	15 775	16 125	16 273
C00–14	Mouth, pharynx	208	198	185	191	216	224	242	255	234	225
C00	Lip	43	33	37	41	31	45	45	51	32	46
C02–06	Oral cavity	74	78	66	83	98	80	108	91	107	80
C07–08	Salivary glands	32	29	17	18	27	39	29	41	29	26
C09–10, C01, C14	Oropharynx	50	45	52	38	43	55	50	60	56	63
C11	Nasopharynx	5	5	6	6	8	3	6	9	4	5
C12–13	Hypopharynx	4	8	7	5	9	2	4	3	6	5
C15–26	Digestive organs	2 741	2 883	2 949	3 037	3 139	3 266	3 204	3 234	3 216	3 142
C15	Oesophagus	65	60	72	63	71	78	72	76	83	85
C16	Stomach	175	199	182	165	189	166	150	194	159	161
C17	Small intestine	63	67	60	49	78	77	75	107	76	81
C18	Colon	1 268	1 397	1 426	1 464	1 475	1 582	1 646	1 564	1 590	1 541
C19–20	Rectum, rectosigmoid	527	528	500	580	575	577	537	536	534	539
C21	Anus	54	40	49	61	69	66	81	55	69	72
C22	Liver	77	81	81	82	87	104	115	118	114	115
C23–24	Gallbladder, bile ducts	91	87	104	104	109	83	76	82	70	88
C25	Pancreas	349	365	395	391	397	449	381	416	450	388
C26	Other digestive organs	72	59	80	78	89	84	71	86	71	72
C30–34, C38	Respiratory organs	1 322	1 280	1 363	1 388	1 512	1 584	1 569	1 587	1 745	1 701
C30–31	Nose, sinuses	20	20	18	20	19	22	15	10	17	19
C32	Larynx, epiglottis	19	16	19	21	20	20	23	17	23	19
C33–34	Lung, trachea	1 275	1 236	1 322	1 342	1 468	1 536	1 526	1 556	1 701	1 661
C38	Heart, mediastinum and pleura	8	8	4	5	5	6	5	4	4	2
C40–41	Bone	25	23	15	25	29	26	28	27	25	19
C43	Melanoma of the skin	797	878	892	898	1 011	1 002	1 059	1 061	1 165	1 128
C44	Skin, non-melanoma	715	790	787	819	928	845	1 013	1 046	1 123	1 256
C45	Mesothelioma	14	13	16	11	11	13	14	15	14	15
C47	Autonomic nervous system	5	1	0	6	8	7	1	4	2	4
C48–49	Soft tissues	63	59	55	53	49	59	57	45	52	64
C50	Breast	2 845	3 082	2 940	3 194	3 331	3 431	3 394	3 598	3 565	3 726
C51–58	Female genital organs	1 696	1 702	1 573	1 637	1 756	1 843	1 814	1 710	1 831	1 852
C51–52, C57.7–9	Other female genital	116	105	107	102	128	120	125	126	134	116
C53	Cervix uteri	311	297	313	289	358	388	370	333	375	368
C54	Corpus uteri	758	750	651	767	734	786	787	709	805	828
C55	Uterus, other	6	5	6	8	13	7	9	8	13	9
C56, C57.0–4, C48.2	Ovary etc.	502	540	492	469	521	541	519	533	501	528
C58	Placenta	3	5	4	2	2	1	4	1	3	3
C64–68	Urinary organs	641	652	668	684	658	783	785	735	746	718
C64	Kidney (excl. renal pelvis)	242	260	259	233	237	313	297	291	278	272
C65–68	Urinary tract	399	392	409	451	421	470	488	444	468	446
C69	Eye	31	34	31	45	45	41	30	39	41	42
C70–72	Central nervous system	608	607	612	563	576	554	527	595	466	486
C73	Thyroid gland	204	220	228	249	253	266	325	295	303	303
C37, C74–75	Other endocrine glands	123	141	119	141	118	115	94	89	91	82
C39, C76, C80	Other or unspecified	183	168	154	170	171	155	181	151	167	163
C81–96	Lymphoid/haematopoietic tissue	1 142	1 180	1 232	1 151	1 250	1 338	1 330	1 289	1 339	1 347
C81	Hodgkin lymphoma	57	73	64	58	63	56	77	46	62	78
C82–86, C96	Non-Hodgkin lymphoma	407	451	460	417	453	467	463	444	480	495
C88	Immunoproliferative disease	27	28	33	35	37	20	19	31	29	19
C90	Multiple myeloma	184	146	186	183	195	213	198	192	205	210
C91–95	Leukaemia	467	482	489	458	502	582	573	576	563	545

Table 5.7: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and year, 2010–2019, **males**

ICD-10	Site	Year									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
C00–96	All sites	709.2	743.2	741.4	725.3	737.0	746.6	748.0	728.5	710.9	698.5
C00–14	Mouth, pharynx	14.0	14.5	15.4	14.1	16.5	16.0	16.0	15.1	16.1	15.6
C00	Lip	2.8	3.3	2.9	2.1	2.7	2.5	2.1	2.0	2.0	2.0
C02–06	Oral cavity	4.2	3.8	4.7	4.7	4.7	4.7	4.9	4.8	5.2	4.3
C07–08	Salivary glands	1.3	0.8	1.3	1.2	1.9	1.5	1.8	1.0	1.7	1.1
C09–10, C01, C14	Oropharynx	4.7	5.1	5.4	5.1	5.9	6.2	6.1	5.9	6.4	7.1
C11	Nasopharynx	0.3	0.5	0.6	0.3	0.4	0.3	0.3	0.4	0.5	0.3
C12–13	Hypopharynx	0.7	0.9	0.7	0.6	0.9	0.9	0.8	0.9	0.4	0.8
C15–26	Digestive organs	151.9	144.2	149.0	150.0	149.1	152.0	150.7	146.3	148.4	139.6
C15	Oesophagus	8.7	8.1	7.6	8.7	9.4	9.0	8.6	8.5	9.2	8.3
C16	Stomach	14.0	15.0	12.8	13.4	13.2	12.7	12.5	11.5	9.5	10.6
C17	Small intestine	3.3	3.9	4.5	3.8	4.1	4.2	4.6	4.6	4.0	4.5
C18	Colon	61.8	57.4	58.8	59.2	59.6	60.5	59.5	59.0	58.0	54.5
C19–20	Rectum, rectosigmoid	34.3	31.7	33.5	34.2	34.0	32.8	33.6	30.9	32.0	28.7
C21	Anus	1.5	0.9	1.1	0.7	1.2	0.9	1.4	1.3	1.1	1.4
C22	Liver	6.0	5.8	6.0	7.6	6.0	7.5	7.8	7.4	8.6	8.5
C23–24	Gallbladder, bile ducts	4.0	2.7	3.9	4.2	2.9	3.3	3.4	2.6	3.2	2.9
C25	Pancreas	15.3	15.4	18.0	15.8	16.2	18.3	16.7	17.5	19.2	18.3
C26	Other digestive organs	3.0	3.3	2.8	2.4	2.5	2.7	2.7	2.9	3.6	1.9
C30–34, C38	Respiratory organs	78.3	80.6	79.8	74.7	76.2	72.7	74.3	73.6	69.5	66.1
C30–31	Nose, sinuses	0.8	1.0	1.4	1.5	1.3	0.6	1.0	1.1	0.9	1.0
C32	Larynx, epiglottis	4.9	4.4	4.3	4.5	4.8	3.5	3.4	2.8	4.0	3.2
C33–34	Lung, trachea	72.1	74.7	73.5	68.4	69.7	68.2	69.2	69.1	64.2	61.6
C38	Heart, mediastinum and pleura	0.4	0.5	0.5	0.3	0.4	0.3	0.8	0.6	0.4	0.4
C40–41	Bone	1.1	1.2	1.3	0.7	1.1	1.3	1.2	1.0	1.2	1.5
C43	Melanoma of the skin	33.3	38.4	38.8	36.0	43.2	42.3	42.8	45.9	45.0	44.9
C44	Skin, non-melanoma	41.4	42.7	43.1	43.5	47.0	48.2	50.3	55.0	56.5	60.6
C45	Mesothelioma	3.9	3.0	3.0	3.5	2.5	2.9	2.5	3.0	2.0	3.1
C47	Autonomic nervous system	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.3	0.3	0.1
C48–49	Soft tissues	2.3	2.8	3.5	3.3	2.5	2.8	2.2	2.7	2.3	3.3
C50	Breast	0.6	1.2	1.2	1.5	1.0	1.1	1.3	1.3	1.1	1.0
C60–63	Male genital organs	210.8	238.6	230.0	223.4	221.7	223.4	223.7	209.3	195.5	191.2
C61	Prostate	197.9	225.4	215.6	208.5	206.8	210.0	209.3	195.9	181.2	177.5
C62	Testis	10.8	11.4	12.5	12.8	12.4	11.0	10.9	10.8	11.9	11.2
C60, C63	Other male genital	2.1	1.7	1.8	2.1	2.5	2.4	3.5	2.6	2.5	2.5
C64–68	Urinary organs	67.8	69.6	71.3	70.7	74.8	77.0	78.1	74.7	72.5	73.7
C64	Kidney (excl. renal pelvis)	21.7	22.8	22.6	22.3	23.5	23.3	23.7	22.4	23.6	23.2
C65–68	Urinary tract	46.1	46.8	48.8	48.3	51.3	53.6	54.4	52.2	49.0	50.4
C69	Eye	1.7	1.2	1.2	1.4	2.0	1.8	1.6	1.6	1.6	1.3
C70–72	Central nervous system	21.5	21.8	22.5	20.7	21.6	19.9	16.8	18.4	17.1	15.4
C73	Thyroid gland	3.4	3.2	3.8	4.3	4.6	4.1	5.5	5.1	4.5	5.3
C37, C74–75	Other endocrine glands	4.6	5.3	6.0	4.8	5.1	3.6	4.2	3.2	3.4	3.2
C39, C76, C80	Other or unspecified	7.1	7.9	5.9	6.9	6.9	6.8	6.4	5.4	6.1	5.4
C81–96	Lymphoid/haematopoietic tissue	65.2	66.9	65.3	65.6	60.9	70.6	70.3	66.6	67.6	67.4
C81	Hodgkin lymphoma	3.5	2.8	3.6	2.9	3.2	4.2	3.6	3.5	3.4	2.4
C82–86, C96	Non-Hodgkin lymphoma	25.0	22.4	23.0	23.1	22.3	24.9	24.3	21.6	23.0	24.6
C88	Immunoproliferative disease	1.7	1.7	2.3	1.6	1.7	2.0	2.0	1.8	1.9	1.9
C90	Multiple myeloma	9.6	11.0	9.6	10.6	8.7	11.1	10.9	11.4	11.1	10.8
C91–95	Leukaemia	25.5	28.9	26.7	27.4	24.9	28.3	29.5	28.3	28.2	27.7

Table 5.8: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and year, 2010–2019, **females**

ICD-10	Site	Year									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
C00–96	All sites	522.3	535.0	525.0	533.6	555.5	565.0	559.4	554.6	557.7	555.5
C00–14	Mouth, pharynx	8.2	7.7	6.9	7.1	8.0	8.1	8.7	8.8	8.0	7.7
C00	Lip	1.6	1.2	1.3	1.5	1.1	1.5	1.5	1.7	1.1	1.5
C02–06	Oral cavity	2.9	3.0	2.4	3.1	3.6	2.8	3.9	3.1	3.7	2.7
C07–08	Salivary glands	1.3	1.2	0.6	0.7	1.0	1.4	1.0	1.4	1.0	0.9
C09–10, C01, C14	Oropharynx	2.1	1.8	2.0	1.5	1.7	2.1	1.9	2.2	2.0	2.3
C11	Nasopharynx	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.3	0.1	0.2
C12–13	Hypopharynx	0.2	0.3	0.3	0.2	0.3	0.1	0.1	0.1	0.2	0.2
C15–26	Digestive organs	103.1	107.5	108.8	110.4	112.5	115.1	111.1	110.2	107.9	103.8
C15	Oesophagus	2.4	2.3	2.7	2.3	2.6	2.7	2.5	2.6	2.8	2.8
C16	Stomach	6.4	7.2	6.7	6.0	6.8	5.8	5.2	6.6	5.4	5.4
C17	Small intestine	2.5	2.6	2.3	1.8	2.8	2.8	2.7	3.8	2.6	2.7
C18	Colon	47.5	52.0	52.6	52.6	52.6	55.3	56.5	52.9	52.8	50.7
C19–20	Rectum, rectosigmoid	20.1	20.1	18.7	21.6	21.0	20.8	19.0	18.6	18.3	18.1
C21	Anus	2.1	1.5	1.9	2.3	2.6	2.5	3.0	1.9	2.5	2.5
C22	Liver	2.9	2.9	2.9	3.0	3.1	3.6	4.0	4.0	3.9	3.8
C23–24	Gallbladder, bile ducts	3.5	3.2	3.9	3.8	3.9	2.9	2.6	2.8	2.3	2.9
C25	Pancreas	13.0	13.5	14.4	14.2	14.2	15.6	13.1	14.1	15.1	12.6
C26	Other digestive organs	2.6	2.2	2.9	2.8	3.0	3.0	2.5	2.9	2.3	2.4
C30–34, C38	Respiratory organs	52.5	49.8	52.1	52.2	55.7	57.2	55.2	54.6	58.7	56.2
C30–31	Nose, sinuses	0.8	0.8	0.7	0.7	0.7	0.8	0.5	0.4	0.6	0.6
C32	Larynx, epiglottis	0.8	0.6	0.7	0.8	0.7	0.7	0.8	0.6	0.8	0.6
C33–34	Lung, trachea	50.6	48.1	50.6	50.4	54.1	55.4	53.7	53.5	57.1	54.9
C38	Heart, mediastinum and pleura	0.3	0.3	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1
C40–41	Bone	1.0	0.9	0.6	0.9	1.1	1.0	1.1	1.0	0.9	0.7
C43	Melanoma of the skin	31.8	34.3	34.7	34.3	38.0	37.2	38.7	38.4	41.2	39.4
C44	Skin, non-melanoma	25.2	27.3	27.3	27.9	31.4	28.3	33.2	34.2	35.8	40.0
C45	Mesothelioma	0.5	0.5	0.6	0.4	0.4	0.5	0.5	0.5	0.5	0.5
C47	Autonomic nervous system	0.2	0.0	0.0	0.2	0.3	0.3	0.0	0.2	0.1	0.2
C48–49	Soft tissues	2.4	2.3	2.1	2.0	1.9	2.1	2.1	1.6	1.8	2.2
C50	Breast	114.9	122.7	115.0	123.2	126.7	128.6	126.0	131.3	128.5	133.0
C51–58	Female genital organs	67.8	66.8	60.9	62.6	66.0	68.5	65.9	61.2	64.8	64.1
C51–52, C57.7–9	Other female genital	4.3	3.9	4.0	3.6	4.5	4.3	4.4	4.3	4.6	3.9
C53	Cervix uteri	12.7	12.0	12.5	11.4	14.1	15.0	14.2	12.6	14.3	13.7
C54	Corpus uteri	30.3	29.3	25.1	29.2	27.3	28.9	28.1	25.0	28.0	28.2
C55	Uterus, other	0.3	0.2	0.2	0.3	0.4	0.2	0.3	0.3	0.4	0.3
C56, C57.0–4, C48.2	Ovary etc.	20.2	21.1	19.0	17.9	19.6	20.0	18.7	19.0	17.5	18.0
C58	Placenta	0.1	0.2	0.2	0.1	0.1	0.0	0.2	0.0	0.1	0.1
C64–68	Urinary organs	24.5	24.5	24.8	25.1	24.0	28.0	27.4	25.5	25.2	23.9
C64	Kidney (excl. renal pelvis)	9.5	10.0	9.9	8.7	8.8	11.5	10.6	10.4	9.7	9.2
C65–68	Urinary tract	15.1	14.5	14.8	16.4	15.2	16.6	16.9	15.1	15.5	14.7
C69	Eye	1.3	1.3	1.2	1.7	1.7	1.6	1.1	1.4	1.5	1.5
C70–72	Central nervous system	24.4	24.0	24.0	21.7	21.9	20.8	19.5	21.6	16.8	17.4
C73	Thyroid gland	8.3	8.9	9.2	9.8	9.8	10.1	12.3	11.1	11.2	11.2
C37, C74–75	Other endocrine glands	5.1	5.7	4.7	5.6	4.6	4.4	3.5	3.4	3.3	3.0
C39, C76, C80	Other or unspecified	6.5	5.6	5.4	5.8	5.7	5.2	6.0	4.8	5.4	5.2
C81–96	Lymphoid/haematopoietic tissue	44.3	45.2	46.7	42.7	45.7	48.2	47.2	44.7	46.0	45.6
C81	Hodgkin lymphoma	2.4	3.0	2.6	2.3	2.4	2.2	2.9	1.7	2.3	2.9
C82–86, C96	Non-Hodgkin lymphoma	15.9	17.4	17.6	15.6	16.6	16.9	16.4	15.4	16.4	16.5
C88	Immunoproliferative disease	1.1	1.1	1.2	1.3	1.4	0.7	0.7	1.0	0.9	0.6
C90	Multiple myeloma	7.0	5.5	6.9	6.6	7.0	7.5	6.9	6.5	7.0	7.0
C91–95	Leukaemia	18.0	18.2	18.3	16.8	18.3	20.9	20.3	20.0	19.3	18.6

Table 5.9: Average annual number of new cases by primary site and five-year age group, 2015–2019, **males**

ICD-10	Site	0–4	5–9	10–14	15–19	20–24	25–29	30–34
C00–96	All sites	38	24	25	41	80	119	150
C00–14	Mouth, pharynx	0	0	0	0	1	1	2
C00	Lip	0	0	0	0	0	0	0
C02–06	Oral cavity	0	0	0	0	0	0	1
C07–08	Salivary glands	0	0	0	0	0	0	1
C09–10, C01, C14	Oropharynx	0	0	0	0	1	0	0
C11	Nasopharynx	0	0	0	0	0	0	0
C12–13	Hypopharynx	0	0	0	0	0	0	0
C15–26	Digestive organs	0	0	0	3	6	7	17
C15	Oesophagus	0	0	0	0	0	0	1
C16	Stomach	0	0	0	0	0	0	1
C17	Small intestine	0	0	0	0	0	0	2
C18	Colon	0	0	0	3	5	3	6
C19–20	Rectum, rectosigmoid	0	0	0	0	0	1	5
C21	Anus	0	0	0	0	0	0	0
C22	Liver	0	0	0	0	0	1	0
C23–24	Gallbladder, bile ducts	0	0	0	0	0	0	0
C25	Pancreas	0	0	0	0	0	0	1
C26	Other digestive organs	0	0	0	0	0	0	0
C30–34, C38	Respiratory organs	1	0	0	1	0	1	1
C30–31	Nose, sinuses	0	0	0	0	0	0	0
C32	Larynx, epiglottis	0	0	0	0	0	0	0
C33–34	Lung, trachea	1	0	0	1	0	1	1
C38	Heart, mediastinum and pleura	0	0	0	0	0	0	0
C40–41	Bone	0	1	2	3	3	2	2
C43	Melanoma of the skin	0	0	0	1	4	10	14
C44	Skin, non-melanoma	1	0	0	1	1	2	3
C45	Mesothelioma	0	0	0	0	0	0	0
C47	Autonomic nervous system	2	0	0	0	0	0	0
C48–49	Soft tissues	1	1	1	0	1	1	1
C50	Breast	0	0	0	0	0	0	0
C60–63	Male genital organs	1	0	0	8	30	46	50
C61	Prostate	0	0	0	0	0	0	0
C62	Testis	1	0	0	8	30	46	50
C60, C63	Other male genital	0	0	0	0	0	0	0
C64–68	Urinary organs	2	1	0	1	1	3	7
C64	Kidney (excl. renal pelvis)	2	1	0	0	1	2	5
C65–68	Urinary tract	0	0	0	0	1	1	2
C69	Eye	2	0	0	0	0	0	0
C70–72	Central nervous system	9	8	8	8	9	14	17
C73	Thyroid gland	0	0	0	1	2	5	5
C37, C74–75	Other endocrine glands	3	0	1	2	2	2	3
C39, C76, C80	Other or unspecified	0	0	0	0	0	0	0
C81–96	Lymphoid/haematopoietic tissue	15	12	12	12	18	24	27
C81	Hodgkin lymphoma	0	1	1	3	9	12	7
C82–86, C96	Non-Hodgkin lymphoma	2	3	4	2	4	4	7
C88	Immunoproliferative disease	0	0	0	0	0	0	0
C90	Multiple myeloma	0	0	0	0	0	0	1
C91–95	Leukaemia	13	8	6	6	5	8	12

35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
199	286	476	820	1 399	2 148	3 068	3 414	2 602	1 863	1 736
5	9	19	35	55	61	75	59	40	26	23
0	1	1	1	3	4	7	9	10	7	9
2	3	5	10	15	15	26	18	14	8	7
1	3	1	3	2	4	4	6	3	4	4
1	3	10	20	32	33	31	20	11	4	3
0	0	2	1	1	2	1	0	0	1	0
0	0	0	1	2	2	6	6	2	1	0
29	51	99	176	281	418	578	703	554	427	380
1	2	7	11	17	30	45	46	26	21	18
2	4	6	11	21	28	38	53	45	33	39
3	3	7	8	10	12	18	19	15	10	7
13	20	33	52	92	145	214	279	234	190	170
6	14	27	50	73	105	131	146	113	81	60
0	1	2	2	3	6	6	4	4	1	3
1	2	4	11	23	28	29	33	29	22	18
1	1	1	4	7	7	12	18	12	7	8
2	3	11	22	32	53	73	93	66	52	48
0	1	1	3	5	5	12	12	11	10	8
3	11	24	54	104	204	335	398	297	216	164
0	1	1	1	2	4	4	4	3	2	2
1	1	2	4	6	11	17	17	13	9	6
2	9	21	48	95	188	314	375	280	203	153
0	1	0	0	0	1	0	1	1	2	3
2	1	1	2	2	2	3	4	2	1	1
27	46	59	82	112	118	151	185	132	97	94
4	7	12	18	30	68	118	199	221	244	327
0	0	0	1	2	5	10	14	17	10	9
0	1	0	0	0	0	0	0	0	0	0
1	4	4	5	6	7	7	10	7	5	6
0	1	1	1	2	3	4	6	5	3	3
51	52	88	191	450	791	1 140	1 090	734	381	324
2	9	52	170	436	778	1 128	1 077	723	372	316
48	41	33	16	9	7	3	3	1	1	1
2	2	4	5	5	6	9	11	10	8	7
13	28	53	95	159	193	291	353	286	228	188
10	19	30	50	72	81	98	104	68	39	28
4	9	22	44	87	112	192	249	218	190	160
2	1	2	4	5	6	6	5	3	2	3
19	21	33	39	41	48	49	53	36	27	20
8	7	12	13	12	15	15	16	10	4	5
4	4	6	10	10	10	12	10	9	3	3
0	1	2	5	6	13	17	21	18	22	35
30	43	62	90	123	188	256	290	233	165	153
5	6	7	6	7	8	7	7	4	1	1
9	16	23	35	45	72	94	103	83	55	46
0	1	1	1	2	5	8	10	9	7	5
2	3	10	12	23	33	44	49	44	30	28
14	16	21	36	46	70	102	121	92	71	72

Table 5.10: Average annual number of new cases by primary site and five-year age group, 2015–2019, **females**

ICD-10	Site	0–4	5–9	10–14	15–19	20–24	25–29	30–34
C00–96	All sites	32	19	21	40	67	144	214
C00–14	Mouth, pharynx	0	0	0	1	1	1	4
C00	Lip	0	0	0	0	0	0	0
C02–06	Oral cavity	0	0	0	0	0	0	2
C07–08	Salivary glands	0	0	0	0	0	0	2
C09–10, C01, C14	Oropharynx	0	0	0	0	0	0	0
C11	Nasopharynx	0	0	0	0	0	0	0
C12–13	Hypopharynx	0	0	0	0	0	0	0
C15–26	Digestive organs	1	0	2	5	4	9	14
C15	Oesophagus	0	0	0	0	0	0	0
C16	Stomach	0	0	0	0	0	0	2
C17	Small intestine	0	0	0	0	0	0	1
C18	Colon	0	0	1	4	3	6	6
C19–20	Rectum, rectosigmoid	0	0	0	0	0	1	4
C21	Anus	0	0	0	0	0	0	0
C22	Liver	1	0	0	0	0	0	0
C23–24	Gallbladder, bile ducts	0	0	0	0	0	0	0
C25	Pancreas	0	0	0	1	0	1	0
C26	Other digestive organs	0	0	0	0	0	0	0
C30–34, C38	Respiratory organs	1	0	0	0	0	1	3
C30–31	Nose, sinuses	0	0	0	0	0	0	0
C32	Larynx, epiglottis	0	0	0	0	0	0	0
C33–34	Lung, trachea	0	0	0	0	0	1	3
C38	Heart, mediastinum and pleura	0	0	0	0	0	0	0
C40–41	Bone	0	2	2	2	2	1	1
C43	Melanoma of the skin	0	0	1	3	11	20	27
C44	Skin, non-melanoma	0	1	0	1	2	1	2
C45	Mesothelioma	0	0	0	0	0	0	0
C47	Autonomic nervous system	1	1	0	0	0	0	0
C48–49	Soft tissues	1	0	1	1	1	2	2
C50	Breast	0	0	0	0	2	18	47
C51–58	Female genital organs	0	0	1	3	8	37	49
C51–52, C57.7–9	Other female genital	0	0	0	0	0	0	2
C53	Cervix uteri	0	0	0	0	6	31	37
C54	Corpus uteri	0	0	0	0	0	1	4
C55	Uterus, other	0	0	0	0	0	0	0
C56, C57.0–4, C48.2	Ovary etc.	0	0	0	2	2	4	6
C58	Placenta	0	0	0	0	0	0	1
C64–68	Urinary organs	4	1	0	0	2	3	3
C64	Kidney (excl. renal pelvis)	3	1	0	0	0	1	3
C65–68	Urinary tract	0	0	0	0	1	2	0
C69	Eye	1	0	0	0	0	0	1
C70–72	Central nervous system	6	7	6	6	7	13	17
C73	Thyroid gland	0	0	0	3	8	14	19
C37, C74–75	Other endocrine glands	1	0	1	2	4	5	6
C39, C76, C80	Other or unspecified	0	0	0	0	0	0	0
C81–96	Lymphoid/haematopoietic tissue	15	7	8	13	15	17	17
C81	Hodgkin lymphoma	0	0	3	6	8	6	5
C82–86, C96	Non-Hodgkin lymphoma	2	1	1	1	3	3	4
C88	Immunoproliferative disease	0	0	0	0	0	0	0
C90	Multiple myeloma	0	0	0	0	0	0	0
C91–95	Leukaemia	13	6	5	6	5	8	7

35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
344	517	834	1 101	1 252	1 682	2 079	2 226	1 854	1 527	1 927
4	6	10	16	19	31	28	33	29	21	32
0	0	0	2	2	5	5	6	6	7	10
2	2	2	5	6	11	13	14	12	9	14
2	2	2	4	1	3	2	4	4	2	5
0	1	4	5	9	11	8	7	5	3	2
0	0	0	0	1	1	0	1	0	0	0
0	0	0	0	0	1	0	1	1	0	1
30	48	89	142	185	293	411	526	473	444	536
0	1	2	3	4	8	11	16	14	10	11
1	4	5	11	11	13	19	25	20	21	32
2	2	4	5	8	9	12	13	9	10	8
14	20	36	53	77	125	193	262	253	242	288
8	13	21	38	39	68	69	87	69	59	68
1	2	4	6	7	10	12	9	6	5	5
0	2	3	4	9	9	16	18	16	14	20
1	1	2	3	3	7	11	13	10	14	15
2	3	8	17	23	35	56	69	66	59	76
0	1	3	3	3	8	11	13	9	10	14
4	9	26	57	109	183	300	360	269	172	141
1	0	0	1	1	1	2	3	2	2	2
0	0	1	2	3	3	4	4	2	1	0
3	9	25	54	105	179	293	354	264	168	137
0	0	0	0	0	0	1	0	0	0	1
2	1	1	1	2	1	2	2	1	1	1
43	67	90	98	102	106	115	126	96	75	103
4	6	18	21	33	50	86	132	150	180	369
0	0	0	1	1	1	1	4	2	2	2
0	1	0	0	0	0	0	0	0	0	0
3	3	3	4	4	4	5	8	6	4	5
95	188	338	442	399	492	505	335	269	186	227
77	83	102	134	162	211	237	247	183	136	141
3	4	4	8	9	12	15	15	13	15	25
54	48	42	27	25	24	23	19	10	9	9
7	16	30	57	76	111	119	130	98	73	61
0	0	0	0	0	0	1	1	1	1	3
11	13	25	42	52	64	79	81	61	39	43
1	1	0	0	0	0	0	0	0	0	0
7	12	25	35	54	76	106	131	108	85	102
5	8	17	18	22	31	47	51	33	24	26
2	5	8	17	32	45	59	80	75	61	76
1	0	2	3	4	5	8	5	3	2	2
19	27	46	45	50	54	57	64	42	31	28
28	29	31	30	24	24	29	26	14	10	9
7	6	8	7	8	9	8	10	6	3	3
1	1	2	5	7	10	13	14	24	24	60
22	31	42	61	88	130	167	201	177	152	165
5	3	2	3	3	4	5	3	4	3	1
7	11	13	22	34	49	63	84	67	54	50
0	0	1	0	1	3	2	5	4	4	3
1	2	6	8	17	23	29	31	29	26	31
9	15	20	27	34	51	68	78	73	65	80

Table 5.11: Age-specific incidence rates per 100 000 person-years by primary site and five-year age group, 2015–2019, **males**

ICD-10	Site	0–4	5–9	10–14	15–19	20–24	25–29	30–34
C00–96	All sites	24.3	14.6	15.4	24.4	45.2	63.7	81.9
C00–14	Mouth, pharynx	0.1	0.0	0.1	0.0	0.8	0.4	1.1
C00	Lip	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C02–06	Oral cavity	0.0	0.0	0.1	0.0	0.2	0.2	0.7
C07–08	Salivary glands	0.1	0.0	0.0	0.0	0.0	0.2	0.3
C09–10, C01, C14	Oropharynx	0.0	0.0	0.0	0.0	0.3	0.0	0.1
C11	Nasopharynx	0.0	0.0	0.0	0.0	0.2	0.0	0.0
C12–13	Hypopharynx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C15–26	Digestive organs	0.3	0.2	0.2	1.7	3.2	3.5	9.3
C15	Oesophagus	0.0	0.0	0.0	0.0	0.1	0.1	0.3
C16	Stomach	0.0	0.0	0.0	0.0	0.1	0.2	0.8
C17	Small intestine	0.0	0.0	0.0	0.0	0.1	0.0	1.1
C18	Colon	0.0	0.0	0.2	1.6	2.6	1.6	3.5
C19–20	Rectum, rectosigmoid	0.0	0.0	0.0	0.0	0.0	0.7	2.8
C21	Anus	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C22	Liver	0.3	0.2	0.0	0.0	0.2	0.4	0.2
C23–24	Gallbladder, bile ducts	0.0	0.0	0.0	0.0	0.0	0.1	0.1
C25	Pancreas	0.0	0.0	0.0	0.1	0.0	0.1	0.3
C26	Other digestive organs	0.0	0.0	0.0	0.0	0.0	0.2	0.1
C30–34, C38	Respiratory organs	0.4	0.0	0.1	0.6	0.2	0.5	0.8
C30–31	Nose, sinuses	0.0	0.0	0.1	0.0	0.1	0.1	0.1
C32	Larynx, epiglottis	0.0	0.0	0.0	0.0	0.0	0.0	0.1
C33–34	Lung, trachea	0.4	0.0	0.0	0.4	0.0	0.3	0.5
C38	Heart, mediastinum and pleura	0.0	0.0	0.0	0.2	0.1	0.1	0.0
C40–41	Bone	0.1	0.5	1.1	1.6	1.5	1.1	1.2
C43	Melanoma of the skin	0.0	0.1	0.2	0.7	2.4	5.6	7.4
C44	Skin, non-melanoma	0.4	0.2	0.0	0.4	0.7	1.3	1.6
C45	Mesothelioma	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C47	Autonomic nervous system	1.6	0.0	0.1	0.0	0.2	0.1	0.0
C48–49	Soft tissues	0.9	0.6	0.5	0.1	0.7	0.6	0.7
C50	Breast	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C60–63	Male genital organs	0.6	0.1	0.0	5.0	17.2	24.4	27.1
C61	Prostate	0.0	0.0	0.0	0.0	0.1	0.0	0.0
C62	Testis	0.5	0.1	0.0	4.9	17.0	24.4	27.1
C60, C63	Other male genital	0.1	0.0	0.0	0.1	0.1	0.0	0.0
C64–68	Urinary organs	1.4	0.4	0.0	0.5	0.8	1.8	4.0
C64	Kidney (excl. renal pelvis)	1.4	0.4	0.0	0.2	0.3	1.3	2.9
C65–68	Urinary tract	0.0	0.0	0.0	0.2	0.5	0.5	1.1
C69	Eye	1.2	0.2	0.2	0.0	0.1	0.1	0.2
C70–72	Central nervous system	5.7	4.9	4.9	4.8	5.2	7.7	9.2
C73	Thyroid gland	0.0	0.0	0.1	0.7	1.1	2.6	2.9
C37, C74–75	Other endocrine glands	1.8	0.2	0.4	1.2	0.9	1.2	1.6
C39, C76, C80	Other or unspecified	0.0	0.0	0.1	0.1	0.1	0.1	0.1
C81–96	Lymphoid/haematopoietic tissue	9.8	7.1	7.2	7.0	10.2	12.7	14.6
C81	Hodgkin lymphoma	0.0	0.4	0.9	1.8	5.1	6.3	3.6
C82–86, C96	Non-Hodgkin lymphoma	1.3	2.1	2.5	1.3	2.5	2.2	3.9
C88	Immunoproliferative disease	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C90	Multiple myeloma	0.0	0.0	0.0	0.0	0.0	0.0	0.7
C91–95	Leukaemia	8.5	4.6	3.9	3.8	2.6	4.2	6.4

35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
111.0	154.5	245.6	449.9	853.0	1 435.1	2 236.3	2 982.6	3 649.1	4 103.7	4 409.1
2.9	5.0	9.6	19.1	33.3	40.8	54.4	51.4	56.1	58.1	58.4
0.1	0.4	0.3	0.8	1.6	2.9	5.0	7.9	14.3	15.9	22.4
1.2	1.4	2.5	5.3	9.1	10.3	18.7	15.6	19.1	18.5	16.8
0.6	1.4	0.7	1.4	1.5	2.5	2.8	4.9	4.8	9.7	9.1
0.8	1.5	5.3	10.8	19.3	22.3	22.6	17.8	15.1	9.2	8.6
0.2	0.2	0.8	0.3	0.5	1.2	0.9	0.3	0.6	1.8	0.5
0.0	0.0	0.0	0.5	1.3	1.5	4.5	4.9	2.2	3.1	1.0
16.3	27.5	50.9	96.6	171.5	279.1	421.3	614.5	777.4	940.4	964.1
0.7	1.1	3.5	6.1	10.4	20.0	32.7	39.8	35.9	46.2	46.2
0.9	2.2	3.3	6.3	12.6	18.4	27.7	46.7	63.1	72.2	100.1
1.6	1.6	3.5	4.5	5.9	7.9	13.4	16.6	21.0	21.1	18.8
7.4	10.7	17.0	28.5	55.9	97.0	156.0	244.1	327.6	418.4	431.3
3.5	7.6	13.7	27.6	44.3	70.1	95.2	127.9	158.7	178.4	151.4
0.2	0.3	1.0	1.3	2.0	3.7	4.4	3.7	5.9	1.3	6.6
0.6	1.3	2.2	5.9	14.1	18.4	21.0	29.0	40.4	48.9	46.2
0.3	0.4	0.6	2.2	4.4	4.5	8.7	15.4	16.8	16.3	21.3
1.0	1.7	5.6	12.2	19.3	35.5	53.4	81.3	92.3	115.4	122.4
0.2	0.5	0.5	1.9	2.8	3.3	8.9	10.1	15.7	22.0	19.8
1.9	5.9	12.5	29.5	63.4	136.0	244.4	347.4	415.9	475.7	415.5
0.1	0.3	0.4	0.4	1.5	2.4	2.9	3.3	4.5	4.0	4.1
0.6	0.5	0.9	2.3	3.5	7.3	12.4	15.0	17.7	19.8	15.7
1.1	4.6	10.9	26.6	58.2	125.9	228.9	328.0	392.1	446.6	388.1
0.1	0.4	0.2	0.2	0.2	0.4	0.3	1.0	1.7	5.3	7.6
0.9	0.4	0.5	0.9	1.1	1.5	2.5	3.3	3.1	2.2	3.0
15.3	24.9	30.6	45.0	68.4	79.1	110.3	161.3	185.7	214.1	238.7
2.2	3.6	6.0	10.1	18.5	45.2	86.3	173.5	309.6	536.9	829.5
0.0	0.0	0.1	0.4	1.2	3.3	7.1	12.1	23.3	22.5	21.8
0.0	0.3	0.0	0.1	0.0	0.0	0.3	0.3	0.0	0.4	0.0
0.7	1.9	2.1	2.5	3.8	4.9	5.1	8.7	9.3	11.0	15.2
0.1	0.3	0.3	0.8	1.1	1.9	3.2	4.9	6.5	7.0	8.6
28.4	28.1	45.5	105.0	274.5	528.3	830.7	952.7	1 029.8	840.0	823.9
0.9	4.8	26.7	93.1	265.8	519.7	821.8	940.8	1 014.1	819.7	803.6
26.6	22.4	16.8	9.0	5.7	4.8	2.3	2.6	2.0	2.2	2.5
0.9	1.0	2.0	2.9	2.9	3.7	6.6	9.3	13.7	18.1	17.8
7.5	15.1	27.1	52.0	96.9	128.9	211.8	308.2	401.3	503.0	477.5
5.5	10.3	15.6	27.6	43.7	54.2	71.6	90.7	95.9	85.0	71.1
2.0	4.9	11.5	24.4	53.2	74.7	140.2	217.5	305.4	418.0	406.4
0.9	0.8	0.9	2.1	2.9	3.7	4.2	4.0	3.9	4.4	7.1
10.6	11.1	17.2	21.2	24.8	31.9	35.7	46.1	50.5	59.9	50.8
4.6	3.7	6.3	7.1	7.3	9.8	11.2	13.6	13.5	9.7	11.7
2.2	2.4	3.0	5.5	6.0	6.7	8.6	8.9	12.3	7.5	7.1
0.2	0.4	0.8	2.7	3.4	8.6	12.7	18.5	25.0	48.0	88.4
16.5	23.0	32.2	49.3	74.9	125.5	186.4	253.0	326.2	362.9	387.6
3.0	3.2	3.7	3.1	4.0	5.3	5.0	6.3	6.2	3.1	2.5
5.0	8.8	11.9	19.3	27.7	48.1	68.8	89.6	116.4	120.7	117.3
0.0	0.3	0.5	0.8	1.2	3.2	5.8	8.4	12.1	15.4	12.7
0.9	1.8	5.2	6.5	13.8	22.0	32.2	43.2	62.0	66.5	72.1
7.6	8.9	10.9	19.6	28.2	46.8	74.6	105.5	129.6	157.2	182.9

Table 5.12: Age-specific incidence rates per 100 000 person-years by primary site and five-year age group, 2015–2019, **females**

ICD-10	Site	0–4	5–9	10–14	15–19	20–24	25–29	30–34
C00–96	All sites	21.9	12.0	13.8	25.7	40.3	79.8	122.6
C00–14	Mouth, pharynx	0.1	0.0	0.1	0.4	0.5	0.4	2.4
C00	Lip	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C02–06	Oral cavity	0.0	0.0	0.0	0.1	0.2	0.2	1.0
C07–08	Salivary glands	0.0	0.0	0.1	0.1	0.2	0.1	1.3
C09–10, C01, C14	Oropharynx	0.0	0.0	0.0	0.0	0.0	0.0	0.1
C11	Nasopharynx	0.1	0.0	0.0	0.1	0.0	0.1	0.0
C12–13	Hypopharynx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C15–26	Digestive organs	0.7	0.0	1.2	3.1	2.7	5.1	8.0
C15	Oesophagus	0.0	0.0	0.0	0.0	0.0	0.0	0.1
C16	Stomach	0.0	0.0	0.0	0.1	0.2	0.2	0.9
C17	Small intestine	0.0	0.0	0.0	0.0	0.0	0.0	0.6
C18	Colon	0.0	0.0	0.9	2.4	1.8	3.1	3.7
C19–20	Rectum, rectosigmoid	0.0	0.0	0.0	0.0	0.2	0.6	2.2
C21	Anus	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C22	Liver	0.7	0.0	0.0	0.0	0.2	0.2	0.2
C23–24	Gallbladder, bile ducts	0.0	0.0	0.0	0.0	0.0	0.1	0.1
C25	Pancreas	0.0	0.0	0.3	0.5	0.1	0.8	0.2
C26	Other digestive organs	0.0	0.0	0.0	0.0	0.0	0.1	0.0
C30–34, C38	Respiratory organs	0.4	0.1	0.0	0.1	0.2	0.7	1.8
C30–31	Nose, sinuses	0.1	0.0	0.0	0.1	0.0	0.0	0.2
C32	Larynx, epiglottis	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C33–34	Lung, trachea	0.3	0.1	0.0	0.0	0.2	0.6	1.5
C38	Heart, mediastinum and pleura	0.0	0.0	0.0	0.0	0.0	0.1	0.1
C40–41	Bone	0.1	1.2	1.0	1.1	1.0	0.3	0.6
C43	Melanoma of the skin	0.0	0.1	0.5	1.9	6.8	11.1	15.4
C44	Skin, non-melanoma	0.1	0.4	0.0	0.5	1.3	0.8	1.4
C45	Mesothelioma	0.0	0.0	0.0	0.0	0.0	0.0	0.2
C47	Autonomic nervous system	0.7	0.4	0.0	0.1	0.0	0.1	0.0
C48–49	Soft tissues	0.7	0.3	0.5	0.4	0.4	0.9	1.0
C50	Breast	0.0	0.0	0.0	0.3	1.1	10.2	27.0
C51–58	Female genital organs	0.1	0.1	0.4	1.7	4.8	20.7	28.4
C51–52, C57.7–9	Other female genital	0.0	0.0	0.0	0.0	0.1	0.2	1.1
C53	Cervix uteri	0.0	0.0	0.1	0.3	3.7	17.3	21.5
C54	Corpus uteri	0.0	0.0	0.0	0.0	0.0	0.8	2.1
C55	Uterus, other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C56, C57.0–4, C48.2	Ovary etc.	0.1	0.1	0.3	1.3	1.0	2.2	3.2
C58	Placenta	0.0	0.0	0.0	0.1	0.0	0.1	0.5
C64–68	Urinary organs	2.6	0.4	0.0	0.1	1.0	1.7	1.6
C64	Kidney (excl. renal pelvis)	2.3	0.4	0.0	0.0	0.2	0.7	1.5
C65–68	Urinary tract	0.3	0.0	0.0	0.1	0.7	1.0	0.1
C69	Eye	0.7	0.3	0.0	0.1	0.1	0.2	0.7
C70–72	Central nervous system	4.4	4.4	4.2	3.8	4.2	7.3	9.9
C73	Thyroid gland	0.0	0.0	0.1	1.9	4.7	7.9	10.8
C37, C74–75	Other endocrine glands	0.7	0.1	0.5	1.5	2.4	2.6	3.7
C39, C76, C80	Other or unspecified	0.1	0.0	0.0	0.1	0.1	0.1	0.2
C81–96	Lymphoid/haematopoietic tissue	10.4	4.4	5.2	8.4	9.1	9.7	9.5
C81	Hodgkin lymphoma	0.1	0.1	1.7	4.0	4.6	3.1	2.9
C82–86, C96	Non-Hodgkin lymphoma	1.6	0.5	0.5	0.9	1.7	1.8	2.5
C88	Immunoproliferative disease	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C90	Multiple myeloma	0.0	0.0	0.0	0.0	0.0	0.1	0.2
C91–95	Leukaemia	8.6	3.7	3.0	3.6	2.8	4.7	3.9

35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
204.3	296.2	453.7	638.2	793.6	1 134.5	1 510.3	1 852.4	2 238.6	2 491.8	2 502.2
2.3	3.3	5.2	9.0	12.2	21.2	20.6	27.6	34.5	34.6	42.1
0.0	0.2	0.2	0.9	1.3	3.5	3.6	5.2	7.7	11.4	12.5
0.9	1.4	1.3	2.7	3.8	7.4	9.4	11.5	14.7	14.7	18.7
0.9	0.9	1.0	2.1	0.6	1.8	1.3	3.7	4.8	3.3	6.8
0.2	0.5	2.3	3.1	6.0	7.4	6.0	6.0	6.0	4.6	2.9
0.1	0.2	0.2	0.2	0.5	0.7	0.3	0.7	0.0	0.3	0.3
0.0	0.1	0.2	0.0	0.0	0.4	0.0	0.7	1.2	0.3	1.0
18.0	27.6	48.4	82.2	117.0	197.7	298.3	438.1	571.2	724.5	696.3
0.0	0.5	1.0	1.7	2.4	5.3	8.0	13.3	16.4	16.0	14.3
0.8	2.4	2.8	6.4	7.0	8.8	14.1	20.5	24.6	34.9	41.3
1.4	1.1	2.2	2.7	4.8	6.1	8.4	11.2	11.1	17.0	10.4
8.5	11.2	19.8	30.9	48.6	84.6	140.2	218.2	305.5	395.6	374.0
4.6	7.4	11.3	21.8	25.0	45.9	50.4	72.4	83.8	96.9	87.8
0.8	1.4	2.4	3.2	4.4	6.6	8.9	7.8	7.7	8.2	6.5
0.2	0.9	1.7	2.4	5.7	6.3	11.5	15.1	19.3	22.2	25.5
0.4	0.3	1.2	1.9	2.2	4.9	8.1	10.7	11.8	22.5	19.0
1.1	1.6	4.2	9.6	14.8	23.6	40.5	57.8	79.9	95.6	99.0
0.1	0.7	1.7	1.5	2.2	5.7	8.1	11.2	10.9	15.7	18.7
2.4	5.4	14.3	33.3	69.2	123.7	217.8	300.0	325.1	280.3	182.6
0.4	0.1	0.2	0.6	0.8	0.9	1.5	2.2	2.9	3.3	2.6
0.1	0.1	0.3	1.2	1.8	1.9	2.9	3.3	2.4	2.3	0.5
1.9	5.0	13.6	31.5	66.6	120.6	213.0	294.3	319.3	274.1	177.9
0.0	0.1	0.1	0.0	0.1	0.3	0.4	0.2	0.5	0.7	1.6
1.1	0.6	0.7	0.7	1.0	0.8	1.7	1.8	1.7	2.0	1.6
25.4	38.4	48.8	56.9	64.7	71.5	83.8	104.9	115.9	122.4	133.8
2.1	3.5	9.8	12.3	21.0	33.9	62.5	109.9	180.9	293.7	478.9
0.1	0.0	0.0	0.3	0.6	0.8	1.0	3.0	2.2	3.3	2.6
0.0	0.6	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0
1.5	1.5	1.9	2.2	2.4	2.8	3.9	6.8	7.5	6.2	6.0
56.3	107.4	183.9	255.9	252.8	331.9	366.9	279.2	325.1	302.9	295.0
45.5	47.3	55.4	77.5	102.8	142.6	172.2	205.3	221.5	221.6	182.6
1.7	2.4	2.4	4.4	5.7	7.8	10.6	12.7	15.5	23.8	32.2
32.2	27.5	23.0	15.5	16.0	16.1	17.0	16.1	12.6	14.7	11.7
4.4	9.2	16.3	33.1	48.2	75.0	86.4	108.4	118.1	118.5	78.7
0.2	0.2	0.2	0.2	0.1	0.3	0.4	0.8	1.4	1.3	4.4
6.6	7.7	13.5	24.2	32.8	43.4	57.7	67.3	73.9	63.3	55.6
0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	7.0	13.6	20.4	34.5	51.1	77.1	109.0	130.4	138.1	133.0
2.8	4.4	9.5	10.3	13.9	21.0	34.0	42.6	40.1	38.5	34.3
1.1	2.6	4.1	10.1	20.5	30.1	43.2	66.4	90.3	99.5	98.7
0.6	0.2	1.3	1.5	2.8	3.2	5.5	4.2	4.1	2.6	2.6
11.0	15.5	25.0	26.2	31.8	36.3	41.4	53.3	50.2	51.2	36.1
16.5	16.4	17.0	17.6	15.3	16.3	20.9	21.3	17.4	16.0	12.2
3.9	3.4	4.4	4.1	4.9	5.8	5.8	8.7	7.5	5.2	3.9
0.6	0.5	1.2	3.0	4.4	6.9	9.4	11.8	29.2	39.2	78.4
13.1	17.7	23.0	35.1	55.9	87.7	121.2	167.5	214.0	248.0	214.5
3.0	1.5	1.1	1.9	1.9	2.7	3.5	2.8	4.8	5.2	1.6
4.0	6.4	7.2	12.7	21.4	33.2	45.6	69.9	80.9	87.5	65.5
0.0	0.0	0.4	0.2	0.6	1.8	1.7	4.2	5.3	6.9	3.6
0.7	1.4	3.4	4.8	10.5	15.7	21.1	25.6	34.8	42.1	40.0
5.3	8.5	10.9	15.5	21.4	34.4	49.3	64.9	88.2	106.4	103.9

Table 5.13: Average annual number of new cases by primary site and five-year period, 1960–2019, **males**

ICD-10	Site	1960–64	1965–69	1970–74	1975–79	1980–84
C00–96	All sites	4 467	5 222	6 101	7 232	8 250
C00–14	Mouth, pharynx	191	194	244	238	247
C00	Lip	89	94	118	107	97
C02–06	Oral cavity	40	46	55	60	79
C07–08	Salivary glands	12	13	16	14	14
C09–10, C01, C14	Oropharynx	22	17	25	27	27
C11	Nasopharynx	9	10	11	8	10
C12–13	Hypopharynx	20	13	19	21	20
C15–26	Digestive organs	1 701	1 841	1 929	2 108	2 316
C15	Oesophagus	80	78	79	91	85
C16	Stomach	801	786	673	613	598
C17	Small intestine	10	15	15	21	26
C18	Colon	281	349	387	491	624
C19–20	Rectum, rectosigmoid	173	228	307	398	493
C21	Anus	8	6	5	9	10
C22	Liver	24	32	50	52	61
C23–24	Gallbladder, bile ducts	22	25	27	38	42
C25	Pancreas	159	214	249	258	287
C26	Other digestive organs	142	108	136	136	90
C30–34, C38	Respiratory organs	429	587	754	969	1 165
C30–31	Nose, sinuses	20	22	21	24	23
C32	Larynx, epiglottis	43	62	72	88	98
C33–34	Lung, trachea	355	489	646	838	1 027
C38	Heart, mediastinum and pleura	11	14	16	19	17
C40–41	Bone	14	18	17	24	22
C43	Melanoma of the skin	69	101	145	192	245
C44	Skin, non-melanoma	76	84	166	204	263
C45	Mesothelioma	2	1	8	17	21
C47	Autonomic nervous system	16	16	12	9	8
C48–49	Soft tissues	29	36	45	57	50
C50	Breast	7	9	8	11	12
C60–63	Male genital organs	887	1 059	1 290	1 568	1 805
C61	Prostate	797	969	1 181	1 440	1 645
C62	Testis	68	70	86	101	134
C60, C63	Other male genital	22	20	23	27	25
C64–68	Urinary organs	377	489	602	765	916
C64	Kidney (excl. renal pelvis)	119	149	165	199	237
C65–68	Urinary tract	258	340	437	567	679
C69	Eye	18	22	19	24	27
C70–72	Central nervous system	131	149	152	189	207
C73	Thyroid gland	24	33	34	42	48
C37, C74–75	Other endocrine glands	9	13	25	27	42
C39, C76, C80	Other or unspecified	82	114	138	179	205
C81–96	Lymphoid/haematopoietic tissue	405	455	513	610	649
C81	Hodgkin lymphoma	52	56	63	67	56
C82–86, C96	Non-Hodgkin lymphoma	96	121	125	163	193
C88	Immunoproliferative disease	0	2	5	7	8
C90	Multiple myeloma	79	84	113	145	152
C91–95	Leukaemia	177	192	207	227	241

1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19
9 002	10 074	11 029	12 242	14 304	16 551	18 489
255	252	259	255	283	349	411
87	75	55	44	55	61	52
83	85	91	83	87	102	124
15	21	18	21	20	30	36
31	39	57	74	91	127	170
12	9	11	11	7	11	9
26	24	26	22	22	18	21
2 367	2 454	2 511	2 668	2 850	3 328	3 729
93	104	123	127	145	193	224
532	482	409	354	301	305	282
25	31	40	52	66	90	114
722	826	896	1 004	1 110	1 307	1 459
520	567	572	642	669	762	812
13	14	20	18	20	25	32
62	61	65	78	92	144	203
48	54	56	59	68	80	78
305	275	279	296	339	361	456
47	40	50	37	39	61	69
1 276	1 352	1 417	1 520	1 615	1 749	1 814
24	21	21	23	23	28	24
108	103	106	108	99	105	87
1 136	1 212	1 276	1 373	1 482	1 607	1 691
7	15	14	16	11	10	12
21	21	22	24	26	27	33
327	423	456	480	622	881	1 135
352	451	532	627	753	901	1 255
38	38	53	63	65	69	67
7	7	6	5	7	6	5
41	47	49	55	60	68	69
11	15	14	15	17	25	29
1 990	2 479	3 007	3 490	4 506	5 157	5 429
1 807	2 250	2 755	3 207	4 178	4 804	5 062
157	199	220	247	283	306	299
26	30	32	36	45	47	68
982	1 091	1 096	1 197	1 342	1 591	1 902
246	274	280	330	393	531	611
736	817	816	868	950	1 060	1 292
23	26	28	32	32	35	40
245	264	324	405	487	518	458
46	43	47	52	69	94	130
44	47	62	84	124	126	94
267	288	296	237	186	147	140
709	776	851	1 032	1 258	1 479	1 749
49	52	58	68	73	79	92
252	302	340	377	456	533	609
9	14	20	29	33	41	48
161	157	167	168	203	222	280
238	251	266	391	492	604	720

Table 5.14: Average annual number of new cases by primary site and five-year period, 1960–2019, **females**

ICD-10	Site	1960–64	1965–69	1970–74	1975–79	1980–84
C00–96	All sites	4 476	5 137	5 824	6 816	7 593
C00–14	Mouth, pharynx	60	77	79	83	99
C00	Lip	4	7	6	8	13
C02–06	Oral cavity	20	31	35	38	49
C07–08	Salivary glands	11	15	15	12	14
C09–10, C01, C14	Oropharynx	11	10	12	14	13
C11	Nasopharynx	5	5	6	5	4
C12–13	Hypopharynx	10	9	6	6	6
C15–26	Digestive organs	1 422	1 529	1 674	1 925	2 119
C15	Oesophagus	28	30	30	32	33
C16	Stomach	546	508	443	407	401
C17	Small intestine	9	12	18	20	26
C18	Colon	324	408	472	626	745
C19–20	Rectum, rectosigmoid	127	179	247	317	397
C21	Anus	10	11	13	18	22
C22	Liver	14	16	31	30	39
C23–24	Gallbladder, bile ducts	50	58	52	65	81
C25	Pancreas	117	142	181	213	253
C26	Other digestive organs	197	166	187	197	122
C30–34, C38	Respiratory organs	106	140	186	232	312
C30–31	Nose, sinuses	12	13	14	12	13
C32	Larynx, epiglottis	3	6	7	8	13
C33–34	Lung, trachea	83	115	158	204	282
C38	Heart, mediastinum and pleura	7	6	6	7	5
C40–41	Bone	10	11	14	13	13
C43	Melanoma of the skin	82	108	162	240	326
C44	Skin, non-melanoma	48	44	98	143	183
C45	Mesothelioma	1	1	2	3	4
C47	Autonomic nervous system	12	13	12	7	5
C48–49	Soft tissues	24	29	36	44	48
C50	Breast	1 027	1 171	1 312	1 509	1 634
C51–58	Female genital organs	926	1 064	1 192	1 269	1 282
C51–52, C57.7–9	Other female genital	62	60	66	81	81
C53	Cervix uteri	350	383	438	422	369
C54	Corpus uteri	207	250	300	360	383
C55	Uterus, other	22	15	11	6	7
C56, C57.0–4, C48.2	Ovary etc.	281	352	374	399	439
C58	Placenta	3	4	2	2	4
C64–68	Urinary organs	212	244	305	362	401
C64	Kidney (excl. renal pelvis)	88	100	114	134	149
C65–68	Urinary tract	124	144	191	229	252
C69	Eye	19	16	17	22	23
C70–72	Central nervous system	115	133	128	182	206
C73	Thyroid gland	59	79	100	123	147
C37, C74–75	Other endocrine glands	6	9	15	25	45
C39, C76, C80	Other or unspecified	63	91	97	153	207
C81–96	Lymphoid/haematopoietic tissue	283	378	397	481	540
C81	Hodgkin lymphoma	35	48	40	44	38
C82–86, C96	Non-Hodgkin lymphoma	65	98	101	137	176
C88	Immunoproliferative disease	0	0	3	3	6
C90	Multiple myeloma	50	77	96	123	127
C91–95	Leukaemia	132	154	157	173	192

1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19
8 266	9 154	10 165	11 388	12 599	14 083	15 878
110	117	129	131	177	200	236
17	21	17	16	33	37	44
59	58	61	62	76	80	93
12	17	19	19	23	25	33
14	12	25	23	36	46	57
4	3	2	4	5	6	5
6	6	6	7	5	7	4
2 195	2 292	2 434	2 538	2 720	2 950	3 212
36	42	44	53	55	66	79
358	313	267	229	221	182	166
26	32	36	50	54	63	83
859	946	1 085	1 169	1 277	1 406	1 585
404	444	470	487	514	542	545
26	35	36	42	45	55	69
44	47	41	46	57	82	113
81	72	80	76	83	99	80
286	300	312	336	358	379	417
75	61	64	50	56	76	77
424	561	708	889	1 127	1 373	1 637
16	16	16	16	19	19	17
11	17	19	18	18	19	20
393	523	665	847	1 083	1 329	1 596
4	5	8	7	7	6	4
15	17	18	19	22	23	25
411	477	500	548	646	895	1 083
268	365	448	523	682	808	1 057
6	8	10	10	13	13	14
8	8	6	4	5	4	4
44	44	48	59	64	56	55
1 779	1 949	2 336	2 665	2 746	3 078	3 543
1 269	1 389	1 408	1 510	1 593	1 673	1 810
86	89	99	94	104	112	124
327	363	329	292	298	314	367
395	444	488	611	689	732	783
6	7	8	11	7	8	9
451	480	480	499	492	505	524
4	6	4	3	2	3	2
444	466	494	536	588	661	753
172	189	191	199	240	246	290
272	277	303	336	348	414	463
21	28	31	31	31	37	39
247	283	391	531	640	593	526
135	136	121	146	168	231	298
40	47	58	84	132	128	94
254	314	308	298	227	169	163
593	652	717	866	1 017	1 191	1 329
36	34	36	48	48	63	64
225	269	302	344	376	438	470
7	12	11	17	22	32	24
138	137	146	152	160	179	204
187	200	221	305	410	480	568

Table 5.15: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and five-year period, 1960–2019, **males**

ICD-10	Site	1960–64	1965–69	1970–74	1975–79	1980–84
C00–96	All sites	348.9	379.0	412.3	461.3	498.5
C00–14	Mouth, pharynx	15.1	14.4	16.3	15.1	14.8
C00	Lip	7.3	7.4	8.0	6.9	6.0
C02–06	Oral cavity	3.2	3.3	3.8	3.8	4.8
C07–08	Salivary glands	0.9	0.9	1.0	1.0	0.8
C09–10, C01, C14	Oropharynx	1.6	1.1	1.6	1.6	1.6
C11	Nasopharynx	0.6	0.6	0.6	0.6	0.6
C12–13	Hypopharynx	1.5	1.0	1.2	1.2	1.2
C15–26	Digestive organs	137.1	136.3	133.2	137.6	143.6
C15	Oesophagus	6.8	5.8	5.4	5.9	5.2
C16	Stomach	65.0	58.9	47.2	40.1	37.1
C17	Small intestine	0.7	1.0	1.0	1.3	1.7
C18	Colon	22.7	25.6	27.0	32.4	38.5
C19–20	Rectum, rectosigmoid	13.8	16.8	20.8	25.8	30.2
C21	Anus	0.6	0.4	0.4	0.5	0.6
C22	Liver	1.7	2.2	3.1	3.2	3.6
C23–24	Gallbladder, bile ducts	1.7	1.8	2.0	2.4	2.6
C25	Pancreas	11.9	15.3	16.3	16.3	17.8
C26	Other digestive organs	12.2	8.5	10.0	9.7	6.3
C30–34, C38	Respiratory organs	29.9	38.0	46.1	57.0	66.6
C30–31	Nose, sinuses	1.6	1.6	1.3	1.4	1.4
C32	Larynx, epiglottis	3.0	4.0	4.4	5.1	5.6
C33–34	Lung, trachea	24.5	31.5	39.4	49.3	58.6
C38	Heart, mediastinum and pleura	0.7	0.9	0.9	1.1	1.0
C40–41	Bone	0.8	1.0	0.9	1.3	1.1
C43	Melanoma of the skin	4.7	6.6	9.0	11.4	14.0
C44	Skin, non-melanoma	7.1	7.6	13.5	15.3	17.7
C45	Mesothelioma	0.2	0.1	0.5	1.0	1.2
C47	Autonomic nervous system	1.0	1.0	0.6	0.5	0.4
C48–49	Soft tissues	2.0	2.4	3.0	3.5	2.9
C50	Breast	0.6	0.7	0.6	0.7	0.9
C60–63	Male genital organs	77.3	85.3	94.5	106.1	112.5
C61	Prostate	71.2	79.6	88.0	99.0	104.4
C62	Testis	4.2	4.1	4.8	5.3	6.5
C60, C63	Other male genital	1.9	1.6	1.7	1.8	1.6
C64–68	Urinary organs	28.6	34.2	39.4	47.5	54.2
C64	Kidney (excl. renal pelvis)	8.5	10.1	10.2	11.8	13.9
C65–68	Urinary tract	20.0	24.1	29.2	35.6	40.4
C69	Eye	1.2	1.3	1.1	1.4	1.6
C70–72	Central nervous system	7.7	8.5	8.6	10.2	11.1
C73	Thyroid gland	1.7	2.2	2.1	2.5	2.7
C37, C74–75	Other endocrine glands	0.5	0.8	1.4	1.4	2.2
C39, C76, C80	Other or unspecified	6.0	8.4	9.6	11.4	12.8
C81–96	Lymphoid/haematopoietic tissue	27.7	30.2	32.1	37.5	38.1
C81	Hodgkin lymphoma	3.3	3.4	3.6	3.7	2.9
C82–86, C96	Non-Hodgkin lymphoma	6.5	7.9	7.8	9.9	11.1
C88	Immunoproliferative disease	0.0	0.1	0.3	0.5	0.5
C90	Multiple myeloma	5.8	6.2	7.5	9.4	9.3
C91–95	Leukaemia	12.0	12.6	12.9	14.0	14.3

1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19
525.9	571.0	609.6	651.4	704.9	731.5	726.0
14.9	14.3	14.3	13.2	13.5	14.9	15.8
5.3	4.3	3.1	2.4	2.8	2.8	2.1
4.9	4.8	5.0	4.2	4.2	4.4	4.8
0.8	1.2	1.1	1.1	1.0	1.3	1.4
1.7	2.2	3.1	3.8	4.2	5.2	6.4
0.7	0.5	0.6	0.6	0.3	0.4	0.3
1.5	1.4	1.5	1.2	1.0	0.8	0.8
140.5	141.7	140.5	143.6	142.3	148.8	147.3
5.5	6.0	6.8	6.9	7.1	8.5	8.7
31.9	28.0	23.0	19.2	15.3	13.6	11.3
1.4	1.7	2.2	2.8	3.1	3.9	4.4
43.0	47.7	50.2	54.1	55.8	59.3	58.2
30.4	32.5	31.9	34.3	33.0	33.5	31.6
0.7	0.8	1.1	0.9	1.0	1.1	1.2
3.6	3.4	3.5	4.1	4.5	6.3	8.0
2.8	3.1	3.2	3.2	3.5	3.6	3.1
18.0	15.9	15.6	15.9	17.0	16.2	18.0
3.2	2.5	3.1	2.1	2.0	2.8	2.8
71.6	75.1	77.3	80.0	79.3	77.9	71.1
1.4	1.2	1.1	1.2	1.1	1.2	0.9
6.1	5.8	5.8	5.7	4.8	4.6	3.4
63.7	67.3	69.6	72.3	72.9	71.7	66.3
0.4	0.8	0.8	0.8	0.5	0.4	0.5
1.0	1.0	1.0	1.1	1.1	1.1	1.2
18.2	22.9	23.7	24.2	29.4	38.0	44.2
22.8	27.2	31.3	35.4	39.9	43.6	54.3
2.2	2.1	2.9	3.4	3.3	3.1	2.7
0.3	0.3	0.3	0.2	0.3	0.2	0.2
2.3	2.5	2.6	2.7	2.8	2.9	2.7
0.6	0.9	0.8	0.8	0.9	1.1	1.1
117.6	141.6	168.6	188.8	223.4	225.0	208.2
108.8	131.0	157.4	176.4	209.3	211.0	194.4
7.2	8.8	9.4	10.5	11.9	12.0	11.1
1.6	1.8	1.8	2.0	2.2	2.1	2.7
58.1	62.1	60.9	63.7	66.3	70.9	75.1
14.2	15.2	15.2	17.0	18.7	22.6	23.2
43.9	46.8	45.7	46.7	47.6	48.3	51.9
1.3	1.4	1.5	1.6	1.5	1.5	1.6
13.0	13.9	16.3	19.5	22.2	21.6	17.5
2.5	2.3	2.4	2.5	3.1	3.9	4.9
2.3	2.4	3.1	4.0	5.6	5.2	3.5
16.2	16.9	16.8	13.1	9.7	6.9	6.0
40.5	42.5	45.5	53.5	60.4	64.7	68.5
2.4	2.4	2.6	3.1	3.2	3.2	3.4
14.3	16.2	18.1	19.3	21.7	23.2	23.7
0.6	0.8	1.1	1.6	1.6	1.8	1.9
9.7	9.1	9.3	9.0	10.0	9.9	11.1
13.6	14.0	14.3	20.5	23.8	26.7	28.4

Table 5.16: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and five-year period, 1960–2019, **females**

ICD-10	Site	1960–64	1965–69	1970–74	1975–79	1980–84
C00–96	All sites	288.6	305.5	323.2	355.7	372.8
C00–14	Mouth, pharynx	4.0	4.8	4.4	4.3	4.9
C00	Lip	0.3	0.5	0.4	0.4	0.7
C02–06	Oral cavity	1.4	2.0	2.0	2.0	2.4
C07–08	Salivary glands	0.7	0.9	0.8	0.6	0.7
C09–10, C01, C14	Oropharynx	0.8	0.6	0.7	0.8	0.6
C11	Nasopharynx	0.3	0.3	0.3	0.2	0.2
C12–13	Hypopharynx	0.6	0.5	0.4	0.3	0.3
C15–26	Digestive organs	99.1	95.6	93.8	99.2	100.4
C15	Oesophagus	2.0	1.9	1.6	1.6	1.6
C16	Stomach	39.0	32.2	25.1	21.0	18.8
C17	Small intestine	0.6	0.7	1.0	1.0	1.2
C18	Colon	22.1	25.1	26.2	32.1	35.4
C19–20	Rectum, rectosigmoid	8.5	10.8	13.7	16.3	18.9
C21	Anus	0.6	0.7	0.7	0.9	1.1
C22	Liver	0.9	1.0	1.6	1.5	1.9
C23–24	Gallbladder, bile ducts	3.3	3.5	2.9	3.2	3.7
C25	Pancreas	7.6	8.5	10.0	10.6	11.8
C26	Other digestive organs	14.6	11.1	11.0	10.8	6.0
C30–34, C38	Respiratory organs	6.8	8.2	10.0	11.7	15.2
C30–31	Nose, sinuses	0.9	0.9	0.8	0.6	0.6
C32	Larynx, epiglottis	0.2	0.3	0.4	0.4	0.6
C33–34	Lung, trachea	5.3	6.6	8.6	10.3	13.7
C38	Heart, mediastinum and pleura	0.5	0.3	0.4	0.3	0.2
C40–41	Bone	0.5	0.6	0.7	0.6	0.7
C43	Melanoma of the skin	5.0	6.4	9.2	13.0	16.8
C44	Skin, non-melanoma	3.6	3.0	6.0	7.9	9.0
C45	Mesothelioma	0.1	0.0	0.1	0.1	0.2
C47	Autonomic nervous system	0.7	0.7	0.6	0.3	0.3
C48–49	Soft tissues	1.5	1.7	2.0	2.3	2.3
C50	Breast	64.3	68.5	73.2	80.0	82.8
C51–58	Female genital organs	55.9	61.1	65.6	67.2	65.2
C51–52, C57.7–9	Other female genital	4.1	3.6	3.6	4.2	3.9
C53	Cervix uteri	20.7	22.2	25.0	23.2	19.1
C54	Corpus uteri	12.3	14.1	15.9	18.7	19.4
C55	Uterus, other	1.5	1.1	0.7	0.3	0.4
C56, C57.0–4, C48.2	Ovary etc.	17.0	19.9	20.2	20.7	22.3
C58	Placenta	0.2	0.2	0.1	0.1	0.2
C64–68	Urinary organs	13.8	14.5	16.6	18.3	18.9
C64	Kidney (excl. renal pelvis)	5.5	5.8	6.0	6.7	7.1
C65–68	Urinary tract	8.4	8.8	10.6	11.6	11.8
C69	Eye	1.1	0.9	0.9	1.1	1.1
C70–72	Central nervous system	6.6	7.3	6.8	9.4	10.3
C73	Thyroid gland	3.7	4.7	5.6	6.6	7.4
C37, C74–75	Other endocrine glands	0.4	0.5	0.8	1.3	2.3
C39, C76, C80	Other or unspecified	4.2	5.5	5.5	7.8	9.8
C81–96	Lymphoid/haematopoietic tissue	17.2	21.5	21.4	24.3	25.4
C81	Hodgkin lymphoma	2.1	2.7	2.1	2.2	1.8
C82–86, C96	Non-Hodgkin lymphoma	4.1	5.7	5.6	7.0	8.5
C88	Immunoproliferative disease	0.0	0.0	0.1	0.2	0.3
C90	Multiple myeloma	3.2	4.5	5.1	6.1	5.9
C91–95	Leukaemia	7.8	8.6	8.4	8.9	9.0

1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19
386.2	412.6	446.0	483.0	508.7	534.3	558.4
5.1	5.3	5.7	5.6	7.2	7.5	8.2
0.7	0.9	0.7	0.7	1.2	1.3	1.5
2.7	2.6	2.7	2.5	3.1	3.0	3.2
0.6	0.8	0.8	0.8	0.9	0.9	1.1
0.7	0.6	1.2	1.1	1.5	1.8	2.1
0.2	0.1	0.1	0.2	0.2	0.2	0.2
0.3	0.3	0.3	0.3	0.2	0.3	0.1
97.6	97.8	100.4	102.2	105.2	108.5	109.5
1.6	1.8	1.8	2.2	2.1	2.4	2.7
15.8	13.1	10.7	9.1	8.4	6.6	5.7
1.2	1.4	1.5	2.2	2.2	2.4	2.9
38.2	40.5	44.8	47.0	49.2	51.4	53.5
18.1	19.4	19.9	20.1	20.4	20.3	18.9
1.3	1.7	1.6	1.8	1.8	2.1	2.5
1.9	2.0	1.7	1.9	2.2	3.0	3.9
3.5	3.0	3.2	3.0	3.2	3.7	2.7
12.6	12.4	12.6	13.3	13.7	13.9	14.1
3.4	2.6	2.5	1.8	2.0	2.7	2.6
20.0	26.2	32.3	39.2	46.5	52.5	56.4
0.7	0.7	0.7	0.7	0.8	0.7	0.6
0.5	0.8	0.9	0.8	0.8	0.7	0.7
18.5	24.5	30.4	37.5	44.7	50.8	54.9
0.2	0.2	0.3	0.3	0.3	0.2	0.1
0.7	0.8	0.8	0.8	0.9	0.9	0.9
20.4	22.5	22.7	23.8	26.7	34.6	39.0
12.0	15.3	17.8	19.9	24.7	27.8	34.4
0.3	0.3	0.5	0.4	0.5	0.5	0.5
0.4	0.3	0.3	0.2	0.2	0.2	0.1
2.1	2.0	2.1	2.5	2.6	2.1	2.0
86.3	91.1	108.2	119.4	115.3	120.6	129.5
62.1	65.8	64.4	65.6	65.8	64.7	64.9
3.9	3.8	4.1	3.7	4.0	4.1	4.3
16.2	17.2	15.1	12.7	12.4	12.5	14.0
19.6	21.4	22.8	26.9	28.8	28.2	27.6
0.3	0.3	0.3	0.4	0.3	0.3	0.3
22.0	22.8	21.9	21.8	20.2	19.5	18.6
0.2	0.2	0.2	0.1	0.1	0.1	0.1
19.9	20.0	20.7	21.8	23.4	24.6	26.0
7.8	8.2	8.2	8.2	9.7	9.4	10.2
12.1	11.8	12.5	13.5	13.7	15.2	15.7
1.0	1.3	1.4	1.3	1.3	1.5	1.4
12.1	13.3	17.7	23.3	26.7	23.2	19.2
6.5	6.4	5.4	6.3	7.1	9.2	11.2
2.0	2.3	2.6	3.7	5.7	5.1	3.5
11.1	13.2	12.5	11.3	8.3	5.8	5.3
26.9	28.4	30.7	35.8	40.7	44.9	46.4
1.6	1.5	1.6	2.1	2.1	2.5	2.4
10.5	12.0	13.2	14.5	15.3	16.6	16.3
0.3	0.5	0.5	0.7	0.9	1.2	0.8
6.1	5.7	6.0	6.1	6.3	6.6	7.0
8.4	8.6	9.4	12.4	16.1	17.9	19.8

Table 5.17: Average annual number of new cases by primary site and county, 2015–2019, **males**

ICD-10	Site	Norway	Østfold	Akershus	Oslo	Hedmark	Oppland	Buskerud	Vestfold
C00–96	All sites	18 489	1 216	2 021	1 704	805	709	978	996
C00–14	Mouth, pharynx	411	25	46	44	16	15	22	25
C00	Lip	52	3	4	4	3	2	2	2
C02–06	Oral cavity	124	7	16	12	4	5	7	10
C07–08	Salivary glands	36	2	5	3	1	1	3	2
C09–10, C01, C14	Oropharynx	170	10	20	20	7	6	9	9
C11	Nasopharynx	9	0	1	2	1	0	1	0
C12–13	Hypopharynx	21	1	1	3	1	1	0	1
C15–26	Digestive organs	3 729	216	402	333	171	146	206	195
C15	Oesophagus	224	13	24	20	9	12	14	11
C16	Stomach	282	16	29	22	10	10	13	15
C17	Small intestine	114	6	14	10	4	3	4	5
C18	Colon	1 459	88	161	123	65	54	78	78
C19–20	Rectum, rectosigmoid	812	41	82	71	39	39	48	42
C21	Anus	32	3	3	6	1	1	1	2
C22	Liver	203	11	24	21	11	9	11	10
C23–24	Gallbladder, bile ducts	78	7	9	8	4	3	3	3
C25	Pancreas	456	28	50	45	23	14	29	24
C26	Other digestive organs	69	5	6	9	5	2	5	5
C30–34, C38	Respiratory organs	1 814	117	161	156	84	65	99	95
C30–31	Nose, sinuses	24	1	1	4	2	1	0	2
C32	Larynx, epiglottis	87	3	7	10	3	2	5	5
C33–34	Lung, trachea	1 691	111	151	140	78	61	93	87
C38	Heart, mediastinum and pleura	12	1	2	2	0	0	0	1
C40–41	Bone	33	2	3	5	1	2	1	2
C43	Melanoma of the skin	1 135	75	141	112	48	41	62	75
C44	Skin, non-melanoma	1 255	96	137	103	51	37	65	76
C45	Mesothelioma	67	4	8	4	2	2	4	4
C47	Autonomic nervous system	5	1	0	1	0	0	1	1
C48–49	Soft tissues	69	3	6	7	3	4	5	4
C50	Breast	29	2	3	3	1	1	1	1
C60–63	Male genital organs	5 429	403	619	481	234	222	276	263
C61	Prostate	5 062	377	581	437	220	209	259	243
C62	Testis	299	20	31	38	11	12	13	17
C60, C63	Other male genital	68	5	7	7	3	2	3	4
C64–68	Urinary organs	1 902	119	206	177	84	70	96	111
C64	Kidney (excl. renal pelvis)	611	44	63	59	25	23	31	36
C65–68	Urinary tract	1 292	75	143	119	59	47	65	75
C69	Eye	40	4	4	4	2	2	1	3
C70–72	Central nervous system	458	25	51	48	17	15	29	23
C73	Thyroid gland	130	6	11	16	5	3	5	8
C37, C74–75	Other endocrine glands	94	6	12	8	3	3	6	7
C39, C76, C80	Other or unspecified	140	7	15	11	5	6	10	8
C81–96	Lymphoid/haematopoietic tissue	1 749	108	194	191	79	74	89	94
C81	Hodgkin lymphoma	92	7	9	11	4	3	4	4
C82–86, C96	Non-Hodgkin lymphoma	609	38	65	65	28	24	30	28
C88	Immunoproliferative disease	48	1	7	6	1	1	1	6
C90	Multiple myeloma	280	16	36	29	15	14	12	17
C91–95	Leukaemia	720	46	77	80	32	32	41	39

Telemark	Aust-Agder	Vest-Agder	Rogaland	Hordaland	Sogn og Fjordane	Møre og Romsdal	Trøndelag	Nordland	Troms	Finnmark
685	423	654	1 674	1 837	431	1 016	1 525	937	621	258
15	10	14	32	39	7	22	33	22	15	8
2	1	2	7	5	1	3	5	3	2	0
5	3	5	10	12	2	7	7	6	5	2
1	1	2	2	4	1	3	4	2	1	0
6	5	5	12	15	2	8	15	10	7	4
0	0	0	1	1	0	1	1	0	0	1
1	0	0	1	3	1	0	2	1	0	0
126	78	119	301	384	98	224	326	214	133	55
8	6	8	20	20	6	11	18	13	8	3
9	5	11	19	30	11	19	25	19	13	7
4	2	4	10	14	3	6	14	5	4	1
49	28	49	121	157	37	93	133	87	45	16
27	17	20	68	90	22	46	68	49	28	12
1	0	0	3	3	1	1	2	2	1	0
6	5	6	17	15	5	13	18	8	9	4
3	1	1	6	9	1	5	7	3	4	2
17	11	18	32	41	12	26	37	26	15	9
1	3	3	4	7	1	3	4	2	4	1
70	49	75	165	188	46	104	133	104	65	38
1	0	1	2	2	1	0	1	2	1	0
4	3	2	7	11	3	5	6	5	2	2
65	46	71	155	173	42	97	126	96	63	36
0	0	1	1	1	0	1	0	1	0	0
1	1	1	2	4	0	1	5	1	1	1
42	28	42	104	120	21	37	111	35	31	9
62	36	60	114	148	30	48	90	57	34	11
2	2	5	7	10	1	2	4	4	1	1
0	0	0	0	0	0	0	0	0	0	0
3	1	3	4	5	1	5	5	4	4	2
1	1	2	3	4	0	2	2	2	1	0
189	123	187	556	504	122	314	443	251	171	72
178	116	172	523	465	115	296	416	235	156	65
9	6	14	28	30	6	14	22	12	12	4
3	1	2	6	8	1	4	5	3	3	3
73	44	62	145	176	43	119	150	121	81	25
23	17	23	43	58	16	35	53	36	19	9
50	27	39	102	118	27	83	97	85	62	16
2	0	1	3	3	1	2	4	2	2	0
18	9	16	49	43	10	19	37	26	17	6
4	3	4	9	15	3	6	13	6	8	3
3	2	3	12	12	4	1	5	3	2	1
5	4	6	10	15	3	9	11	9	4	2
68	30	53	156	167	40	102	151	76	52	23
4	3	3	6	10	1	7	7	5	2	2
23	10	20	51	61	13	38	54	29	23	8
1	1	0	4	3	1	5	6	3	1	0
12	4	7	21	28	10	14	22	12	6	5
28	13	22	74	65	15	38	63	28	20	8

Table 5.18: Average annual number of new cases by primary site and county, 2015–2019, **females**

ICD-10	Site	Norway	Østfold	Akershus	Oslo	Hedmark	Oppland	Buskerud	Vestfold
C00–96	All sites	15 878	1 017	1 760	1 661	678	634	851	861
C00–14	Mouth, pharynx	236	13	25	29	10	10	13	15
C00	Lip	44	3	3	5	2	2	2	3
C02–06	Oral cavity	93	4	9	11	4	4	6	6
C07–08	Salivary glands	33	2	5	3	1	1	2	1
C09–10, C01, C14	Oropharynx	57	4	7	7	3	3	3	4
C11	Nasopharynx	5	0	1	1	0	0	0	0
C12–13	Hypopharynx	4	1	1	1	0	0	0	0
C15–26	Digestive organs	3 212	206	342	315	140	131	172	173
C15	Oesophagus	79	4	9	10	3	6	4	6
C16	Stomach	166	8	15	18	6	7	9	8
C17	Small intestine	83	6	10	9	4	4	4	3
C18	Colon	1 585	105	173	143	65	62	83	84
C19–20	Rectum, rectosigmoid	545	33	53	55	23	21	29	32
C21	Anus	69	5	7	8	3	2	5	4
C22	Liver	113	7	10	13	9	5	5	5
C23–24	Gallbladder, bile ducts	80	4	9	9	5	4	4	4
C25	Pancreas	417	28	48	40	18	17	24	22
C26	Other digestive organs	77	6	8	8	3	4	5	3
C30–34, C38	Respiratory organs	1 637	116	163	160	71	66	82	86
C30–31	Nose, sinuses	17	1	1	3	1	1	1	2
C32	Larynx, epiglottis	20	2	2	2	1	1	1	1
C33–34	Lung, trachea	1 596	113	159	154	70	64	80	83
C38	Heart, mediastinum and pleura	4	0	1	0	0	0	0	0
C40–41	Bone	25	1	3	3	1	1	1	1
C43	Melanoma of the skin	1 083	64	129	109	45	38	57	69
C44	Skin, non-melanoma	1 057	80	112	84	37	27	54	56
C45	Mesothelioma	14	0	2	2	1	2	1	1
C47	Autonomic nervous system	4	0	1	0	0	0	0	0
C48–49	Soft tissues	55	3	5	9	3	2	5	3
C50	Breast	3 543	214	442	411	143	136	198	188
C51–58	Female genital organs	1 810	123	196	193	86	87	100	92
C51–52, C57.7–9	Other female genital	124	7	12	12	6	5	8	6
C53	Cervix uteri	367	28	40	47	16	18	17	20
C54	Corpus uteri	783	55	80	76	42	38	52	37
C55	Uterus, other	9	0	1	0	0	0	0	0
C56, C57.0–4, C48.2	Ovary etc.	524	34	63	58	22	27	22	28
C58	Placenta	2	0	0	0	0	0	0	0
C64–68	Urinary organs	753	49	70	73	36	26	42	44
C64	Kidney (excl. renal pelvis)	290	20	29	24	12	9	17	18
C65–68	Urinary tract	463	30	41	49	23	17	25	26
C69	Eye	39	2	5	5	4	1	2	2
C70–72	Central nervous system	526	32	57	51	19	25	25	37
C73	Thyroid gland	298	21	30	47	9	9	10	12
C37, C74–75	Other endocrine glands	94	4	12	11	4	4	6	5
C39, C76, C80	Other or unspecified	163	11	14	14	11	7	9	9
C81–96	Lymphoid/haematopoietic tissue	1 329	77	154	145	60	61	77	70
C81	Hodgkin lymphoma	64	3	8	9	3	2	4	2
C82–86, C96	Non-Hodgkin lymphoma	470	28	49	45	24	19	25	25
C88	Immunoproliferative disease	24	0	3	3	1	0	1	1
C90	Multiple myeloma	204	10	29	19	11	12	10	11
C91–95	Leukaemia	568	35	66	69	22	27	36	31

Telemark	Aust-Agder	Vest-Agder	Rogaland	Hordaland	Sogn og Fjordane	Møre og Romsdal	Trøndelag	Nordland	Troms	Finnmark
599	369	571	1 305	1 577	331	782	1 342	801	525	214
7	5	7	17	22	4	11	22	14	9	3
2	1	2	4	5	1	2	5	1	1	1
2	2	3	7	9	2	5	7	8	4	1
1	1	0	2	3	0	2	2	2	2	0
1	1	1	4	3	1	2	6	3	3	1
0	0	0	1	1	0	0	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0
110	70	114	241	321	80	185	280	181	112	40
3	2	3	3	5	1	4	7	5	2	1
5	2	8	11	17	5	10	16	9	7	3
2	2	4	7	8	2	4	9	4	1	0
56	35	58	124	164	40	101	133	87	55	17
21	9	17	41	58	11	31	50	35	19	5
3	2	2	4	8	1	3	3	4	3	1
3	3	3	8	9	4	5	13	6	4	3
2	1	2	9	8	2	2	8	4	3	1
13	11	14	29	39	13	21	33	22	16	8
2	3	3	5	5	2	4	7	4	3	1
63	43	69	137	149	37	78	138	94	56	31
1	0	1	1	0	1	0	2	1	1	0
1	0	0	2	2	0	1	2	1	1	0
61	43	68	134	146	35	77	134	92	54	30
0	0	0	0	1	1	0	0	0	0	0
1	0	2	2	2	0	2	2	1	1	0
48	28	45	104	117	18	35	107	31	31	8
53	35	64	99	141	25	36	68	48	29	10
0	0	1	1	1	0	1	1	1	0	0
0	0	0	0	0	0	0	1	0	0	0
2	1	2	3	5	1	3	7	2	1	0
131	79	109	289	342	70	190	300	160	99	41
70	41	57	150	174	35	82	146	89	58	31
4	2	5	10	13	3	5	10	9	3	2
13	8	10	32	36	6	14	28	17	12	6
31	17	27	60	78	14	34	69	37	23	13
1	1	0	1	1	1	1	0	1	0	0
21	13	14	46	46	11	28	37	25	19	9
0	0	0	0	0	0	0	0	0	0	0
28	15	26	57	62	13	40	68	51	39	15
12	6	11	23	27	5	13	29	20	12	5
17	9	15	34	36	7	26	39	31	28	10
1	1	0	2	3	1	1	4	2	2	1
14	11	16	52	61	9	23	36	30	22	6
14	5	8	17	31	5	14	29	18	14	6
3	3	4	9	14	3	3	4	4	2	1
7	5	5	14	15	3	8	11	12	6	2
47	26	43	112	117	28	69	120	63	43	17
2	2	3	5	7	1	5	5	2	2	1
16	10	16	38	45	9	25	45	26	17	7
1	0	1	3	3	0	1	4	2	0	0
6	4	5	16	16	6	11	16	13	6	3
22	10	18	49	46	12	28	50	20	18	6

Table 5.19: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and county, 2015–2019, **males**

ICD-10	Site	Norway	Østfold	Akershus	Oslo	Hedmark	Oppland	Buskerud	Vestfold
C00–96	All sites	726.0	792.1	728.3	696.2	695.1	650.3	689.4	770.5
C00–14	Mouth, pharynx	15.8	15.8	15.4	17.2	13.9	14.1	15.2	18.2
C00	Lip	2.1	2.1	1.4	2.2	2.3	2.3	1.7	1.7
C02–06	Oral cavity	4.8	4.8	5.3	4.4	3.6	4.6	4.8	7.3
C07–08	Salivary glands	1.4	1.6	1.6	1.1	0.7	0.7	1.9	1.3
C09–10, C01, C14	Oropharynx	6.4	6.4	6.4	7.6	6.0	5.4	6.1	6.8
C11	Nasopharynx	0.3	0.1	0.2	0.6	0.7	0.0	0.4	0.3
C12–13	Hypopharynx	0.8	0.8	0.5	1.3	0.5	1.1	0.3	0.8
C15–26	Digestive organs	147.3	140.6	145.0	138.2	147.0	133.9	145.8	151.9
C15	Oesophagus	8.7	8.0	8.7	8.3	7.6	10.7	9.3	9.0
C16	Stomach	11.3	10.4	10.6	8.8	8.9	9.2	9.5	12.5
C17	Small intestine	4.4	3.9	4.7	3.8	3.9	2.6	2.9	4.0
C18	Colon	58.2	57.6	59.0	51.7	55.3	49.3	56.4	60.4
C19–20	Rectum, rectosigmoid	31.6	26.4	29.1	28.8	33.7	35.2	33.2	33.0
C21	Anus	1.2	1.7	1.1	2.3	1.2	1.3	0.5	1.2
C22	Liver	8.0	6.9	8.5	8.3	9.8	7.8	7.8	7.4
C23–24	Gallbladder, bile ducts	3.1	4.3	3.2	3.3	3.1	2.5	2.2	2.5
C25	Pancreas	18.0	18.2	18.0	19.3	19.6	13.0	20.3	18.0
C26	Other digestive organs	2.8	3.2	2.2	3.7	3.9	2.3	3.8	3.9
C30–34, C38	Respiratory organs	71.1	75.5	58.5	65.7	70.4	57.6	68.5	71.6
C30–31	Nose, sinuses	0.9	0.8	0.5	1.4	1.4	1.1	0.3	1.3
C32	Larynx, epiglottis	3.4	1.9	2.5	4.2	2.7	1.6	3.9	3.8
C33–34	Lung, trachea	66.3	71.9	54.7	59.5	66.0	54.6	64.2	65.5
C38	Heart, mediastinum and pleura	0.5	0.8	0.8	0.7	0.3	0.3	0.1	1.0
C40–41	Bone	1.2	1.2	1.0	1.6	1.1	2.3	0.6	1.4
C43	Melanoma of the skin	44.2	49.6	50.4	44.2	42.2	38.2	42.6	58.0
C44	Skin, non-melanoma	54.3	68.2	55.6	51.2	45.6	35.8	49.9	64.6
C45	Mesothelioma	2.7	2.8	3.0	1.9	1.4	2.0	3.2	3.3
C47	Autonomic nervous system	0.2	0.4	0.2	0.2	0.0	0.0	0.6	0.5
C48–49	Soft tissues	2.7	2.2	2.1	2.3	3.3	3.5	3.5	3.0
C50	Breast	1.1	1.3	1.3	1.1	0.5	0.8	0.4	0.6
C60–63	Male genital organs	208.2	256.6	219.1	191.9	199.1	201.2	190.3	200.0
C61	Prostate	194.4	239.0	206.1	179.7	184.9	186.3	178.8	183.1
C62	Testis	11.1	14.3	10.3	9.3	12.0	13.1	9.5	13.7
C60, C63	Other male genital	2.7	3.3	2.6	2.9	2.3	1.8	2.0	3.2
C64–68	Urinary organs	75.1	77.0	74.7	73.6	72.3	64.0	68.6	85.5
C64	Kidney (excl. renal pelvis)	23.2	27.9	21.4	22.7	21.3	20.9	21.3	27.5
C65–68	Urinary tract	51.9	49.0	53.3	50.9	50.9	43.1	47.4	57.9
C69	Eye	1.6	2.7	1.5	1.5	1.7	1.6	1.1	2.0
C70–72	Central nervous system	17.5	16.3	17.3	16.4	15.3	14.5	19.9	17.9
C73	Thyroid gland	4.9	4.2	3.7	5.8	4.5	2.6	3.6	5.7
C37, C74–75	Other endocrine glands	3.5	3.6	4.1	2.8	2.9	2.9	4.3	5.6
C39, C76, C80	Other or unspecified	6.0	4.9	5.7	4.8	4.5	6.0	8.0	6.9
C81–96	Lymphoid/haematopoietic tissue	68.5	69.2	69.7	75.7	69.6	69.2	63.3	73.7
C81	Hodgkin lymphoma	3.4	4.7	3.1	3.2	3.7	3.4	2.8	3.2
C82–86, C96	Non-Hodgkin lymphoma	23.7	24.4	23.1	26.2	24.5	22.7	21.6	21.7
C88	Immunoproliferative disease	1.9	0.3	2.6	2.5	0.6	1.0	1.0	4.6
C90	Multiple myeloma	11.1	10.0	13.2	12.1	12.8	12.4	9.0	13.7
C91–95	Leukaemia	28.4	29.8	27.7	31.8	28.0	29.6	29.0	30.5

Telemark	Aust-Agder	Vest-Agder	Rogaland	Hordaland	Sogn og Fjordane	Møre og Romsdal	Trøndelag	Nordland	Troms	Finnmark
718.1	697.9	764.8	829.4	762.0	704.9	715.6	674.5	687.4	742.5	657.1
15.6	17.3	16.4	15.5	15.9	11.1	15.3	14.6	16.0	18.2	20.3
2.6	2.5	2.3	3.6	2.1	1.3	2.1	2.3	1.9	2.7	1.1
4.7	5.3	6.1	4.4	4.7	4.0	4.8	2.9	4.5	5.9	6.1
1.1	1.3	1.8	0.8	1.7	1.1	1.9	1.7	1.7	1.3	0.9
5.6	7.6	5.7	5.6	5.9	3.9	5.8	6.3	6.9	7.7	10.0
0.2	0.0	0.0	0.4	0.3	0.0	0.4	0.5	0.3	0.2	1.4
1.3	0.6	0.5	0.7	1.1	0.9	0.3	0.8	0.7	0.4	0.9
132.3	127.3	141.4	151.5	159.9	159.5	159.3	145.8	156.3	160.0	137.5
8.7	8.7	9.0	9.6	8.1	9.5	7.7	8.4	9.7	9.5	8.2
9.4	7.8	12.1	9.9	12.8	18.0	13.7	11.4	14.2	16.1	15.6
4.7	3.2	4.7	4.8	5.5	4.6	4.3	5.8	4.0	5.1	4.7
51.2	46.1	59.7	62.4	65.5	59.4	66.5	59.5	63.1	54.0	39.9
28.0	29.0	23.0	33.5	37.2	36.0	32.4	29.8	34.8	33.5	30.7
1.5	0.6	0.5	1.6	1.1	0.9	1.0	0.7	1.3	1.4	0.9
6.5	8.0	6.9	8.4	6.6	8.3	9.2	8.3	6.1	11.9	8.7
3.2	1.5	1.4	2.9	3.6	2.4	3.6	3.3	2.3	5.0	3.8
18.1	18.1	21.2	16.1	16.7	19.2	18.5	16.7	19.2	18.8	22.9
1.1	4.3	3.0	2.2	2.8	1.2	2.4	1.7	1.6	4.8	2.0
72.0	81.8	86.4	83.1	78.2	74.7	72.0	58.3	75.6	79.5	95.3
1.1	0.6	1.5	0.8	1.0	1.0	0.3	0.6	1.3	0.9	1.4
4.4	4.3	2.6	3.6	4.7	4.8	3.5	2.7	4.1	2.0	3.6
66.5	76.5	81.1	78.2	72.1	68.9	67.8	54.9	69.6	76.6	89.1
0.0	0.3	1.1	0.4	0.5	0.0	0.5	0.1	0.6	0.0	1.1
0.9	1.3	0.8	0.8	1.6	0.3	0.6	2.0	0.8	1.3	2.7
44.3	47.9	48.5	50.9	49.6	33.9	26.2	48.7	25.7	36.2	21.5
68.1	65.4	77.6	64.2	66.9	50.8	36.6	44.0	44.7	43.9	30.2
2.7	2.7	6.2	3.8	4.1	1.1	1.4	1.8	2.8	1.1	1.3
0.5	0.0	0.0	0.2	0.2	0.8	0.0	0.1	0.2	0.0	0.0
3.0	2.3	3.1	2.1	2.1	1.8	3.3	2.5	2.8	4.4	4.2
1.1	1.3	3.0	1.4	1.8	0.7	1.1	0.8	1.2	0.9	0.5
193.4	195.4	212.7	267.1	204.0	196.5	215.8	191.3	180.2	195.1	182.4
179.5	182.5	196.2	252.8	189.6	183.3	202.1	179.4	166.8	178.0	164.6
10.8	10.9	14.6	11.4	11.1	12.1	11.1	9.4	10.9	14.3	10.7
3.0	2.1	1.9	2.9	3.3	1.1	2.7	2.4	2.6	2.8	7.1
76.3	73.0	72.7	73.9	73.2	70.3	83.8	67.1	89.7	99.1	67.1
23.1	26.8	25.5	20.4	22.9	25.7	24.9	23.1	26.8	21.8	21.5
53.3	46.2	47.2	53.5	50.4	44.5	58.9	44.0	62.8	77.3	45.6
2.2	0.6	1.7	1.4	1.1	0.9	1.5	1.7	1.4	2.2	0.9
20.0	15.5	17.3	22.2	17.0	17.5	13.8	16.3	19.4	20.5	16.0
4.9	5.1	4.5	4.3	6.1	5.5	4.2	5.4	4.7	10.0	7.9
3.0	3.2	3.2	5.3	4.8	6.9	1.0	2.1	2.6	2.6	2.9
5.8	6.6	7.7	5.9	6.7	5.7	7.1	5.2	6.8	4.7	7.2
72.0	51.0	61.8	76.0	68.8	66.8	72.5	66.9	56.5	62.9	59.3
4.7	4.9	3.7	2.5	3.7	1.9	5.2	2.9	4.0	2.7	4.2
23.8	17.4	23.8	23.8	24.9	21.9	26.6	23.4	21.4	27.8	21.3
1.4	0.9	0.5	1.9	1.4	2.2	3.4	2.6	1.9	1.3	1.0
12.6	6.7	7.9	10.7	12.0	15.3	10.1	9.7	8.8	7.4	12.1
29.4	21.2	25.9	37.0	26.8	25.6	27.2	28.3	20.4	23.5	20.8

Table 5.20: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and county, 2015–2019, **females**

ICD-10	Site	Norway	Østfold	Akershus	Oslo	Hedmark	Oppland	Buskerud	Vestfold
C00–96	All sites	558.4	587.0	556.3	554.1	536.0	537.3	534.7	583.9
C00–14	Mouth, pharynx	8.2	7.5	7.9	9.6	7.9	8.4	8.2	9.9
C00	Lip	1.5	1.4	0.9	1.7	1.3	1.2	1.3	1.7
C02–06	Oral cavity	3.2	2.1	2.8	3.7	2.9	3.2	3.6	4.1
C07–08	Salivary glands	1.1	1.3	1.7	1.0	0.9	0.9	1.5	0.8
C09–10, C01, C14	Oropharynx	2.1	2.2	2.1	2.5	2.7	2.7	1.7	2.8
C11	Nasopharynx	0.2	0.1	0.3	0.2	0.0	0.2	0.1	0.3
C12–13	Hypopharynx	0.1	0.4	0.2	0.4	0.1	0.2	0.0	0.2
C15–26	Digestive organs	109.5	114.6	106.7	106.1	104.4	104.7	104.7	112.3
C15	Oesophagus	2.7	2.2	2.7	3.5	2.1	4.4	2.3	4.0
C16	Stomach	5.7	4.7	4.8	6.1	4.6	5.8	5.7	5.4
C17	Small intestine	2.9	3.3	3.2	2.9	3.4	3.7	2.8	2.0
C18	Colon	53.5	57.4	53.8	47.9	47.9	47.8	49.8	54.6
C19–20	Rectum, rectosigmoid	18.9	19.2	16.5	18.7	17.7	18.0	17.8	21.5
C21	Anus	2.5	2.9	2.4	2.9	2.7	1.9	3.1	2.8
C22	Liver	3.9	3.6	3.0	4.3	6.8	3.9	2.9	3.1
C23–24	Gallbladder, bile ducts	2.7	2.0	2.8	3.0	4.0	3.0	2.6	2.4
C25	Pancreas	14.1	15.9	14.9	13.9	12.8	12.9	14.6	14.2
C26	Other digestive organs	2.6	3.5	2.7	2.8	2.3	3.3	3.1	2.1
C30–34, C38	Respiratory organs	56.4	64.2	50.9	54.9	53.5	52.7	49.9	55.6
C30–31	Nose, sinuses	0.6	0.6	0.4	0.8	0.8	0.5	0.6	1.2
C32	Larynx, epiglottis	0.7	1.2	0.7	0.8	0.5	0.6	0.5	0.7
C33–34	Lung, trachea	54.9	62.4	49.6	53.1	52.2	51.4	48.7	53.6
C38	Heart, mediastinum and pleura	0.1	0.0	0.2	0.1	0.0	0.2	0.1	0.1
C40–41	Bone	0.9	0.9	0.9	1.0	0.9	0.7	0.8	0.7
C43	Melanoma of the skin	39.0	38.4	40.8	35.3	37.4	34.8	36.9	48.7
C44	Skin, non-melanoma	34.4	42.2	34.5	26.7	25.4	20.0	31.2	34.2
C45	Mesothelioma	0.5	0.0	0.6	0.6	0.7	1.4	0.5	0.5
C47	Autonomic nervous system	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.2
C48–49	Soft tissues	2.0	1.8	1.6	2.8	2.2	1.6	2.9	1.9
C50	Breast	129.5	129.0	141.1	139.3	120.1	122.8	128.9	133.1
C51–58	Female genital organs	64.9	73.4	62.6	63.8	71.2	77.4	63.5	63.6
C51–52, C57.7–9	Other female genital	4.3	4.0	3.9	4.2	4.3	4.2	4.8	3.9
C53	Cervix uteri	14.0	18.7	12.9	13.7	15.7	19.1	11.9	15.6
C54	Corpus uteri	27.6	31.3	25.3	26.1	33.4	31.4	32.2	24.8
C55	Uterus, other	0.3	0.2	0.3	0.1	0.0	0.0	0.2	0.2
C56, C57.0–4, C48.2	Ovary etc.	18.6	19.3	20.2	19.6	17.8	22.4	14.1	19.1
C58	Placenta	0.1	0.0	0.0	0.1	0.0	0.2	0.3	0.0
C64–68	Urinary organs	26.0	27.7	21.8	24.7	26.6	20.9	25.9	28.8
C64	Kidney (excl. renal pelvis)	10.2	11.2	9.1	7.9	9.5	7.3	10.9	12.4
C65–68	Urinary tract	15.7	16.5	12.7	16.8	17.1	13.6	15.0	16.5
C69	Eye	1.4	1.5	1.5	1.9	3.2	0.8	1.2	1.0
C70–72	Central nervous system	19.2	19.6	18.5	16.6	15.7	22.8	16.6	26.8
C73	Thyroid gland	11.2	13.5	9.7	14.3	9.0	9.0	6.5	9.4
C37, C74–75	Other endocrine glands	3.5	2.8	3.9	3.5	3.4	3.5	3.9	4.0
C39, C76, C80	Other or unspecified	5.3	5.8	4.2	4.5	7.8	5.8	5.1	6.1
C81–96	Lymphoid/haematopoietic tissue	46.4	43.9	48.9	48.6	46.6	49.8	48.0	47.0
C81	Hodgkin lymphoma	2.4	1.8	2.6	2.8	2.5	2.0	2.8	1.6
C82–86, C96	Non-Hodgkin lymphoma	16.3	16.1	15.2	15.3	18.7	15.5	15.7	16.4
C88	Immunoproliferative disease	0.8	0.1	0.8	1.1	0.4	0.2	0.4	0.7
C90	Multiple myeloma	7.0	5.8	9.2	6.4	7.7	9.1	6.3	7.2
C91–95	Leukaemia	19.8	20.1	21.2	23.0	17.2	23.1	22.8	21.1

Telemark	Aust-Agder	Vest-Agder	Rogaland	Hordaland	Sogn og Fjordane	Møre og Romsdal	Trøndelag	Nordland	Troms	Finnmark
567.2	568.6	583.2	580.6	583.2	510.5	517.5	545.4	551.2	585.1	528.2
6.5	7.5	7.3	7.7	8.2	5.2	6.8	8.8	9.2	10.1	8.3
1.8	2.0	2.4	1.6	1.7	1.2	1.0	2.0	0.8	0.6	1.4
2.2	2.3	3.4	3.1	3.5	2.5	2.8	2.9	5.2	4.1	3.4
1.4	1.1	0.4	0.9	1.2	0.2	1.7	0.9	1.2	2.0	0.5
1.2	1.8	1.1	1.8	1.2	1.3	1.1	2.7	1.9	3.4	3.0
0.0	0.3	0.0	0.3	0.5	0.0	0.0	0.3	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
98.2	104.3	112.6	106.5	115.5	114.8	115.7	108.8	117.7	120.8	95.6
2.2	2.9	3.1	1.3	1.9	2.1	2.8	2.7	3.4	2.6	2.3
4.7	3.8	7.8	4.7	6.2	7.4	6.5	6.2	6.0	7.0	8.3
1.9	2.5	4.1	3.1	2.8	2.5	2.9	3.8	2.7	1.1	1.0
49.0	52.6	57.2	54.5	58.3	55.7	62.1	50.9	56.2	58.9	41.0
19.1	14.2	16.8	18.5	21.6	16.6	20.3	19.9	23.3	20.4	12.4
2.9	2.4	1.6	2.0	3.0	1.9	1.7	1.4	3.2	2.9	2.5
2.7	4.3	3.2	3.7	3.3	5.2	3.0	5.2	3.7	4.0	6.7
2.0	1.7	1.9	3.8	2.9	2.7	1.0	3.2	2.3	3.5	1.9
11.8	15.9	14.2	12.9	13.7	18.0	13.3	12.8	14.0	17.3	18.1
1.9	3.9	2.9	2.0	2.0	2.7	2.1	2.7	2.9	3.1	1.4
57.9	65.3	69.4	61.5	54.2	56.0	50.5	54.0	61.9	59.9	74.2
0.6	0.4	0.6	0.6	0.1	1.0	0.3	0.6	0.4	0.6	0.5
1.1	0.3	0.4	0.7	0.6	0.4	0.6	0.7	0.9	1.4	1.0
56.2	64.6	68.4	60.1	53.1	53.7	49.5	52.7	60.4	57.6	72.7
0.0	0.0	0.0	0.0	0.4	1.0	0.2	0.0	0.1	0.2	0.0
1.3	0.3	1.7	0.8	0.9	0.8	1.5	0.9	0.8	1.0	0.0
47.7	45.9	47.7	46.3	43.9	29.0	24.1	45.1	23.1	35.6	21.6
45.1	50.9	60.9	42.8	47.2	33.3	20.5	25.5	30.2	30.5	25.0
0.2	0.0	0.5	0.4	0.2	0.3	0.7	0.4	0.7	0.4	0.0
0.3	0.0	0.2	0.2	0.2	0.0	0.3	0.3	0.0	0.0	0.0
1.9	1.5	2.5	1.1	1.8	1.1	2.4	3.0	1.6	0.8	0.9
129.2	126.0	116.5	130.3	132.7	117.6	134.1	127.3	117.9	115.6	103.8
70.3	64.4	59.8	67.0	65.9	56.5	56.3	60.8	63.5	66.4	78.0
3.9	3.6	5.5	4.5	4.9	4.0	3.1	4.3	5.7	3.1	6.0
15.2	13.2	11.4	13.9	14.3	11.9	10.8	13.0	14.9	15.4	16.9
29.6	26.0	27.7	27.2	29.0	22.4	22.8	28.1	25.0	25.9	31.0
0.8	1.6	0.0	0.4	0.4	0.7	0.5	0.0	0.4	0.4	0.5
20.5	20.0	14.9	20.9	17.3	17.6	18.9	15.4	17.5	21.4	22.8
0.3	0.0	0.2	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.7
25.7	23.4	25.8	25.4	22.9	18.2	25.1	26.9	33.6	43.1	36.9
11.3	10.0	11.0	10.3	9.9	8.5	8.9	11.6	13.7	13.1	11.5
14.4	13.4	14.7	15.2	12.9	9.6	16.2	15.3	20.0	30.0	25.4
1.2	1.5	0.4	0.9	1.2	0.8	1.0	1.7	1.2	2.1	2.2
14.7	17.3	16.7	23.2	23.5	15.3	15.9	15.3	21.8	25.6	16.6
14.2	8.8	8.3	7.5	12.4	9.1	10.4	12.7	14.3	16.6	15.1
2.8	4.6	4.0	4.0	5.2	5.1	2.0	1.8	3.3	2.8	2.1
6.0	7.8	4.9	5.8	4.8	3.9	4.8	4.0	7.4	6.7	5.7
44.0	39.0	43.9	49.3	42.6	43.5	45.4	48.1	42.9	47.0	42.3
1.8	3.1	3.0	2.3	2.5	1.0	3.5	2.3	2.0	2.9	1.5
14.9	14.7	16.5	17.1	16.6	12.8	16.6	17.7	17.5	18.1	17.7
0.9	0.3	0.8	1.3	1.0	0.6	0.7	1.4	1.0	0.4	0.0
5.4	5.6	5.1	7.0	6.0	9.3	6.6	6.4	8.8	5.9	7.9
21.0	15.2	18.4	21.5	16.5	19.7	18.1	20.2	13.6	19.6	15.3

Table 5.21: Average annual number of new cases for selected cancers by stage and period of diagnosis, 1960–2019, **males**

ICD-10	Site	Stage	1960–64	1965–69	1970–74	1975–79
C00–14	Mouth, pharynx	Total	191	194	244	238
		Localised	131	131	159	152
		Regional	46	44	60	70
		Distant	7	8	11	9
		Unknown	7	11	14	7
C15	Oesophagus	Total	80	78	79	91
		Localised	49	45	36	43
		Regional	12	10	17	18
		Distant	15	19	20	24
		Unknown	4	4	6	5
C16	Stomach	Total	801	786	673	613
		Localised	218	211	161	177
		Regional	174	155	154	140
		Distant	352	342	303	257
		Unknown	58	79	54	39
C18	Colon	Total	281	349	387	491
		Localised	114	139	129	156
		Regional	72	80	114	170
		Distant	81	113	127	148
		Unknown	14	17	17	17
C19–20	Rectum, rectosigmoid	Total	173	228	307	398
		Localised	84	106	142	180
		Regional	43	63	85	130
		Distant	38	50	68	80
		Unknown	8	9	12	8
C22	Liver	Total	24	32	50	52
		Localised	11	17	22	23
		Regional	1	1	3	5
		Distant	11	12	20	21
		Unknown	1	1	5	3
C23–24	Gallbladder, bile ducts	Total	22	25	27	38
		Localised	8	8	8	11
		Regional	3	5	5	9
		Distant	9	11	12	17
		Unknown	1	1	2	1
C25	Pancreas	Total	159	214	249	258
		Localised	47	58	49	43
		Regional	18	27	35	34
		Distant	85	117	141	154
		Unknown	9	12	24	27
C33–34	Lung, trachea	Total	355	489	646	838
		Localised	115	168	205	278
		Regional	77	93	127	143
		Distant	140	205	266	359
		Unknown	23	23	48	59
C43	Melanoma of the skin	Total	69	101	145	192
		Localised	43	64	108	156
		Regional	10	13	16	16
		Distant	15	17	14	16
		Unknown	1	7	7	4
C61	Prostate	Total	797	969	1 181	1 440
		Localised	497	638	765	961
		Regional	33	31	60	75
		Distant	207	219	256	307
		Unknown	61	81	100	97

1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2015-19 (%)
247	255	252	259	255	283	349	411	100.0
152	144	130	104	80	95	135	139	33.9
86	83	87	94	113	134	171	194	47.3
5	8	11	11	13	13	15	11	2.8
5	19	24	50	50	40	28	66	16.0
85	93	104	123	127	145	193	224	100.0
43	30	25	20	22	28	30	23	10.2
19	24	24	25	31	41	53	70	31.2
20	27	28	34	41	44	58	51	22.9
4	12	27	44	33	31	52	80	35.7
598	532	482	409	354	301	305	282	100.0
181	138	116	64	59	57	61	41	14.5
166	147	137	122	108	85	91	83	29.4
217	185	153	137	126	102	100	78	27.6
33	61	76	86	61	57	53	80	28.5
624	722	826	896	1 004	1 110	1 307	1 459	100.0
182	211	255	173	171	176	214	276	18.9
258	285	306	433	492	580	672	749	51.3
163	195	216	236	264	289	355	340	23.3
22	31	49	54	77	66	65	94	6.5
493	520	567	572	642	669	762	812	100.0
223	203	224	171	159	138	161	202	24.9
163	198	204	227	268	328	384	376	46.2
91	94	99	110	133	138	157	158	19.4
16	25	39	64	82	65	60	77	9.5
61	62	61	65	78	92	144	203	100.0
31	28	27	19	26	31	50	48	23.5
5	5	3	4	5	11	16	21	10.3
17	15	10	14	20	22	36	38	18.7
9	14	21	28	27	29	41	96	47.5
42	48	54	56	59	68	80	78	100.0
14	17	13	8	11	13	11	10	12.2
10	10	10	11	17	22	37	36	46.4
15	14	16	16	16	19	23	15	19.6
4	7	15	21	15	13	9	17	21.7
287	305	275	279	296	339	361	456	100.0
52	62	43	20	21	27	31	33	7.1
38	36	27	35	59	78	78	102	22.3
163	159	137	129	157	185	195	211	46.2
35	48	68	95	59	50	57	111	24.3
1 027	1 136	1 212	1 276	1 373	1 482	1 607	1 691	100.0
333	322	323	215	182	191	283	308	18.2
193	241	227	308	374	435	461	480	28.4
424	445	468	530	644	697	717	684	40.4
77	128	195	223	172	159	145	220	13.0
245	327	423	456	480	622	881	1 135	100.0
203	279	356	327	276	328	752	945	83.2
18	16	18	13	21	28	55	101	8.9
15	20	27	26	34	30	32	41	3.6
9	13	23	90	150	235	41	48	4.2
1 645	1 807	2 250	2 755	3 207	4 178	4 804	5 062	100.0
1 094	1 130	1 229	904	1 235	1 884	2 403	1 880	37.1
63	56	85	114	178	537	1 281	1 427	28.2
386	487	412	419	401	406	404	366	7.2
103	133	524	1 318	1 393	1 351	716	1 389	27.4

Continued on next page

Table 5.21: Average annual number of new cases for selected cancers
by stage and period of diagnosis, 1960–2019, **males** (Continued)

ICD-10	Site	Stage	1960–64	1965–69	1970–74	1975–79
C62	Testis	Total	68	70	86	101
		Localised	44	48	44	59
		Regional	3	4	14	21
		Distant	18	16	25	21
		Unknown	2	1	3	1
C64	Kidney (excl. renal pelvis)	Total	119	149	165	199
		Localised	61	75	69	80
		Regional	16	19	32	50
		Distant	37	51	59	65
		Unknown	4	4	5	3
C65–68	Urinary tract	Total	258	340	437	567
		Localised	215	281	335	457
		Regional	20	32	56	60
		Distant	17	18	30	37
		Unknown	7	9	16	12
C70–72	Central nervous system	Total	131	149	152	189
		Non-malignant	41	39	45	56
		Malignant	90	110	107	132
C73	Thyroid gland	Total	24	33	34	42
		Localised	5	10	14	20
		Regional	12	14	13	16
		Distant	7	8	6	5
		Unknown	1	1	1	0

1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2015-19 (%)
134	157	199	220	247	283	306	299	100.0
69	101	135	134	138	178	251	230	76.9
38	31	36	34	44	43	30	51	17.0
24	23	23	29	27	30	23	17	5.6
3	2	5	23	38	32	2	2	0.6
237	246	274	280	330	393	531	611	100.0
101	107	138	112	144	186	369	407	66.6
45	50	38	44	42	38	46	69	11.2
81	78	75	74	75	87	85	74	12.2
10	11	24	50	69	81	31	61	10.0
679	736	817	816	868	950	1 060	1 292	100.0
555	592	668	485	466	561	915	1 128	87.3
69	59	46	45	65	77	75	85	6.6
33	31	30	32	41	43	41	46	3.6
21	54	73	255	296	268	29	32	2.5
207	245	264	324	405	487	518	458	100.0
65	73	109	145	214	267	276	202	44.1
142	172	155	179	192	220	242	256	55.9
48	46	43	47	52	69	94	130	100.0
21	24	21	19	19	19	44	53	40.8
18	13	12	15	21	33	37	52	39.8
8	8	8	8	7	9	6	7	5.7
1	1	2	4	6	7	7	18	13.7

Table 5.22: Average annual number of new cases for selected cancers by stage and period of diagnosis, 1960–2019, **females**

ICD-10	Site	Stage	1960–64	1965–69	1970–74	1975–79
C00–14	Mouth, pharynx	Total	60	77	79	83
		Localised	35	43	42	46
		Regional	19	29	26	29
		Distant	3	2	6	3
		Unknown	3	2	4	5
C15	Oesophagus	Total	28	30	30	32
		Localised	19	18	15	18
		Regional	4	4	5	6
		Distant	3	6	7	6
		Unknown	2	2	3	2
C16	Stomach	Total	546	508	443	407
		Localised	152	128	101	108
		Regional	98	94	87	96
		Distant	229	221	212	167
		Unknown	67	64	43	36
C18	Colon	Total	324	408	472	626
		Localised	130	166	157	193
		Regional	79	97	147	228
		Distant	97	125	144	182
		Unknown	18	20	25	23
C19–20	Rectum, rectosigmoid	Total	127	179	247	317
		Localised	58	84	111	140
		Regional	32	47	70	100
		Distant	30	39	58	68
		Unknown	7	9	8	10
C22	Liver	Total	14	16	31	30
		Localised	6	7	14	14
		Regional	0	1	2	1
		Distant	6	8	12	14
		Unknown	1	0	3	2
C23–24	Gallbladder, bile ducts	Total	50	58	52	65
		Localised	16	14	13	17
		Regional	8	9	9	11
		Distant	24	34	26	34
		Unknown	2	1	3	4
C25	Pancreas	Total	117	142	181	213
		Localised	36	42	42	45
		Regional	12	14	23	27
		Distant	61	75	95	120
		Unknown	9	11	21	21
C33–34	Lung, trachea	Total	83	115	158	204
		Localised	25	35	50	62
		Regional	11	17	25	29
		Distant	41	57	71	96
		Unknown	6	6	11	17
C43	Melanoma of the skin	Total	82	108	162	240
		Localised	67	80	132	215
		Regional	6	7	10	8
		Distant	6	12	10	13
		Unknown	3	9	10	3

1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2015-19 (%)
99	110	117	129	131	177	200	236	100.0
54	64	67	61	44	67	95	105	44.6
38	35	33	38	48	71	81	86	36.4
3	4	4	6	5	5	5	5	2.0
4	7	14	23	35	33	18	40	17.0
33	36	42	44	53	55	66	79	100.0
15	15	12	8	12	12	16	9	11.7
8	8	7	8	12	12	16	18	23.4
6	6	8	9	12	12	14	14	17.3
4	6	15	19	18	18	20	38	47.7
401	358	313	267	229	221	182	166	100.0
126	109	77	48	43	47	34	23	13.9
104	92	78	66	64	51	43	39	23.7
135	112	106	85	77	80	58	49	29.4
36	45	53	68	45	43	47	55	33.0
745	859	946	1 085	1 169	1 277	1 406	1 585	100.0
221	242	301	208	205	214	229	283	17.9
302	363	365	528	580	677	760	825	52.1
186	215	217	255	282	309	334	353	22.3
36	40	63	94	103	79	83	123	7.7
397	404	444	470	487	514	542	545	100.0
184	163	186	142	130	116	132	137	25.1
130	142	139	180	203	242	252	244	44.7
68	71	77	85	88	98	104	105	19.3
15	28	42	63	66	58	54	59	10.8
39	44	47	41	46	57	82	113	100.0
18	19	17	9	11	17	30	21	18.9
2	2	3	3	5	8	10	15	12.9
15	11	9	9	8	13	20	23	20.7
5	11	18	19	21	19	22	54	47.5
81	81	72	80	76	83	99	80	100.0
26	25	19	12	10	17	11	7	9.3
16	15	13	15	16	20	37	30	37.8
33	25	24	24	26	30	38	23	29.1
6	15	16	29	24	16	13	19	23.8
253	286	300	312	336	358	379	417	100.0
50	66	58	21	28	41	41	35	8.3
33	35	27	36	57	76	79	94	22.5
134	138	121	139	163	175	187	168	40.3
36	47	95	117	89	66	72	121	28.9
282	393	523	665	847	1 083	1 329	1 596	100.0
76	103	122	104	120	173	275	341	21.4
46	71	103	147	210	286	346	424	26.5
134	173	210	279	420	505	586	617	38.6
26	46	87	135	98	119	121	215	13.5
326	411	477	500	548	646	895	1 083	100.0
287	379	430	367	333	364	803	954	88.1
16	11	12	11	13	20	37	65	6.0
12	11	15	20	22	19	19	23	2.1
11	11	21	102	179	244	36	41	3.8

Continued on next page

Table 5.22: Average annual number of new cases for selected cancers by stage and period of diagnosis, 1960–2019, **females** (Continued)

ICD-10	Site	Stage	1960–64	1965–69	1970–74	1975–79
C50	Breast	Total	1 027	1 171	1 312	1 509
		I	467	569	640	794
		II	355	369	411	435
		III	80	83	94	109
		IV	96	115	111	117
		Unknown	28	36	56	55
C53	Cervix uteri	Total	350	383	438	422
		I	136	179	224	225
		II	119	134	117	98
		III	54	40	63	56
		IV	24	20	23	23
		Unknown	17	11	11	21
C54	Corpus uteri	Total	207	250	300	360
		Localised	171	199	249	288
		Regional	11	13	19	37
		Distant	21	35	28	31
		Unknown	4	3	4	3
C56, C57.0–4, C48.2	Ovary etc.	Total	281	352	374	399
		Localised	89	110	135	108
		Regional	18	18	25	27
		Distant	160	217	204	253
		Unknown	14	6	11	10
C64	Kidney (excl. renal pelvis)	Total	88	100	114	134
		Localised	52	54	58	65
		Regional	10	11	23	25
		Distant	25	32	29	40
		Unknown	2	3	4	3
C65–68	Urinary tract	Total	124	144	191	229
		Localised	76	99	123	158
		Regional	18	20	31	32
		Distant	20	19	26	26
		Unknown	9	6	11	12
C70–72	Central nervous system	Total	115	133	128	182
		Non-malignant	51	62	53	80
		Malignant	65	70	74	102
C73	Thyroid gland	Total	59	79	100	123
		Localised	25	44	55	77
		Regional	22	24	29	30
		Distant	11	9	12	14
		Unknown	2	2	4	2

1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19	2015-19 (%)
1 634	1 779	1 949	2 336	2 665	2 746	3 078	3 543	100.0
886	448	342	665	929	1 109	1 250	1 513	42.7
475	643	737	868	1 083	1 075	1 034	1 165	32.9
90	118	111	137	170	224	366	375	10.6
104	118	135	123	136	110	108	144	4.1
79	452	624	543	347	228	321	347	9.8
369	327	363	329	292	298	314	367	100.0
198	140	130	156	147	146	130	147	40.1
73	70	62	64	53	64	64	50	13.7
52	45	36	34	33	24	21	20	5.6
23	14	14	21	21	25	21	15	4.2
23	59	120	54	38	39	78	134	36.4
383	395	444	488	611	689	732	783	100.0
282	298	315	327	364	450	554	568	72.6
49	41	50	56	66	74	48	59	7.5
37	44	53	65	80	94	92	90	11.5
14	12	26	40	102	71	38	65	8.4
439	451	480	480	499	492	505	524	100.0
111	119	134	100	87	86	102	107	20.3
43	26	17	14	14	14	17	108	20.7
269	292	307	319	336	346	354	273	52.0
16	14	23	46	63	45	32	37	7.0
149	172	189	191	199	240	246	290	100.0
66	81	102	83	83	122	173	195	67.1
34	29	22	22	21	21	17	28	9.7
43	51	45	47	47	38	37	30	10.3
7	11	20	39	48	59	19	38	13.0
252	272	277	303	336	348	414	463	100.0
186	207	204	153	164	190	334	376	81.3
31	25	19	24	32	36	33	45	9.7
20	17	19	21	27	24	24	18	3.9
15	23	35	105	113	97	24	24	5.2
206	247	283	391	531	640	593	526	100.0
91	125	164	245	378	474	423	344	65.5
115	122	120	146	153	167	170	181	34.5
147	135	136	121	146	168	231	298	100.0
97	90	86	60	70	78	137	167	55.9
34	31	33	38	44	53	74	81	27.1
11	10	11	9	10	8	9	7	2.4
5	4	6	13	21	29	11	43	14.5

Table 5.23: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years for selected cancers by stage and period of diagnosis, 1960–2019, **males**

ICD-10	Site	Stage	1960–64	1965–69	1970–74	1975–79
C00–14	Mouth, pharynx	Total	15.1	14.4	16.3	15.1
		Localised	10.5	9.8	10.6	9.7
		Regional	3.4	3.1	4.0	4.3
		Distant	0.6	0.5	0.7	0.6
		Unknown	0.6	0.9	1.0	0.5
C15	Oesophagus	Total	6.8	5.8	5.4	5.9
		Localised	4.4	3.4	2.5	3.0
		Regional	0.8	0.7	1.1	1.1
		Distant	1.0	1.3	1.4	1.5
		Unknown	0.5	0.4	0.4	0.4
C16	Stomach	Total	65.0	58.9	47.2	40.1
		Localised	18.7	17.0	12.1	12.2
		Regional	12.6	10.5	10.1	8.8
		Distant	27.4	24.1	20.1	16.0
		Unknown	6.3	7.3	4.9	3.1
C18	Colon	Total	22.7	25.6	27.0	32.4
		Localised	9.6	10.3	9.3	10.4
		Regional	5.3	5.6	7.5	11.0
		Distant	6.3	8.1	8.8	9.6
		Unknown	1.5	1.6	1.5	1.4
C19–20	Rectum, rectosigmoid	Total	13.8	16.8	20.8	25.8
		Localised	6.8	8.0	9.8	12.0
		Regional	3.3	4.3	5.6	8.1
		Distant	2.8	3.6	4.4	5.1
		Unknown	0.9	0.9	1.0	0.7
C22	Liver	Total	1.7	2.2	3.1	3.2
		Localised	0.8	1.2	1.4	1.4
		Regional	0.1	0.1	0.2	0.3
		Distant	0.7	0.8	1.2	1.3
		Unknown	0.1	0.1	0.3	0.2
C23–24	Gallbladder, bile ducts	Total	1.7	1.8	2.0	2.4
		Localised	0.6	0.6	0.5	0.7
		Regional	0.3	0.3	0.3	0.5
		Distant	0.7	0.8	0.9	1.1
		Unknown	0.1	0.1	0.2	0.1
C25	Pancreas	Total	11.9	15.3	16.3	16.3
		Localised	3.6	4.3	3.3	2.9
		Regional	1.3	2.0	2.2	2.1
		Distant	6.2	8.2	9.1	9.6
		Unknown	0.7	0.9	1.6	1.8
C33–34	Lung, trachea	Total	24.5	31.5	39.4	49.3
		Localised	7.9	11.1	12.5	16.4
		Regional	5.1	5.7	7.4	8.1
		Distant	9.7	13.1	16.3	20.9
		Unknown	1.8	1.6	3.1	3.8
C43	Melanoma of the skin	Total	4.7	6.6	9.0	11.4
		Localised	3.0	4.2	6.7	9.2
		Regional	0.6	0.8	0.9	1.0
		Distant	1.0	1.1	0.9	1.0
		Unknown	0.1	0.5	0.5	0.2

1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19
14.8	14.9	14.3	14.3	13.2	13.5	14.9	15.8
9.2	8.5	7.4	5.8	4.2	4.6	5.9	5.5
5.0	4.8	4.9	5.0	5.7	6.2	7.2	7.3
0.3	0.4	0.6	0.6	0.6	0.6	0.7	0.4
0.3	1.2	1.4	2.8	2.7	2.0	1.2	2.6
5.2	5.5	6.0	6.8	6.9	7.1	8.5	8.7
2.7	1.9	1.5	1.1	1.2	1.4	1.4	0.9
1.1	1.4	1.4	1.4	1.7	2.0	2.3	2.7
1.1	1.5	1.6	1.8	2.2	2.1	2.5	2.0
0.3	0.7	1.6	2.5	1.8	1.6	2.4	3.2
37.1	31.9	28.0	23.0	19.2	15.3	13.6	11.3
12.1	8.9	6.9	3.6	3.2	3.0	2.8	1.6
9.7	8.4	7.5	6.7	5.7	4.2	4.0	3.3
13.0	10.7	8.6	7.6	6.8	5.0	4.4	3.0
2.4	4.0	5.0	5.2	3.6	3.0	2.5	3.4
38.5	43.0	47.7	50.2	54.1	55.8	59.3	58.2
11.4	12.5	14.6	9.5	9.3	8.8	9.6	10.9
15.5	16.8	17.5	24.3	26.2	29.3	30.5	29.8
9.9	11.5	12.3	13.1	14.2	14.3	15.9	13.3
1.7	2.2	3.3	3.3	4.5	3.5	3.3	4.2
30.2	30.4	32.5	31.9	34.3	33.0	33.5	31.6
14.1	12.0	12.9	9.4	8.6	6.9	7.1	7.8
9.5	11.2	11.4	12.5	14.1	16.1	16.8	14.5
5.4	5.4	5.6	6.1	7.0	6.8	6.8	6.1
1.2	1.7	2.6	3.9	4.6	3.3	2.8	3.1
3.6	3.6	3.4	3.5	4.1	4.5	6.3	8.0
1.8	1.6	1.5	1.1	1.4	1.5	2.2	1.8
0.3	0.3	0.1	0.2	0.3	0.5	0.7	0.8
1.0	0.9	0.6	0.7	1.0	1.0	1.5	1.5
0.5	0.8	1.2	1.5	1.5	1.4	1.9	3.9
2.6	2.8	3.1	3.2	3.2	3.5	3.6	3.1
0.9	1.0	0.8	0.4	0.6	0.7	0.5	0.4
0.5	0.5	0.6	0.6	0.9	1.1	1.6	1.4
0.9	0.8	0.9	0.9	0.9	1.0	1.0	0.6
0.2	0.4	0.9	1.3	0.9	0.7	0.5	0.7
17.8	18.0	15.9	15.6	15.9	17.0	16.2	18.0
3.6	3.8	2.6	1.1	1.1	1.4	1.4	1.3
2.2	2.1	1.5	1.9	3.1	3.9	3.4	3.9
9.6	9.1	7.6	7.1	8.3	9.1	8.6	8.2
2.4	3.0	4.1	5.5	3.3	2.6	2.8	4.7
58.6	63.7	67.3	69.6	72.3	72.9	71.7	66.3
19.2	18.1	17.8	11.6	9.5	9.5	12.6	11.9
10.8	13.3	12.4	16.5	19.5	21.4	20.3	18.4
24.0	24.9	25.9	28.9	33.8	34.1	31.8	26.7
4.7	7.5	11.2	12.6	9.5	8.0	7.0	9.4
14.0	18.2	22.9	23.7	24.2	29.4	38.0	44.2
11.6	15.4	19.1	16.9	13.8	15.4	32.4	36.7
1.0	0.9	1.0	0.7	1.1	1.4	2.5	4.0
0.9	1.1	1.5	1.4	1.7	1.5	1.4	1.6
0.6	0.7	1.3	4.7	7.6	11.2	1.8	2.0

Continued on next page

Table 5.23: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years for selected cancers by stage and period of diagnosis, 1960–2019, **males** (Continued)

ICD-10	Site	Stage	1960–64	1965–69	1970–74	1975–79
C61	Prostate	Total	71.2	79.6	88.0	99.0
		Localised	44.2	52.1	56.2	65.3
		Regional	3.1	2.7	4.6	5.1
		Distant	18.0	17.4	18.7	21.0
		Unknown	5.9	7.4	8.4	7.6
C62	Testis	Total	4.2	4.1	4.8	5.3
		Localised	2.7	2.8	2.5	3.1
		Regional	0.2	0.2	0.8	1.1
		Distant	1.1	1.0	1.3	1.1
		Unknown	0.1	0.1	0.2	0.0
C64	Kidney (excl. renal pelvis)	Total	8.5	10.1	10.2	11.8
		Localised	4.4	5.3	4.4	4.8
		Regional	1.1	1.2	1.9	2.9
		Distant	2.7	3.4	3.6	3.9
		Unknown	0.3	0.3	0.3	0.2
C65–68	Urinary tract	Total	20.0	24.1	29.2	35.6
		Localised	16.7	19.8	22.3	28.6
		Regional	1.5	2.3	3.7	3.7
		Distant	1.3	1.3	2.0	2.5
		Unknown	0.6	0.7	1.2	0.8
C70–72	Central nervous system	Total	7.7	8.5	8.6	10.2
		Non-malignant	2.5	2.3	2.6	3.1
		Malignant	5.2	6.2	5.9	7.1
C73	Thyroid gland	Total	1.7	2.2	2.1	2.5
		Localised	0.4	0.6	0.9	1.2
		Regional	0.8	0.9	0.8	0.9
		Distant	0.5	0.6	0.4	0.4
		Unknown	0.0	0.1	0.1	0.0

1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19
104.4	108.8	131.0	157.4	176.4	209.3	211.0	194.4
68.4	67.7	70.9	50.7	67.1	92.8	102.9	70.4
3.9	3.3	5.0	6.7	9.9	26.9	56.8	54.2
24.8	29.2	24.0	23.9	22.3	21.0	19.0	15.2
7.2	8.6	31.1	76.0	77.1	68.5	32.3	54.6
6.5	7.2	8.8	9.4	10.5	11.9	12.0	11.1
3.4	4.6	5.9	5.7	5.8	7.5	9.8	8.6
1.8	1.4	1.6	1.5	1.9	1.8	1.2	1.9
1.1	1.0	1.0	1.3	1.2	1.3	0.9	0.6
0.2	0.1	0.2	1.0	1.7	1.4	0.1	0.1
13.9	14.2	15.2	15.2	17.0	18.7	22.6	23.2
6.0	6.1	7.6	6.0	7.3	8.8	15.5	15.2
2.7	2.9	2.1	2.4	2.1	1.8	1.9	2.6
4.6	4.5	4.1	4.0	3.9	4.3	3.7	2.9
0.6	0.7	1.4	2.9	3.7	3.9	1.5	2.5
40.4	43.9	46.8	45.7	46.7	47.6	48.3	51.9
32.9	35.4	38.1	27.0	24.9	27.9	41.6	45.2
4.0	3.4	2.6	2.5	3.4	3.8	3.4	3.4
2.0	1.8	1.7	1.8	2.2	2.2	1.9	1.9
1.5	3.4	4.4	14.4	16.2	13.7	1.4	1.4
11.1	13.0	13.9	16.3	19.5	22.2	21.6	17.5
3.6	4.0	5.8	7.2	10.2	12.0	11.5	7.7
7.5	9.0	8.1	9.0	9.3	10.2	10.1	9.7
2.7	2.5	2.3	2.4	2.5	3.1	3.9	4.9
1.2	1.3	1.1	1.0	0.9	0.9	1.8	2.0
1.0	0.7	0.6	0.7	1.0	1.5	1.5	2.0
0.5	0.5	0.4	0.4	0.4	0.4	0.2	0.3
0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.7

Table 5.24: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years for selected cancers by stage and period of diagnosis, 1960–2019, **females**

ICD-10	Site	Stage	1960–64	1965–69	1970–74	1975–79
C00–14	Mouth, pharynx	Total	4.0	4.8	4.4	4.3
		Localised	2.2	2.8	2.4	2.4
		Regional	1.4	1.8	1.5	1.5
		Distant	0.2	0.1	0.3	0.2
		Unknown	0.2	0.1	0.3	0.3
C15	Oesophagus	Total	2.0	1.9	1.6	1.6
		Localised	1.4	1.1	0.8	1.0
		Regional	0.2	0.2	0.3	0.3
		Distant	0.2	0.4	0.4	0.3
		Unknown	0.2	0.2	0.2	0.1
C16	Stomach	Total	39.0	32.2	25.1	21.0
		Localised	11.2	8.5	5.9	5.8
		Regional	6.1	5.4	4.6	4.7
		Distant	15.6	13.4	11.7	8.4
		Unknown	6.1	4.9	2.8	2.1
C18	Colon	Total	22.1	25.1	26.2	32.1
		Localised	9.0	10.4	8.8	10.0
		Regional	5.0	5.6	7.8	11.5
		Distant	6.4	7.5	7.9	9.2
		Unknown	1.6	1.6	1.7	1.4
C19–20	Rectum, rectosigmoid	Total	8.5	10.8	13.7	16.3
		Localised	3.9	5.1	6.2	7.2
		Regional	2.1	2.7	3.8	5.1
		Distant	2.0	2.2	3.2	3.5
		Unknown	0.6	0.6	0.5	0.6
C22	Liver	Total	0.9	1.0	1.6	1.5
		Localised	0.4	0.4	0.8	0.7
		Regional	0.0	0.1	0.1	0.0
		Distant	0.4	0.5	0.6	0.7
		Unknown	0.1	0.0	0.1	0.1
C23–24	Gallbladder, bile ducts	Total	3.3	3.5	2.9	3.2
		Localised	1.1	0.9	0.8	0.9
		Regional	0.5	0.6	0.5	0.5
		Distant	1.6	2.0	1.4	1.7
		Unknown	0.1	0.1	0.2	0.2
C25	Pancreas	Total	7.6	8.5	10.0	10.6
		Localised	2.4	2.5	2.3	2.3
		Regional	0.7	0.8	1.2	1.3
		Distant	3.9	4.5	5.2	5.9
		Unknown	0.6	0.7	1.3	1.1
C33–34	Lung, trachea	Total	5.3	6.6	8.6	10.3
		Localised	1.6	2.1	2.7	3.1
		Regional	0.6	0.9	1.3	1.5
		Distant	2.6	3.2	3.8	4.9
		Unknown	0.4	0.4	0.7	0.9
C43	Melanoma of the skin	Total	5.0	6.4	9.2	13.0
		Localised	4.0	4.8	7.5	11.7
		Regional	0.4	0.4	0.6	0.4
		Distant	0.4	0.7	0.6	0.7
		Unknown	0.2	0.5	0.6	0.1

1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19
4.9	5.1	5.3	5.7	5.6	7.2	7.5	8.2
2.7	3.0	3.0	2.7	1.9	2.7	3.6	3.7
1.8	1.6	1.5	1.7	2.1	2.9	3.1	3.0
0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2
0.2	0.4	0.6	1.0	1.4	1.3	0.7	1.4
1.6	1.6	1.8	1.8	2.2	2.1	2.4	2.7
0.8	0.7	0.5	0.3	0.5	0.5	0.6	0.3
0.4	0.4	0.3	0.4	0.5	0.5	0.6	0.6
0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.5
0.2	0.3	0.6	0.8	0.7	0.7	0.7	1.2
18.8	15.8	13.1	10.7	9.1	8.4	6.6	5.7
6.0	4.8	3.2	1.9	1.7	1.8	1.2	0.8
4.7	4.1	3.3	2.7	2.6	1.9	1.5	1.4
6.2	4.9	4.4	3.6	3.1	3.1	2.2	1.7
1.9	2.0	2.1	2.6	1.7	1.6	1.6	1.8
35.4	38.2	40.5	44.8	47.0	49.2	51.4	53.5
10.5	10.7	12.8	8.6	8.2	8.2	8.5	9.7
14.3	16.0	15.6	21.9	23.3	26.2	27.9	27.8
8.8	9.7	9.5	10.7	11.5	12.1	12.4	12.1
1.8	1.8	2.6	3.6	3.9	2.7	2.7	3.9
18.9	18.1	19.4	19.9	20.1	20.4	20.3	18.9
8.9	7.4	8.1	6.0	5.4	4.7	5.0	4.8
6.0	6.4	6.2	7.8	8.4	9.6	9.5	8.5
3.2	3.1	3.4	3.6	3.7	4.0	3.9	3.7
0.8	1.3	1.7	2.5	2.6	2.2	1.9	2.0
1.9	1.9	2.0	1.7	1.9	2.2	3.0	3.9
0.9	0.8	0.7	0.4	0.4	0.6	1.1	0.7
0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.5
0.7	0.5	0.4	0.4	0.3	0.5	0.7	0.8
0.2	0.5	0.7	0.8	0.8	0.7	0.8	1.8
3.7	3.5	3.0	3.2	3.0	3.2	3.7	2.7
1.2	1.1	0.8	0.5	0.4	0.6	0.4	0.3
0.7	0.7	0.6	0.7	0.7	0.8	1.4	1.1
1.5	1.1	1.0	1.0	1.1	1.2	1.4	0.8
0.3	0.7	0.6	1.1	0.9	0.6	0.4	0.6
11.8	12.6	12.4	12.6	13.3	13.7	13.9	14.1
2.3	2.9	2.3	0.9	1.0	1.4	1.5	1.2
1.5	1.6	1.2	1.5	2.3	3.0	3.0	3.2
6.2	6.1	5.2	5.8	6.7	6.9	7.0	5.7
1.7	2.0	3.7	4.4	3.2	2.3	2.5	3.9
13.7	18.5	24.5	30.4	37.5	44.7	50.8	54.9
3.6	4.7	5.6	4.8	5.3	7.3	10.6	11.8
2.3	3.5	5.0	6.9	9.3	11.9	13.3	14.7
6.6	8.3	10.1	13.0	18.9	20.8	22.5	21.4
1.2	2.1	3.7	5.7	4.0	4.7	4.3	7.1
16.8	20.4	22.5	22.7	23.8	26.7	34.6	39.0
14.9	18.8	20.4	16.7	14.6	15.1	31.2	34.5
0.8	0.5	0.5	0.5	0.5	0.7	1.4	2.3
0.6	0.6	0.7	0.9	1.0	0.8	0.7	0.8
0.5	0.5	1.0	4.7	7.7	10.1	1.3	1.4

Continued on next page

Table 5.24: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years for selected cancers by stage and period of diagnosis, 1960–2019, **females** (Continued)

ICD-10	Site	Stage	1960–64	1965–69	1970–74	1975–79
C50	Breast	Total	64.3	68.5	73.2	80.0
		I	29.3	33.3	35.8	42.0
		II	21.4	20.9	22.6	23.1
		III	5.4	5.0	5.3	5.7
		IV	6.2	6.9	6.1	6.0
		Unknown	2.0	2.4	3.4	3.2
C53	Cervix uteri	Total	20.7	22.2	25.0	23.2
		I	7.9	10.4	13.2	12.7
		II	7.0	7.7	6.4	5.2
		III	3.3	2.3	3.4	2.9
		IV	1.4	1.1	1.2	1.2
		Unknown	1.1	0.7	0.6	1.1
C54	Corpus uteri	Total	12.3	14.1	15.9	18.7
		Localised	10.1	11.1	13.2	15.0
		Regional	0.7	0.8	1.0	1.9
		Distant	1.3	2.0	1.5	1.6
		Unknown	0.3	0.2	0.2	0.2
		Total	17.0	19.9	20.2	20.7
C56, C57.0–4, C48.2	Ovary etc.	Localised	5.4	6.2	7.3	5.8
		Regional	1.1	1.0	1.3	1.4
		Distant	9.7	12.2	11.0	13.0
		Unknown	0.9	0.4	0.6	0.5
		Total	5.5	5.8	6.0	6.7
		Localised	3.2	3.2	3.1	3.3
C64	Kidney (excl. renal pelvis)	Regional	0.6	0.6	1.2	1.2
		Distant	1.5	1.8	1.5	2.0
		Unknown	0.1	0.2	0.2	0.2
		Total	8.4	8.8	10.6	11.6
		Localised	5.2	5.9	6.7	8.1
		Regional	1.2	1.2	1.7	1.6
C65–68	Urinary tract	Distant	1.3	1.2	1.5	1.3
		Unknown	0.7	0.4	0.7	0.7
		Total	6.6	7.3	6.8	9.4
		Non-malignant	3.0	3.5	2.9	4.2
		Malignant	3.6	3.8	3.9	5.2
		Total	3.7	4.7	5.6	6.6
C70–72	Central nervous system	Localised	1.6	2.6	3.1	4.3
		Regional	1.4	1.4	1.6	1.5
		Distant	0.7	0.5	0.6	0.7
		Unknown	0.1	0.1	0.3	0.1
		Total	3.7	4.7	5.6	6.6
		Localised	1.6	2.6	3.1	4.3
C73	Thyroid gland	Regional	1.4	1.4	1.6	1.5
		Distant	0.7	0.5	0.6	0.7
		Unknown	0.1	0.1	0.3	0.1
		Total	3.7	4.7	5.6	6.6
		Localised	1.6	2.6	3.1	4.3
		Regional	1.4	1.4	1.6	1.5

1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19
82.8	86.3	91.1	108.2	119.4	115.3	120.6	129.5
44.5	21.6	16.4	32.0	44.0	48.3	50.1	56.2
24.2	31.7	34.9	40.4	48.6	45.1	40.6	42.5
4.5	5.6	4.9	6.0	7.1	9.1	14.2	13.6
5.2	5.6	6.3	5.5	5.7	4.5	4.2	5.2
4.4	21.8	28.6	24.3	13.9	8.3	11.5	12.1
19.1	16.2	17.2	15.1	12.7	12.4	12.5	14.0
10.4	6.9	6.2	7.2	6.5	6.2	5.3	5.7
3.8	3.6	3.0	2.9	2.3	2.7	2.5	1.9
2.6	2.1	1.7	1.5	1.4	1.0	0.8	0.7
1.1	0.7	0.7	0.9	0.9	1.0	0.8	0.6
1.2	2.9	5.6	2.5	1.6	1.6	3.1	5.1
19.4	19.6	21.4	22.8	26.9	28.8	28.2	27.6
14.5	15.0	15.5	15.6	16.2	18.9	21.5	20.2
2.4	1.9	2.4	2.6	2.9	3.1	1.8	2.0
1.8	2.1	2.5	3.0	3.5	3.9	3.5	3.1
0.7	0.6	1.1	1.7	4.3	2.9	1.4	2.2
22.3	22.0	22.8	21.9	21.8	20.2	19.5	18.6
5.7	5.9	6.4	4.7	3.9	3.6	4.0	3.9
2.2	1.3	0.8	0.7	0.6	0.6	0.7	3.8
13.6	14.2	14.6	14.6	14.7	14.3	13.7	9.6
0.8	0.6	1.0	2.0	2.6	1.7	1.1	1.2
7.1	7.8	8.2	8.2	8.2	9.7	9.4	10.2
3.2	3.7	4.5	3.7	3.6	5.0	6.7	7.0
1.6	1.3	1.0	1.0	0.9	0.9	0.6	1.0
2.0	2.3	1.9	2.0	1.9	1.5	1.4	1.0
0.3	0.5	0.8	1.6	1.9	2.4	0.7	1.2
11.8	12.1	11.8	12.5	13.5	13.7	15.2	15.7
8.8	9.2	8.8	6.4	6.7	7.5	12.3	12.8
1.4	1.1	0.8	1.0	1.3	1.4	1.2	1.5
1.0	0.7	0.8	0.9	1.1	1.0	0.9	0.6
0.7	1.0	1.4	4.1	4.4	3.7	0.8	0.8
10.3	12.1	13.3	17.7	23.3	26.7	23.2	19.2
4.5	6.2	7.7	11.0	16.7	19.7	16.6	12.6
5.7	5.9	5.6	6.7	6.7	7.0	6.6	6.6
7.4	6.5	6.4	5.4	6.3	7.1	9.2	11.2
5.0	4.4	4.1	2.7	3.1	3.3	5.5	6.3
1.7	1.4	1.5	1.7	1.9	2.2	2.9	3.0
0.5	0.4	0.5	0.4	0.4	0.3	0.3	0.3
0.2	0.2	0.3	0.6	0.9	1.2	0.4	1.6

Table 5.25: Average annual number of new cases by primary site and origin, 2015–2019, **males**

ICD-10	Site	Norwegian born	Nordic countries	W Europe, North America and Oceania	Other European Countries	Middle East and Africa	Asia
C00–96	All sites	17 070	272	305	266	175	133
C00–14	Mouth, pharynx	375	8	7	8	5	3
C00	Lip	49	0	1	1	0	0
C02–06	Oral cavity	112	3	2	1	2	2
C07–08	Salivary glands	33	0	0	1	1	0
C09–10, C01, C14	Oropharynx	156	3	4	4	1	0
C11	Nasopharynx	6	0	0	1	1	0
C12–13	Hypopharynx	19	1	0	0	0	0
C15–26	Digestive organs	3 446	52	58	49	36	30
C15	Oesophagus	208	4	4	2	1	0
C16	Stomach	252	2	6	9	6	3
C17	Small intestine	106	2	2	1	1	0
C18	Colon	1 366	19	18	16	11	7
C19–20	Rectum, rectosigmoid	758	12	11	8	6	6
C21	Anus	29	0	1	0	0	0
C22	Liver	176	3	3	4	5	7
C23–24	Gallbladder, bile ducts	72	1	2	1	0	1
C25	Pancreas	418	7	9	6	5	4
C26	Other digestive organs	61	1	1	1	1	1
C30–34, C38	Respiratory organs	1 661	29	30	39	16	14
C30–31	Nose, sinuses	21	1	0	1	0	0
C32	Larynx, epiglottis	79	1	1	3	1	0
C33–34	Lung, trachea	1 550	27	28	35	14	13
C38	Heart, mediastinum and pleura	11	0	0	0	0	0
C40–41	Bone	28	0	1	2	0	1
C43	Melanoma of the skin	1 071	17	19	10	1	1
C44	Skin, non-melanoma	1 193	13	18	4	5	3
C45	Mesothelioma	63	1	2	0	0	0
C47	Autonomic nervous system	4	0	0	0	0	0
C48–49	Soft tissues	61	1	1	2	2	0
C50	Breast	26	0	1	1	0	0
C60–63	Male genital organs	5 061	84	85	50	39	29
C61	Prostate	4 727	78	77	39	36	28
C62	Testis	271	5	7	10	3	1
C60, C63	Other male genital	63	1	1	1	0	0
C64–68	Urinary organs	1 734	29	33	43	23	14
C64	Kidney (excl. renal pelvis)	549	8	11	21	8	5
C65–68	Urinary tract	1 185	21	22	23	15	9
C69	Eye	37	0	1	1	0	1
C70–72	Central nervous system	404	8	9	17	10	5
C73	Thyroid gland	110	2	3	5	4	3
C37, C74–75	Other endocrine glands	80	1	1	3	3	3
C39, C76, C80	Other or unspecified	131	1	2	2	1	1
C81–96	Lymphoid/haematopoietic tissue	1 585	26	35	31	29	23
C81	Hodgkin lymphoma	80	1	2	3	4	2
C82–86, C96	Non-Hodgkin lymphoma	546	10	14	12	11	8
C88	Immunoproliferative disease	46	0	0	1	0	0
C90	Multiple myeloma	260	4	4	3	4	3
C91–95	Leukaemia	652	10	15	13	10	11

Table 5.26: Average annual number of new cases by primary site and origin, 2015–2019, **females**

ICD-10	Site	Norwegian born	Nordic countries	W Europe, North America and Oceania	Other European Countries	Middle East and Africa	Asia
C00–96	All sites	14 537	241	237	292	141	229
C00–14	Mouth, pharynx	215	4	3	4	2	4
C00	Lip	41	0	1	0	0	0
C02–06	Oral cavity	86	2	2	1	0	1
C07–08	Salivary glands	29	0	0	1	1	2
C09–10, C01, C14	Oropharynx	52	1	0	1	1	1
C11	Nasopharynx	4	0	0	1	0	0
C12–13	Hypopharynx	3	0	0	0	0	0
C15–26	Digestive organs	2 994	43	39	43	22	32
C15	Oesophagus	72	0	2	1	2	1
C16	Stomach	145	2	2	7	3	4
C17	Small intestine	78	1	0	1	1	1
C18	Colon	1 495	23	18	14	7	10
C19–20	Rectum, rectosigmoid	508	7	6	8	4	6
C21	Anus	63	2	2	1	0	0
C22	Liver	100	1	1	3	1	5
C23–24	Gallbladder, bile ducts	74	1	0	2	1	1
C25	Pancreas	390	5	6	5	2	3
C26	Other digestive organs	70	1	1	1	1	2
C30–34, C38	Respiratory organs	1 534	21	22	20	5	12
C30–31	Nose, sinuses	15	0	1	0	0	0
C32	Larynx, epiglottis	19	0	0	0	0	0
C33–34	Lung, trachea	1 497	20	21	19	4	12
C38	Heart, mediastinum and pleura	4	0	0	0	0	0
C40–41	Bone	21	1	0	1	0	1
C43	Melanoma of the skin	1 026	17	14	12	1	0
C44	Skin, non-melanoma	1 003	13	14	5	3	2
C45	Mesothelioma	13	0	0	0	0	0
C47	Autonomic nervous system	3	0	0	0	0	0
C48–49	Soft tissues	49	2	0	2	1	0
C50	Breast	3 156	66	69	84	45	77
C51–58	Female genital organs	1 638	27	27	43	16	38
C51–52, C57.7–9	Other female genital	118	1	1	1	1	1
C53	Cervix uteri	316	7	5	15	5	14
C54	Corpus uteri	714	12	12	16	5	13
C55	Uterus, other	9	0	0	0	0	0
C56, C57.0–4, C48.2	Ovary etc.	479	6	9	11	4	9
C58	Placenta	2	0	0	0	0	0
C64–68	Urinary organs	699	10	8	12	4	8
C64	Kidney (excl. renal pelvis)	267	3	3	6	2	4
C65–68	Urinary tract	433	7	5	6	2	4
C69	Eye	36	1	1	0	0	1
C70–72	Central nervous system	467	8	9	15	8	11
C73	Thyroid gland	239	5	6	17	10	18
C37, C74–75	Other endocrine glands	80	1	1	3	5	2
C39, C76, C80	Other or unspecified	155	2	1	1	1	2
C81–96	Lymphoid/haematopoietic tissue	1 207	21	21	30	17	18
C81	Hodgkin lymphoma	53	1	2	2	3	2
C82–86, C96	Non-Hodgkin lymphoma	428	8	6	11	3	9
C88	Immunoproliferative disease	22	0	0	0	0	0
C90	Multiple myeloma	189	2	4	4	1	2
C91–95	Leukaemia	514	10	10	13	9	6

Table 5.27: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and origin, 2015–2019, **males**

ICD-10	Site	Norwegian born	Nordic countries	W Europe, North America and Oceania	Other European Countries	Middle East and Africa	Asia
C00–96	All sites	737.1	692.7	693.1	480.3	468.1	406.7
C00–14	Mouth, pharynx	16.1	16.5	15.9	9.1	9.3	8.3
C00	Lip	2.2	0.0	2.5	2.6	0.8	0.0
C02–06	Oral cavity	4.8	7.7	4.5	1.6	3.6	5.0
C07–08	Salivary glands	1.5	0.7	0.8	0.7	1.6	0.2
C09–10, C01, C14	Oropharynx	6.6	5.9	7.1	3.7	0.6	2.7
C11	Nasopharynx	0.3	0.9	0.6	0.2	1.3	0.5
C12–13	Hypopharynx	0.8	1.3	0.3	0.2	1.3	0.0
C15–26	Digestive organs	149.0	135.7	133.1	95.3	110.6	94.8
C15	Oesophagus	8.9	11.0	7.9	2.0	2.5	0.7
C16	Stomach	11.0	3.8	15.7	22.5	10.2	7.2
C17	Small intestine	4.6	6.2	3.6	1.7	1.8	1.5
C18	Colon	59.4	48.5	42.1	33.4	45.4	27.9
C19–20	Rectum, rectosigmoid	32.5	33.6	24.3	11.8	12.1	13.2
C21	Anus	1.3	0.3	1.9	0.3	0.0	0.7
C22	Liver	7.6	7.9	8.0	7.3	21.0	19.6
C23–24	Gallbladder, bile ducts	3.1	3.4	4.9	2.8	0.2	1.7
C25	Pancreas	18.0	17.5	21.3	13.1	16.3	14.9
C26	Other digestive organs	2.7	3.3	3.4	0.5	1.2	7.3
C30–34, C38	Respiratory organs	70.7	79.5	69.6	80.3	60.5	46.8
C30–31	Nose, sinuses	0.9	2.1	0.5	1.1	0.5	0.4
C32	Larynx, epiglottis	3.4	2.7	2.4	5.9	2.8	0.6
C33–34	Lung, trachea	65.9	74.7	66.5	73.3	56.9	45.8
C38	Heart, mediastinum and pleura	0.5	0.0	0.2	0.1	0.3	0.0
C40–41	Bone	1.2	0.4	1.4	2.4	0.3	1.8
C43	Melanoma of the skin	46.8	36.7	39.5	13.9	0.7	3.8
C44	Skin, non-melanoma	55.1	46.2	57.2	12.1	19.2	14.3
C45	Mesothelioma	2.7	3.1	6.3	0.2	0.3	0.5
C47	Autonomic nervous system	0.2	0.0	0.0	0.1	0.2	0.2
C48–49	Soft tissues	2.7	4.3	2.2	1.8	3.5	0.4
C50	Breast	1.1	0.4	3.0	1.3	1.0	0.0
C60–63	Male genital organs	214.0	204.4	180.5	107.4	103.6	103.3
C61	Prostate	198.1	192.4	167.5	100.9	101.3	100.2
C62	Testis	13.1	8.7	9.5	3.9	2.3	1.5
C60, C63	Other male genital	2.8	3.3	3.4	2.6	0.0	1.6
C64–68	Urinary organs	74.9	76.2	74.9	75.7	73.8	40.1
C64	Kidney (excl. renal pelvis)	23.4	18.7	22.4	21.3	16.0	11.4
C65–68	Urinary tract	51.6	57.4	52.5	54.4	57.8	28.7
C69	Eye	1.6	0.7	2.1	0.9	0.0	1.4
C70–72	Central nervous system	17.8	16.5	16.6	17.0	17.9	10.2
C73	Thyroid gland	4.8	4.4	4.7	4.3	7.0	4.2
C37, C74–75	Other endocrine glands	3.5	1.4	2.3	2.5	4.4	7.7
C39, C76, C80	Other or unspecified	6.0	2.5	5.5	7.3	3.8	9.0
C81–96	Lymphoid/haematopoietic tissue	68.8	63.8	78.4	48.8	51.9	59.7
C81	Hodgkin lymphoma	3.6	2.1	2.9	1.4	4.7	3.3
C82–86, C96	Non-Hodgkin lymphoma	23.5	25.0	27.2	17.5	24.0	22.4
C88	Immunoproliferative disease	2.0	1.7	0.6	3.4	0.5	0.0
C90	Multiple myeloma	11.3	9.6	7.8	5.2	7.4	8.7
C91–95	Leukaemia	28.4	25.4	39.8	21.3	15.2	25.4

Table 5.28: Age-standardised (Norwegian standard) incidence rates per 100 000 person-years by primary site and origin, 2015–2019, **females**

ICD-10	Site	Norwegian born	Nordic countries	W Europe, North America and Oceania	Other European Countries	Middle East and Africa	Asia
C00–96	All sites	569.0	494.5	515.4	436.8	357.8	351.0
C00–14	Mouth, pharynx	8.3	7.4	6.6	4.9	3.6	5.3
C00	Lip	1.5	0.9	1.4	0.2	0.2	0.3
C02–06	Oral cavity	3.3	4.0	3.6	2.0	0.5	1.9
C07–08	Salivary glands	1.1	0.4	0.4	0.4	0.5	1.4
C09–10, C01, C14	Oropharynx	2.1	1.7	0.8	1.7	2.0	1.4
C11	Nasopharynx	0.1	0.3	0.3	0.6	0.4	0.3
C12–13	Hypopharynx	0.1	0.0	0.0	0.1	0.0	0.0
C15–26	Digestive organs	111.3	88.9	90.1	87.4	73.7	73.8
C15	Oesophagus	2.6	0.8	5.2	1.5	7.3	1.3
C16	Stomach	5.4	3.9	4.8	8.4	7.1	9.2
C17	Small intestine	3.0	2.8	1.0	0.8	1.3	0.7
C18	Colon	54.9	47.9	42.1	31.7	18.9	22.9
C19–20	Rectum, rectosigmoid	19.5	14.1	12.3	15.3	13.5	10.0
C21	Anus	2.5	3.5	4.5	0.4	1.9	0.0
C22	Liver	3.7	2.0	3.4	4.5	3.0	15.0
C23–24	Gallbladder, bile ducts	2.7	1.2	1.0	5.3	4.1	3.6
C25	Pancreas	14.3	11.0	12.8	16.7	13.8	8.4
C26	Other digestive organs	2.6	1.7	3.0	2.7	2.7	2.7
C30–34, C38	Respiratory organs	57.5	44.7	51.5	41.8	21.0	28.1
C30–31	Nose, sinuses	0.6	0.8	1.3	0.6	1.7	0.0
C32	Larynx, epiglottis	0.7	0.8	0.3	0.4	0.3	0.0
C33–34	Lung, trachea	56.0	43.2	49.8	40.7	18.9	28.0
C38	Heart, mediastinum and pleura	0.1	0.0	0.0	0.1	0.0	0.2
C40–41	Bone	0.9	1.1	0.7	0.7	0.1	0.9
C43	Melanoma of the skin	42.5	34.8	28.4	15.2	3.4	0.3
C44	Skin, non-melanoma	35.0	26.7	34.4	16.5	13.8	3.8
C45	Mesothelioma	0.5	0.3	0.0	1.3	0.0	0.2
C47	Autonomic nervous system	0.2	0.0	0.0	0.0	0.3	0.0
C48–49	Soft tissues	2.0	3.2	0.9	2.1	3.9	0.1
C50	Breast	131.2	134.6	141.1	104.2	98.9	104.8
C51–58	Female genital organs	66.6	52.8	58.2	56.3	38.4	44.9
C51–52, C57.7–9	Other female genital	4.5	3.0	1.9	2.1	1.1	3.3
C53	Cervix uteri	15.0	12.9	8.1	11.4	7.7	12.2
C54	Corpus uteri	27.7	25.3	27.8	25.4	19.3	16.6
C55	Uterus, other	0.3	0.4	0.0	0.0	0.0	0.0
C56, C57.0–4, C48.2	Ovary etc.	19.0	11.3	20.0	17.4	10.3	12.6
C58	Placenta	0.1	0.0	0.3	0.0	0.0	0.2
C64–68	Urinary organs	26.4	22.4	19.2	17.6	15.3	12.9
C64	Kidney (excl. renal pelvis)	10.4	6.5	8.0	9.7	4.8	6.7
C65–68	Urinary tract	15.9	15.9	11.3	7.9	10.5	6.2
C69	Eye	1.5	1.4	1.5	0.3	0.9	0.5
C70–72	Central nervous system	19.5	16.1	19.2	15.2	17.6	15.3
C73	Thyroid gland	10.6	9.3	9.8	15.2	13.2	19.2
C37, C74–75	Other endocrine glands	3.5	2.3	1.7	1.7	8.1	2.4
C39, C76, C80	Other or unspecified	5.4	4.1	2.8	3.3	2.6	3.3
C81–96	Lymphoid/haematopoietic tissue	46.4	44.1	49.4	53.0	43.0	35.2
C81	Hodgkin lymphoma	2.4	2.4	3.0	1.3	3.9	2.4
C82–86, C96	Non-Hodgkin lymphoma	16.3	17.2	12.5	19.0	11.6	19.2
C88	Immunoproliferative disease	0.8	0.7	0.6	0.0	0.8	0.0
C90	Multiple myeloma	7.1	3.6	8.5	8.8	3.8	2.6
C91–95	Leukaemia	19.8	20.2	24.8	23.8	22.9	11.0

Chapter 6 Prevalence

As of December 31st 2019, a total of 294 855 individuals were alive and previously diagnosed with cancer in Norway. The cancer prevalence in Table 6.1 provides the numbers of cancer survivors by time after a given diagnosis (< 1, 1–4, 5–9 and ≥ 10 years), and approximates the number of patients in Norway (of both sexes) potentially requiring some form of cancer care. The highest prevalence was seen for prostate cancer (54 336), breast cancer (51 190), melanoma of the skin (28 727), and colon cancer (23 924).

Differences in prognosis and median age at diagnosis (rather than incidence) explain much of the site-specific variability in prevalence. In terms of new incident cases, there are 42% more cases of lung cancer compared to melanoma of the skin in Norway in 2019, but the number of lung cancer survivors ten years after diagnosis is only

11% of surviving melanoma patients. This reflects the vast difference in prognosis for the two patient groups.

Table 6.2 shows the number of patients with distant metastases alive at specific time points. Only patients with metastasis confirmed histologically are included. The number is increasing over the years, probably caused by improvements in the diagnostic quality. This also means that patients with only small distant metastases may contribute to a better prognosis in a group with otherwise quite severe disease. We see that patients with metastatic disease now live longer, have more often diagnostic work-up and surgery for metastatic lesions, and are also given more chemotherapy than before. This patient group represents an increasing demand of personnel and costs in the health care system.

Table 6.1: Prevalence of cancers 31 December 2009 and 31 December 2019, both sexes

ICD-10	Site	Total no. of persons alive		Years after diagnosis			
		31.12.2009	31.12.2019	<1	1-4	5-9	10+
C00-96	All sites	201 439	294 855	25 192	80 146	70 951	118 566
C00-14	Mouth, pharynx	3 759	5 693	584	1 779	1 407	1 923
C00	Lip	1 069	1 186	94	312	292	488
C02-06	Oral cavity	1 230	1 763	174	564	412	613
C07-08	Salivary glands	485	708	51	220	145	292
C09-10, C01, C14	Oropharynx	809	1 819	236	627	502	454
C11	Nasopharynx	107	159	12	44	45	58
C12-13	Hypopharynx	87	102	23	36	21	22
C15-26	Digestive organs	30 517	43 580	5 213	14 082	10 613	13 672
C15	Oesophagus	356	831	221	341	179	90
C16	Stomach	1 973	2 030	311	572	429	718
C17	Small intestine	752	1 378	185	510	336	347
C18	Colon	16 806	23 924	2 586	7 870	5 954	7 514
C19-20	Rectum, rectosigmoid	9 403	12 870	1 199	3 905	3 256	4 510
C21	Anus	582	908	105	291	206	306
C22	Liver	261	692	179	263	133	117
C23-24	Gallbladder, bile ducts	331	514	110	177	103	124
C25	Pancreas	652	1 335	447	529	216	143
C26	Other digestive organs	139	188	47	61	30	50
C30-34, C38	Respiratory organs	6 518	10 875	2 294	4 368	2 217	1 996
C30-31	Nose, sinuses	283	376	41	101	96	138
C32	Larynx, epiglottis	1 097	1 108	94	301	277	436
C33-34	Lung, trachea	5 106	9 394	2 172	3 987	1 847	1 388
C38	Heart, mediastinum and pleura	65	69	4	19	6	40
C40-41	Bone	673	877	56	161	140	520
C43	Melanoma of the skin	17 778	28 727	2 268	7 635	6 331	12 493
C44	Skin, non-melanoma	11 743	18 408	2 595	6 727	4 231	4 855
C45	Mesothelioma	109	137	60	57	12	8
C47	Autonomic nervous system	242	246	6	25	22	193
C48-49	Soft tissues	1 221	1 548	123	290	329	806
C50	Breast	35 754	51 190	3 646	12 568	11 778	23 198
C51-58	Female genital organs	20 489	24 501	1 672	5 272	4 716	12 841
C51-52, C57.7-9	Other female genital	813	1 044	99	299	222	424
C53	Cervix uteri	6 808	7 540	350	1 252	1 156	4 782
C54	Corpus uteri	8 695	11 125	793	2 572	2 503	5 257
C55	Uterus, other	43	46	1	10	8	27
C56, C57.0-4, C48.2	Ovary etc.	4 314	4 968	448	1 224	889	2 407
C58	Placenta	136	153	2	8	16	127
C60-63	Male genital organs	36 364	62 803	5 029	19 106	18 455	20 213
C61	Prostate	30 131	54 336	4 704	17 866	16 950	14 816
C62	Testis	5 927	8 134	300	1 160	1 453	5 221
C60, C63	Other male genital	407	607	59	191	127	230
C64-68	Urinary organs	15 500	23 228	2 397	7 613	5 850	7 368
C64	Kidney (excl. renal pelvis)	4 530	8 028	811	2 664	2 152	2 401
C65-68	Urinary tract	11 056	15 394	1 613	5 040	3 750	4 991
C69	Eye	936	1 166	74	266	240	586
C70-72	Central nervous system	10 598	14 227	760	2 528	3 208	7 731
C73	Thyroid gland	4 315	6 563	415	1 475	1 276	3 397
C37, C74-75	Other endocrine glands	2 977	4 205	166	668	1 047	2 324
C39, C76, C80	Other or unspecified	524	607	105	153	129	220
C81-96	Lymphoid/haematopoietic tissue	16 360	27 572	2 748	8 418	6 696	9 710
C81	Hodgkin lymphoma	2 188	3 042	141	554	579	1 768
C82-86, C96	Non-Hodgkin lymphoma	6 714	11 030	1 042	3 157	2 778	4 053
C88	Immunoproliferative disease	399	705	69	228	229	179
C90	Multiple myeloma	1 553	2 619	447	1 167	609	396
C91-95	Leukaemia	5 601	10 416	1 089	3 400	2 563	3 364

Table 6.2: Prevalence of patients diagnosed with distant metastases during lifetime, by health region, both sexes

Health region	Alive by					
	31.12.1994	31.12.1999	31.12.2004	31.12.2009	31.12.2014	31.12.2019
South-Eastern	4 382	5 370	6 527	8 008	9 270	10 880
Western	1 546	1 876	2 337	2 721	3 330	3 913
Central	1 081	1 324	1 665	1 978	2 242	2 551
Northern	699	878	1 091	1 286	1 553	1 820
Total	7 708	9 448	11 620	13 993	16 395	19 164

Chapter 7 Mortality

The mortality data is obtained from the Cause of Death Registry. Of note is that mortality data for 2019 was not complete when this report was published (October 2020), and we therefore report figures for 2018.

There were 11 049 deaths from cancer in Norway in 2018, of which 5831 were men, and 5218 women (Table 7.1). Cancers of the lung, colon, prostate, pancreas and female breast accounted for 50% of all cancer deaths.

Among men, lung cancer caused 1164 deaths in 2018. Prostate cancer (926 deaths), colon cancer (580 deaths) and pancreatic cancer (422 deaths) represent the second, third and fourth most frequent causes of cancer death among men, respectively.

Lung cancer mortality also ranks highest among women (1037 deaths), followed by breast (650 deaths), colon (601 deaths), and pancreatic cancer (378 deaths). Figure 7.1 shows the distribution of age-standardised mortality rates for selected cancer sites. There is at least a 10-fold difference in rates across these cancers. Given the very poor prognosis for pancreatic cancer, it ranks among the top four causes of cancer death among both men and women, even though pancreatic cancer only is a moderately common cancer.

The trends section in this report examines the incidence, mortality, and survival for 23 selected cancer sites.

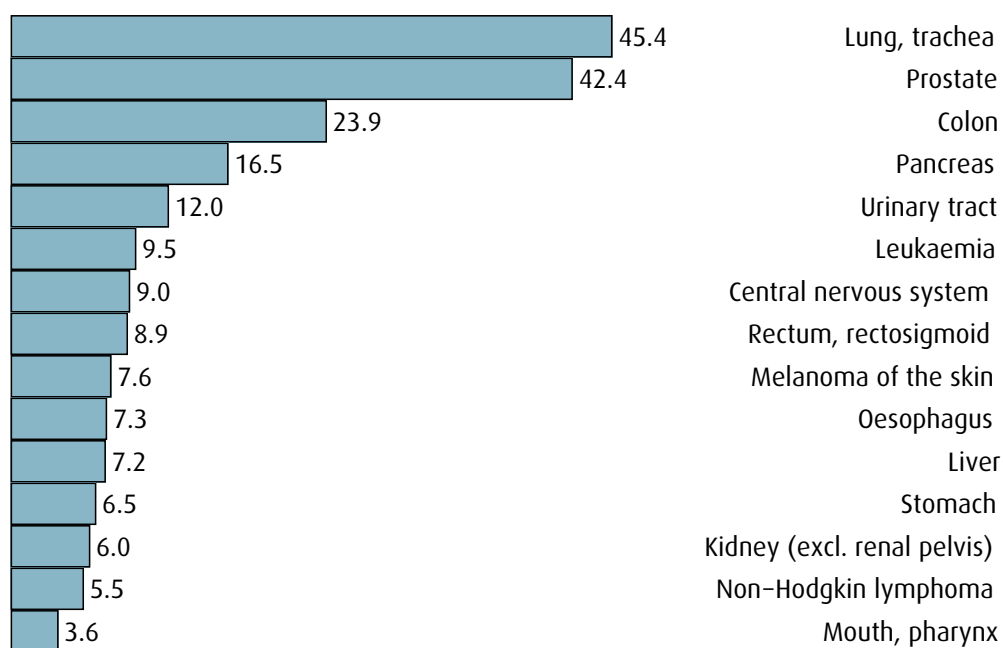
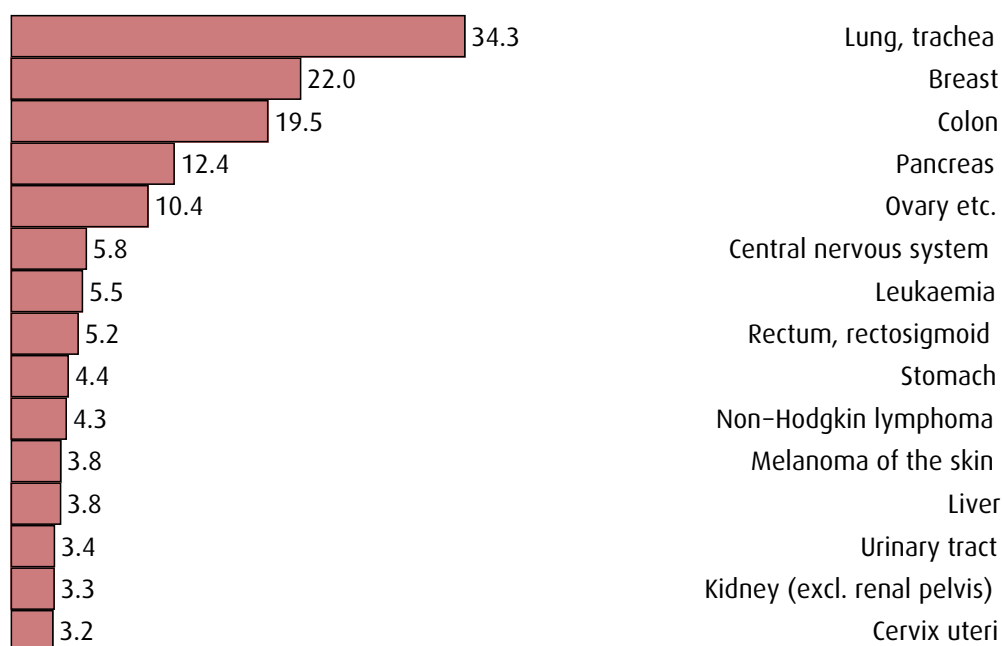
Figure 7.1: Age-standardised (Norwegian standard) mortality rates per 100 000 person-years for selected cancers, 2018**MALES****FEMALES**

Table 7.1: Number of cancer deaths by primary site and sex, 2018

ICD-10	Site	Males	Females	Total
C00-96	All sites	5 831	5 218	11 049
C00-14	Mouth, pharynx	93	56	149
C00	Lip	0	1	1
C02-06	Oral cavity	34	34	68
C07-08	Salivary glands	8	6	14
C09-10, C01, C14	Oropharynx	38	11	49
C11	Nasopharynx	6	2	8
C12-13	Hypopharynx	7	2	9
C15-26	Digestive organs	1 879	1 573	3 452
C15	Oesophagus	191	51	242
C16	Stomach	158	134	292
C17	Small intestine	38	34	72
C18	Colon	580	601	1 181
C19-20	Rectum, rectosigmoid	219	156	375
C21	Anus	4	9	13
C22	Liver	183	115	298
C23-24	Gallbladder, bile ducts	39	47	86
C25	Pancreas	422	378	800
C26	Other digestive organs	45	48	93
C30-34, C38	Respiratory organs	1 198	1 050	2 248
C30-31	Nose, sinuses	4	2	6
C32	Larynx, epiglottis	28	7	35
C33-34	Lung, trachea	1 164	1 037	2 201
C38	Heart, mediastinum and pleura	2	4	6
C40-41	Bone	18	12	30
C43	Melanoma of the skin	190	117	307
C44	Skin, non-melanoma	30	16	46
C45	Mesothelioma	62	8	70
C47	Autonomic nervous system	1	0	1
C48-49	Soft tissues	36	34	70
C50	Breast	7	650	657
C51-58	Female genital organs		598	598
C51-52, C57.7-9	Other female genital		52	52
C53	Cervix uteri		92	92
C54	Corpus uteri		65	65
C55	Uterus, other		83	83
C56, C57.0-4, C48.2	Ovary etc.		306	306
C58	Placenta		0	0
C60-63	Male genital organs	945		945
C61	Prostate	926		926
C62	Testis	11		11
C60, C63	Other male genital	8		8
C64-68	Urinary organs	425	208	633
C64	Kidney (excl. renal pelvis)	147	102	249
C65-68	Urinary tract	278	106	384
C69	Eye	0	3	3
C70-72	Central nervous system	235	168	403
C73	Thyroid gland	12	24	36
C37, C74-75	Other endocrine glands	13	10	23
C39, C76, C80	Other or unspecified	161	252	413
C81-96	Lymphoid/haematopoietic tissue	526	439	965
C81	Hodgkin lymphoma	8	14	22
C82-86, C96	Non-Hodgkin lymphoma	136	133	269
C88	Immunoproliferative disease	10	8	18
C90	Multiple myeloma	140	112	252
C91-95	Leukaemia	232	172	404

Chapter 8 Survival

Long-term estimates of survival are becoming increasingly relevant as life expectancy amongst cancer patients increases and cancer care continues to advance^[24]. Table 8.3 gives the 1-year, 5-year, 10-year and 15-year relative survival estimates (with 95% confidence intervals) for the follow-up period 2015–2019 by cancer site and sex. Less frequent cancer diagnoses and groups with low survival will have few cases left especially at 10 and 15 years after diagnosis, and the 95% confidence intervals should be taken into consideration in any interpretation of the relative survival estimates.

Given that cancer patients survive longer, there is a need to communicate information about prognosis not only at the time of diagnosis, but also later because prognosis tends to improve for those surviving the first year(s) after diagnosis^[22].

Figures 8.1–A to 8.1–X depict these two aspects of cancer survival in Norway for all cancers combined and for 23 specific cancer sites. Relative survival estimates are presented by sex and age, 1 to 15 years after diagnosis, with age strata determined specifically according to relevant biological and/or clinical criteria.

For some sites, the cumulative survival curve tends to level off a certain number of years after diagnosis, indicating that from this point forward, the cancer patient group has similar mortality as the comparable group without cancer, or in other words, statistically, these patients appear to be “cured”^[25]. This concept of “statistical cure” involves attributes of survival observed among patients as a group, and should be distinguished from clinical cure, which is determined on the basis of lack of specific symptoms in an individual.

Estimates of five-year relative survival conditional on being alive 1 to 10 years after diagnosis are included in the sex-specific figures, which better quantify the prognosis of cancer patients at time points beyond the initial diagnosis (Figure 8.1–A to 8.1–X, dashed lines). When conditional five-year relative survival is above 90–95% we usually say that there is little or no excess mortality — analogous to the notion of statistical cure that may be observed in the long-term relative survival estimates.

The overall profile of the sex- and age-specific survival of all cancer patients 1 to 15 years after diagnosis in Norway is presented in Figure 8.1–A. As mentioned in Chapter 9, the combined cancer group is an aggregate of

many different cancer types with different diagnostic and treatment possibilities. Survival estimates will be particularly influenced by PSA testing for prostate cancer and mammographic screening for female breast cancer.

The cumulative five-year relative survival described by cancer site, sex and age, and five-year conditional relative survival by site and age (Figures 8.1–B to 8.1–X) are fairly self-explanatory and highlight the wide variations in patient survival according to these three variables. The 90 percentage-point difference in five-year survival among patients with testicular cancer (Figure 8.1–Q) compared to patients with pancreatic cancer (Figure 8.1–I) strikingly illustrates the wide differences in prognosis according to cancer type. Long-term survival following diagnosis of melanoma and cancers of the oral cavity, central nervous system, colon and thyroid gland clearly varies between men and women. This may be due to biological or anatomical differences or be related to sex-specific differences in stage at presentation, subsite or histological type, as well as levels of co-morbidity.

The overall cancer survival tends to diminish with increasing age at diagnosis, yet the age-specific differences are rather narrow for for example colon cancer (Figure 8.1–E) relative to cancers such as cervical (Figure 8.1–M) or non-Hodgkin lymphoma (Figure 8.1–W). For certain cancers, including breast and corpus uteri cancer, long-term survival among patients diagnosed before the age of 50 are slightly lower than for patients diagnosed at the ages 50–59. This in part represents the diagnosis of more aggressive tumours in the younger age group, and, for breast cancer, the impact of screening in the older group.

The figures also illustrate a positive aspect of cancer survival; cancer patients who are alive a certain time after diagnosis show good prospects of surviving their cancer and being cured. In fact, for more than two-thirds of the cancer groups, the five-year conditional relative survival reaches 90% 2–5 years after diagnosis. In general terms, this means that survivors of these cancers will, within a few years of diagnosis, have mortality rates similar to that of the general population, and would be considered (statistically) cured. The extent to which survivors may be considered cured does however vary; five-year conditional survival from breast cancer reaches 90% 1 year after diagnosis (Figure 8.1–L) and slowly increases to about 93% 10 years from diagnosis. As is evident from

the continual decline in long-term breast cancer cumulative survival, there remains a persistent excess mortality for women with this disease.

Tables 8.1 and 8.2 provide the five-year relative survival estimates over the last four decades by cancer site and stage for males and females, respectively. While the stage-

specific count of cases by five-year period of diagnosis in Tables 5.21 and 5.22 are not equivalent to the size of the patient groups used in the survival calculations, the numbers do provide a reasonable indication of the absolute number of patients involved in the survival analyses at different time periods and their relative distribution.

Table 8.1: Five-year relative survival by primary site, stage and period of diagnosis, 1980–2019, **males**

ICD-10	Site	Stage	Relative survival (%)							
			1980–84	1985–89	1990–94	1995–99	2000–04	2005–09	2010–14	2015–19*
C00–96	All sites	Total	43.1	45.1	50.4	55.2	60.7	67.6	72.4	76.0
C00–14	Mouth, pharynx	Total	58.8	57.6	55.6	56.4	55.9	60.8	66.6	68.6
		Localised	79.5	78.9	82.2	79.9	81.2	82.2	83.9	84.8
		Regional	26.3	26.0	24.5	33.6	38.8	43.5	58.8	61.9
		Distant	-	6.0	12.0	9.6	10.8	11.3	4.6	5.5
		Unknown	-	48.5	40.8	57.5	57.2	78.2	60.8	66.7
C15	Oesophagus	Total	5.0	4.6	4.4	7.7	7.0	10.1	17.4	22.9
		Localised	6.6	7.3	15.5	27.2	17.5	27.0	51.6	65.3
		Regional	5.7	4.1	2.4	7.6	10.3	10.5	17.9	32.4
		Distant	-	0.6	-	0.6	0.4	-	3.5	3.3
		Unknown	-	8.4	1.1	5.6	7.4	11.7	13.6	12.9
C16	Stomach	Total	17.5	19.8	17.8	18.2	19.8	24.1	25.4	29.8
		Localised	39.9	51.9	50.6	62.5	60.1	59.2	65.2	77.9
		Regional	17.7	21.4	16.5	18.5	21.0	23.7	29.0	38.3
		Distant	1.9	1.4	0.5	1.4	1.5	2.8	3.0	4.1
		Unknown	5.8	5.8	7.4	15.6	21.4	32.7	17.2	19.9
C18	Colon	Total	48.7	47.0	51.2	55.2	56.1	59.7	63.0	68.1
		Localised	80.8	74.9	83.1	92.9	89.7	91.7	92.9	98.3
		Regional	54.5	57.2	60.6	68.4	70.2	75.6	81.7	84.4
		Distant	4.9	4.8	3.7	5.7	7.3	9.8	14.1	15.5
		Unknown	23.9	32.3	30.4	43.1	56.2	56.8	21.1	31.4
C19–20	Rectum, rectosigmoid	Total	43.8	45.7	51.0	56.5	58.8	64.7	69.4	71.1
		Localised	65.7	69.7	78.0	85.9	87.2	91.0	96.5	98.0
		Regional	40.4	44.7	47.9	62.2	68.8	77.0	82.2	82.3
		Distant	3.3	2.6	2.9	9.2	9.8	13.7	18.3	20.4
		Unknown	26.0	30.0	31.7	42.0	56.8	55.0	41.3	46.3
C22	Liver	Total	0.5	3.6	6.6	4.7	6.4	12.8	15.9	22.3
		Localised	1.2	6.9	11.2	12.0	12.6	21.4	33.6	51.7
		Regional	-	-	-	-	-	1.4	4.0	8.5
		Distant	-	-	3.6	-	1.8	3.5	1.0	3.0
		Unknown	-	2.9	2.2	2.5	4.2	15.8	10.1	13.5
C23–24	Gallbladder, bile ducts	Total	9.5	12.6	8.2	14.7	13.9	16.4	17.2	21.8
		Localised	17.1	21.5	22.2	25.2	44.4	28.9	50.0	55.7
		Regional	12.4	15.8	7.1	24.9	14.7	21.8	17.1	20.9
		Distant	1.9	4.2	1.7	1.5	1.3	3.6	4.3	2.3
		Unknown	-	-	2.6	17.2	5.4	12.3	-	-
C25	Pancreas	Total	1.3	1.6	2.3	2.9	3.7	4.4	9.0	13.1
		Localised	2.8	5.6	3.8	9.1	16.6	21.5	44.6	53.0
		Regional	3.5	1.7	10.0	5.4	5.2	6.5	11.5	23.0
		Distant	0.4	0.7	0.7	2.0	1.5	1.3	2.5	2.3
		Unknown	2.1	1.3	2.0	2.0	3.2	6.0	9.3	10.7
C33–34	Lung, trachea	Total	7.0	7.4	7.6	8.3	8.9	11.8	16.6	22.7
		Localised	16.7	17.3	17.1	30.5	36.3	42.6	51.5	61.6
		Regional	6.0	9.1	8.9	8.3	10.0	14.8	19.2	27.4
		Distant	0.7	0.7	0.7	0.5	0.8	1.7	2.3	3.3
		Unknown	2.7	3.8	6.9	6.1	10.3	12.8	11.3	17.7
C43	Melanoma of the skin	Total	68.0	68.7	73.6	75.3	76.2	76.9	85.1	88.6
		Localised	76.4	76.8	81.5	82.2	88.0	82.7	91.2	93.5
		Regional	29.2	29.0	36.5	29.0	46.2	41.1	54.7	71.4
		Distant	1.1	5.6	14.4	9.5	12.3	13.2	17.5	34.2
		Unknown	68.9	44.0	55.1	75.3	73.3	80.8	61.4	63.3
C61	Prostate	Total	58.5	57.1	65.4	76.1	84.1	90.6	94.6	95.5
		Localised	74.7	73.1	77.3	90.8	96.9	99.6	103.0	102.2
		Regional	40.6	49.2	62.5	69.6	76.6	90.8	95.3	95.2
		Distant	20.2	24.2	24.6	25.4	29.3	35.5	36.8	43.3
		Unknown	48.7	58.9	69.9	80.5	86.8	93.1	99.6	100.1

Continued on next page

Table 8.1: Five-year relative survival by primary site, stage and period of diagnosis, 1980–2019, **males** (Continued)

ICD-10	Site	Stage	Relative survival (%)							
			1980–84	1985–89	1990–94	1995–99	2000–04	2005–09	2010–14	2015–19*
C62	Testis	Total	91.7	92.8	96.2	96.0	97.0	97.5	98.4	98.6
		Localised	98.3	98.3	99.1	99.0	99.0	99.9	99.4	99.8
		Regional	94.3	94.2	96.7	97.1	96.5	95.4	97.7	97.0
		Distant	64.9	69.6	79.8	76.3	85.4	85.6	89.0	86.8
		Unknown	-	-	-	102.1	99.8	97.7	-	-
C64	Kidney (excl. renal pelvis)	Total	40.1	41.4	50.1	48.5	58.2	63.9	73.4	79.9
		Localised	71.5	66.6	74.6	75.5	84.4	85.5	90.5	93.0
		Regional	45.4	47.3	56.0	53.7	52.8	60.3	60.3	68.6
		Distant	5.4	7.0	6.2	6.7	6.6	11.2	12.7	20.5
		Unknown	47.4	-	31.8	45.0	65.0	72.9	45.5	63.4
C65–68	Urinary tract	Total	61.6	66.5	69.2	70.5	71.9	73.0	76.3	79.5
		Localised	70.5	73.3	75.8	79.4	84.8	83.2	83.7	86.1
		Regional	23.6	26.6	26.5	25.4	25.8	30.8	31.3	32.8
		Distant	2.3	6.3	4.2	7.6	5.7	5.1	5.5	5.9
		Unknown	49.5	69.7	60.9	70.0	70.5	75.1	50.0	59.3
C70–72	Central nervous system	Total	31.5	36.1	42.6	49.6	56.7	61.0	62.4	59.6
		Non-malignant	68.6	74.0	76.1	88.0	92.0	92.5	95.0	96.5
		Malignant	15.3	20.5	22.5	21.1	19.7	25.2	27.0	28.4
C73	Thyroid gland	Total	85.3	76.9	76.5	82.8	82.0	86.7	89.1	89.3
		Localised	100.9	91.7	95.6	101.7	97.9	102.5	99.7	100.7
		Regional	85.6	84.5	86.3	84.5	86.3	90.2	89.5	86.2
		Distant	-	22.8	30.4	44.9	-	-	-	37.3
		Unknown	-	-	-	-	-	88.5	-	84.1
C81	Hodgkin lymphoma	Total	65.9	70.2	74.1	82.3	83.9	80.9	82.8	89.2
C82–86, C96	Non-Hodgkin lymphoma	Total	40.4	44.7	44.3	47.0	54.9	63.2	72.1	77.0
C91–95	Leukaemia	Total	26.3	30.8	39.1	45.2	52.2	60.0	63.1	67.5

* For 2015–19 the 5-year relative survival estimates are based on the period approach (observation window 2015–19)

- Not estimated due to too few patients (see Chapter 4).

Table 8.2: Five-year relative survival by primary site, stage and period of diagnosis, 1980–2019, **females**

ICD-10	Site	Stage	Relative survival (%)							
			1980–84	1985–89	1990–94	1995–99	2000–04	2005–09	2010–14	2015–19*
C00–96	All sites	Total	52.6	55.1	58.3	61.6	64.7	68.3	72.0	75.4
		Total	57.7	57.0	66.7	60.7	63.7	70.1	74.4	75.7
C00–14	Mouth, pharynx	Localised	74.7	71.6	83.4	85.7	83.5	84.7	89.6	90.2
		Regional	36.3	38.1	46.6	34.2	48.3	52.8	59.0	60.0
		Distant	-	-	-	7.7	-	-	-	-
		Unknown	-	60.0	58.7	58.2	66.4	88.7	76.2	86.4
		Total	14.4	6.5	12.1	8.4	12.0	12.7	26.0	31.7
C15	Oesophagus	Localised	19.1	13.3	26.6	18.6	39.2	31.1	45.6	48.4
		Regional	19.5	2.1	13.4	2.2	9.9	16.3	27.8	43.4
		Distant	-	-	-	-	1.9	-	6.3	14.7
		Unknown	-	-	8.8	9.8	6.3	10.3	19.7	26.0
C16	Stomach	Total	20.3	23.3	21.8	25.1	23.7	25.4	27.1	30.5
		Localised	49.4	52.6	57.5	75.2	63.4	62.3	73.0	78.0
		Regional	15.9	26.2	24.4	32.1	23.4	23.0	26.8	33.3
		Distant	1.1	0.6	1.3	2.3	4.9	3.7	2.5	6.6
		Unknown	15.4	11.8	11.7	17.5	23.9	37.3	30.5	28.0
C18	Colon	Total	47.0	51.9	53.5	58.2	59.8	63.7	68.2	71.1
		Localised	75.8	82.8	82.7	91.4	93.5	93.5	97.9	98.9
		Regional	54.8	61.0	61.1	71.0	72.9	78.4	83.2	85.4
		Distant	4.2	4.5	4.6	7.9	8.4	13.6	18.3	20.8
		Unknown	13.6	36.4	39.1	49.4	63.3	59.6	25.0	35.3
C19–20	Rectum, rectosigmoid	Total	48.0	51.5	56.1	60.0	65.7	67.2	69.4	71.5
		Localised	72.0	76.8	80.5	93.2	93.6	94.3	97.4	96.1
		Regional	38.6	50.8	55.1	63.4	72.1	75.6	79.2	80.8
		Distant	3.9	3.5	5.2	7.3	9.6	16.1	20.9	24.0
		Unknown	41.3	27.3	48.2	47.3	68.7	64.0	43.9	46.0
C22	Liver	Total	3.6	10.5	7.6	10.2	13.2	16.2	23.0	22.6
		Localised	7.5	14.9	12.1	20.9	27.6	33.0	41.4	45.3
		Regional	-	-	-	-	-	7.4	14.3	24.8
		Distant	-	5.6	1.9	-	3.0	4.6	6.7	6.0
		Unknown	-	8.1	10.4	5.4	14.2	16.3	14.2	12.4
C23–24	Gallbladder, bile ducts	Total	12.7	13.3	8.6	13.5	11.1	16.8	17.7	24.2
		Localised	26.9	23.7	25.4	38.8	27.3	37.1	35.2	46.2
		Regional	8.7	21.2	4.1	21.2	20.2	24.0	29.2	33.2
		Distant	1.8	-	-	3.1	-	1.4	3.2	2.9
		Unknown	-	6.6	14.0	7.3	12.4	14.5	-	-
C25	Pancreas	Total	2.1	2.5	3.4	2.8	4.0	6.2	9.6	13.8
		Localised	3.9	6.2	11.6	13.5	22.4	23.9	45.0	53.4
		Regional	5.1	4.9	5.0	4.1	5.3	6.6	13.2	17.0
		Distant	1.3	0.4	0.9	0.5	1.5	2.2	2.3	2.9
		Unknown	1.6	1.9	2.4	3.6	4.4	11.5	2.7	13.2
C33–34	Lung, trachea	Total	7.1	7.7	11.0	11.5	12.4	16.8	22.1	29.2
		Localised	18.0	20.0	28.6	40.8	47.9	52.9	62.0	70.8
		Regional	6.0	8.2	12.8	11.4	11.9	18.3	24.2	33.7
		Distant	0.5	1.0	1.1	1.2	1.4	2.9	2.9	4.8
		Unknown	8.6	5.4	7.9	8.1	18.8	19.1	16.4	23.9
C43	Melanoma of the skin	Total	79.1	85.5	86.9	87.6	87.2	87.4	91.6	94.0
		Localised	85.5	89.8	91.4	93.3	94.6	93.0	95.3	96.9
		Regional	38.3	44.7	46.1	55.3	59.4	51.2	62.8	73.2
		Distant	4.6	12.4	17.2	16.7	21.5	31.2	30.1	49.9
		Unknown	76.5	66.8	83.0	87.6	85.7	86.9	73.5	77.3

Continued on next page

Table 8.2: Five-year relative survival by primary site, stage and period of diagnosis, 1980–2019, **females** (Continued)

ICD-10	Site	Stage	Relative survival (%)							
			1980–84	1985–89	1990–94	1995–99	2000–04	2005–09	2010–14	2015–19*
C50	Breast	Total	73.7	75.1	77.6	83.4	86.5	88.9	90.7	92.0
		I	86.8	91.5	95.1	97.8	99.0	100.1	101.0	100.9
		II	64.5	72.2	76.5	83.7	87.3	91.1	95.4	96.1
		III	48.3	48.7	50.3	58.6	65.3	73.5	78.2	79.4
		IV	16.5	17.4	22.3	15.4	20.8	22.9	28.3	34.0
		Unknown	82.7	85.5	86.2	88.1	87.7	70.4	75.4	78.2
C53	Cervix uteri	Total	70.7	69.2	72.2	74.2	77.7	77.7	80.2	82.3
		I	84.1	87.1	87.0	91.7	92.4	94.6	95.1	95.7
		II	59.8	52.7	63.0	61.5	73.4	77.4	80.7	80.4
		III	33.5	25.3	29.8	35.9	48.2	51.2	49.6	53.6
		IV	5.1	4.2	30.3	6.4	27.8	14.8	20.6	19.5
		Unknown	71.1	73.2	74.8	74.8	81.5	70.2	81.9	84.4
C54	Corpus uteri	Total	69.5	71.9	75.4	77.6	82.4	82.8	84.2	86.6
		Localised	82.5	82.4	87.8	90.6	92.6	94.1	95.7	97.2
		Regional	54.1	58.8	66.8	69.9	75.5	74.1	61.4	68.1
		Distant	22.1	23.0	29.6	33.0	37.7	40.9	35.9	43.8
		Unknown	33.9	54.9	52.3	63.3	89.3	82.4	66.8	67.5
C56, C57.0–4, C48.2 Ovary etc.		Total	33.7	33.5	36.6	39.1	42.8	43.3	46.9	50.3
		Localised	75.6	79.2	80.4	90.3	88.0	88.7	91.4	97.4
		Regional	40.2	43.7	50.0	59.0	67.7	72.1	60.4	61.9
		Distant	15.7	15.6	18.5	24.2	28.0	31.0	35.0	37.1
		Unknown	46.5	28.3	41.8	42.4	64.5	54.5	42.3	40.5
C64	Kidney (excl. renal pelvis)	Total	46.8	49.9	55.6	57.3	60.6	72.9	76.4	80.1
		Localised	72.4	77.8	77.7	82.1	85.3	91.0	91.1	93.0
		Regional	53.2	52.0	55.4	50.9	50.1	50.0	61.0	63.1
		Distant	5.3	9.0	6.9	13.6	12.4	17.6	11.5	20.7
		Unknown	-	17.6	34.6	56.5	62.3	75.9	51.1	40.8
C65–68	Urinary tract	Total	54.7	60.9	61.6	62.2	62.0	65.5	70.1	75.7
		Localised	68.2	70.7	71.5	76.8	82.1	78.9	79.6	84.4
		Regional	15.7	13.6	21.9	28.4	20.8	25.6	29.1	34.4
		Distant	4.3	8.6	5.3	3.4	5.1	8.6	6.1	10.0
		Unknown	28.7	56.4	55.2	61.5	60.1	68.8	52.8	38.6
C70–72	Central nervous system	Total	46.9	53.2	62.2	65.1	74.7	77.7	78.2	75.6
		Non-malignant	81.3	82.3	87.0	90.1	93.5	95.4	97.2	97.5
		Malignant	18.4	23.3	29.0	24.5	27.6	28.3	30.5	29.0
C73	Thyroid gland	Total	85.7	87.8	89.9	87.6	88.4	91.4	92.2	94.5
		Localised	92.7	96.0	97.1	98.9	103.1	102.7	101.4	100.0
		Regional	82.3	83.4	88.1	83.5	84.0	91.0	90.7	92.9
		Distant	-	44.2	49.6	67.2	-	37.4	-	-
		Unknown	-	-	-	85.3	78.4	85.7	70.2	80.3
C81	Hodgkin lymphoma	Total	67.0	69.5	79.5	84.0	84.2	83.9	87.7	87.6
C82–86, C96	Non-Hodgkin lymphoma	Total	51.0	50.8	53.0	55.0	59.6	71.8	77.2	79.9
C91–95	Leukaemia	Total	28.2	30.8	44.9	48.6	56.5	66.8	69.5	74.1

* For 2015–19 the 5-year relative survival estimates are based on the period approach (observation window 2015–19)

- Not estimated due to too few patients (see Chapter 4).

Table 8.3: 1-, 5-, 10-, and 15-year relative survival (%) with 95% confidence interval by primary site and sex. Period approach, 2015–2019

ICD-10	Site	Sex	1-year	5-year	10-year	15-year
C00–14	Mouth, pharynx	M	85.9 (84.2–87.6)	68.6 (65.9–71.5)	61.8 (57.5–66.4)	57.8 (45.0–74.2)
		F	90.3 (88.4–92.2)	75.7 (72.4–79.0)	65.7 (60.9–70.9)	53.9 (44.7–64.9)
C15	Oesophagus	M	52.1 (49.0–55.3)	22.9 (20.2–26.1)	18.6 (15.5–22.4)	15.9 (10.8–23.4)
		F	55.1 (50.0–60.6)	31.7 (26.5–37.9)	20.1 (14.4–28.2)	16.4 (9.3–29.1)
C16	Stomach	M	57.4 (54.7–60.2)	29.8 (27.1–32.7)	24.9 (20.9–29.6)	20.8 (15.4–28.1)
		F	54.7 (51.1–58.6)	30.5 (26.9–34.5)	27.4 (22.7–32.9)	26.1 (17.9–38.1)
C18	Colon	M	84.7 (83.8–85.7)	68.1 (66.5–69.8)	62.9 (59.8–66.2)	56.5 (47.2–67.7)
		F	85.2 (84.3–86.1)	71.1 (69.8–72.5)	69.8 (67.4–72.3)	69.4 (63.5–75.9)
C19–20	Rectum, rectosigmoid	M	89.4 (88.3–90.5)	71.1 (69.2–73.0)	65.2 (62.1–68.6)	59.6 (51.3–69.1)
		F	90.1 (88.8–91.4)	71.5 (69.4–73.7)	66.7 (63.2–70.3)	60.8 (53.9–68.7)
C22	Liver	M	45.9 (42.4–49.7)	22.3 (19.1–26.1)	14.4 (7.4–28.2)	10.3 (4.6–22.9)
		F	46.4 (41.7–51.5)	22.6 (18.6–27.4)	18.6 (14.2–24.3)	16.0 (10.0–25.6)
C23–24	Gallbladder, bile ducts	M	63.1 (57.7–68.9)	21.8 (17.4–27.3)	20.3 (14.6–28.1)	21.4 (14.4–31.7)
		F	58.9 (53.6–64.7)	24.2 (19.7–29.7)	21.2 (16.4–27.6)	15.1 (7.6–29.8)
C25	Pancreas	M	36.8 (34.6–39.1)	13.1 (11.4–15.0)	10.7 (8.5–13.4)	9.6 (6.2–14.8)
		F	38.8 (36.5–41.4)	13.8 (12.0–15.9)	11.3 (9.3–13.8)	7.5 (3.8–14.7)
C33–34	Lung, trachea	M	49.6 (48.5–50.8)	22.7 (21.6–23.8)	15.5 (14.3–16.8)	11.8 (10.3–13.5)
		F	56.8 (55.7–58.0)	29.2 (28.0–30.5)	19.9 (18.4–21.4)	14.2 (11.7–17.2)
C43	Melanoma of the skin	M	97.0 (96.4–97.6)	88.6 (87.2–90.0)	85.9 (83.1–88.8)	93.6 (88.4–99.2)
		F	98.1 (97.6–98.7)	94.0 (92.7–95.2)	91.9 (89.0–94.9)	85.6 (79.8–91.8)
C50	Breast	F	98.1 (97.8–98.4)	92.0 (91.3–92.6)	85.8 (84.5–87.0)	79.1 (76.2–82.1)
C53	Cervix uteri	F	94.0 (92.9–95.2)	82.3 (80.3–84.3)	77.2 (74.1–80.4)	72.6 (68.2–77.3)
C54	Corpus uteri	F	95.2 (94.4–96.0)	86.6 (85.0–88.1)	87.2 (84.5–89.9)	86.3 (80.4–92.6)
C56, C57.0–4, C48.2	Ovary etc.	F	84.9 (83.5–86.4)	50.3 (48.1–52.5)	36.7 (34.2–39.4)	32.8 (29.1–37.0)
C61	Prostate	M	99.5 (99.3–99.7)	95.5 (94.9–96.1)	90.7 (89.3–92.0)	80.1 (76.0–84.4)
C62	Testis	M	99.4 (98.9–99.9)	98.6 (97.8–99.4)	98.6 (97.6–99.7)	98.1 (96.7–99.5)
C64	Kidney (excl. renal pelvis)	M	90.7 (89.6–91.9)	79.9 (77.9–82.0)	68.9 (65.1–72.9)	56.7 (49.1–65.5)
		F	91.3 (89.7–93.0)	80.1 (77.4–82.8)	71.4 (67.2–75.9)	57.8 (48.9–68.3)
C65–68	Urinary tract	M	90.9 (90.0–91.8)	79.5 (77.8–81.1)	72.9 (69.8–76.2)	56.5 (45.9–69.5)
		F	87.2 (85.6–88.8)	75.7 (73.2–78.3)	71.4 (67.0–76.1)	58.2 (47.0–72.0)
C70–72	Central nervous system	M	77.3 (75.5–79.2)	59.6 (57.3–61.8)	57.1 (54.4–59.9)	53.5 (49.9–57.4)
		F	86.1 (84.7–87.5)	75.6 (73.7–77.4)	71.8 (69.4–74.3)	70.5 (67.1–74.1)
C73	Thyroid gland	M	94.0 (92.0–95.9)	89.3 (86.1–92.6)	84.5 (79.2–90.2)	87.0 (78.4–96.4)
		F	96.2 (95.1–97.4)	94.5 (92.7–96.3)	94.4 (91.0–97.9)	96.3 (90.1–103.0)
C81	Hodgkin lymphoma	M	95.9 (93.9–98.0)	89.2 (85.8–92.6)	87.8 (83.6–92.2)	83.4 (78.0–89.1)
		F	94.3 (91.5–97.1)	87.6 (83.5–92.0)	82.4 (77.1–88.1)	81.1 (73.1–90.0)
C82–86, C96	Non-Hodgkin lymphoma	M	87.6 (86.3–89.0)	77.0 (74.8–79.2)	66.4 (62.8–70.1)	59.0 (53.1–65.7)
		F	89.6 (88.2–90.9)	79.9 (77.8–82.0)	70.3 (67.2–73.6)	64.5 (56.2–73.9)
C91–95	Leukaemia	M	85.0 (83.7–86.4)	67.5 (65.3–69.7)	57.2 (54.0–60.6)	44.6 (38.5–51.7)
		F	85.9 (84.5–87.4)	74.1 (71.9–76.3)	62.9 (59.5–66.5)	51.0 (45.0–57.8)

- Not estimated due to too few patients (see Chapter 4).

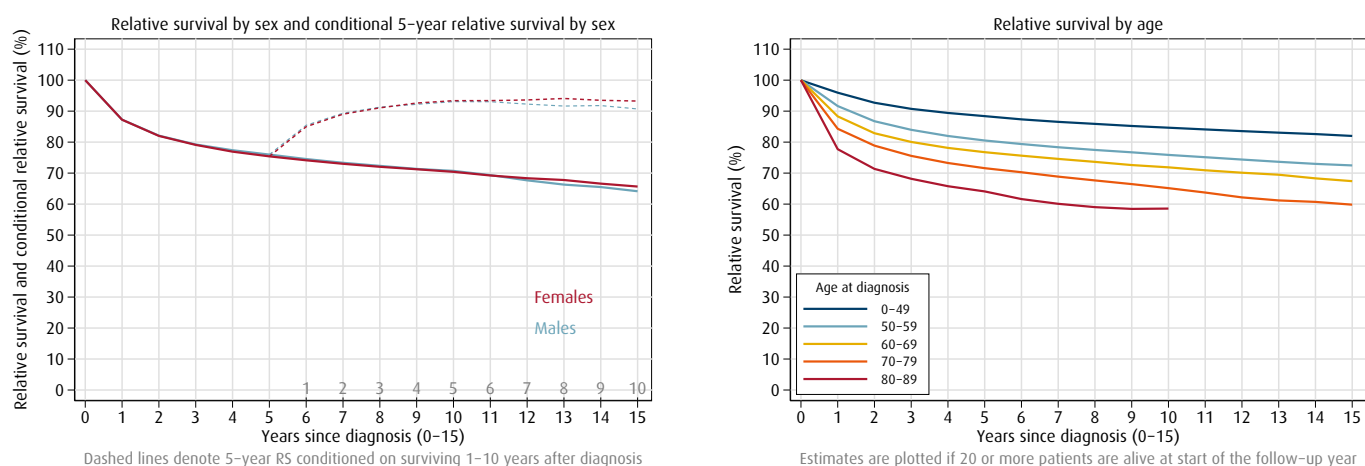
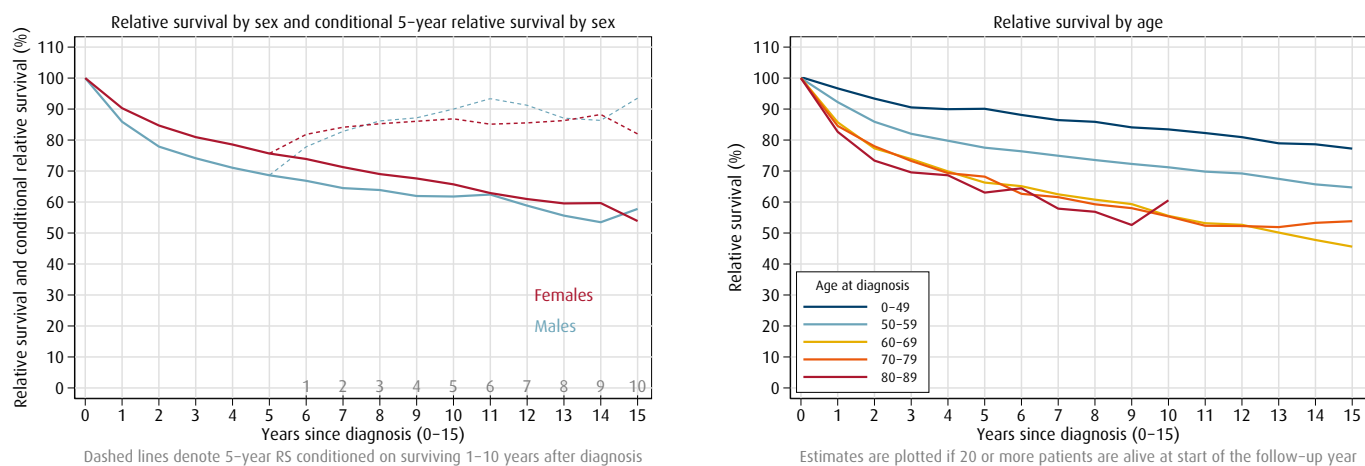
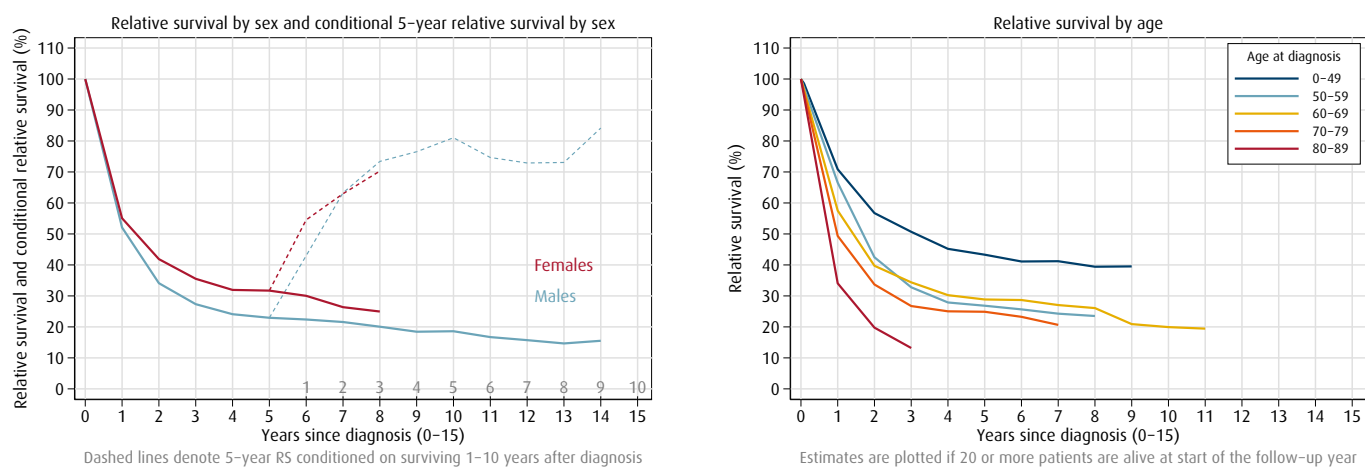
Figure 8.1: Relative survival (RS) up to 15 years after diagnosis by sex and age, 2015–2019**Figure 8.1-A: All sites (ICD-10 C00–96)****Figure 8.1-B: Mouth, pharynx (ICD-10 C00–14)****Figure 8.1-C: Oesophagus (ICD-10 C15)**

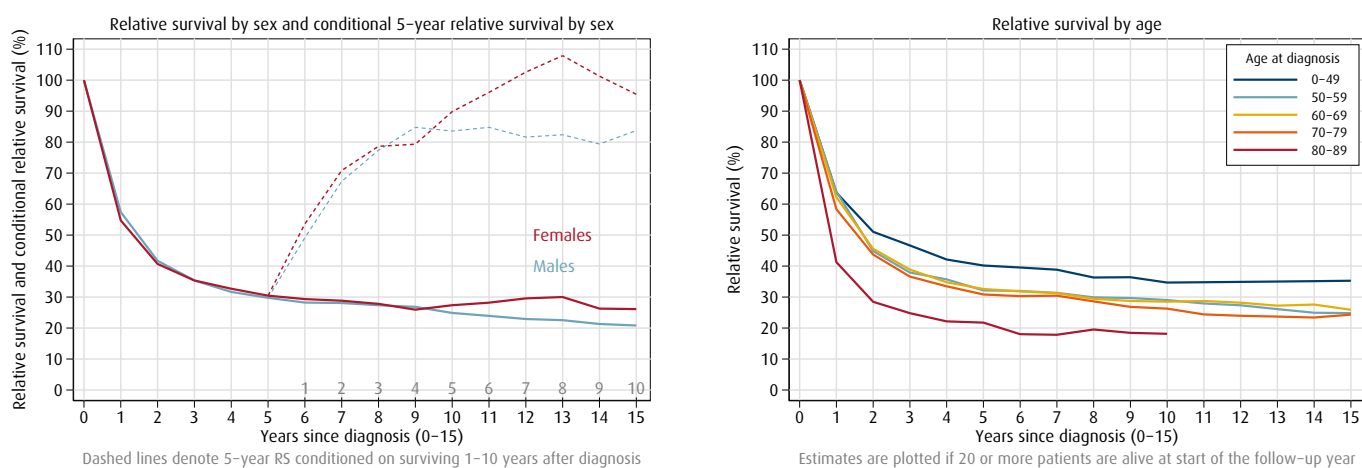
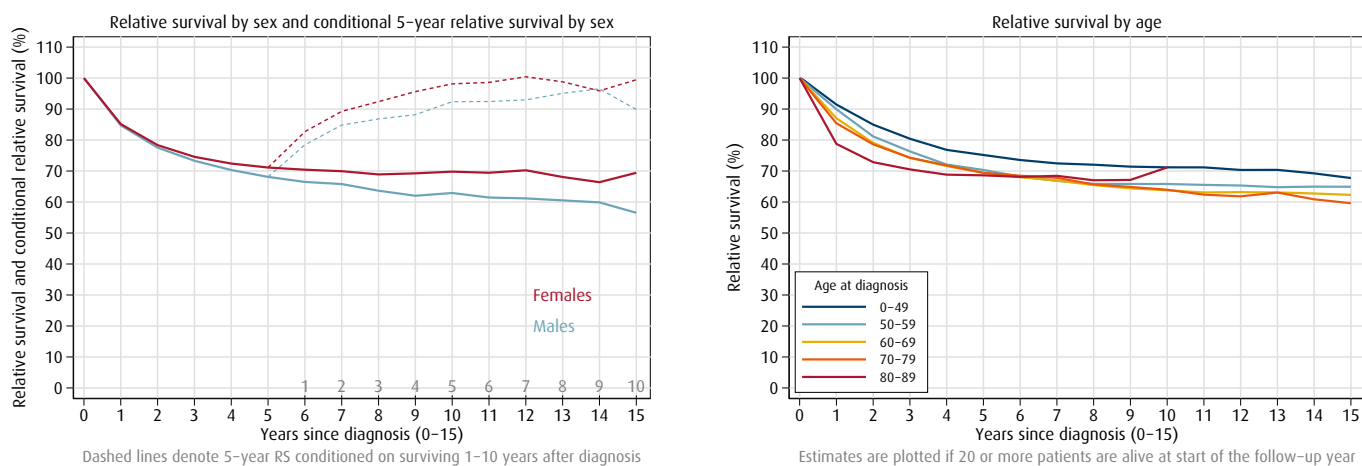
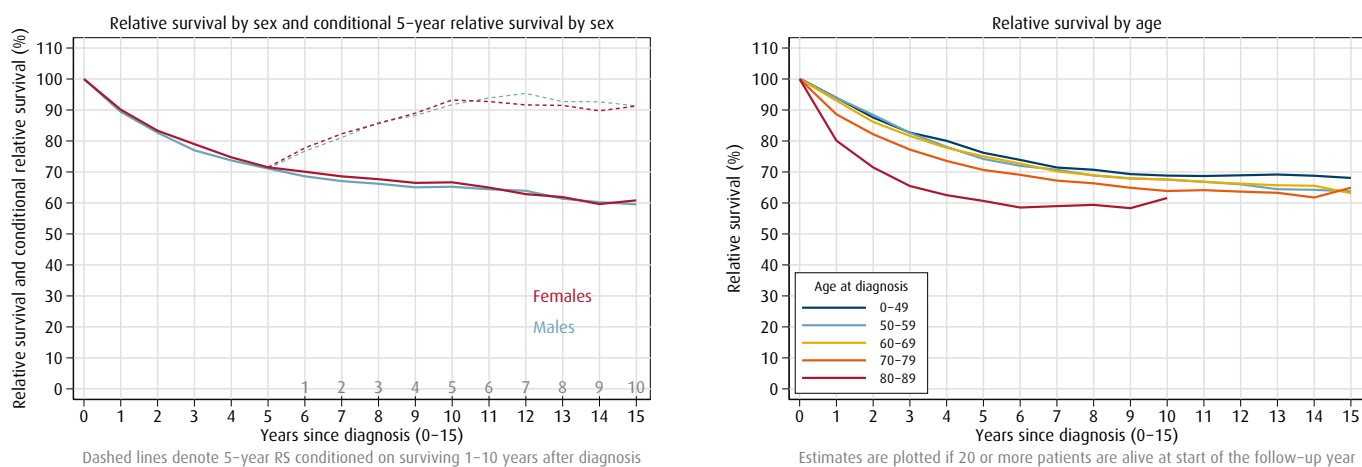
Figure 8.1: Relative survival (RS) up to 15 years after diagnosis by sex and age, 2015–2019**Figure 8.1-D: Stomach (ICD-10 C16)****Figure 8.1-E: Colon (ICD-10 C18)****Figure 8.1-F: Rectum, rectosigmoid (ICD-10 C19–20)**

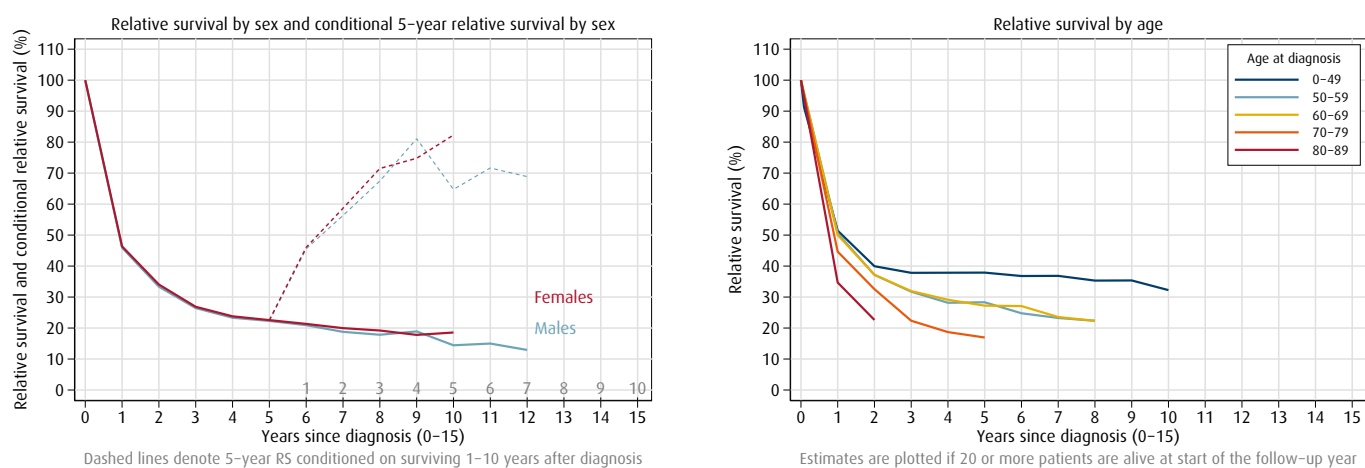
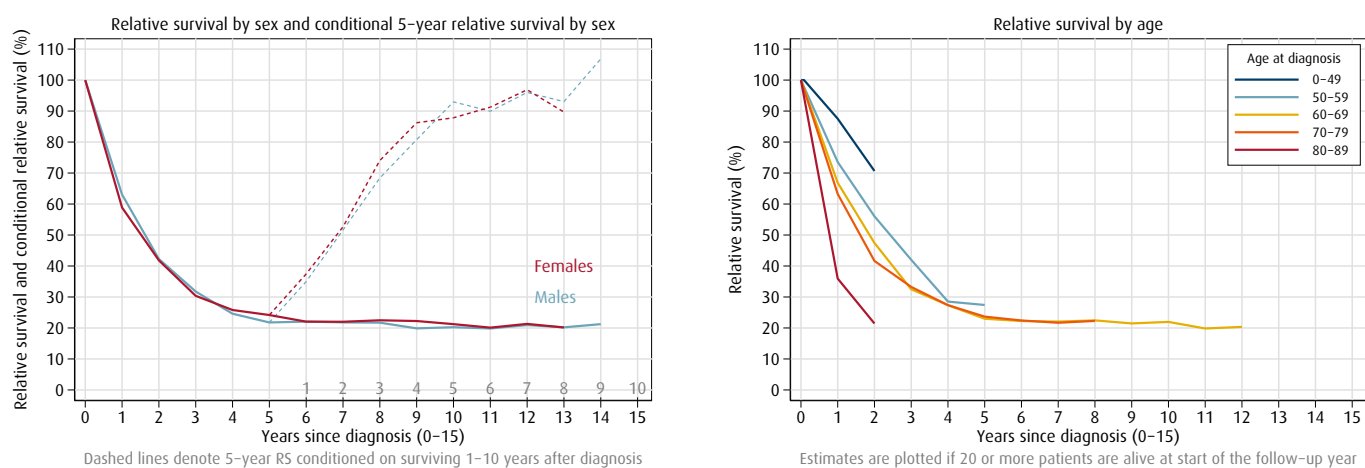
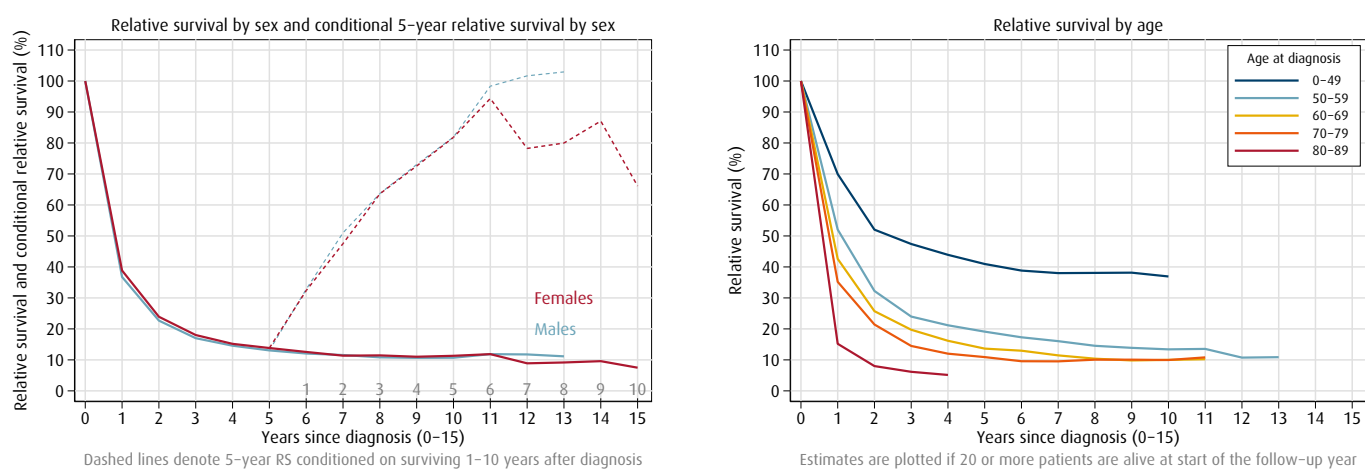
Figure 8.1: Relative survival (RS) up to 15 years after diagnosis by sex and age, 2015–2019**Figure 8.1-G: Liver (ICD-10 C22)****Figure 8.1-H: Gallbladder, bile ducts (ICD-10 C23-24)****Figure 8.1-I: Pancreas (ICD-10 C25)**

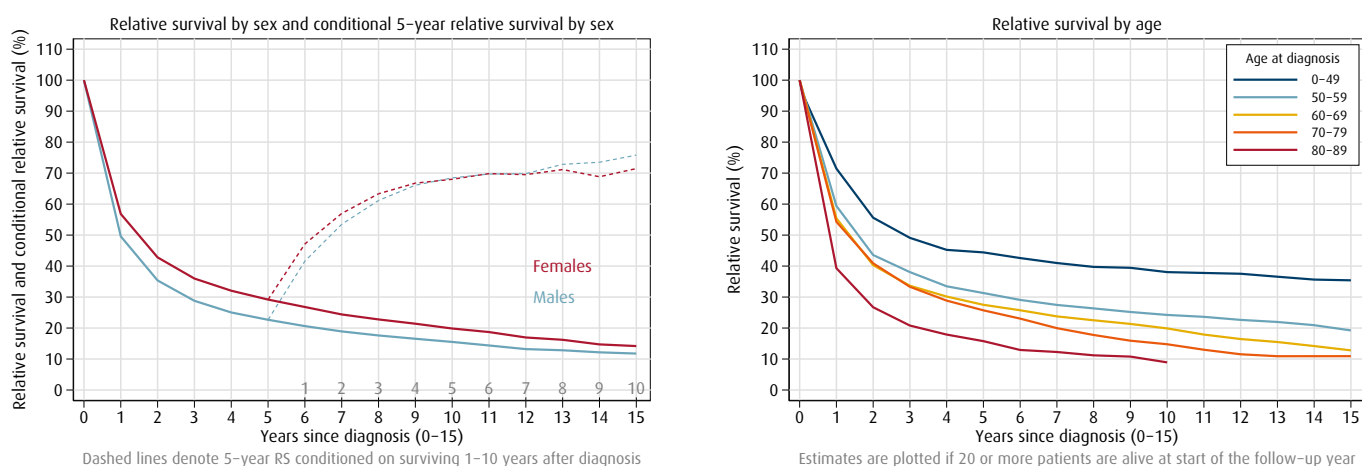
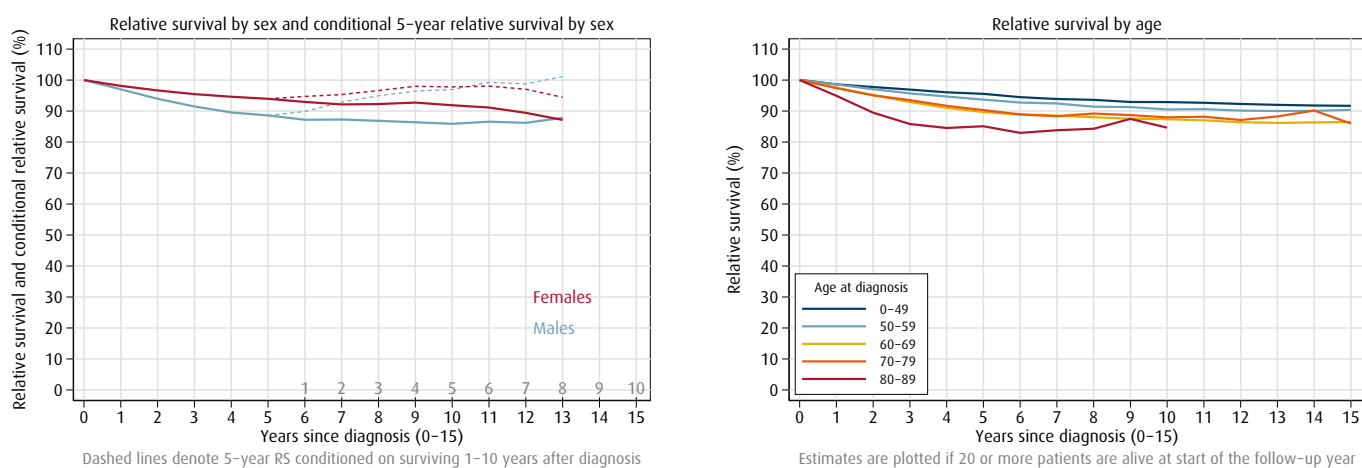
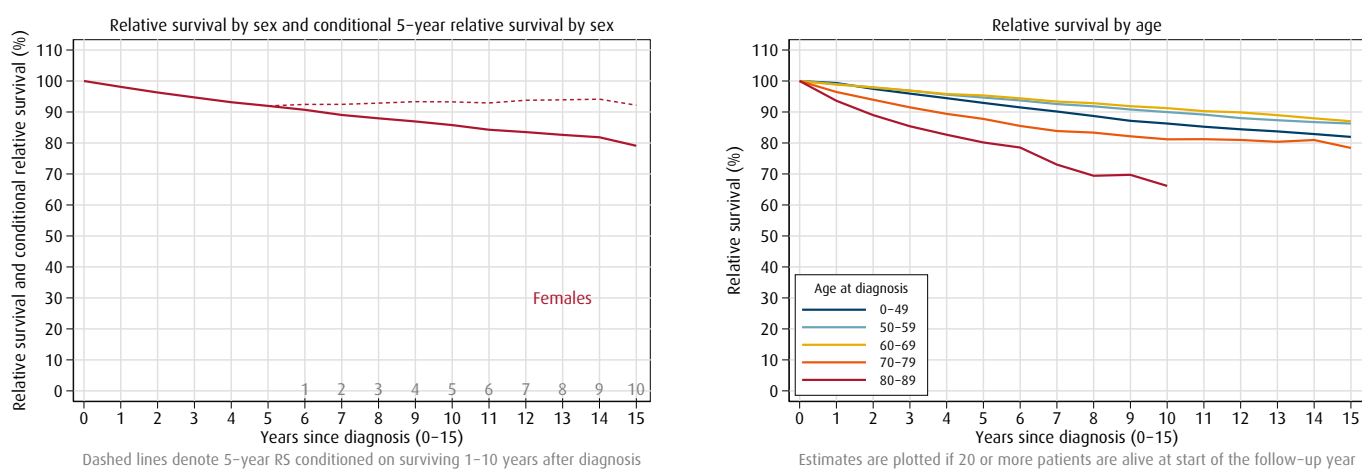
Figure 8.1: Relative survival (RS) up to 15 years after diagnosis by sex and age, 2015–2019**Figure 8.1-J:** Lung, trachea (ICD-10 C33–34)**Figure 8.1-K:** Melanoma of the skin (ICD-10 C43)**Figure 8.1-L:** Breast (ICD-10 C50)

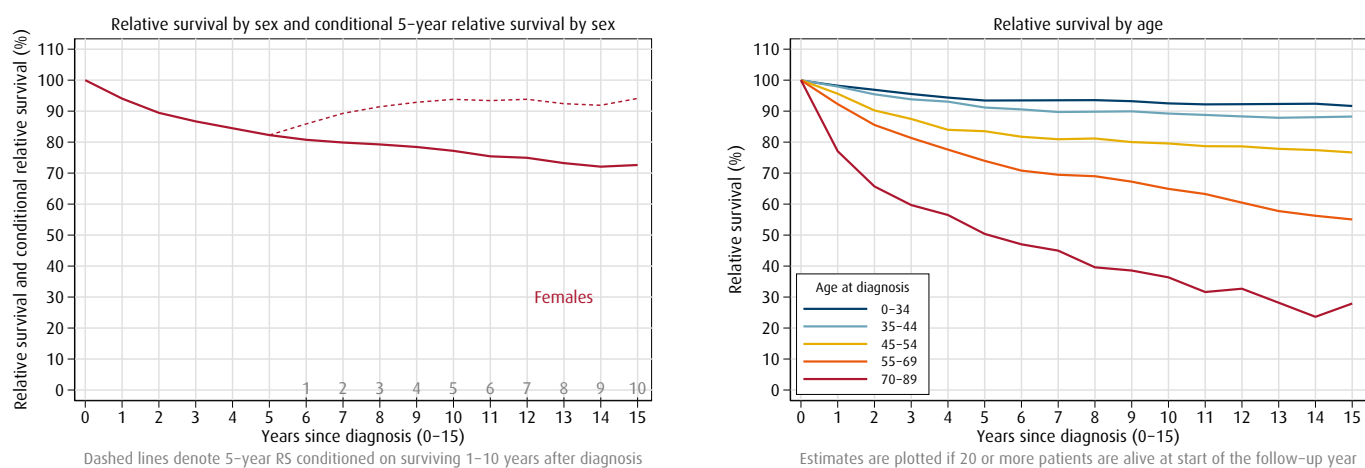
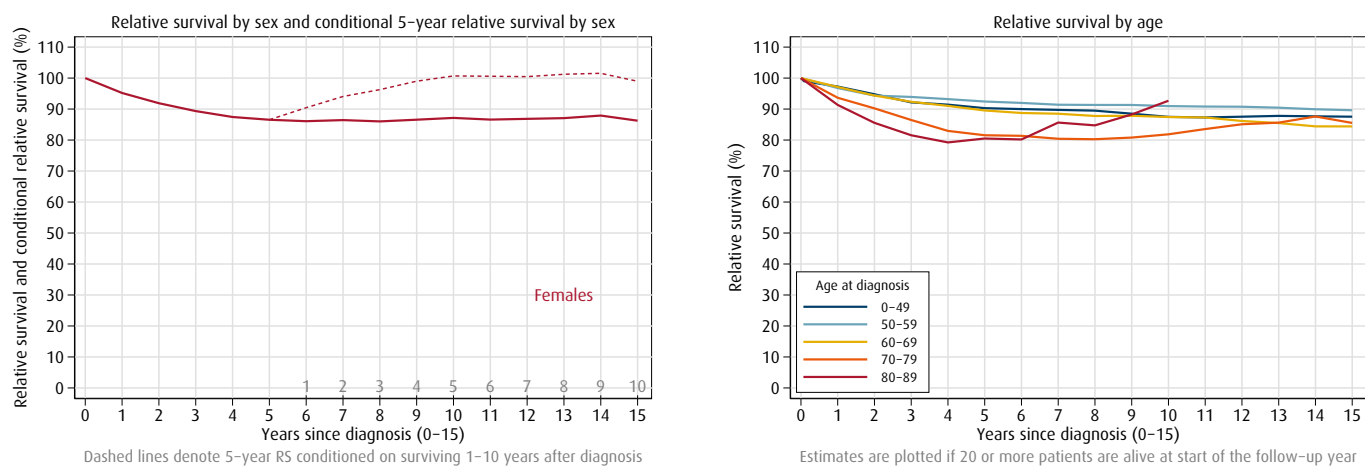
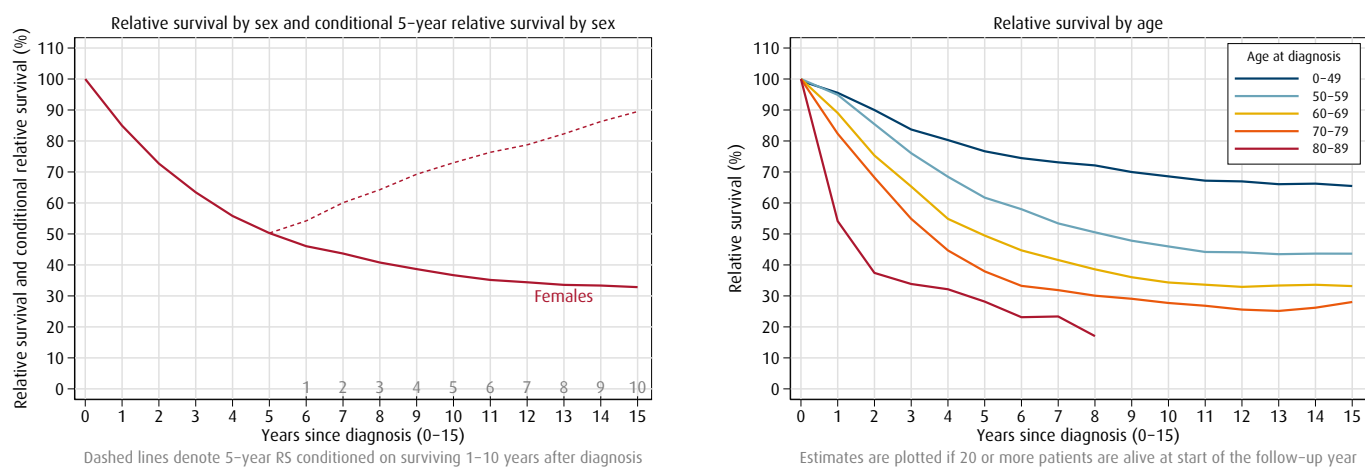
Figure 8.1: Relative survival (RS) up to 15 years after diagnosis by sex and age, 2015–2019**Figure 8.1-M: Cervix uteri (ICD-10 C53)****Figure 8.1-N: Corpus uteri (ICD-10 C54)****Figure 8.1-O: Ovary etc. (ICD-10 C56, C57.0–4, C48.2)**

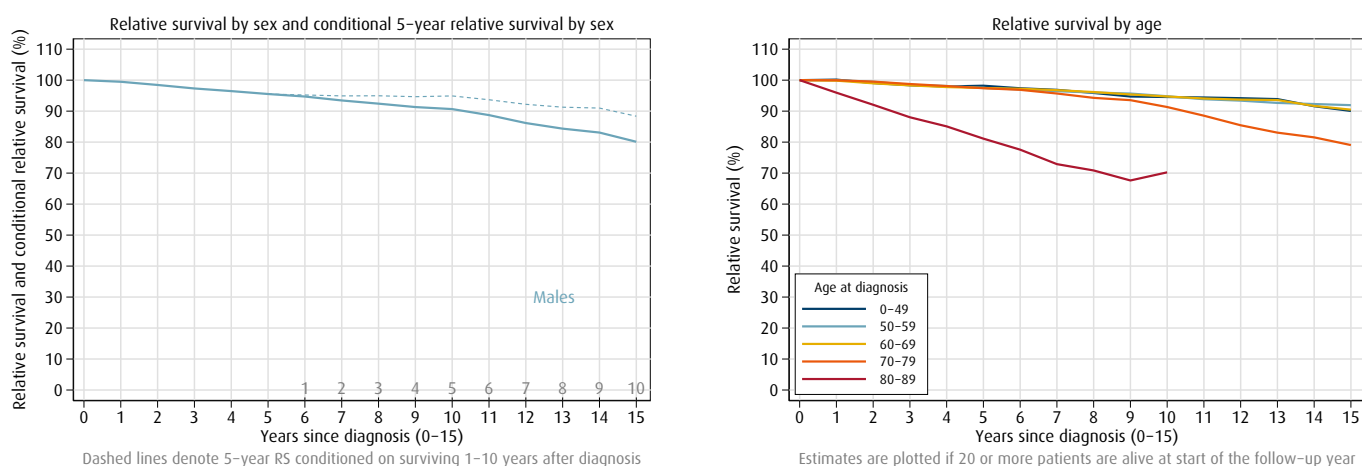
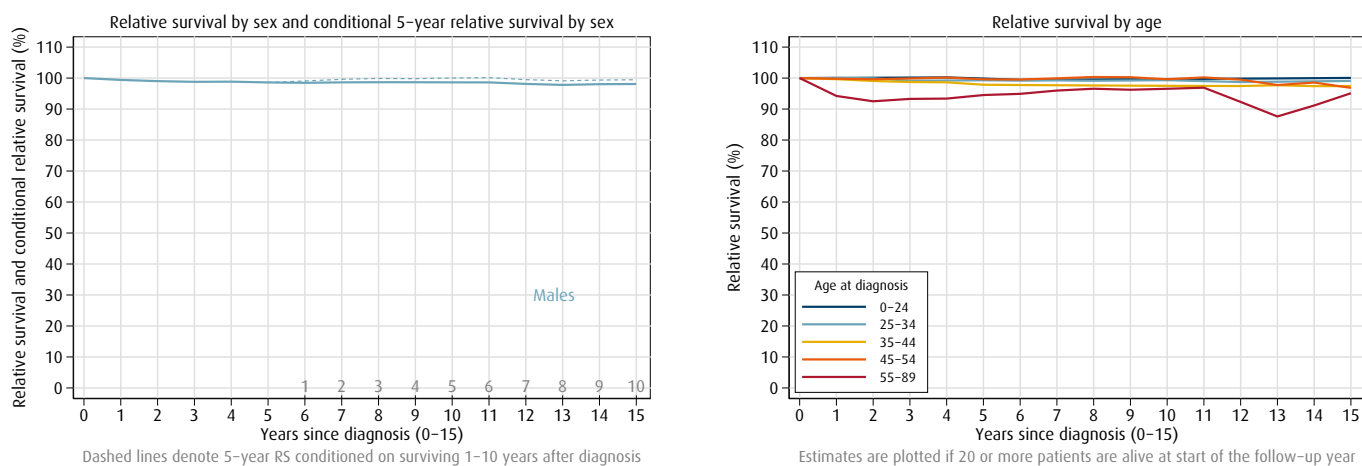
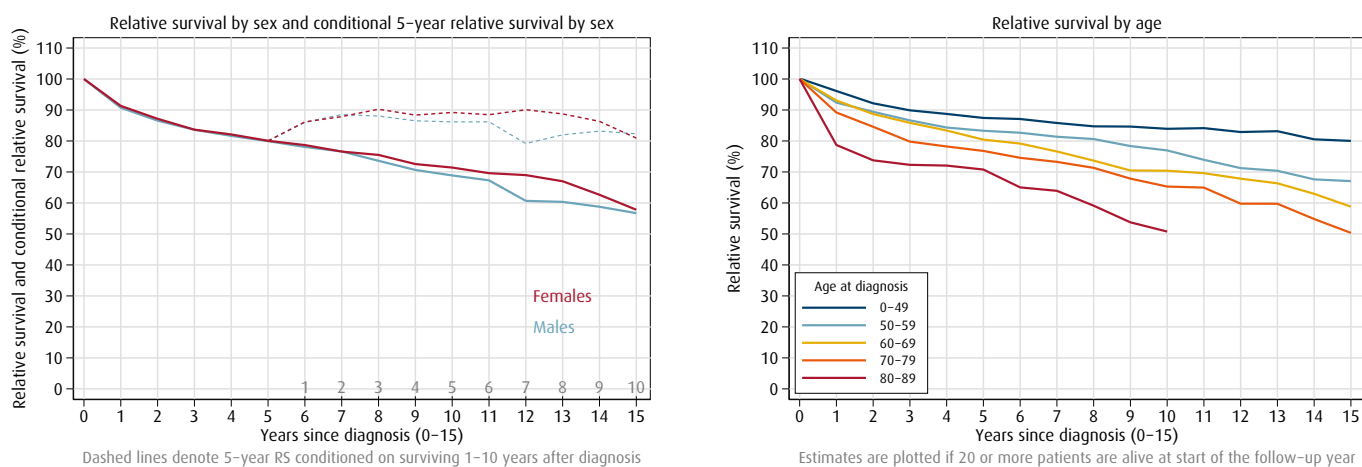
Figure 8.1: Relative survival (RS) up to 15 years after diagnosis by sex and age, 2015–2019**Figure 8.1-P: Prostate (ICD-10 C61)****Figure 8.1-Q: Testis (ICD-10 C62)****Figure 8.1-R: Kidney (excl. renal pelvis) (ICD-10 C64)**

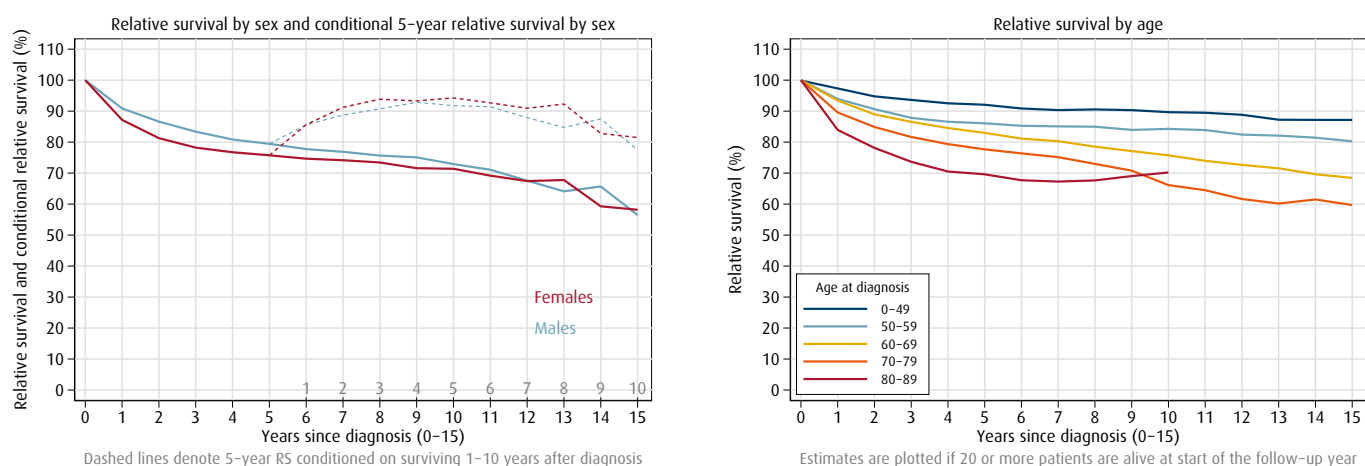
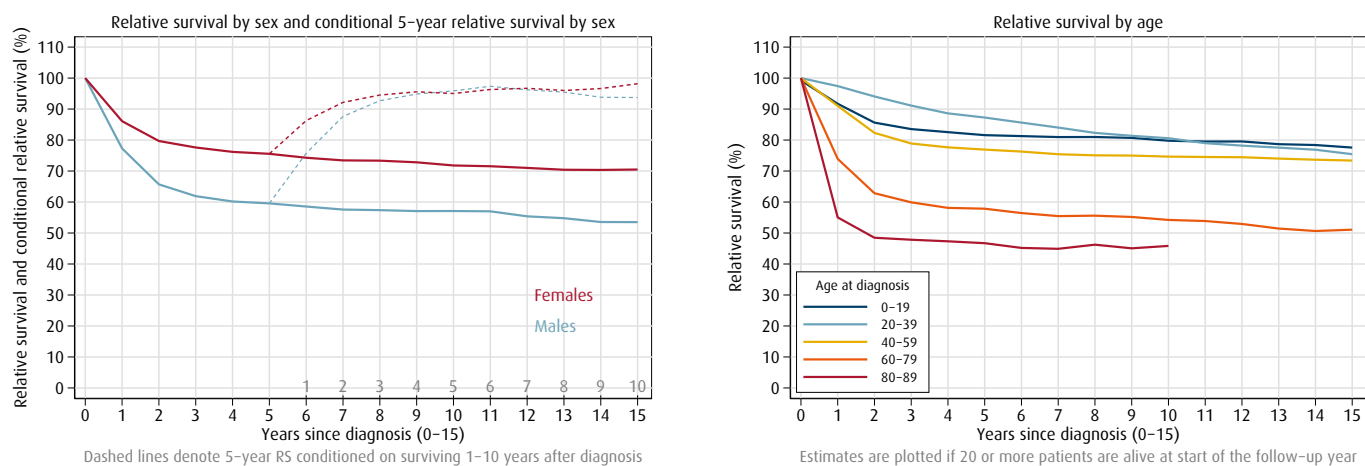
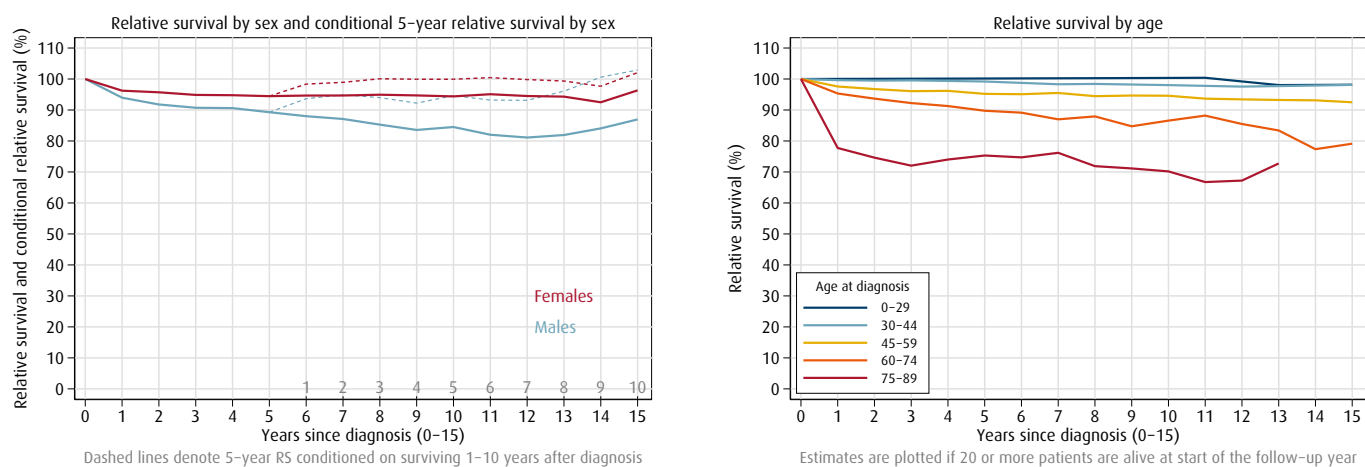
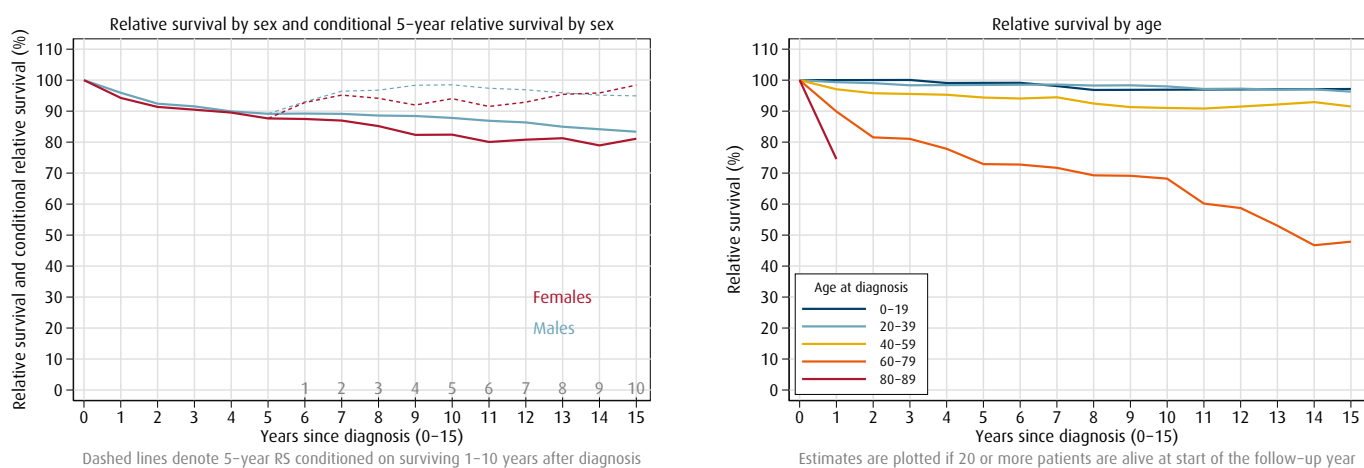
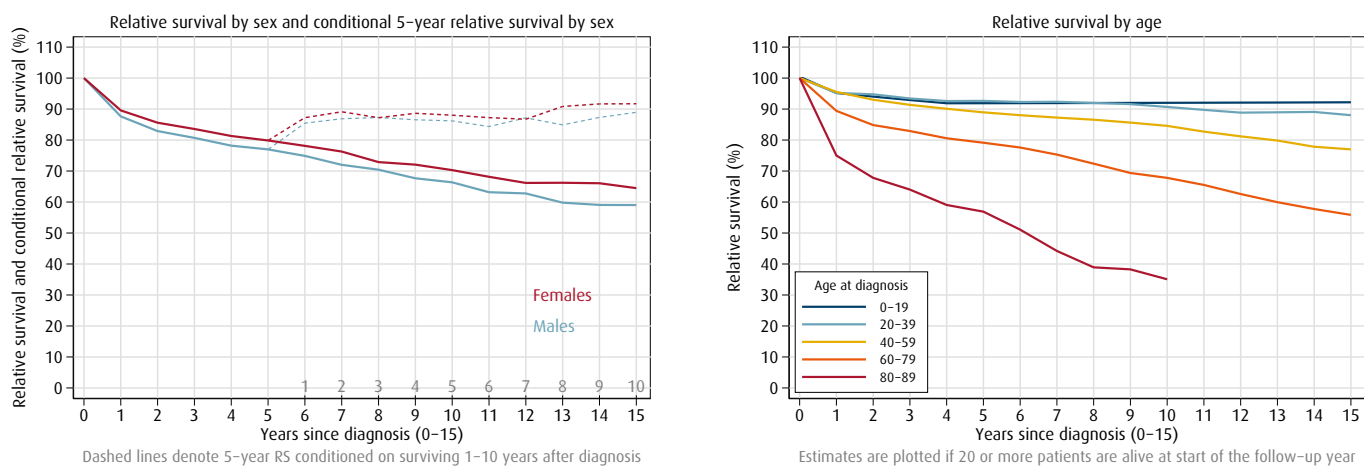
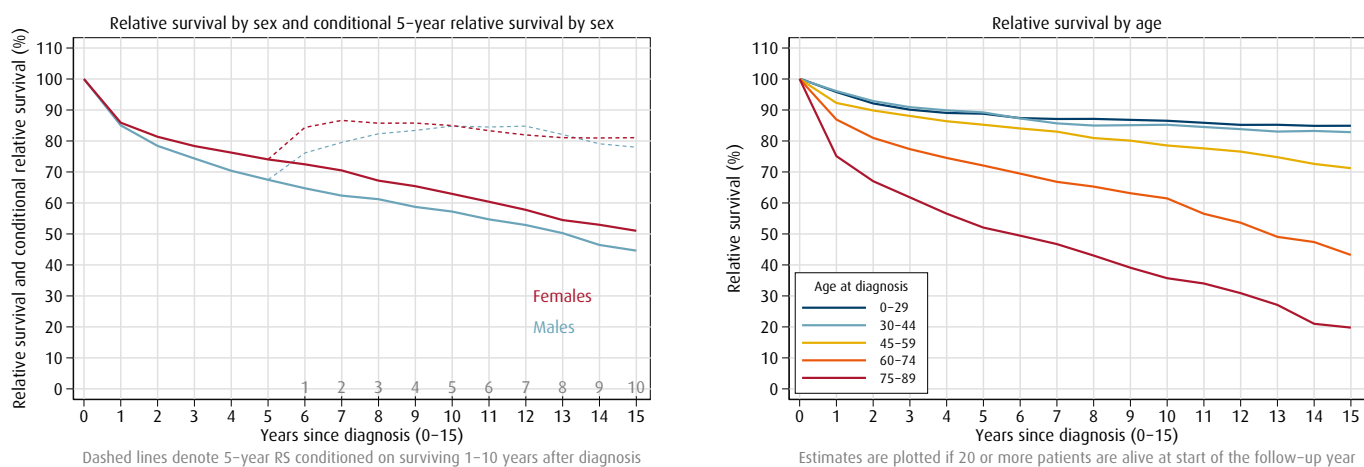
Figure 8.1: Relative survival (RS) up to 15 years after diagnosis by sex and age, 2015–2019**Figure 8.1-S: Urinary tract (ICD-10 C65–68)****Figure 8.1-T: Central nervous system (ICD-10 C70–72)****Figure 8.1-U: Thyroid gland (ICD-10 C73)**

Figure 8.1: Relative survival (RS) up to 15 years after diagnosis by sex and age, 2015–2019**Figure 8.1-V: Hodgkin lymphoma (ICD-10 C81)****Figure 8.1-W: Non-Hodgkin lymphoma (ICD-10 C82–86, C96)****Figure 8.1-X: Leukaemia (ICD-10 C91–95)**

Chapter 9 Trends in incidence, mortality and survival, Norway 1965–2019

There has been considerable discussion as to the relative merits of incidence, mortality and survival analysis in cancer research generally, and in time trend analysis specifically^[26–30]. Analysing trends may provide some insight into changes in the incidence and distribution of risk factors, and the impact of interventions and screening aimed at prevention and early diagnosis. Mortality rates and survival proportions are both key measures of disease outcome, and may alert us to the beneficial effects of screening, more effective therapies or better disease management.

The contribution of artefacts to the observed cancer incidence and mortality trends has been comprehensively addressed^[31,32]. The accuracy of death certificates has also been discussed^[33–35]. Apart from artefacts related to registration practices, many of the factors that affect incidence also apply to mortality, given that both rely on the accuracy of the initial cancer diagnosis. As with incidence, survival estimates may be affected by changes in diagnostic methods and disease classifications, as well as the extent of cancer screening that detect cases in an earlier stage of the disease.

There is a general consensus that a combined description of trends in incidence, mortality and survival aids our understanding of the underlying biological, epidemiological and clinical processes. As each indicator is subject to unique or shared artefacts that tend to vary according to cancer type over time, their simultaneous assessment often enables the identification of systematic deviations in one or more of the three measures. Figures 9.1–A to 9.1–X present time trends during 1965–2019 for age-standardised incidence and mortality rates and five-year relative survival estimates. It should be noted that these summary measures will often fail to reflect true underlying age-calendar-year interactions for specific cancers, such as differences in survival and mortality trends by age with respect to calendar time, or the presence of strong birth cohort influences in incidence trends.

The trends for **all sites** in Figure 9.1–A show a persistent increase in cancer survival in Norway over the last five decades. The incidence rates have also increased, but for men it now seems to be levelling off. The mortality rates were fairly stable until the late 1990s. From 2000 onwards, there was a notable decline in the mortality rate in

men, and a slight decline in women. The interpretation of these aggregated estimates is complex, in that they comprise many different cancer types, which vary in terms of their capacity to be diagnosed as well as treated.

Among men, 26% of all cancers diagnosed in 2019 were **prostate cancers**. General screening for prostate cancer using the PSA test is not recommended in Norway. However, the doubling in incidence and improved relative survival from 1990 to mid 2000s (Figure 9.1–O) probably reflects the availability and upsurge in the use of the PSA test for early detection of disease. During the last few years, the incidence of prostate cancer has stabilised and even decreased. Mortality declined from around 1996, and both early diagnosis and improved and more active treatment may have had an impact.

Breast cancer comprises more than 20% of all female cancer cases. There has been a monotonous increase in incidence rates up to 2005 with a steeper increase in the mid-1990s followed by a notable decline between 2005 and 2009 (Figure 9.1–M). The Norwegian Breast Cancer Screening Programme started as a four-year pilot project in four of the nineteen Norwegian counties in 1996, and gradually expanded to become nationwide by 2005. The programme invites women aged 50–69 years to biennial mammography. The implementation of the screening programme explains much of the increasing incidence trend from the mid 1990s to 2005. The figures for recent years indicate a new increase in incidence. The age-specific rates indicate an increase primarily limited to the age group 60–79 (not shown). The increase may thus be related to better diagnostic methods introduced in the screening programme combined with women continuing to have mammography after the age of 70. Breast cancer mortality was almost stable up to the mid 1990s when it began declining (Figure 9.1–N). These good news most likely reflect a combination of improved diagnostics, better treatment, and the implementation of the screening programme for breast cancer. Today, 92% women with breast cancer survive their cancer for five years or more.

Trends in **lung cancer** incidence and mortality has followed each other closely. Since early 2000s, the distance between the rates has increased, reflecting improved survival for these patients. Although the survival for lung

cancer is still poor compared to other cancers, it has increased by 10 percentage-points during the last ten years, and 23% of men and 29% of women with lung cancer now survive their cancer for at least five years. The varying incidence trends by sex reflect the different phases of the smoking epidemic in Norwegian men and women (Figure 9.1–J). Overall, lung cancer incidence and mortality rates among males began to level off in the mid 1990s and have declined the past six or seven years. For women, we have observed signs of a stabilisation in the rate during recent years. However, the rate reached an all-time high level in 2018. Thus, we may not yet have seen the peak. Still, the age-specific rates (not presented in this report) show a stabilisation for women under 70. Interestingly, the number of new lung cancer cases among women has surpassed that of men in 2018 and 2019, while the rates still are lower due to a higher number of women attaining high age. During the last two decades, lung cancer has surpassed breast cancer as the most frequent cause of cancer death among women.

Both **colon and rectal cancer** incidence have been increasing for many decades, but the rectal cancer rates have levelled off since the 1990s (Figure 9.1–E and 9.1–F). Of particular note is the increasing survival and declining mortality from rectal cancer in both sexes, and the mortality is now nearly half of what it used to be. The most important determinants are probably the national introduction of total mesorectal excision in the early 1990s, increased specialisation, and use of preoperative radiation. However, our colon cancer incidence and mortality rates are among the highest in the world, and remain a health concern.

Some other specific sites are also worthy of note. The long-term decline in **stomach cancer** incidence and mortality is most likely caused by better hygiene and increased intake of fresh or frozen food, which have reduced the prevalence of *Helicobacter pylori* infections and reduced the use of potentially harmful methods of food preservation. The survival of stomach cancer has increased moderately over time (Figure 9.1–D).

In contrast, the incidence rate of **testicular cancer** increased gradually during until 2007 (Figure 9.1–Q). An improvement in survival started in the 1970s with the introduction of cisplatin therapy for advanced germ-cell tumours, leading to greatly improved prognosis for testicular cancer in young and middle-aged men. This cancer now has the highest five-year relative survival.

A remarkable increase in incidence rates has been seen during the last years for **melanoma of the skin** in both genders (Figure 9.1–K). The steep rise is suggested to result from sun exposure habits. However, we cannot exclude the possibility that increased awareness, both in the general population and among general practi-

tioners, and sliding of the diagnostic criteria, may have contributed to the increase. The moderate but steady increase in melanoma mortality until 2010 indicates that some of the increase in incidence is caused by a higher risk of the disease.

The classification of diseases changes over time, and sometimes this appears clearly in the incidence trends. In 2002, polycythaemia vera (D45), myelodysplastic syndromes (D46) and other neoplasms of uncertain or unknown behavior of lymphoid, hematopoietic and related tissue (D47) were included in the statistics for **leukemia**, and this inclusion caused a notable increase in the incidence (Figure 9.1–X). The treatment of leukemia has improved, and a steep prolonged increase in the survival is observed since the early 1970s.

Cancer of the **bladder and urinary tract** is the fourth most frequent cancer in men, but are less frequent in women. The incidence rate increased gradually until the early 1990s, but has since then been less pronounced. The mortality rate has decreased since early 2000, reflecting the increase in survival (Figure 9.1–S).

Finally, among more uncommon cancer sites, there has been a notable increase in the rates for **liver and thyroid cancer** in both genders (Figures 9.1–G and 9.1–U). The rise of thyroid cancers during the last decade is also seen in the other Nordic countries, except in Iceland where the rates have been consistently higher than in Scandinavia since 1960. We do not know the exact reason for the Scandinavian increase, but similar trends have been observed internationally, possibly linked to changes in the diagnostic workup with an increased use of ultrasound, CT or MRI for other indications, resulting in incidental findings of tumours in the thyroid^[36].

We have earlier suspected that the increased rate of **liver cancer** was due to immigration from areas with higher incidence of this disease. A recent study revealed that this assumption was wrong, and that there has been a clear increase also among the Norwegian native population^[37].

In summary, the overall trends in cancer survival probably reflect both artefacts, such as screening programmes and unrecommended screening, both associated with some degree of overdiagnosis (tumours that would have remained harmless throughout life), improved diagnostics, improved treatment, and improved general health (less comorbidity among cancer patients). For prostate and breast cancer, both early diagnosis and improvements in treatment are likely to have played a role. For rectal cancer, the improved survival is most likely caused by better treatment.

Note: For Figure 9.1–F, the mortality rate for rectosigmoid (C19–20) includes anal cancer.

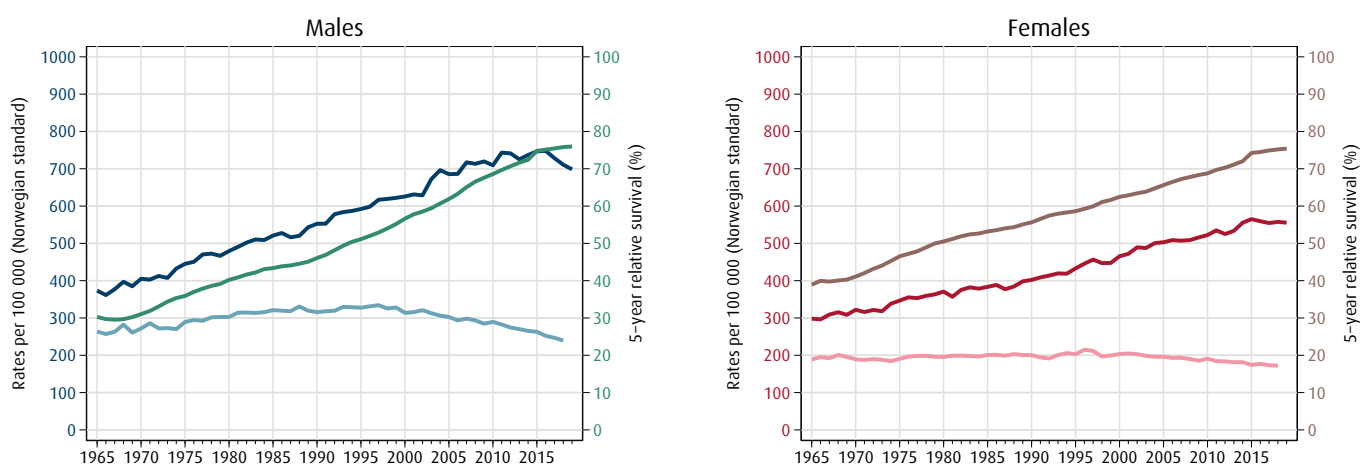
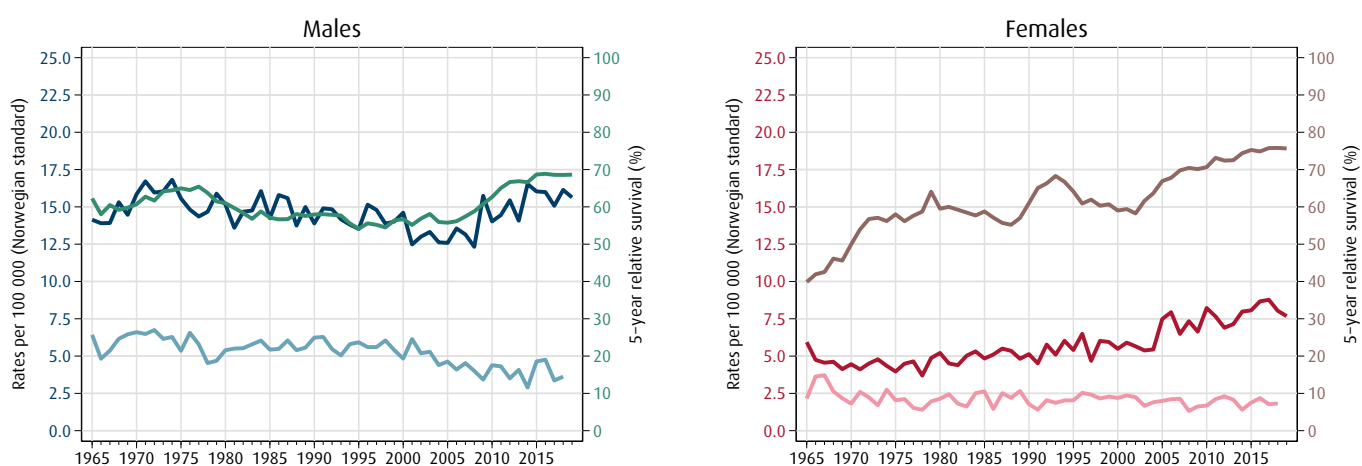
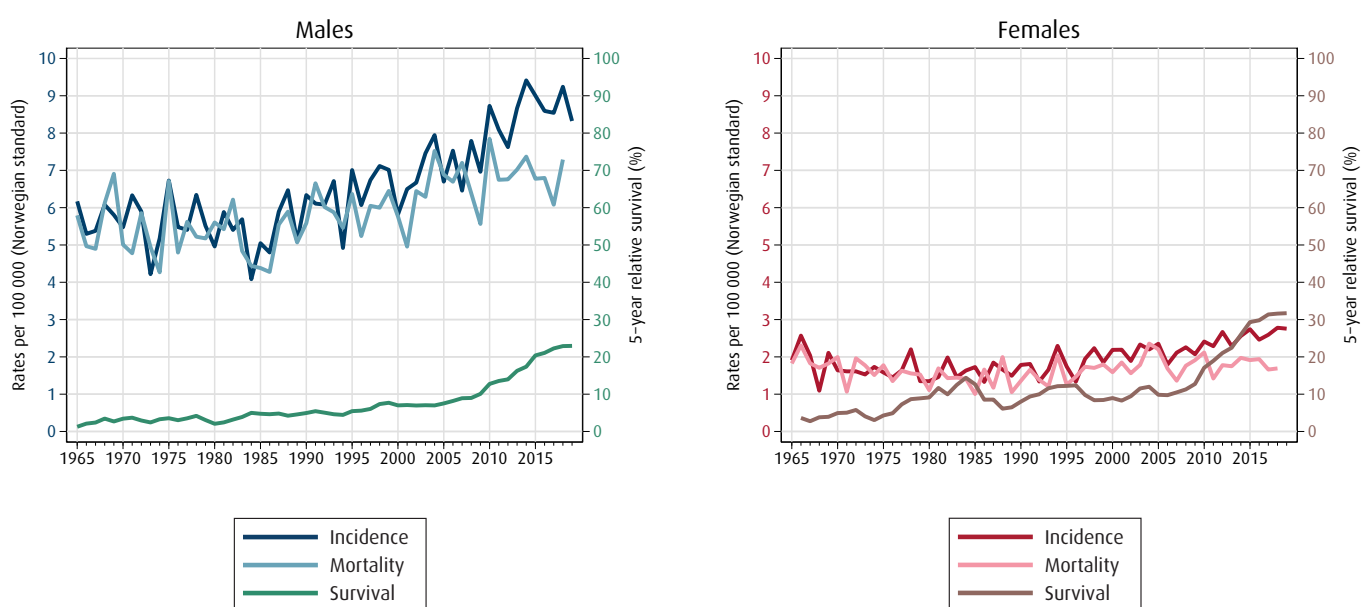
Figure 9.1: Trends in incidence and mortality rates and 5-year relative survival proportions**Figure 9.1-A: All sites (ICD-10 C00-96)****Figure 9.1-B: Mouth, pharynx (ICD-10 C00-14)****Figure 9.1-C: Oesophagus (ICD-10 C15)**

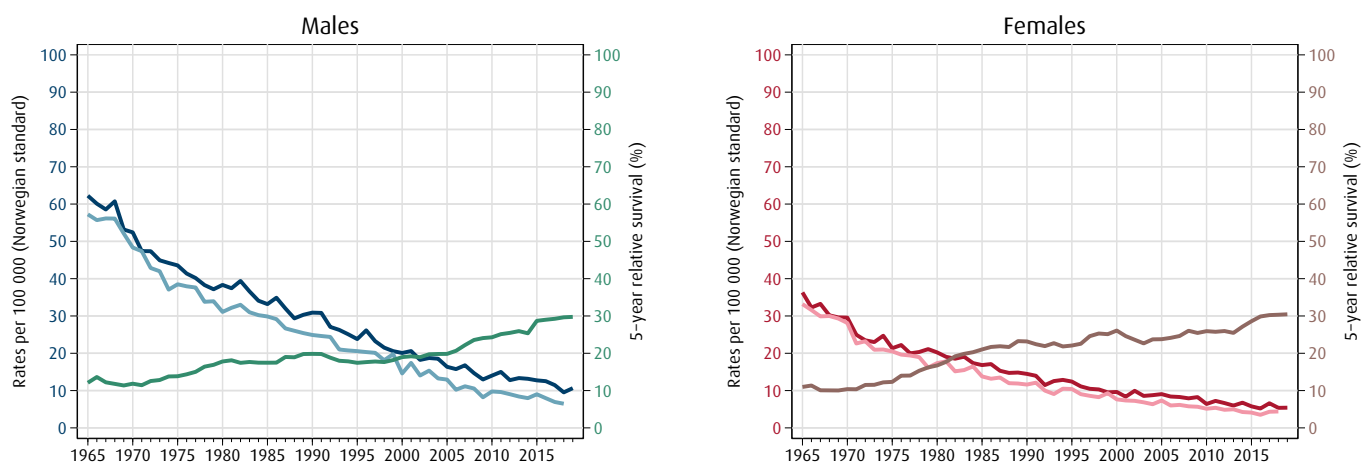
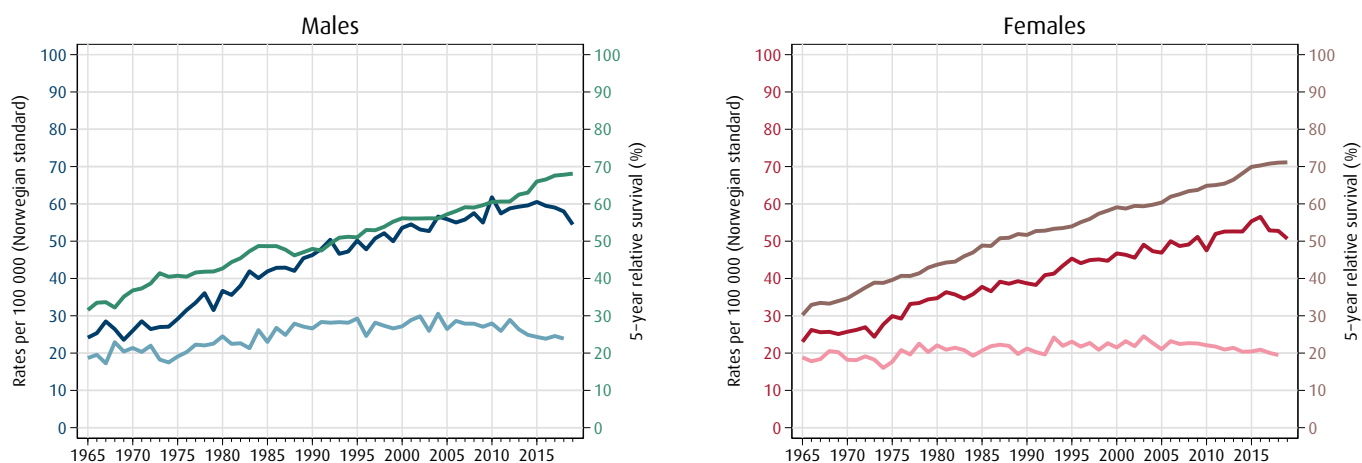
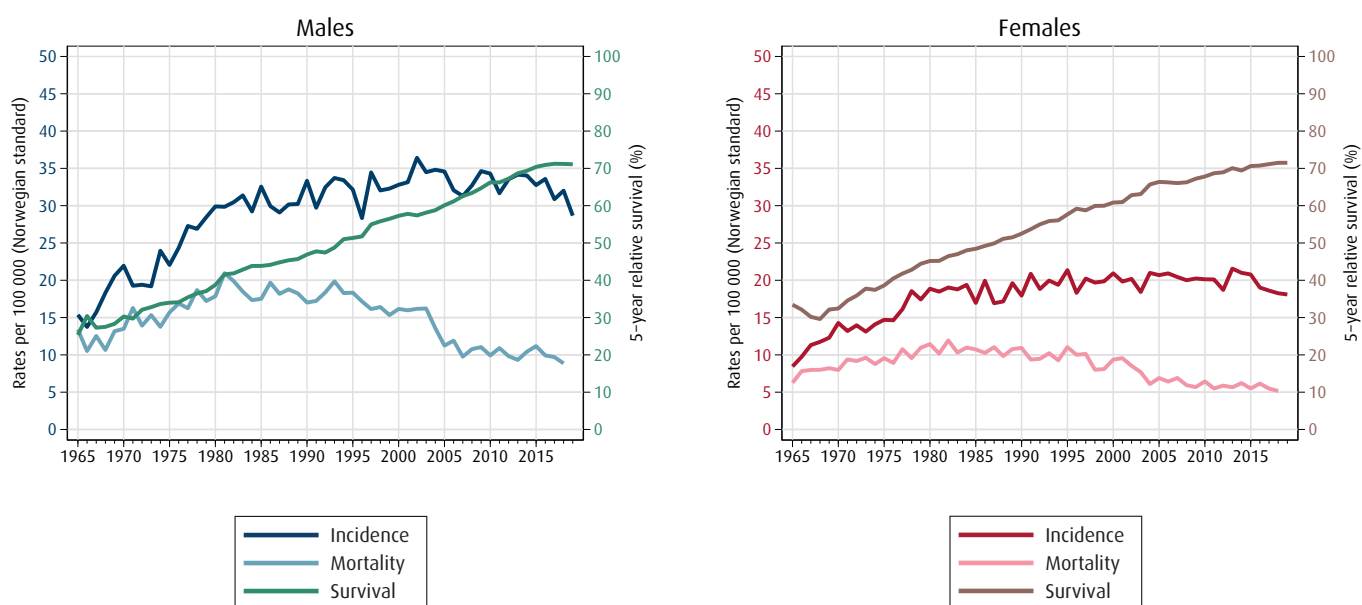
Figure 9.1: Trends in incidence and mortality rates and 5-year relative survival proportions**Figure 9.1-D: Stomach (ICD-10 C16)****Figure 9.1-E: Colon (ICD-10 C18)****Figure 9.1-F: Rectum, rectosigmoid (ICD-10 C19-20)**

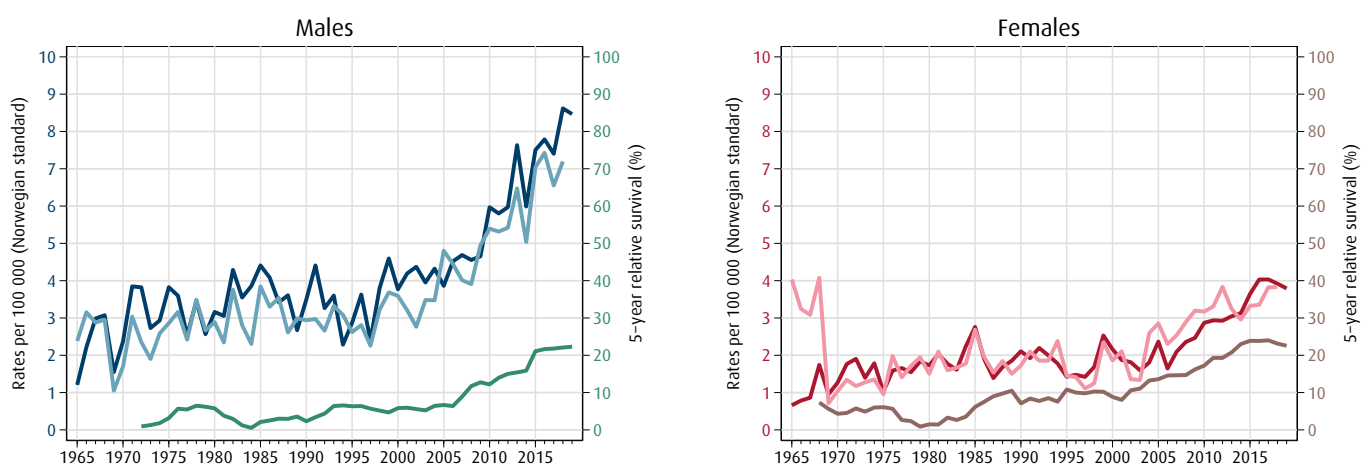
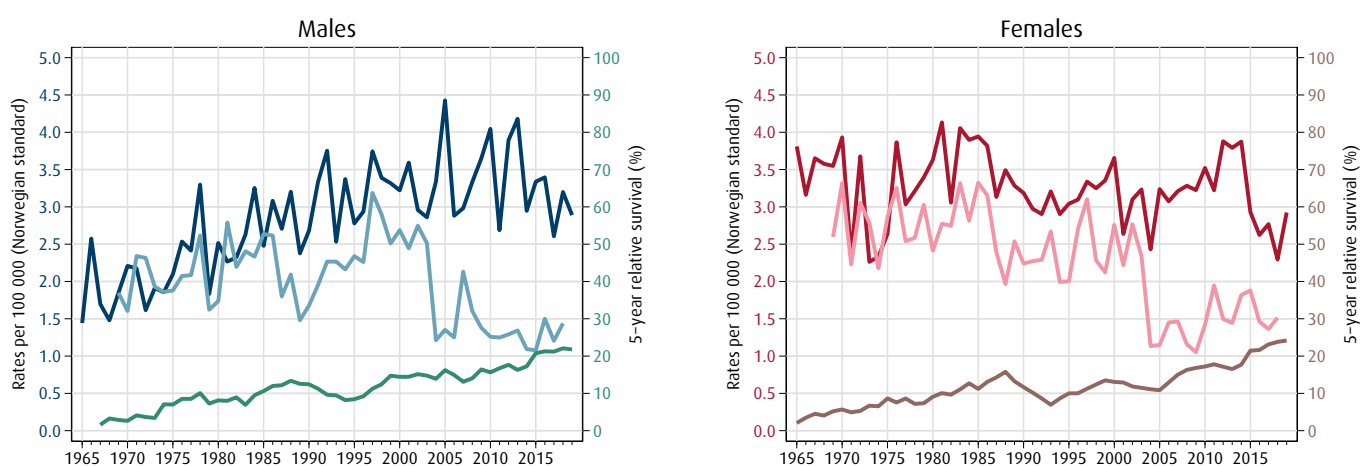
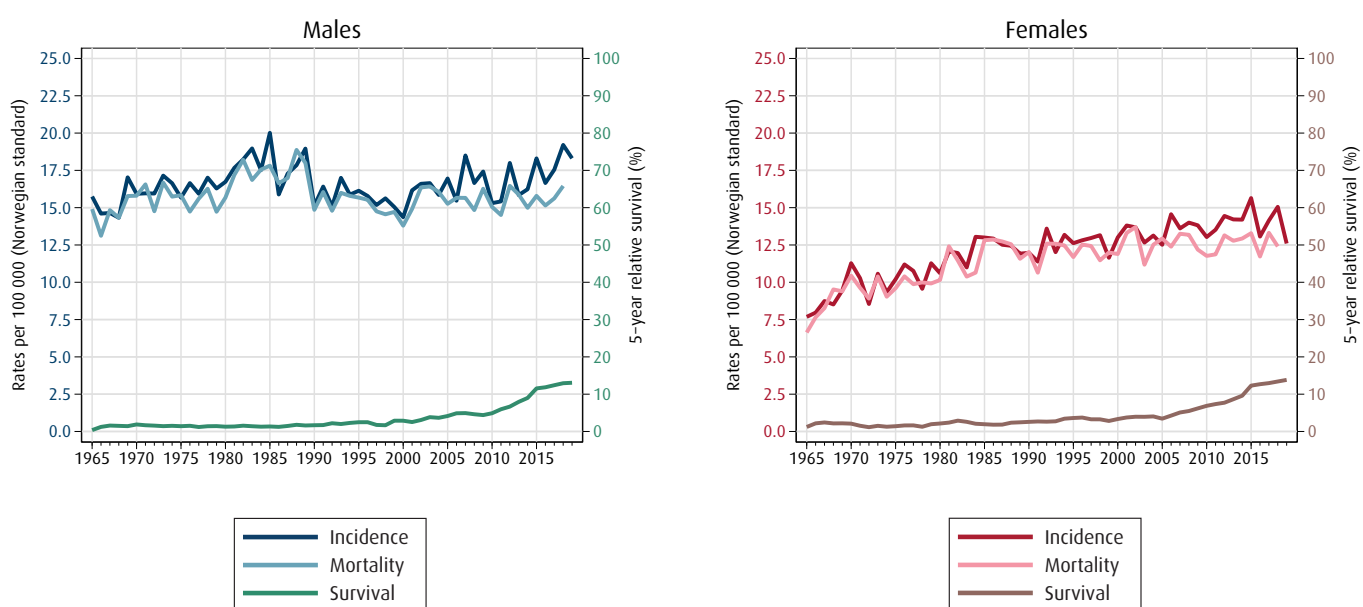
Figure 9.1: Trends in incidence and mortality rates and 5-year relative survival proportions**Figure 9.1-G: Liver (ICD-10 C22)****Figure 9.1-H: Gallbladder, bile ducts (ICD-10 C23-24)****Figure 9.1-I: Pancreas (ICD-10 C25)**

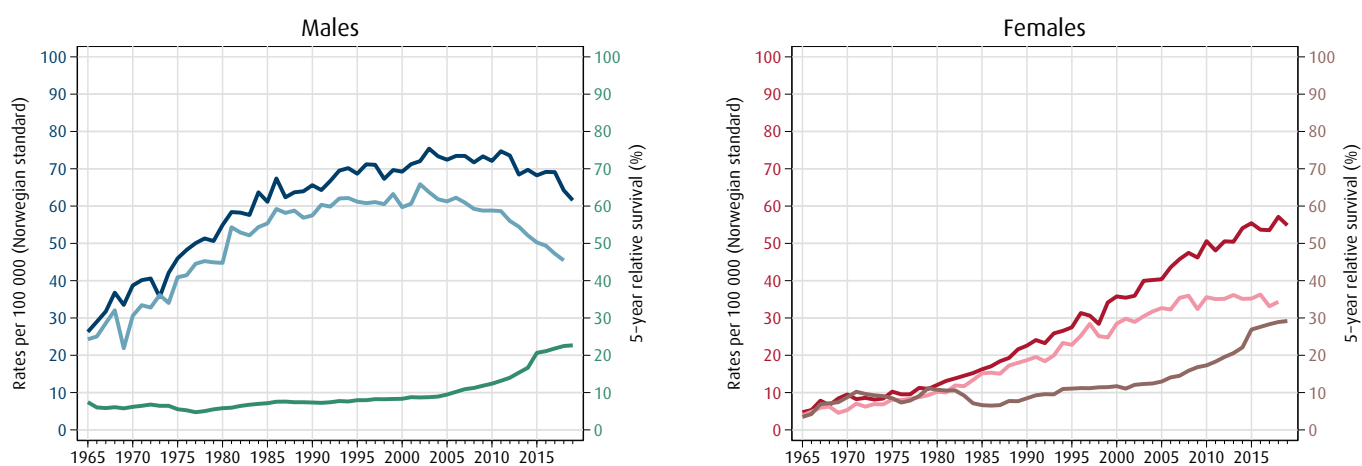
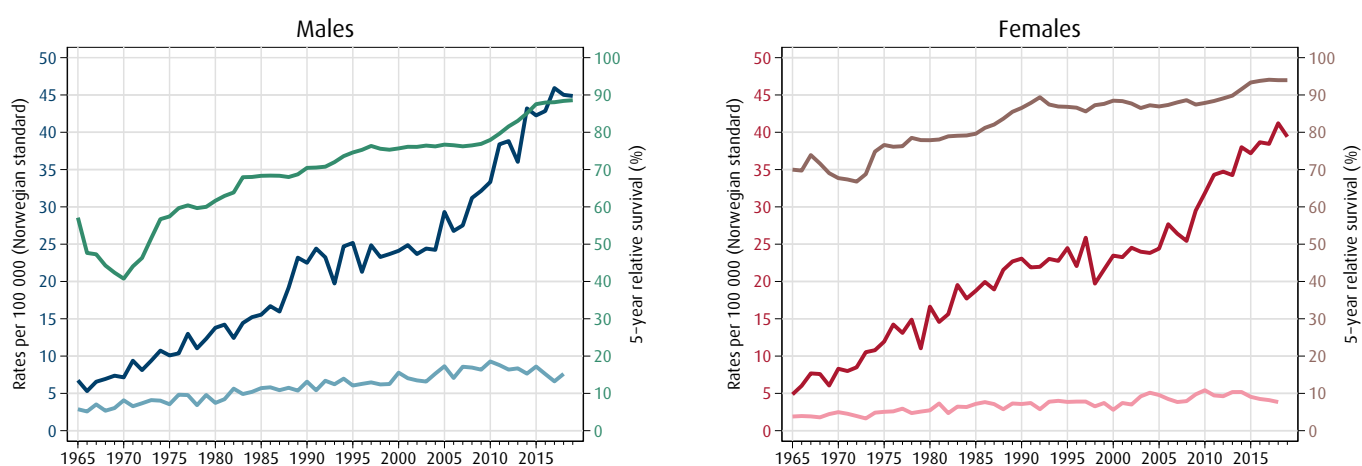
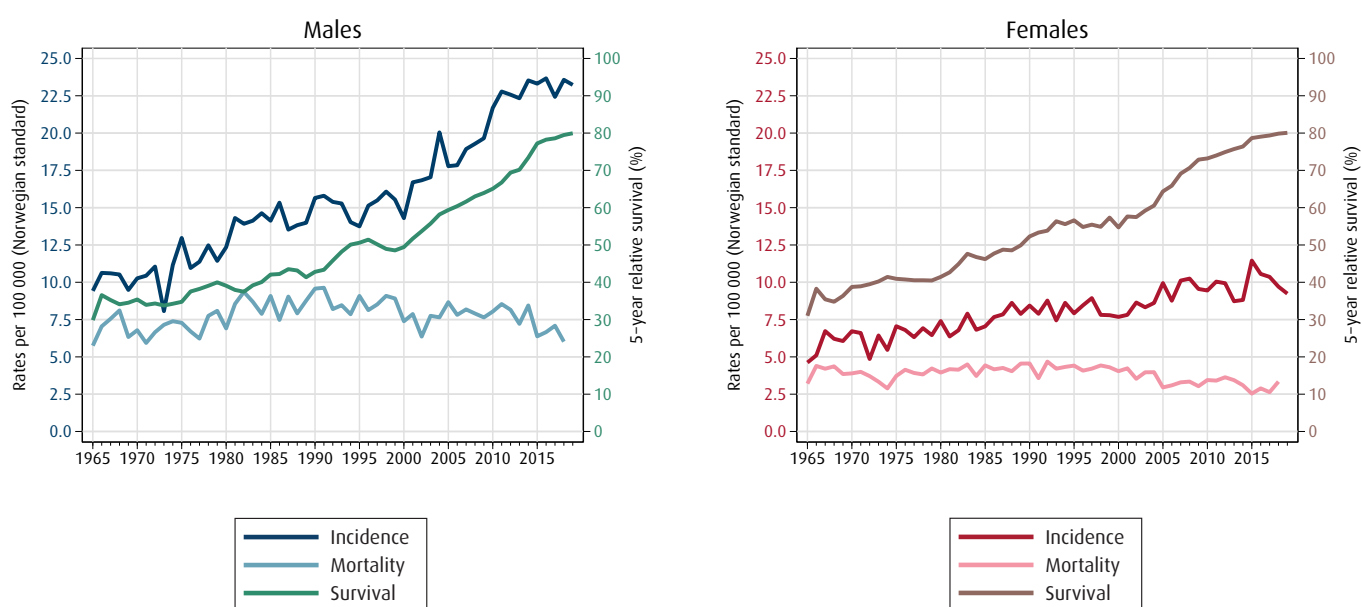
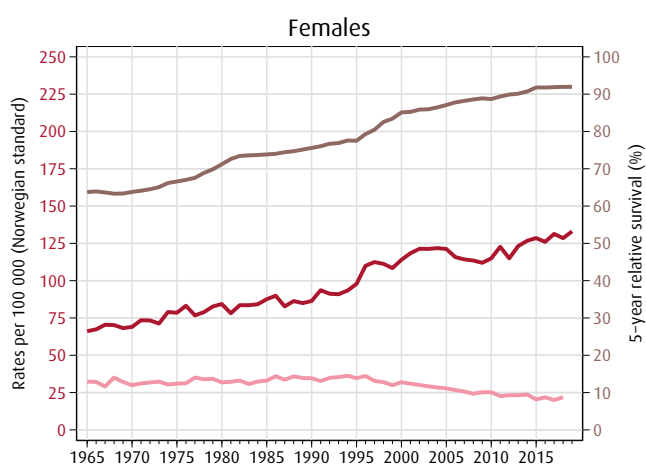
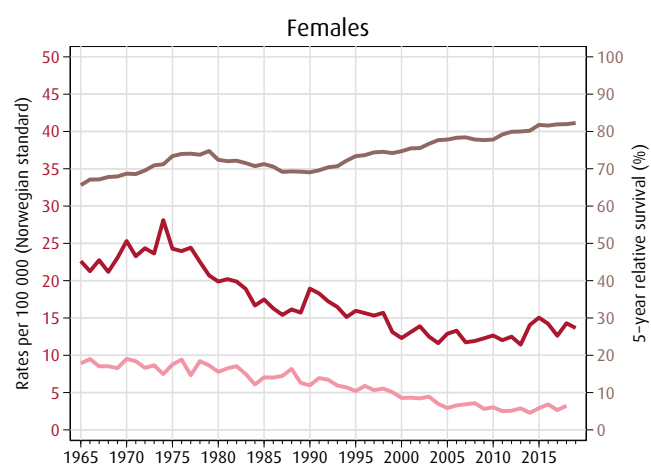
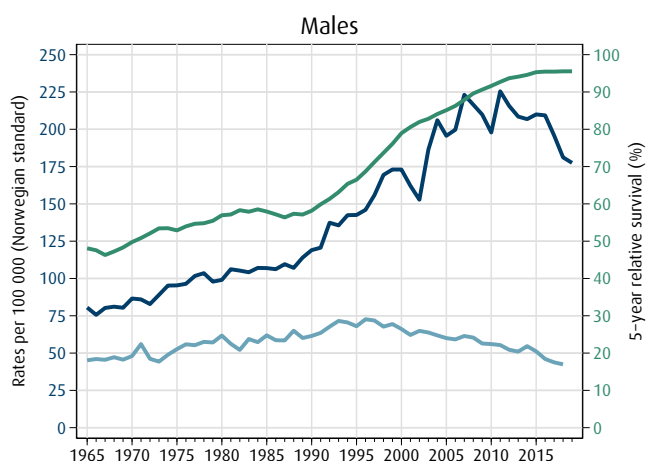
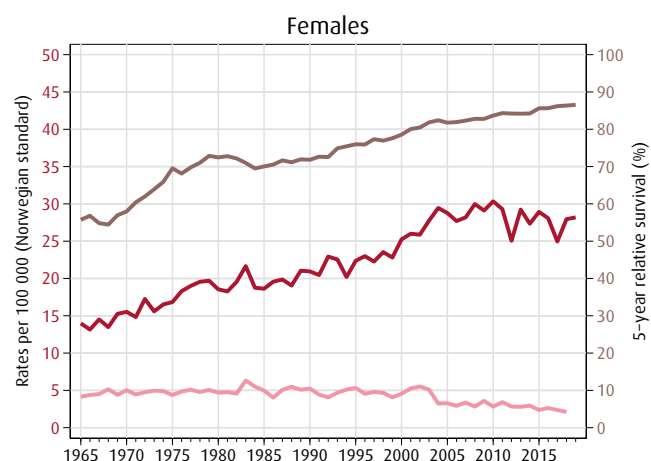
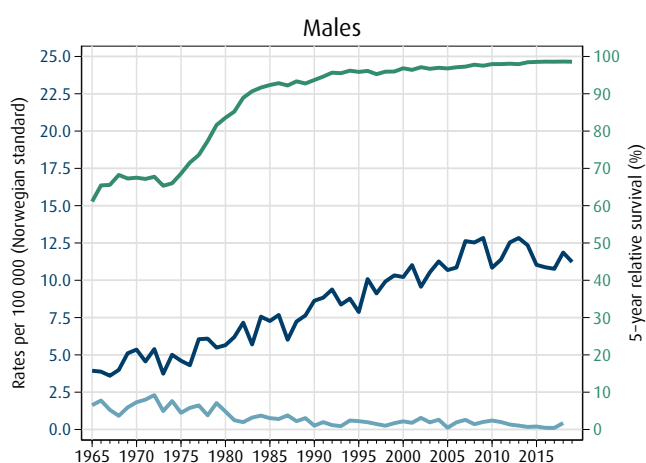
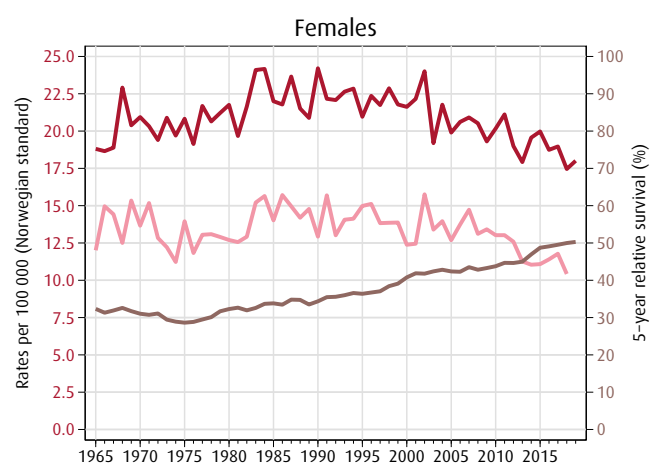
Figure 9.1: Trends in incidence and mortality rates and 5-year relative survival proportions**Figure 9.1-J:** Lung, trachea (ICD-10 C33-34)**Figure 9.1-K:** Melanoma of the skin (ICD-10 C43)**Figure 9.1-L:** Kidney (excl. renal pelvis) (ICD-10 C64)

Figure 9.1: Trends in incidence and mortality rates and 5-year relative survival proportions**Figure 9.1-M: Breast (ICD-10 C50)****Figure 9.1-N: Cervix uteri (ICD-10 C53)****Figure 9.1-O: Prostate (ICD-10 C61)****Figure 9.1-P: Corpus uteri (ICD-10 C54)****Figure 9.1-Q: Testis (ICD-10 C62)****Figure 9.1-R: Ovary etc. (ICD-10 C56, C57.0-4, C48.2)**

Incidence
Mortality
Survival

Incidence
Mortality
Survival

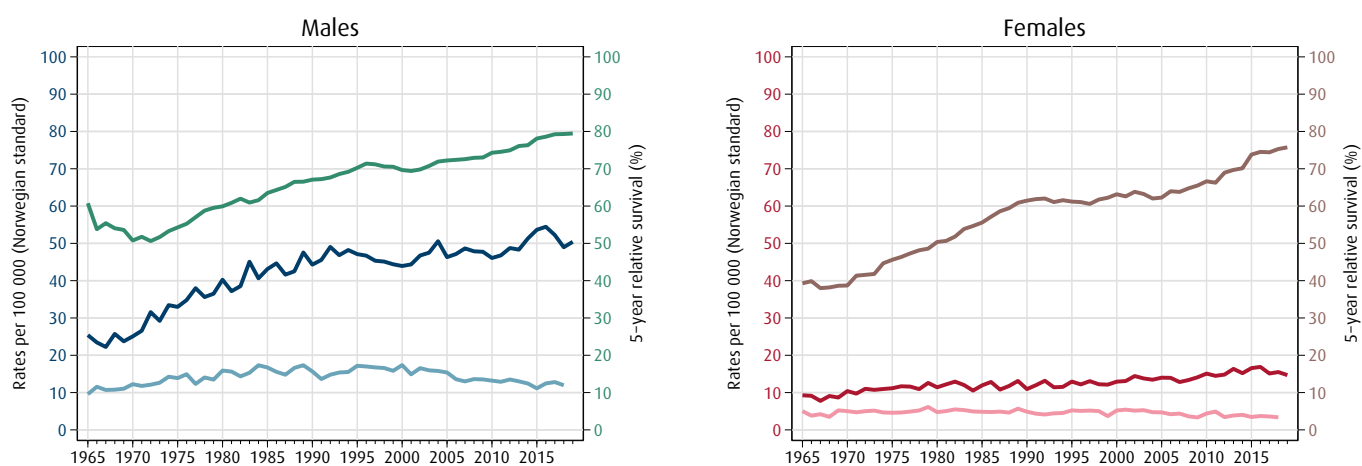
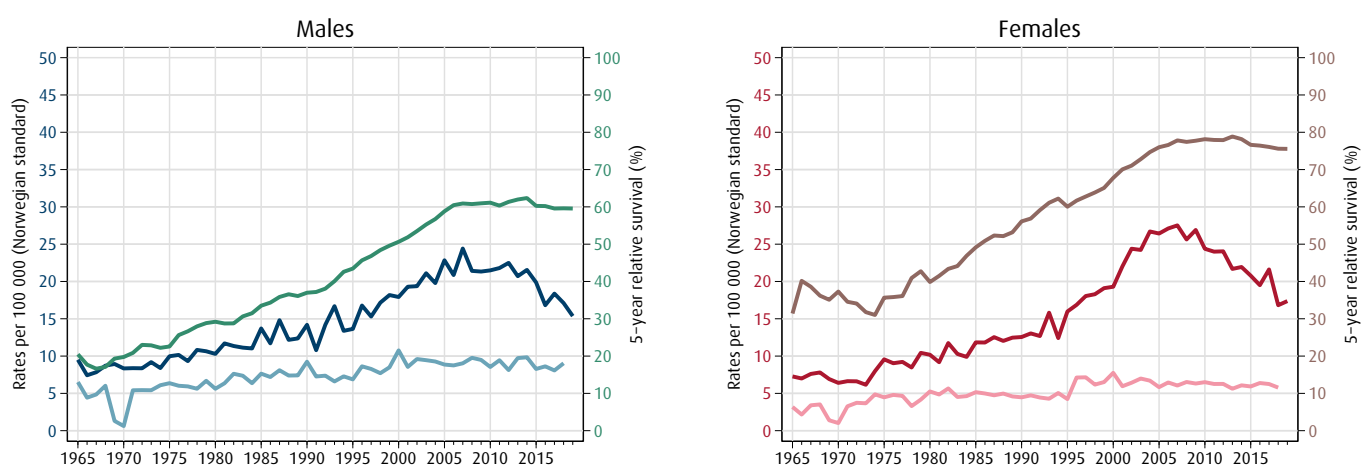
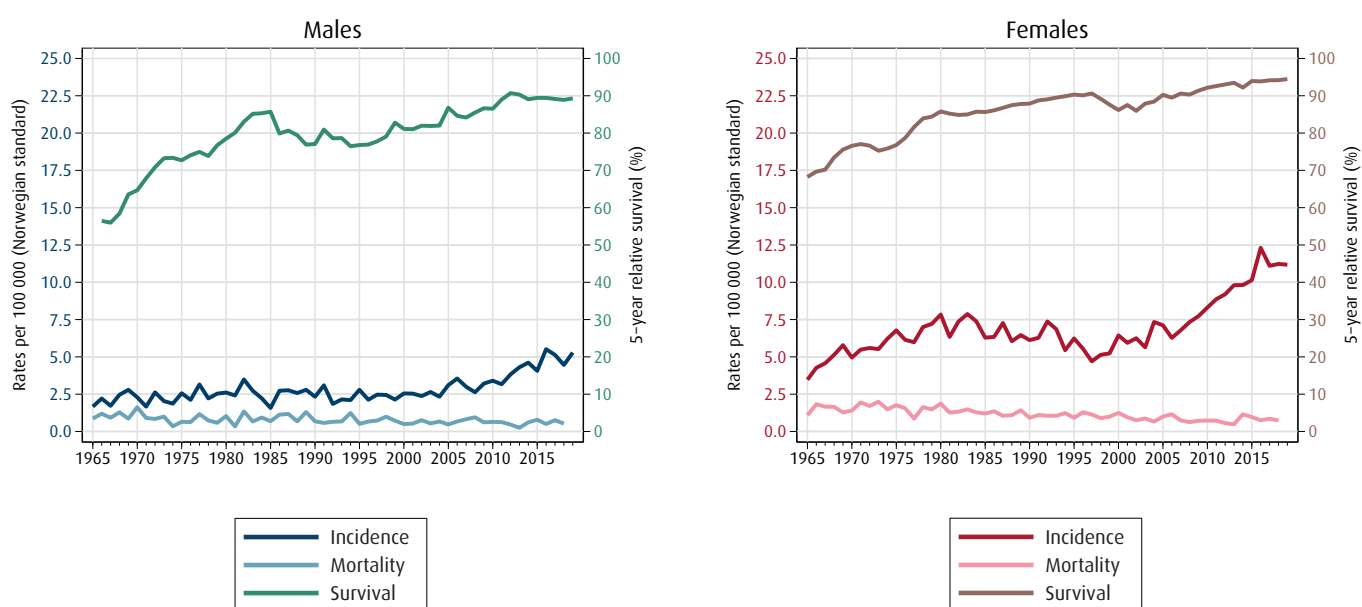
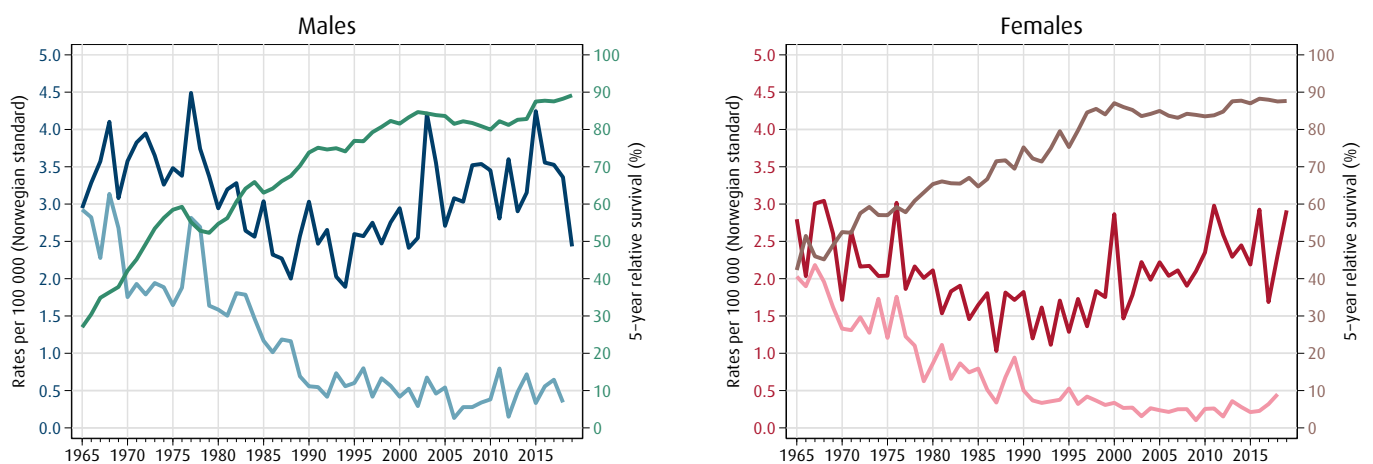
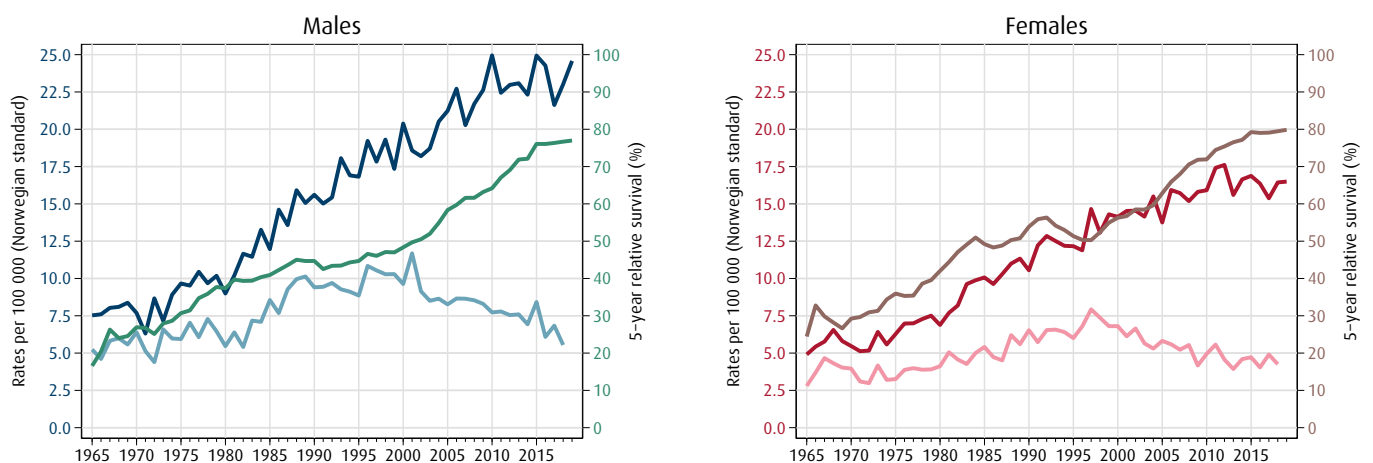
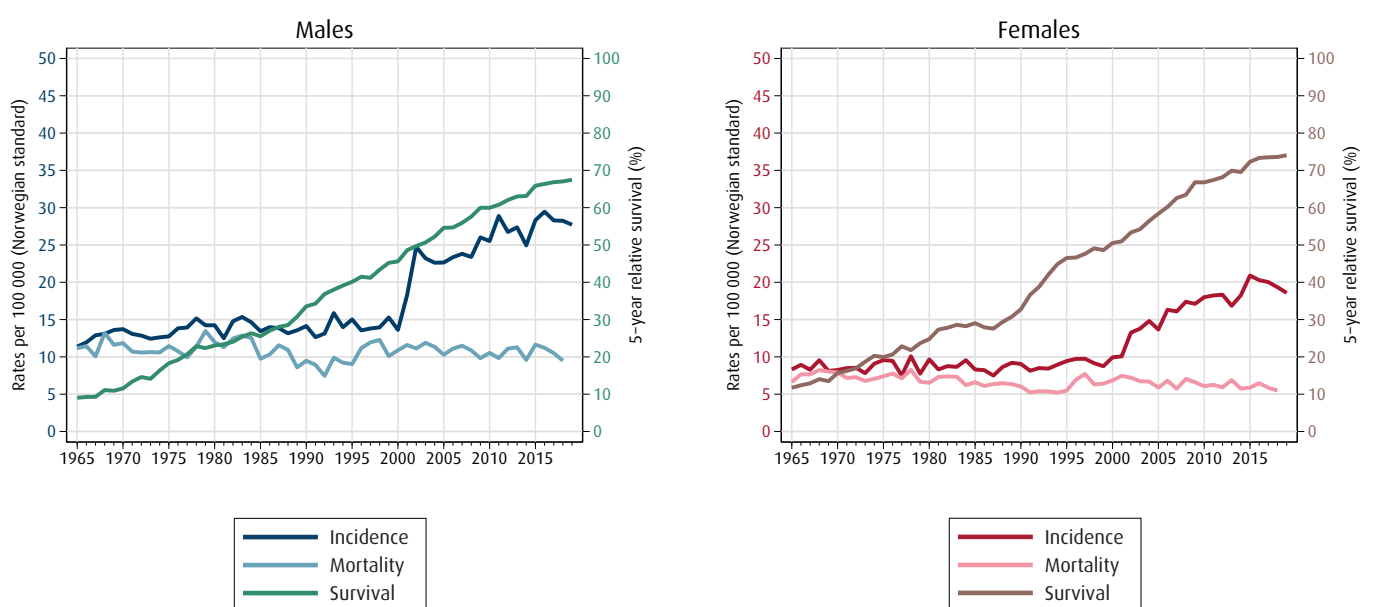
Figure 9.1: Trends in incidence and mortality rates and 5-year relative survival proportions**Figure 9.1-5: Urinary tract (ICD-10 C65-68)****Figure 9.1-T: Central nervous system (ICD-10 C70-72)****Figure 9.1-U: Thyroid gland (ICD-10 C73)**

Figure 9.1: Trends in incidence and mortality rates and 5-year relative survival proportions**Figure 9.1-V: Hodgkin lymphoma (ICD-10 C81)****Figure 9.1-W: Non-Hodgkin lymphoma (ICD-10 C82-86, C96)****Figure 9.1-X: Leukaemia (ICD-10 C91-95)**

Bibliography

- [1] Last JM, Spasoff RA, Harris SS and Thuriaux MC. *A dictionary of epidemiology*. International Epidemiological Association, Inc., 2001 (cit. on p. 1).
- [2] Statistics Norway. *Population*. Updated: 27. February 2020. Accessed: 24. September 2020. URL: <https://www.ssb.no/en/befolkning/statistikker/folkemengde/aar-per-1-januar> (cit. on p. 4).
- [3] Statistics Norway. *National population projections. Table 12881: Population projections 1 January, by sex, age, immigration category and country background, in 15 alternatives 2020 - 2100*. Updated: 3. June 2020. Accessed: 24. September 2020. URL: <https://www.ssb.no/en/befolkning/statistikker/folkfram> (cit. on p. 4).
- [4] Statistics Norway. *National population projections*. Updated: 3. June 2020. Accessed: 24. September 2020. URL: <https://www.ssb.no/en/statbank/table/12881/> (cit. on p. 4).
- [5] Statistics Norway. *Immigrants and Norwegian-born to immigrant parents*. Updated: 9. March 2020. Accessed: 24. September 2020. URL: <https://www.ssb.no/innvbef> (cit. on p. 4).
- [6] Hjerkind KV, Qureshi SA, Møller B, Weiderpass E, Deapen D, Kumar B and Ursin G. Ethnic differences in the incidence of cancer in Norway. *Int J Cancer* Apr 15;140.8 (2017), pp. 1770–1780 (cit. on p. 5).
- [7] Larsen IK, Småstuen M, Johannesen TB, Langmark F, Parkin DM, Bray F and Møller B. Data quality at the Cancer Registry of Norway: an overview of comparability, completeness, validity and timeliness. *European journal of cancer* 45.7 (2009), pp. 1218–1231 (cit. on pp. 5, 11).
- [8] Kreftregisterforskriften. *Forskrift om innsamling og behandling av helseopplysninger i Kreftregisteret (FOR-2001-12-21-1477)*. URL: <https://lovdata.no/dokument/SF/forskrift/2001-12-21-1477> (cit. on p. 6).
- [9] Fritz A, Percy C, Jack A, Shanmugaratnam K, Sobin L, Parkin DM, Whelan S et al. *International classification of diseases for oncology*. Ed. 3, 1st revision. World Health Organization, Geneva, 2013 (cit. on p. 10).
- [10] Bray F and Parkin DM. Evaluation of data quality in the cancer registry: principles and methods. Part I: comparability, validity and timeliness. *European journal of cancer* 45.5 (2009), pp. 747–755 (cit. on p. 11).
- [11] Parkin DM and Bray F. Evaluation of data quality in the cancer registry: principles and methods Part II. Completeness. *European journal of cancer* 45.5 (2009), pp. 756–764 (cit. on p. 11).
- [12] Segi M. Cancer mortality for selected sites in 24 countries (1950–1957). *Sendai: Tohoku University School of Medicine* (1960) (cit. on p. 14).
- [13] Doll R, Payne P and Waterhouse J. *Table 38. In: Cancer incidence in five continents: a technical report. International Union against Cancer*. Springer, Berlin, 1966, pp. 217–9 (cit. on p. 14).
- [14] Day NE. Cancer Incidence in Five Continents. Cumulative rate and cumulative risk. *IARC scientific publications* 120 (1992), p. 862 (cit. on p. 15).
- [15] Brenner H and Hakulinen T. Maximizing the benefits of model-based period analysis of cancer patient survival. *Cancer Epidemiology and Prevention Biomarkers* 16.8 (2007), pp. 1675–1681 (cit. on p. 16).
- [16] Rosso S, De Angelis R, Ciccolallo L, Carrani E, Soerjomataram I, Grande E, Zigon G et al. Multiple tumours in survival estimates. *European Journal of Cancer* 45.6 (2009), pp. 1080–1094 (cit. on p. 16).
- [17] Coviello E, Seppä K, Dickman PW and Pokhrel A. Estimating net survival using a life-table approach. *The Stata Journal, StataCorp LP* 15.1 (2015), pp. 173–185 (cit. on p. 16).
- [18] Perme MP, Stare J and Estève J. On Estimation in Relative Survival. *Biometrics* 68.1 (2012), pp. 113–120 (cit. on p. 16).
- [19] Brenner H, Arndt V, Gefeller O and Hakulinen T. An alternative approach to age adjustment of survival rates. *Biometrics* 60.3 (2004), pp. 2317–2322 (cit. on p. 16).
- [20] Rutherford MJ, Dickman PW, Coviello E and Lambert PC. Estimation of age-standardized net survival, even when age-specific data are sparse. *Cancer Epidemiology* 67 (2020), p. 101745 (cit. on p. 16).
- [21] Hankey BF and Steinhorn SC. Long-term patient survival for some of the more frequently occurring cancers. *Cancer* 50.9 (1982), pp. 1904–1912 (cit. on p. 17).
- [22] Janssen-Heijnen ML, Houterman S, Lemmens VE, Brenner H, Steyerberg EW and Coebergh JW. Prognosis for long-term survivors of cancer. *Annals of Oncology* 18.8 (2007), pp. 1408–1413 (cit. on pp. 17, 84).

- [23] Gade FG. *Undersøkelser over kræftsygdommene i Norge, paa grundlag av den officielle mortalitetsstatistik 1902–1911 samt det av den norske komité for kræftforskning samlede materiale 1908–1912 [Investigations on cancer diseases in Norway, based on official mortality statistics 1902–1911 and material collected by the Norwegian Committee for cancer research 1908–1911]*. Dybwad, Kristiania (Oslo), 1916, pp. 1–102 (cit. on p. 25).
- [24] Brenner H and Hakulinen T. Very-long-term survival rates of patients with cancer. *Journal of Clinical Oncology* 20.21 (2002), pp. 4405–4409 (cit. on p. 84).
- [25] Lambert PC et al. Modeling of the cure fraction in survival studies. *Stata Journal* 7.3 (2007), p. 351 (cit. on p. 84).
- [26] Boyle P. Relative value of incidence and mortality data in cancer research. In: *Cancer Mapping*. Springer, 1989, pp. 41–63 (cit. on p. 99).
- [27] Coleman MP. Trends in breast cancer incidence, survival, and mortality. *Lancet (London, England)* 356.9229 (2000), pp. 590–1 (cit. on p. 99).
- [28] Doll R and Peto R. The causes of cancer: quantitative estimates of avoidable risks of cancer in the United States today. *Journal of the National Cancer Institute* 66.6 (1981), pp. 1192–1308 (cit. on p. 99).
- [29] Hakulinen T. Cancer survival corrected for heterogeneity in patient withdrawal. *Biometrics* (1982), pp. 933–942 (cit. on p. 99).
- [30] Peto R, Boreham J, Clarke M, Davies C and Beral V. UK and USA breast cancer deaths down 25% in year 2000 at ages 20–69 years. *Lancet* 355.9217 (2000), p. 1822 (cit. on p. 99).
- [31] Saxén EA. Trends: facts or fallacy. *Trends in cancer incidence. Causes and practical implications* (1982), pp. 5–16 (cit. on p. 99).
- [32] Muir CS, Fraumeni Jr JF and Doll R. The interpretation of time trends. *Cancer surveys* 19 (1993), pp. 5–21 (cit. on p. 99).
- [33] Percy C, Stanek 3rd E and Gloeckler L. Accuracy of cancer death certificates and its effect on cancer mortality statistics. *American Journal of Public Health* 71.3 (1981), pp. 242–250 (cit. on p. 99).
- [34] Alfsen CG, Lyckander LG, Lindboe AW and Svaar H. Kvalitetssikring ved dødsfall i sykehus. *Tidsskrift for Den norske legeforening* 130.5 (2010), p. 476 (cit. on p. 99).
- [35] Bakken IJ, Ellingsen CL, Pedersen AG, Leistad L, Kinge JM, Ebbing M and Vollset SE. Comparison of data from the Cause of Death Registry and the Norwegian Patient Register. *Tidsskr Nor Laegeforen* 135.21 (2015), pp. 1949–53. ISSN: 0029-2001. DOI: [10.4045/tidsskr.14.0847](https://doi.org/10.4045/tidsskr.14.0847) (cit. on p. 99).
- [36] Vaccarella S, Franceschi S, Bray F, Wild CP, Plummer M and Maso LD. Worldwide Thyroid-Cancer Epidemic? The Increasing Impact of Overdiagnosis. *N Engl J Med* 375 (2016), pp. 614–617 (cit. on p. 100).
- [37] Hjerkind KV, Larsen IK, Møller B and Ursin G. Kreftutvikling og befolknings sammensetning i Norge 1990–2016. *Tidsskriftet for den norske legeforening* Nov 22;138.19 (2018) (cit. on p. 100).

Return Address:

Kreftregisteret
P.O. box 5313 Majorstuen
N-0304 Oslo
Norway

Cancer Registry of Norway

Institute of Population-based Cancer Research

Postal Address:

P.O. box 5313 Majorstuen
N-0304 Oslo
Norway

Office Address:

Ullernchausséen 64, Oslo

Telephone: +47 22 45 13 00

E-mail: kreftregisteret@kreftregisteret.no

Internet: www.kreftregisteret.no