

Cancer in Norway 2012

Cancer incidence, mortality,
survival and prevalence in Norway



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

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Foreword

The first complete year of cancer registration in Norway was 1953. In this report we include cancer cases occurring in 2012, and thus we are able to describe cancer trends over the last 60 years.

With the increase in living age, and the increased number of elderly, the number of cases has quadrupled simply due to population growth. Cancer has, however, also become more common, cancer rates have increased by 120% in men and 60% in women since the mid-1950s. The pattern, i.e. the types of cancer that are the most important, has also changed completely in 60 years.

Among men in the mid-1950s, main cancers were stomach, followed by prostate. Since then stomach cancer has fallen substantially, while rates of prostate cancer have increased 4-fold.

Lung cancer has increased with a factor of 3.5 in men, while malignant melanoma has almost increased 11-fold. Colorectal cancer has increased with less than 3-fold.

Among women, breast, stomach and cervical cancer were the main cancers in the mid-1950s. Since then breast cancer has doubled, stomach cancer has fallen to about 1/7, and cervical cancer has been reduced by about 1/2. Malignant melanoma and lung cancer, however, have increased 9- to 10-fold. Colorectal cancer has had similar changes as in men.

Among men, every third cancer in men is now prostate cancer. We believe some of this is real, but the observed 4-fold increase in prostate cancer rates is partially artificial, simply due to increased PSA-testing. Such screening is not recommended in Norway, because the effects of PSA-testing on mortality from prostate cancer are not clear. The concern is that many men who have received a diagnosis of prostate cancer would have lived well and equally long without knowing about their disease. However, mortality rates from prostate cancer have also fallen over time. Is this solely because of better treatment, or has the increased attention to prostate cancer resulted not only in overdiagnosis, but also in an earlier diagnosis and more successful cure in some men?

Perhaps the saddest development in cancer registration over the 6 decades is the increase in cancers that are largely avoidable. Lung cancer and malignant melanoma would have been almost completely preventable if we could simply eliminate smoking and excess sun exposure. By reducing the rates of these two cancers to 1953 levels, we would save many lives and reduce the cancer numbers overall among men by about 10%, and among women by 20%. Instead, we have never had as many lung cancer cases as in 2012. Although the smoking prevalence is decreasing, the remaining smoking cohorts of men and women are aging, and will contribute to provide lung cancer cases for many years to come.

Of good news is the decline in stomach cancer and cervical cancer. The reduction in stomach cancer is real, and predominantly caused by refrigeration of food items, and control of helicobacter pylori infection. However, the benefit we gained from reducing stomach cancer is about the better hygiene as the detrimental effect we have seen in increasing rates of colon and rectal cancer. Refrigeration helped us prevent stomach cancer, but contributed to dietary changes that essentially shifted the cancer further down in the alimentary tract. Our colon cancer rates have never been higher among women, and the rates remain among the highest in the Nordic countries, – as they have been for the past 20 years. Can we reduce these rates without implementing a national screening program?

A current concern is overdiagnosis and overtreatment and the general trend toward increased medicalization. There is concern among some general practitioners that cancer screening can make part of the population more anxious. This may, indeed, be a valid concern. In particular, a positive screening result makes everyone anxious, but with a negative result, the anxiety is transient. However, for those of us immersed in cancer rates, one cannot help but think that a certain anxiety in the general population regarding cancer may be helpful. Some worry is necessary for the cancer to be detected before it has grown too large. Perhaps this anxiety has helped us reduce cervical cancer, by getting women to attend cervical cancer screening. Perhaps this anxiety has led to the screening-associated mortality reduction in breast cancer. Perhaps this anxiety will help us reduce colorectal cancer, get rid of lung cancer, and some day get malignant melanoma under control.

There are a few other cancers, which caused concern last year, and which we now follow closely. Prostate cancer had a large jump from 2010 to 2011, but has not increased further until 2012. Breast cancer trends increased from 2010 to 2011 in women above 50, but we see no further increase this year. Rates are similar to what they were around 2000.

We also follow cervical cancer rates closely. The rates have fallen over the past 60 years, due to screening. However, the underlying disease is still an issue. Rates of advanced carcinoma in situ (CIN3) have increased over the past few years, and we are concerned that this will result in a rise in cervical cancer rates in the near future. Recent results from the cervical cancer program suggest that there are differences across laboratories in how cytology and cervical histology specimens are interpreted, and that there is a strong need for standardization of practice. The Cancer Registry would like to contribute to this, in co-operation with pathology and cytology expertise. We think this will require quality control of the actual biological specimens, and that this ought to be implemented as standard quality control procedures of the cervical cancer screening program. This would require a change in the regulations governing the Cancer Registry.

Many people contribute to this report. On behalf of the statistical and editorial team, I would like to thank the physicians and health care personnel who have diagnosed, treated, as well as taken care of the 30 000 cancer cases in 2012. A special thank you to the physicians and nurses and other health care personnel who completed our online cancer registration forms – the more we get in digitally, the better. And finally, thanks to our staff who have sifted through all the forms on each cancer case and coded them all, as well as to the statistical and editorial team for their effort in producing this report.

Oslo, May 2014

Giske Ursin, MD, PhD
Director

Cancer in Norway 2012

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Summary

In this annual report the Cancer Registry of Norway (CRN) provides incidence data on different cancers and the latest survival data.

Incidence/Cumulative risk

A total of 30 099 new cancer cases were reported in 2012: 54.8 per cent were among men and 45.2 per cent among women. The rates for 2012 show that prostate, lung, colon and malignant melanoma were the most common cancers in men, whereas breast, lung, colon cancer and malignant melanoma were the most common cancers in women. The relative impact of cancers, however, varies considerably by age. Among children (0-14 years of age) cancer in the central nervous system and leukemia were the most common. These represent 54 per cent and 60 per cent of all cancer cases in boys and girls, respectively. In males aged 15-49 years testicular cancer was the most common cancer, whereas prostate cancer was most common in middle aged and older men. In females, cancer in the central nervous system and Hodgkin lymphoma were the most common cancer types among 15-24 years old. Among 25-69 years old breast cancer was most common, and among the oldest women (70+) colon cancer was the most common cancer.

Cancer trends should be interpreted by examining rates over the past several years. This is because there is some random variation in incidence rates from one year to the next. Further, the numbers for 2012 might be underreported due to delayed notification of cancer cases.

The incidence rate for all sites combined has increased by 4.5 per cent in men and 2.3 per cent in women from the past five-year period (2003-2007) to the current one (2008-2012). For the most common cancers in men, the largest incidence increase in rates was observed for malignant melanoma, kidney, prostate and non-melanoma skin cancer. On the positive side, the rates for lung and bladder cancer showed a small reduction and the rates for rectal cancer has stabilised. In women, the strongest increase occurred in incidence rates of malignant melanoma, leukaemia, skin non-melanoma and lung cancer, and only a slight increase was observed for colon cancer. A reduction in rates was seen for central nervous system, ovary, rectum, and breast cancer (see Table 14).

The probability of developing cancer before the age of 75 is 35 per cent in men and 29 per cent in women.

Mortality

There were 10 906 deaths from cancer in Norway in 2012. Cancer of the lung, colon, rectum, prostate and female breast account for 50 per cent of the mortality.

Survival

This year's statistics confirm the trend we have seen over a number of years: Survival continues to increase. There is improved survival for almost all cancers, including breast, prostate, lung, colon and rectal cancer.

This long term increase is partially due to improved treatment over time, but for breast and prostate cancer it is also due to screening. Increased attention to cancer in the population as well as among health care providers may also play a role.

From the period 2003-2007 to 2008-2012 the estimated relative survival increased from:

- 87 to 89 per cent for breast cancer in women
- 83 to 91 per cent for prostate cancer
- 14 to 18 per cent for lung cancer in women
- 10 to 12 per cent for lung cancer in men
- 65 to 68 per cent for rectal cancer in women
- 61 to 65 per cent for rectal cancer in men
- 59 to 63 per cent for colon cancer in women
- 58 to 60 per cent for colon cancer in men

Prevalence

At the end of 2012 more than 224 000 Norwegians were alive after having had at least one cancer diagnosis at one point in time.

Table 0. Summary of cancer statistics for selected cancers

ICD-10	Site	Sex	Number of new cases 2012 (Table 6)	Age-standardised incidence rates 2008-12 (Table 14 a+b)	Percent change in age-standardised incidence from the previous five-year period (2003-07)	Estimated annual percentage change in the period 2003-2012†	Percent diagnosed with localised disease 2008-2012 (Table 17 a+b)	Age-standardised mortality rates 2012 (Figure 8)	Five-year relative survival (%) (Table 20 a+b)	2008-12
C00-96	All sites	M	16 491	369.2	4.5	0.9	...	...	62.7	68.8
		F	13 608	298.4	2.3	0.5	...	...	66.5	69.8
C18	Colon	M	1 294	26.7	4.0	0.7	17.3	11.8	57.8	59.5
		F	1 423	24.1	2.7	0.7	18.0	9.0	59.0	62.8
C19-21	Rectum, rectosigmoid, anus	M	764	17.1	0.0	-0.4	27.6	4.5	60.5	65.2
		F	540	11.3	-3.1	-0.5	31.8	2.7	65.3	67.8
C25	Pancreas	M	391	7.7	-3.4	-0.4	11.1	6.7	3.3	5.0
		F	382	6.5	3.2	0.5	13.5	5.2	2.9	4.5
C33-34	Lung, trachea	M	1 602	35.1	-3.9	-0.8	20.3	25.4	10.2	12.4
		F	1 300	25.7	10.6	2.0	23.0	17.3	13.8	17.9
C43	Melanoma of the skin	M	880	19.5	26.6	4.6	76.4	4.2	77.2	78.0
		F	875	19.8	18.6	3.8	80.4	2.4	87.8	89.0
C44	Skin, non-melanoma	M	889	16.4	8.3	1.5	Estimates have not been calculated due to low mortality rates.			
		F	780	11.1	12.2	2.2				
C50	Breast	F	2956	73.9	-2.3	-0.4	40.8**	11.7	86.9	89.1
C53	Cervix uteri	F	330	9.7	3.4	0.7	59.5**	1.8	78.0	78.6
C54	Corpus uteri	F	643	16.1	-1.5	0.7	76.4	1.2	83.1	84.3
C56	Ovary	F	452	10.7	-5.7	-1.0	20.9	6.2	44.3	45.1
C61	Prostate	M	4 919	106.5	9.4	2.1	61.5	15.9	83.4	90.9
C62	Testis	M	325	11.6	3.7	0.7	77.5	0.2	96.8	97.2
C66-68	Bladder, ureter, urethra	M	987	20.8	-6.0	-1.2	80.1	4.3	74.2	73.3
		F	349	6.3	0.5	-0.1	75.8	1.6	65.5	67.5
C70-72, D32-33	Central nervous system	M	472	13.8	-5.6	-0.7	48.9***	...	61.5	61.4
		F	541	16.2	-7.9	2.7*	69.5***	...	77.5	76.7
C73	Thyroid	M	92	2.2	13.5	3.8	43.2	...	85.3	86.5
		F	220	6.2	26.9	4.7	59.4	...	92.3	94.5
C82-85, C96	Non-Hodgkin lymphoma	M	532	12.6	7.5	1.3	...	3.2	64.1	69.9
		F	447	9.2	7.1	1.9	...	1.8	64.5	74.3
C91-95, D45-47	Leukaemia	M	571	13.9	7.6	1.4	...	3.3	55.8	62.8
		F	466	10.2	12.7	2.6	...	2.1	58.6	64.6

† Significant trends are shown in red

* Breakpoint in 2007. EAPC after breakpoint -4.4

** Stage I

*** Non-malignant

Definitions*

Incidence

The number of new cases (of 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 measurement that combines persons and time (in years) as the denominator in rates.

Crude rate

Rates estimated for the entire population ignoring possible stratifications, such as by age group.

Age-specific rate

A rate calculated on stratifying by age, often based on a five-year interval.

Age-standardised incidence rate

Age-standardised (or age-adjusted) incidence rates are summary rates which would have been observed, given the schedule of age-specific rates, in a population with the age composition of a given standard population. The world standard population (Doll & al, 1966; Segi, 1960) is used in this report.

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 which can be defined as the number of living individuals having ever been diagnosed with cancer.

Relative survival

The observed survival in a patient group divided by the expected survival of a comparable group in the general population with respect to key factors affecting survival such as age, sex and calendar year of investigation. Relative survival is thus a measure of the excess mortality experienced by the patients regardless of whether the excess mortality may be directly or indirectly attributable 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 X years. As the duration from diagnosis lengthens, the 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 thereon, there is little or no excess mortality in the patient group.

* Based on Last, 2001

List of the ICD-10 codes showing included or excluded morphologies

The list below gives a detailed description of specific morphologies that are excluded or included in all cancer statistics presented in the present report.

Table 1. Description of the ICD-10 codes

ICD-10	Site	Comments
C00 - 96	All sites	Includes the following D-diagnoses; D32-D33, D35.2-35.4, D42-D43, D44.3-D44.5 and D45-47
C38	Mediastinum, pleura	Excludes mesotheliomas (which are included in C45)
C44	Skin, non-melanoma	Excludes basal cell carcinoma
C56	Ovary	Excludes borderline tumours
C64	Kidney except renal pelvis	Excludes non-invasive papillary tumours
C65	Renal pelvis	Includes non-invasive papillary tumours
C66	Ureter	Includes non-invasive papillary tumours
C67	Bladder	Includes non-invasive papillary tumours
C68	Other and unspecified urinary organs	Includes non-invasive papillary tumours
C70	Meninges	Includes benign tumours (D32-33, D42-43)
C71	Brain	Includes benign tumours (D32-33, D35.2-35.4, D42-43, D44.3-44.5)
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 (D44.3-44.5)
C92	Myeloid leukaemia	Includes myelodysplastic syndrome (D46)
C95	Leukaemia of unspecified cell type	Includes polycythemia vera (D45) and other unspecified tumours in lymphatic or hematopoietic tissue (D47)

Data sources and Methods

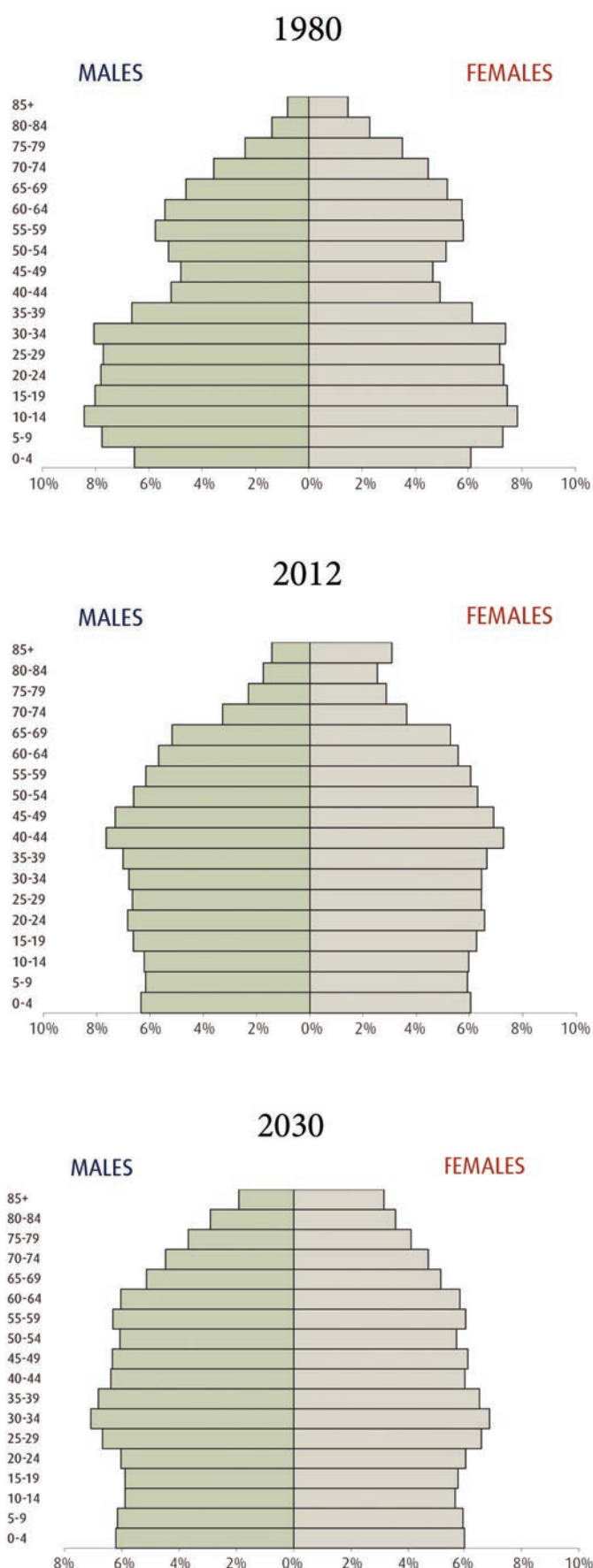
The population of Norway

The Norwegian population is mainly caucasian (>90%), and by January 2014 the total number of inhabitants was 5.1 million. The immigrant population (first-generation) comprises 12.4 % of the total population, and additional 2.5% are second-generation immigrants. Most first-generation immigrants (7%) come from western countries (Europe excl. Turkey, North-America and Oceania), 3.5% come from Asia (incl. Turkey), whereas 1.5% come from Africa. Table 2 shows the age structure by sex for the Norwegian population in December 2012, while Figure 1 illustrates the changing age structure over time, comparing population distributions from 1980 and 2012 with projections for 2030 (Source: Statistics Norway). The population of Norway has increased since recording began, and this growth is expected to continue the next few decades. The total number of inhabitants in Norway has increased by 22% from 1980 to 2012, largely as a result of rising life expectancy and, more recently due to increases in net immigration. By 2030, the size of the population is expected to increase to about 6 million¹. The elderly will represent an increasingly large proportion of the population of Norway in the next quarter century. It is projected that by 2030 over one million inhabitants or almost 20% of the population will be aged 65 or above. (Source: Statistics Norway/www.ssb.no).

Table 2. Norwegian population 31.12.2012, by five-year age group and sex

Age group	Males	Females
00-04	160 859	152 356
05-09	156 301	149 401
10-14	157 744	150 723
15-19	168 038	158 031
20-24	173 489	165 558
25-29	168 872	162 561
30-34	172 270	162 699
35-39	177 910	167 657
40-44	193 902	183 150
45-49	185 288	173 930
50-54	167 728	158 951
55-59	156 168	152 429
60-64	144 012	140 634
65-69	131 173	132 799
70-74	83 072	91 332
75-79	58 585	72 068
80-84	44 313	63 755
85+	36 184	77 333
TOTAL	2 535 908	2 515 367

Figure 1. Age structure of the Norwegian population, 1980, 2012 and 2030



Forecast, source: Statistics Norway, www.ssb.no
 Considered the scenario of medium national growth

¹ Considered the scenario of medium national growth

Data sources and registration routines

The Cancer Registry of Norway (CRN) has, since 1952, systematically collected notifications on cancer occurrence for the Norwegian population. The registration has from 1953 been considered to be close to complete, and a comprehensive study on data quality estimates the completeness to be 98.8% for the registration period 2001-05 (Larsen & al, 2009). The reporting of neoplasms has been mandatory since the implementation of a directive from the Ministry of Health and Social Affairs in January 1952. The CRN Regulations came into force in 2002 (Regulations for the collection and processing of data in the CRN). The main objectives of the CRN can be summarised as follows:

- Collect data on cancer occurrence and describe the distribution of cancer and changes over time.
- Provide a basis for research on the etiology, diagnostic procedures, the natural course of the disease, and the 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 general public about preventive measures.
- Perform epidemiological research of high international standard.

Data items registered in the Cancer Registry of Norway

The following must be reported to the CRN:

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

Registries

The incidence registry

The incidence registry contains the basic data items collected from clinicians and pathologists, as well as data from administrative patient discharge records and mortality sources. As of April 2014, the incidence registry contained information registered since 1953 on 1 616 961 cancer cases and premalignant conditions in 1 222 936 persons.

A total of 4 053 453 cancer notifications have been registered since 1969². The incidence registry is updated continuously with information on both new cases, as well as cases diagnosed in previous years.

The present report is based on data from the incidence registry.

Clinical registries

Clinical registries, i.e. comprehensive registration schemes dedicated to specific cancers, have been established to provide more detailed information about diagnostic procedures, pathology-examinations, treatment and follow-up. The aims are to provide data for monitoring patient outcome and survival and an empirical base for scientific studies concerning prognostic factors and treatment outcomes, as well as evaluation of the quality of cancer care.

The ongoing and expanding activities of these clinical registries are a major focus for CRN, and several clinical registries are now established. Each clinical registry has a reference group - a panel of multi-disciplinary experts from clinical and research milieus in Norway. These experts advise on the operations of each clinical registry, and its strategic direction. Registries are integrated in the CRN's coding and registration activities. Table 3 shows the status of these clinical registries as of May 2014.

²Earlier notifications have not been registered individually

Table 3. Status of the clinical registries, May 2014

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
Malignant melanoma	Yes	Yes	Yes	Yes	2013
Breast cancer	Yes	Yes	Yes	Yes	2013
Prostate cancer	Yes	Yes	Yes	Yes	2009
Lymphomas and chronic lymphatic leukaemias	Yes	Yes	Yes	Yes	2013
Lung cancer	Yes	Yes	Yes	Yes	2013
Childhood cancer	Yes	Yes**	Yes	Yes	2013
Gynecological cancer***	Yes	Yes	Yes	Yes	2013
Hematological cancer	Yes	No	Yes	No	Applied for
Central nervous system	Yes	No	Yes	No	Applied for
Oesophagus and stomach cancer	Yes	No	Yes	No	Applied for
Testicular cancer	Yes	No	Yes	No	Applied for
Sarcoma	Yes	No	No	No	Applied for

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

** Will be extended with treatment data when integrated with the incidence registry.

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

Notifications and sources of information

The sources of information and the notification process are illustrated in Figure 2. Hospitals, laboratories, general practitioners and Statistics Norway provide the key information that enables the CRN to collect, code and store data on cancer patients in Norway. Information from clinical notifications, pathological reports and death certificates are the main sources. These are processed and registered in both the clinical registries and the incidence registry. Information from the Norwegian Patient Registry is an important additional source for identifying patients.

Clinical and pathological notifications

The CRN Regulations, as issued by the Ministry of Health and Social Affairs, require all hospitals, laboratories and general practitioners in Norway to report all new cases of cancer to the CRN within two months. The cases should be reported irrespective of whether the patient is treated, admitted, or seen only as an outpatient. Cancers in the clinical registries are reported on specific forms with extended information relevant for each cancer site (see clinical registries). In addition, there are two general forms (clinical notifications) for reporting of the solid or non-solid tumours not yet included in a clinical registry. These forms provide information on primary site, symptoms, stage of disease, the basis for the

diagnosis and primary treatment given to the patient. Pathology reports from hospitals and independent laboratories provide histological, cytological or autopsy information. The information is identified and linked by the personal identification number system which was established in Norway in 1964.

Clinical notifications should be sent using the CRN electronical reporting service (KREMT) at the Norwegian Health Network. This system will replace paper forms by January 1st, 2015. More information about KREMT can be found at <http://kreftregisteret.no/no/Registre/Innmelding-til-Kreftregisteret/KREMT---Kreftregisterets-elektroniske-meldetjeneste/>.

As of May 2014, most laboratories still send paper copies of the pathology reports. A major focus for the future is to have more laboratories send electronical and structured pathology reports to the CRN.

Death certificates

Records held in the CRN are supplemented with relevant information on vital status from the National Population Registry. Records are regularly linked with the Cause of Death Registry run by Statistics Norway. CRN receives and registers the death certificates in one or several batches every 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 have not been reported previously, or where the diagnosis differ. Cancer cases first identified from death certificates are traced back to the hospital or physician responsible for the treatment of the patient to verify whether the patient had been diagnosed when alive or post mortem. If diagnosed when alive, clinical notifications and copies of pathology reports should be sent to the CRN.

The Norwegian Patient Registry

Since 2002, the CRN has received data files from the Patient Administrative Data (PAD) used in all Norwegian hospitals. These files contain information about patients who have been treated for premalignant and malignant conditions since 1998, and therefore PAD has been a key source in finding information on unreported cases. Since 2010, the CRN has received this information from the Norwegian Patient Registry (NPR). The CRN receives all C-diagnoses and some other diagnoses (ICD-10) from NPR and these can then be matched with current information in the CRN database. Reminders are sent to clinicians for those cases where no information about the diagnosis exists in the CRN (Figure 2).

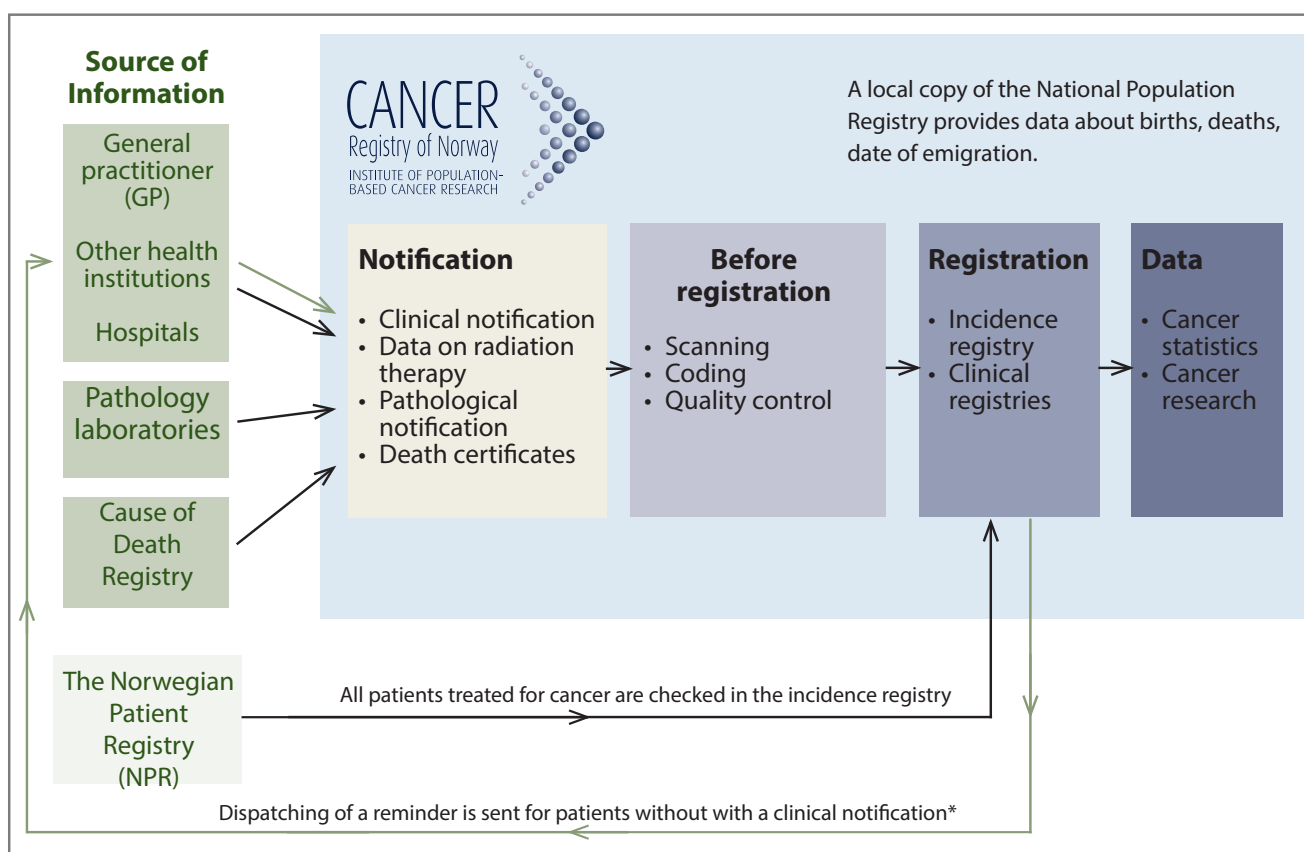
Dispatching of reminders to clinicians

It is mandatory to report clinical information on new cases of cancer no later than two months after the diagnosis has been determined. Thus, except for some few cases (e.g. cases diagnosed at autopsy), at least one clinical notification should be registered for each cancer case. The CRN receives information on cancer cases from several sources (clinical notifications, pathology notifications, autopsies, death certificates, radiation therapy and NPR). In those cases where the clinical notification is missing for the cancer case notified from one of the other sources, a reminder is sent to the hospital/ward/physician responsible for the treatment. About 40 000 reminders are sent annually, including, in some instances, repeat requests for information. The procedure for cancer registration and the dispatching of reminders are illustrated in Figure 2.

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 22nd of April 2014. The tables and figures in general represent either the latest year of complete incidence (2012) or the latest five-year period (2008-12), the latter grouping being used when the stratified numbers are too small to warrant presentation for a single year.

Figure 2. Sources of information and the processes of cancer registration at the CRN



* Dispatching of reminders for clinical notifications are sent for cases only notified from the NPR or cases only notified by a pathology notification/death certificate on radiation therapy data.

In the lower urinary tract atypical epithelial lesions are included in the data as well as invasive cancers. Further, in the central nervous system both benign and malignant neoplasms are included. Ovarian borderline tumours and basal cell carcinomas of the skin are excluded.

Registered codes from ICD-7, ICD-O-2 and ICD-O-3 are converted to ICD-10 using a combination of topography and morphology. Population data, stratified by year, sex and age, are provided by Statistics Norway. The main cancer types are tabulated according to their ICD-10 three digit categories. The “all sites” figure comprises all malignant neoplasms (ICD-10 C00-96) (A detailed description of excluded and included morphologies is given in Table 1).

A list of the inclusion and exclusion criteria applied to several sites with respect to morphology is shown in Table 1. Corresponding mortality data coded in ICD-10 were obtained from Statistics Norway and are presented in the same ICD-10 categories as for the rest of this report.

Multiple primary neoplasms

The coding and classification of multiple primary neoplasms follow the rules of the International Association of Research on Cancer (<http://www.iacr.com.fr/multprim.pdf>).

This version uses the version with 12 different histological groups.

Only one tumor is recognized as arising in an organ or pair of organs or tissue. This means that for this report only the very first invasive tumor is counted within one three-character ICD-10 code (for example breast C50). A new cancer of the same histology many years later in the same organ will not be counted.

Some organs are considered as only one organ in this respect (for example trachea C33 and lung C34).

Multifocal tumors are counted only once. The systemic cancers lymphomas, leukemias, Kaposi's sarcoma and mesothelioma are counted only once.

Only the first tumor of a defined histological type is counted as an incident cancer within one organ. If there are different histological diagnoses, for example an adenocarcinoma and a sarcoma in the same organ, then these will be counted as two cancers.

Metastases and changes in coding practice

In some cases the Cancer Registry of Norway receives only histology reports and there despite notifications no clinical report from the treating doctor or this report is not filled out correctly. We then have a situation with full histology reports but there is no information on whether the patient has metastases at the time of diagnosis. The operation may be for example a prostatectomy, lung resection or mastectomy without confirmed information on metastatic status. For patients diagnosed 1953-2008 the guidelines for coding was to consider these patients as having unknown metastatic status. This may have been the case for a few patients but analyses of this group of patients with unknown stage showed results similar to localised disease. Coding practice was therefore changed for patients diagnosed later than 01.01.2009. If these patients were curatively treated with surgery and no information supported that there was metastasis at diagnosis (radiotherapy towards other region or there being metastatic codes from the Norwegian patient Registry), then this patient was considered to have only localised disease.

This coding may effect trends in incidence and survival of localised and unknown stage over time.

Statistical methods used in this report

Four measures are used in this report to describe the burden and risk of disease: incidence, mortality, survival and prevalence.

Incidence and mortality

Incidence and mortality refer to new cases and number of deaths occurring, 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 groups over time. The denominator is the underlying person-time at risk in which the new cases or deaths in the numerator arose. Cancer incidence and mortality are presented in this report as both numbers and rates. Several different types of rates are also used in this report.

Age-specific rates

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

To obtain a more accurate picture of the true risk of cancer, rates are calculated for each age strata, usually grouped in five-year intervals. The age-specific rate for age class i , denoted as r_i is obtained by dividing the number of events in each age class d_i by the corresponding person-years of observation Y_i and multiplying by 100 000:

$$r_i = d_i / Y_i \times 100\,000$$

Rates are provided separately for males and females, because of the different patterns by sex. Age and sex-specific incidence and mortality rates are the basis of epidemiological analysis of cancer frequency data.

Age-standardised rates

To facilitate comparisons, a summary rate is required 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. The calculation of the ASR is an example of direct standardisation, whereby the observed age-specific rates are applied to a standard population. The populations in each age class of the Standard Population are known as the weights to be used in the standardisation process. Many possible sets of weights, w_i , can be used. The world standard population, a commonly-used reference, is utilised in this report (Doll & al, 1966; Segi, 1960). Although the weights of the world standard fail to resemble those of the Norwegian population in 2012 (Figure 3), this observation is of relatively little importance, since it is the ratio of ASRs, an estimate of the age-standardised relative risk between populations or within a population over time, that is the focus of interest. This characteristic has been shown to be rather insensitive to the choice of standard (Bray & al, 2002).

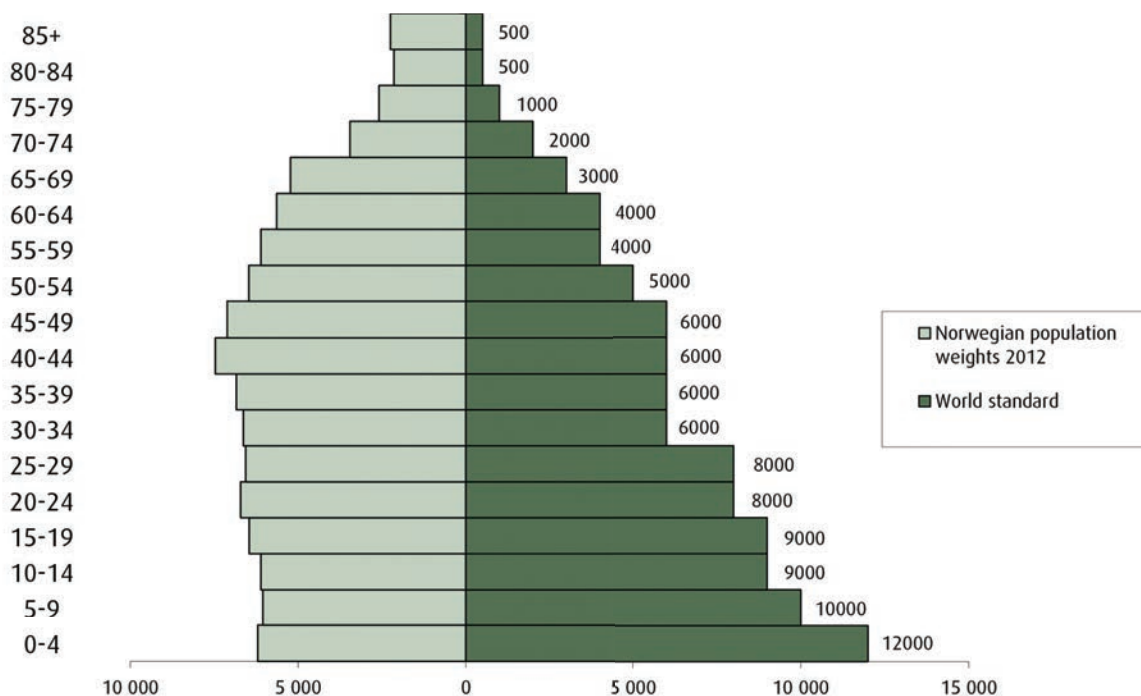
For weights w_i in the i th age class of the world standard and for A age classes with $i = 1, 2, \dots, A$, as before, r_i is the age-specific rate in the i th age class. The ASR is calculated as:

$$ASR = \frac{\sum_i r_i w_i}{\sum_i w_i} \times 100\,000$$

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 (Day, 1992). The age span over which the risk is accumulated must be specified,

Figure 3. Comparison of population weights



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.

The cumulative rate 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:

$$5 \sum r_i$$

The cumulative rate has several advantages compared to age-standardised rates. Firstly, as a form of direct standardization, the problem of choosing an arbitrary reference population is eliminated. Secondly, as an approximation 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:

$$\text{cumulative risk} = 1 - \exp(-\text{cumulative rate})$$

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, some residual disability may be present subsequent to, for example, a specific treatment intervention, thus it is likely that the number of prevalent cancer cases also represents a useful measure.

Lifetime 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's data, given the registration of cases and complete follow up over many years. We provide additional estimates that may be useful for quantifying

care burdens. Therefore this report shows the numbers of persons alive on 31st December 2012 who were previously diagnosed with cancer within one 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.

Survival

The survival time of a cancer patient is defined as the time that has elapsed between a cancer diagnosis and subsequent death or end of follow-up.

Follow-up data

To estimate long-term survival patterns and trends, vital statistics of patients diagnosed with cancer during 1960–2012 were obtained from the National Population Registry and Statistics Norway through 31st December 2012.

The 23 most common cancer sites were selected for analysis, and grouped according to their respective ICD-10 categories. About 3.7% of the cases were excluded as they were either registered as DCO cases (Death Certificate Only), diagnosed at autopsy, 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 give rise to artificially elevated estimates of survival (Brenner & Hakulinen, 2007). 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; the effect of their inclusion has been shown to reduce five-year survival in Norway (for diagnoses 1995–2009) by less than a percentage point (Rosso & al, 2009).

Results should be interpreted with caution. Survival of the most frequent cancers in men and women, prostate and breast cancer, have been affected by the impact of PSA testing and mammographic screening, respectively.

Relative Survival

The most basic measure of survival is five-year survival, which represents the percentage of patients still alive 5 years after the date of diagnosis.

Not all deaths among cancer patients are due to the primary 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, and is defined 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 (year) since diagnosis, the relative survival from the cancer, $R(t)$, is defined as follows:

$$R(t) = So(t)/Se(t)$$

where $So(t)$ is the observed survival of cancer patients while the calculation of expected survival $Se(t)$ is based on matching the major demographic characteristics of the patients to the general population. This requires the Norwegian population life tables from Statistics Norway by 1-year age group, sex, and 1-year calendar period. The method of Hakulinen (Hakulinen, 1982) was used for estimating expected survival.

With traditional cohort-based analyses, the most up-to-date estimates of longer-term survival would have pertained to patients diagnosed in the distant past, with corresponding profiles of prognosis. In contrast, period-based analyses consider the survival experience in recent years, and the survival that would have been observed in a hypothetical cohort of patients who experienced the same interval-specific survival as the patients who were actually at risk during a specific calendar period. Brenner and Hakulinen have concluded that period analysis should be used for routine purposes so as to advance the detection of progress in long-term cancer patient survival (Brenner & Hakulinen, 2002). Both clinicians and patients are primarily interested in up-to-date estimates of

survival, and its incorporation into Cancer in Norway aims to reflect the most recent developments in cancer care.

In this report, we have used a three-year period window (2010-2012) to estimate relative survival up to 15 years, thus patients diagnosed in 2009-2012 contribute with (part of) their survival experience the first year of follow up (part of the first year if they were diagnosed in 2009-2012), patients diagnosed in 2008-2011 contribute to the second year of follow up, patients diagnosed in 2007-2010 contribute to the third year of follow up etc. Thus, the period approach consists of the pieces of survival experience in 2010-2012 for all patients who have been diagnosed 15 years ago or less. The same approach is used to analyse time trends, using a three-year moving period window from 1965 to 2012. To increase stability in the estimates, stage-specific survival is presented using a five-year period window.

A more thorough review of, and rationale for, the utilisation of these survival methods was provided in the Special Issue of Cancer in Norway 2007.

Conditional relative survival

The majority of cancer survivors wish to obtain information on their current prognosis, once they have survived a certain period of time after diagnosis. Conditional survival is a key indicator in this respect, estimating survival proportions given that patients have already survived a certain duration of time (Hankey & Steinhorn, 1982; Janssen-Heijnen & al, 2007). The point at which conditional five-year relative survival reaches 100% is the point where there is no excess mortality among the cancer patients, and prognosis is equivalent to that experienced in the general population. As with the 15-year relative survival analyses, a three-year period window (2010-2012) is used in this report, and we present estimates of sex-specific five-year relative survival conditional on being alive 1 to 10 years after diagnosis. Estimates were not plotted when there were too few cancer survivors ($n < 20$).

Data quality, completeness and timeliness

Data quality

A comprehensive assessment of the data quality in the CRN was conducted in 2007 (Larsen & al, 2009). 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 has recently been reviewed (Bray & Parkin, 2009). Methods for the evaluation of registry completeness have also been assessed recently (Parkin & Bray, 2009).

Two indicators of accuracy are shown in Table 4, namely the percentage of cases histologically verified (HV%), and the percentage of death certificate only registrations (DCO%). See Larsen & al, 2009 for further details. The CRN has implemented the rules for registration and reporting of multiple neoplasms as defined jointly by the International Association of Cancer Registries (IACR) and the International Agency for Research on Cancer (IARC) (International Association of Cancer Registries, 2004).

Completeness and timeliness of incidence

Table 5 shows the number of cancer cases diagnosed in 2011 as extracted on the 3rd of July 2013 (for CiN 2011), and on the 22nd of April 2014. The number of cancer cases diagnosed in 2011 reported and appearing in this issue (CiN 2012) are 181 (0.6%) more than those reported in the previous Cancer in Norway (CiN 2011).

Common cancers such as colon, lung, prostate and breast cancers appear to have been almost complete when CiN 2011 was published (difference $\leq 1\%$), while there were a slightly higher difference for rectum cancer (1.7%).

The largest differences were shown for rare cancers such as C55 uterus, other (-37.5%) and kaposi's sarcoma (25%) where small changes lead to a relatively large change of the percentage.

Table 4 Percentage distribution of histologically verified (HV) and death certificate only (DCO) by primary site, 2008-2012

ICD-10	Site	Cases	HV %	DCO %
C00-96	All sites	144553	89.1	1.9
C00-14	Mouth, pharynx	2576	97.3	0.4
C00	Lip	602	99.5	0.2
C01-02	Tongue	519	97.5	0.4
C03-06	Mouth, other	464	98.9	0.4
C07-08	Salivary glands	234	88.9	0.9
C09-14	Pharynx	757	97.1	0.4
C15-26	Digestive organs	29663	89.1	3.1
C15	Oesophagus	1154	95.8	1.4
C16	Stomach	2462	95.2	1.8
C17	Small intestine	713	96.2	1.0
C18	Colon	12851	94.9	1.6
C19-21	Rectum, rectosigmoid, anus	6504	97.2	0.6
C22	Liver	960	66.9	9.8
C23-24	Gallbladder, bile ducts	815	68.2	6.6
C25	Pancreas	3567	59.3	10.0
C26	Other digestive organs	637	71.3	13.0
C30-34, C38	Respiratory organs	14812	76.7	2.9
C30-31	Nose, sinuses	205	99.0	0.0
C32	Larynx, epiglottis	602	98.7	0.5
C33-34	Lung, trachea	13932	75.5	3.0
C38	Mediastinum, pleura (non-mesothelioma)	73	63.0	11.0
C40-41	Bone	263	96.6	1.1
C43	Melanoma of the skin	7766	99.6	0.1
C44	Skin, non-melanoma	7986	98.9	0.1
C45	Mesothelioma	397	88.7	0.5
C46	Kaposi's sarcoma	41	97.6	0.0
C47	Autonomic nervous system	51	96.1	0.0
C48-49	Soft tissues	743	95.4	1.2
C50	Breast	14537	98.6	0.4
C51-58	Female genital organs	8112	95.0	1.3
C53	Cervix uteri	1542	97.9	0.5
C54	Corpus uteri	3578	98.8	0.4
C55	Uterus, other	43	67.4	9.3
C56	Ovary	2269	87.6	2.7
C51-52, C57	Other female genital	666	94.9	2.1
C58	Placenta	14	71.4	0.0
C60-63	Male genital organs	24705	96.2	1.5
C61	Prostate	22956	95.9	1.6
C62	Testis	1520	99.5	0.2
C60, C63	Other male genital	229	97.8	0.0
C64-68	Urinary organs	10650	94.3	1.8
C64	Kidney excl. renal pelvis	3643	90.2	3.1
C65	Renal pelvis	425	92.9	0.9
C66-68	Bladder, ureter, urethra	6582	96.6	1.2
C69	Eye	317	42.6	0.6
C70-72, D32-33	Central nervous system	5200	62.1	2.2
C73	Thyroid gland	1389	96.0	0.4
C37, C74-75	Other endocrine glands	1219	56.0	1.3
C39, C76, C80	Other or unspecified	1698	49.0	15.6
C81-96	Lymphoid and haematopoietic tissue	12428	75.7	2.5
C81	Hodgkin lymphoma	657	98.9	0.2
C82-85, C96	Non-Hodgkin lymphoma	4593	96.6	0.6
C88	Malignant immunoproliferative diseases	288	82.6	2.4
C90	Multiple myeloma	1900	57.7	5.3
C91-95, D45-47	Leukaemia	4990	59.8	3.4

Table 5 Registered cancer cases in Norway 2011 as obtained from the incidence registry extracted 3rd July 2013 and 22nd April 2014

ICD-10	Site	Cases diagnosed 2011 as of			
		03.07.2013	22.04.2014	Difference	%
C00-96	All sites	29907	30088	181	0.6
C00-14	Mouth, pharynx	531	528	-3	-0.6
C00	Lip	128	126	-2	-1.6
C01-02	Tongue	109	109	0	0.0
C03-06	Mouth, other	80	82	2	2.5
C07-08	Salivary glands	47	47	0	0.0
C09-14	Pharynx	167	164	-3	-1.8
C15-26	Digestive organs	5937	5986	49	0.8
C15	Oesophagus	240	240	0	0.0
C16	Stomach	516	519	3	0.6
C17	Small intestine	149	150	1	0.7
C18	Colon	2606	2618	12	0.5
C19-21	Rectum, rectosigmoid, anus	1255	1276	21	1.7
C22	Liver	202	209	7	3.5
C23-24	Gallbladder, bile ducts	137	141	4	2.9
C25	Pancreas	697	701	4	0.6
C26	Other digestive organs	135	132	-3	-2.2
C30-34, C38	Respiratory organs	3009	3041	32	1.1
C30-31	Nose, sinuses	39	39	0	0.0
C32	Larynx, epiglottis	114	116	2	1.8
C33-34	Lung, trachea	2842	2871	29	1.0
C38	Mediastinum, pleura (non-mesothelioma)	14	15	1	7.1
C40-41	Bone	53	54	1	1.9
C43	Melanoma of the skin	1718	1741	23	1.3
C44	Skin, non-melanoma	1674	1679	5	0.3
C45	Mesothelioma	76	76	0	0.0
C46	Kaposi's sarcoma	4	5	1	25.0
C47	Autonomic nervous system	6	6	0	0.0
C48-49	Soft tissues	144	147	3	2.1
C50	Breast	3122	3133	11	0.4
C51-58	Female genital organs	1678	1674	-4	-0.2
C53	Cervix uteri	303	299	-4	-1.3
C54	Corpus uteri	736	740	4	0.5
C55	Uterus, other	8	5	-3	-37.5
C56	Ovary	485	485	0	0.0
C51-52, C57	Other female genital	141	140	-1	-0.7
C58	Placenta	5	5	0	0.0
C60-63	Male genital organs	5307	5315	8	0.2
C61	Prostate	4978	4984	6	0.1
C62	Testis	290	291	1	0.3
C60, C63	Other male genital	39	40	1	2.6
C64-68	Urinary organs	2205	2181	-24	-1.1
C64	Kidney excl. renal pelvis	785	792	7	0.9
C65	Renal pelvis	73	76	3	4.1
C66-68	Bladder, ureter, urethra	1347	1313	-34	-2.5
C69	Eye	54	56	2	3.7
C70-72, D32-33	Central nervous system	975	1016	41	4.2
C73	Thyroid gland	295	297	2	0.7
C37, C74-75	Other endocrine glands	211	227	16	7.6
C39, C76, C80	Other or unspecified	357	333	-24	-6.7
C81-96	Lymphoid and haematopoietic tissue	2551	2593	42	1.6
C81	Hodgkin lymphoma	134	136	2	1.5
C82-85, C96	Non-Hodgkin lymphoma	937	940	3	0.3
C88	Malignant immunoproliferative diseases	48	54	6	12.5
C90	Multiple myeloma	379	383	4	1.1
C91-95, D45-47	Leukaemia	1053	1080	27	2.6

Cancer incidence, mortality, survival and prevalence in Norway 2012

Incidence

In 2012, 30 099 new cases of cancer (in 29 460 persons) were recorded in Norway, of which 16 491 occurred among men and 13 608 among women (Table 6). Cancers of the prostate, female breast, lung and colon are the most common cancers and account for 45% of the total cancer burden.

In men, prostate cancer continues to be the most frequent cancer (4 919 cases), followed by lung (1 602 cases) and colon cancer (1 294 cases).

Breast cancer remains the most frequent neoplasm in women, with 2 956 new cases in 2012, followed by colon and lung cancer, with 1 423 and 1 300 incident cases, respectively.

Looking at cancer trends for the last ten years, we observe that some major cancers are on rise. This includes malignant melanoma, kidney, prostate and non-melanoma skin cancer. On the positive side, the rates for lung and bladder cancer showed a small reduction and the rates for rectal cancer have stabilised. In women, the strongest increase occurred in incidence rates for malignant melanoma, leukaemia, skin, non-melanoma and lung cancer. Only a slight increase was observed for colon cancer. A reduction in rates was seen for CNS, ovary, rectum and breast cancer. Among more uncommon cancer sites, liver and thyroid cancer have risen with annual percent changes of more than 3 percent the last decade.

The vast majority of cancers in Norway, over 90% in men and 85% in women, are diagnosed in persons over the age of 50 (Figure 4). About half are diagnosed at ages 70 or older, while 40% of all new cases occur between the ages 50 and 69, in men and women alike. A larger proportion of cancers are diagnosed in women than men at the ages of 25 to

49, while similar proportions, constituting slightly over 1% of the cancer burden, occur in children and young adults.

The relative impact of cancer at different ages varies considerably by cancer site. Figure 5 identifies the cancer types that are the main contributors to the disease burden at different ages. Cancers of the central nervous system are most frequent in children and young female adults, while testicular cancer is by far the most common cancer diagnosed in young men. Prostate cancer is the most frequent cancer in men aged over 50, while breast cancer is the most common cancer diagnosis in women from the ages 25 through to 69. Colon cancer is the most common cancer in women above 70.

Note:

The amount of cases with malignant immunoproliferative diseases (C88) has risen to 75 from a total number of 54 in 2011. This is probably due to a more clear differentiation in coding practice between lymphoplasmacytic lymphomas and Waldenström's macroglobulinaemia in 2012. These entities are in practice considered the same disease but differ in their presentation in that some patients with lymphoplasmacytic lymphomas have either no production of abnormal immunoglobulin protein or the abnormal B cells produce a different immunoglobulin type. These cases are classified as lymphomas rather than Waldenström's macroglobulinaemia.

After the extraction of the data the 22nd of April 2014 some cases (14) registered with cervical cancer were judged not to be primary invasive cervical cancer. The incidence database is a dynamic database, and updated numbers will be provided in the next issue of Cancer in Norway.

Figure 4. Percentage distribution of cancer incidence by age, 2008-2012

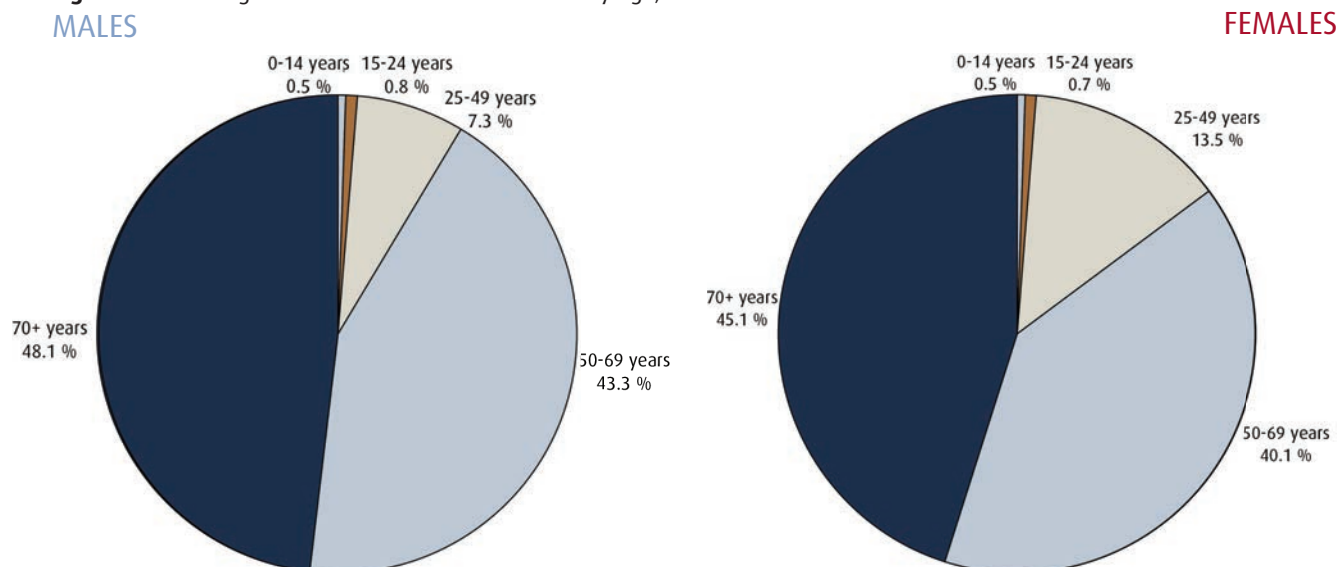


Table 6 Number of new cases by primary site and sex, 2012

ICD-10	Site	Males	Females	Total
C00-96	All sites	16491	13608	30099
C00-14	Mouth, pharynx	359	181	540
C00	Lip	71	43	114
C01-02	Tongue	67	47	114
C03-06	Mouth, other	57	30	87
C07-08	Salivary glands	29	14	43
C09-14	Pharynx	135	47	182
C15-26	Digestive organs	3290	2927	6217
C15	Oesophagus	170	69	239
C16	Stomach	287	183	470
C17	Small intestine	101	57	158
C18	Colon	1294	1423	2717
C19-21	Rectum, rectosigmoid, anus	764	540	1304
C22	Liver	134	81	215
C23-24	Gallbladder, bile ducts	82	105	187
C25	Pancreas	391	382	773
C26	Other digestive organs	67	87	154
C30-34, C38	Respiratory organs	1739	1342	3081
C30-31	Nose, sinuses	31	19	50
C32	Larynx, epiglottis	98	19	117
C33-34	Lung, trachea	1602	1300	2902
C38	Mediastinum, pleura (non-mesothelioma)	8	4	12
C40-41	Bone	33	13	46
C43	Melanoma of the skin	880	875	1755
C44	Skin, non-melanoma	889	780	1669
C45	Mesothelioma	65	15	80
C46	Kaposi's sarcoma	5	2	7
C47	Autonomic nervous system	5		5
C48-49	Soft tissues	80	74	154
C50	Breast	28	2956	2984
C51-58	Female genital organs		1573	1573
C53	Cervix uteri		330	330
C54	Corpus uteri		643	643
C55	Uterus, other		13	13
C56	Ovary		452	452
C51-52, C57	Other female genital		131	131
C58	Placenta		4	4
C60-63	Male genital organs	5285		5285
C61	Prostate	4919		4919
C62	Testis	325		325
C60, C63	Other male genital	41		41
C64-68	Urinary organs	1564	640	2204
C64	Kidney excl. renal pelvis	525	256	781
C65	Renal pelvis	52	35	87
C66-68	Bladder, ureter, urethra	987	349	1336
C69	Eye	29	30	59
C70-72, D32-33	Central nervous system	472	541	1013
C73	Thyroid gland	92	220	312
C37, C74-75	Other endocrine glands	114	91	205
C39, C76, C80	Other or unspecified	128	167	295
C81-96	Lymphoid and haematopoietic tissue	1434	1181	2615
C81	Hodgkin lymphoma	81	60	141
C82-85, C96	Non-Hodgkin lymphoma	532	447	979
C88	Malignant immunoproliferative diseases	46	29	75
C90	Multiple myeloma	204	179	383
C91-95, D45-47	Leukaemia	571	466	1037

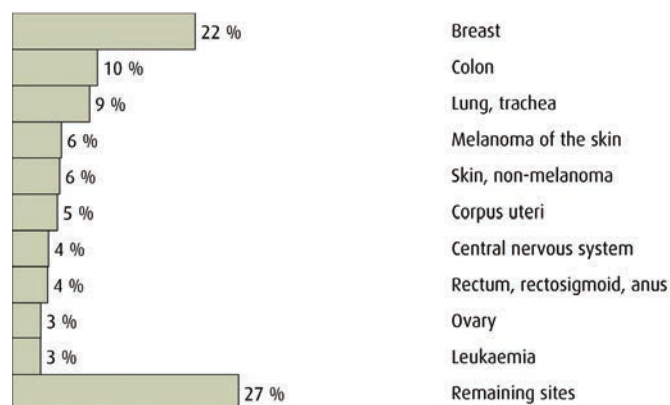
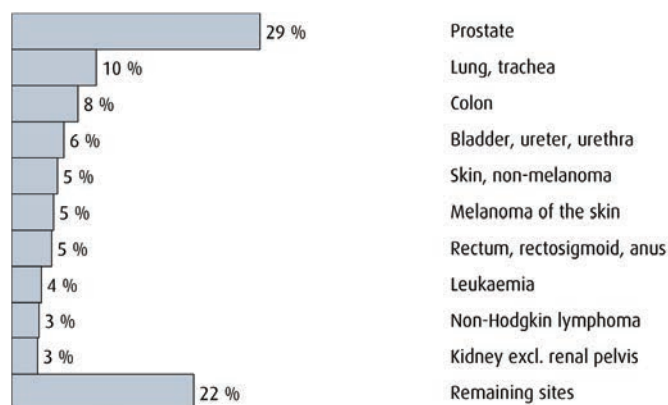
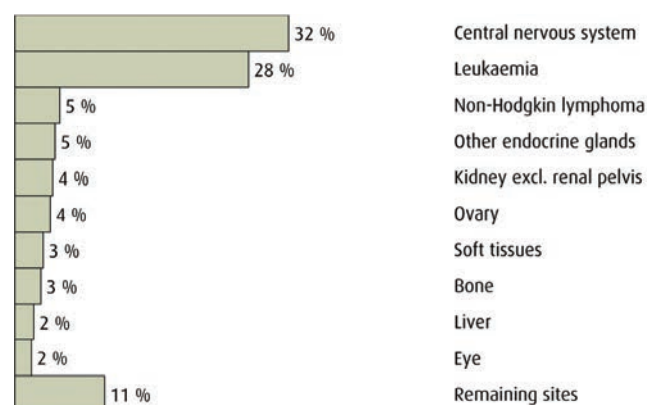
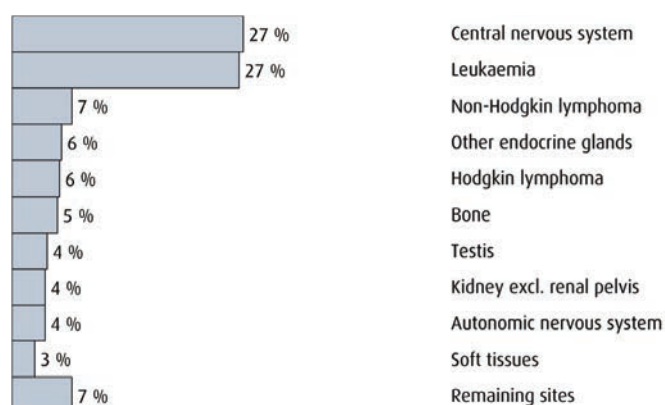
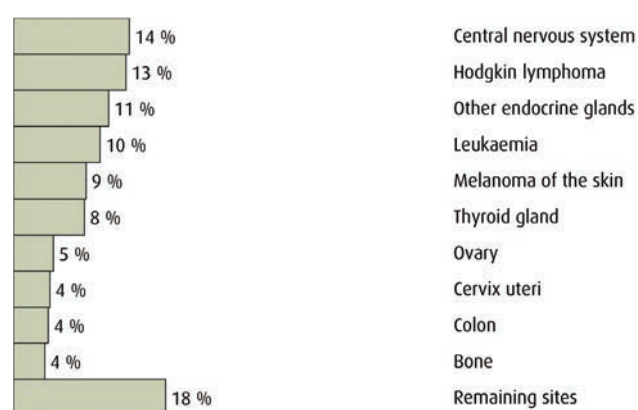
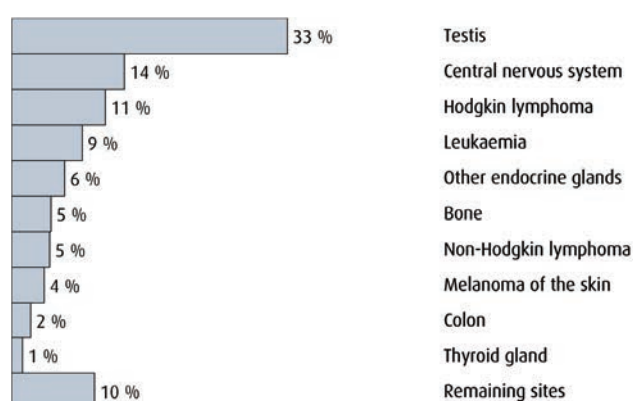
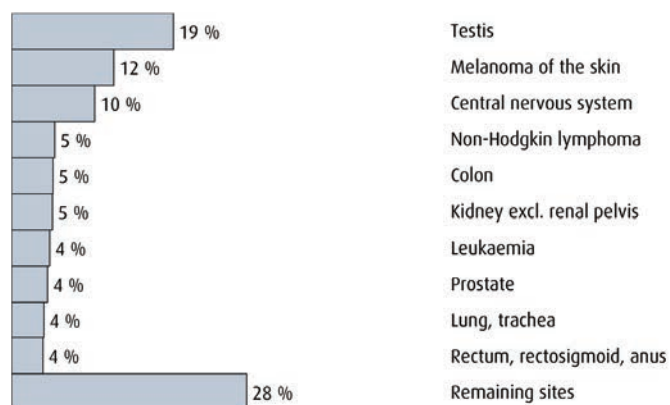
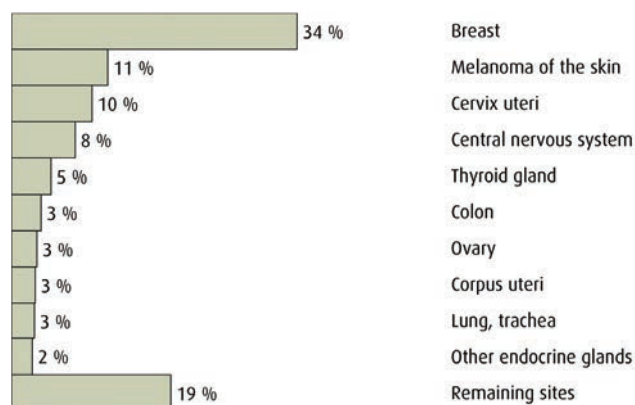
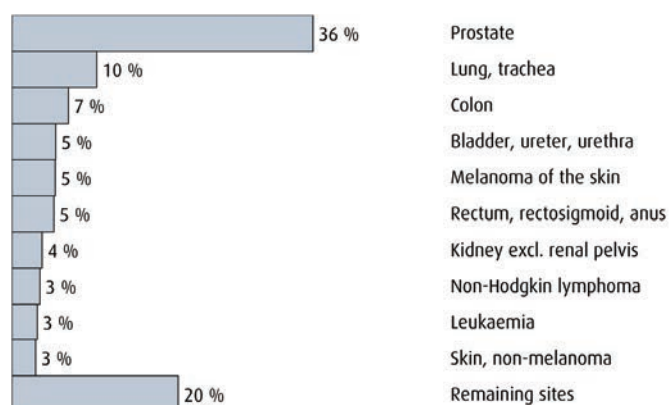
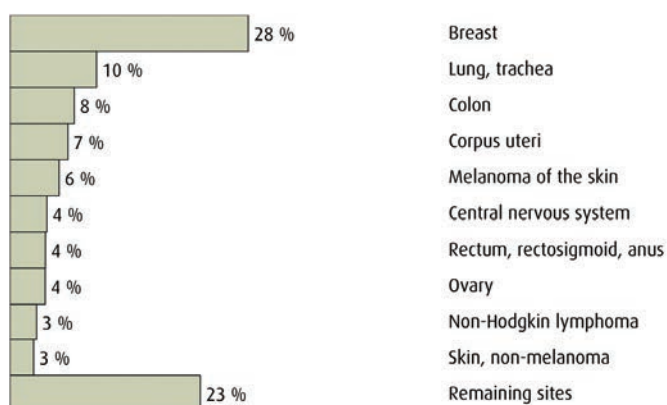
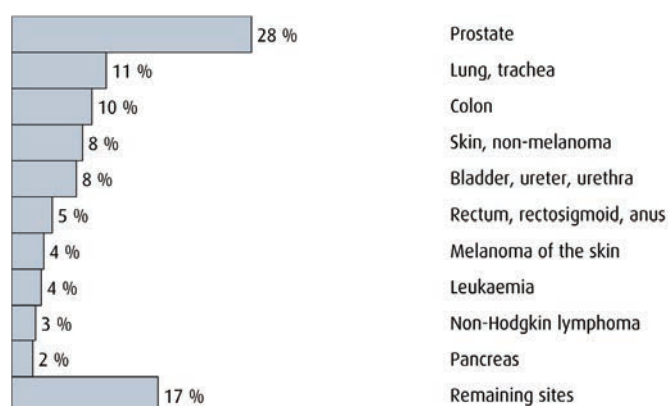
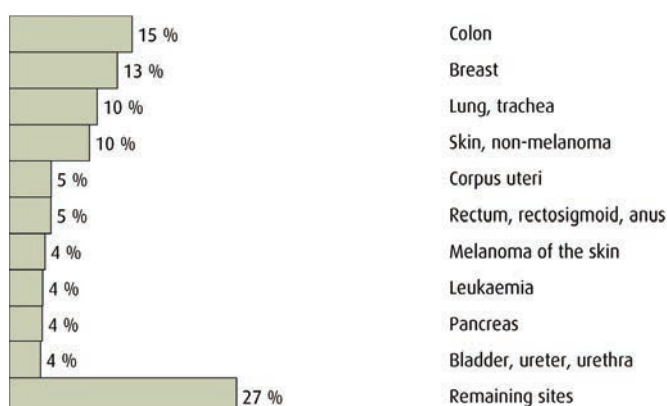
Figure 5. The most frequent incident cancers by age and sex, 2008-2012**A MALES** all ages (78 012 cases)**B FEMALE** all ages (66 541 cases)**C MALES** 0-14 years (409 cases)**D FEMALE** 0-14 years (358 cases)**E MALES** 15-24 years (610 cases)**F FEMALE** 15-24 years (490 cases)

Figure 5. The most frequent incident cancers by age and sex, 2008-2012**G MALES** 25-49 years (5 696 cases)**H FEMALE** 25-49 years (9 016 cases)**I MALES** 50-69 years (33 765 cases)**J FEMALE** 50-69 years (26 668 cases)**K MALES** 70+ years (37 532 cases)**L FEMALE** 70+ years (30 009 cases)

The age-standardised rates and male:female (M:F) ratios for selected cancer types in 1978-1982 and 2008-2012 are compared in Table 7. Men tend to have higher rates of incidence for most cancer types in both time periods, with the exceptions of melanoma of the skin, cancer in the gallbladder and thyroid cancer. The highest M:F ratios are observed for several head and neck cancers. The most frequent cancers - including cancers of the lung, bladder, stomach and rectum- are consistently more common among men.

The decline in the M:F ratios for several neoplasms over the last 25 years may largely be the result of decreasing incidence trends in men and increasing incidence trends in women for a number of cancer types. For lung cancer, the reduction of the M:F ratios over the last two to three decades points to a differential in sex-specific trends with the rapidly increasing trends in lung cancer rates among women contrasting with the recent declines in the last decade among men.

Table 7. Sex ratios (male:female) of age-standardised rates (world) in 1978-1982 and 2008-2012 by primary site, sorted in descending order in the last period

ICD-10	Site	1978-82			2008-12		
		M	F	M/F ratio	M	F	M/F ratio
C32	Larynx, epiglottis	3.1	0.3	10	2.4	0.5	5.2
C15	Oesophagus	2.7	0.7	3.8	4	1.1	3.5
C66-68	Bladder, ureter, urethra	18.1	5.5	3.3	20.8	6.3	3.3
C09-14	Pharynx	1.6	0.5	3.3	2.9	1.1	2.6
C01-02	Tongue	7.5	4.0	1.9	12.0	5.6	2.2
C22	Liver	1.0	0.4	2.7	1.8	0.8	2.1
C64	Kidney excl. renal pelvis	1.8	1.0	1.9	2.8	1.4	2.0
C16	Stomach	18.0	9.2	2.0	6.5	3.4	1.9
C65	Renal pelvis	3.4	0.4	7.9	1.6	0.8	1.9
C00	Lip	1.0	0.4	2.2	1.1	0.6	1.8
C90	Multiple myeloma	4.7	3.0	1.5	4.8	3.2	1.5
C19-21	Rectum, rectosigmoid, anus	14.7	10.1	1.5	17.1	11.3	1.5
C91-95, D45-47	Leukaemia	8.1	5.4	1.5	9.5	6.8	1.4
C33-34	Lung, trachea	30.9	7.3	4.2	35.1	25.7	1.4
C81	Hodgkin lymphoma	6.2	4.5	1.4	12.6	9.2	1.4
C82-85, C96	Non-Hodgkin lymphoma	2.6	1.6	1.6	2.8	2.1	1.3
C25	Pancreas	8.4	5.3	1.6	7.7	6.5	1.2
C18	Colon	17.1	17.4	1.0	26.7	24.1	1.1
C43	Melanoma of the skin	8.9	10.4	0.9	19.5	19.8	1.0
C23-24	Gallbladder, bile ducts	1.1	1.6	0.7	1.6	1.7	1.0
C73	Thyroid gland	1.6	5.1	0.3	2.2	6.2	0.3

* A list of ICD-10 codes where morphologies are excluded or included is given in Table 1 (page 12) in this report.

In the Cancer of Norway report for 2012 we can proudly present data for 6 complete decades, and Figure 6 depicts time trends in incidence for a number of common cancers. Of note are:

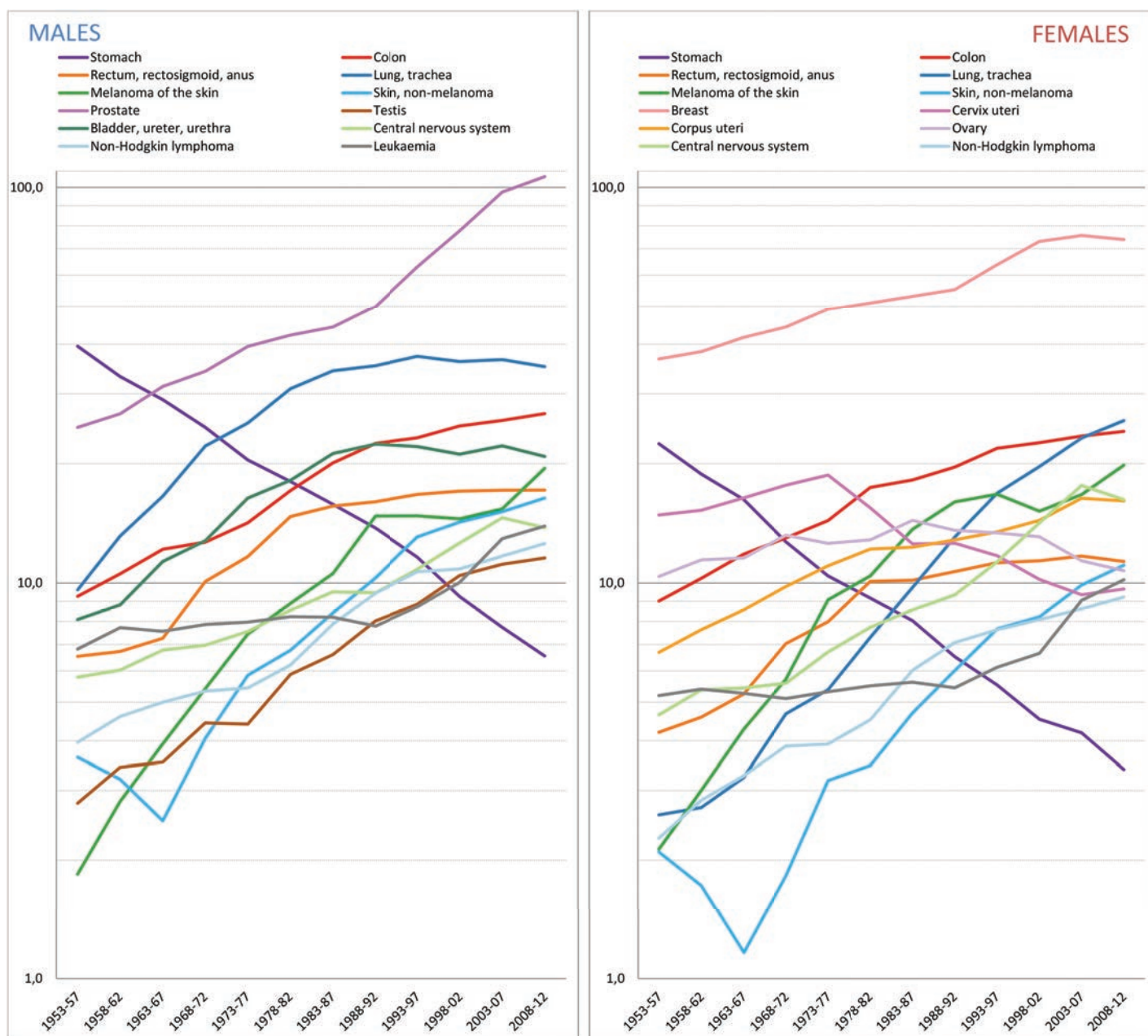
The majority of cancers have increased in incidence since the first observation period (1953-57). Among common cancers, the most pronounced increases have been seen for lung cancer, skin cancer (both malignant melanoma and non-melanoma), non-Hodgkin lymphoma, tumours of the central nervous system, colon and rectum cancer, prostate cancer, and testis cancer.

Stomach cancer is one of the few that demonstrates a decreasing trend. In the first observation period stomach cancer was the most common cancer in men and women combined, in line with observations of cancer mortality reported by Norwegian general practitioners one hundred years ago (Gade, 1916). The marked decrease in incidence over 6 decades illustrates the vast potential for prevention by changes in environmental exposures or

lifestyle habits. Use of refrigerators and control of *Helicobacter pylori* infection (through hygiene and diet) are the most likely explanations for this trend.

The incidence of prostate cancer has increased with a 4-fold over the last 60 years. The dramatic upsurge from around 1990 illustrates the influence of changes in screening practice and diagnostic pressure. For prostate cancer, the introduction and subsequent widespread use of the Prostate Specific Antigen (PSA) test, followed by biopsies, is the main explanation for the doubling of the age-standardised incidence rate.

The incidence of breast cancer has doubled since the beginning of registration. The trend showed a monotonous rise until 2005, somewhat steeper during the late 1990s following the implementation of the mammographic screening programme. Since 2005 the incidence has been levelling off, and the incidence for the last five-year period show off a slight decrease compared to the previous five year period.

Figure 6. Time trends in age-standardised incidence rates (world) in Norway for selected cancers (semi log-scale), 1953-2012

In 60 years, the incidence of lung cancer in women has increased with almost a 10-fold, and it still shows by far the most concerning trend for cancer among women. During the last two decades lung cancer has surpassed breast cancer and colon cancer as the most frequent cause of cancer death among women. The lung cancer trends largely reflect the historical changes in smoking habits. In fact, the first strong evidence of the close relationship between smoking and lung cancer came 60 years ago, in the early 1950s.

Melanoma of the skin is another cancer of concern. Back in 1953, it was an uncommon cancer disease, but today it ranges among the leading cancers both among men and women. After a period with declining or non-rising rates during the 1990s, the rates have risen consistently during the last decade, most probably caused by an increase in exposure to ultra-violet rays through sunbathing and solarium use.

The downward trend in cancer of the uterine cervix (cervical cancer) is a result of early diagnosis and therapy as part of an organized screening programme. Vaccination against human papilloma virus started in Norway with girls born in 1997. We do however not expect that this primary prevention will affect the incidence rate for another 15-20 years.

For many common cancers, the explanation for the increase in incidence rate is unknown or incompletely understood. Colon cancer has been associated with an affluent western lifestyle, such as diet and lack of exercise. For testicular cancer and non-Hodgkin lymphoma, genetic factors play a role, other determinants are virtually unknown.

More detailed trends of incidence, mortality and survival for 23 cancers are provided later in this report.

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 demographic population growth and ageing (The NORDCAN project (www-dep.iarc.fr/NORDCAN) provides access to online computations of short and long-terms predictions of incidence and mortality in the Nordic countries).

The cumulative risk is shown in Table 8 and in Figure 7, for the 15 most common cancers in men and women, respectively. The cumulative risk of 13.2 for prostate cancer ranks highest in males and indicates that, in the absence of other causes of death, approximately one in eight men will develop this cancer before the age of 75. The corresponding risk of developing lung cancer is considerably lower in comparison, with about one in 25 men estimated to be diagnosed with the disease before the age of 75.

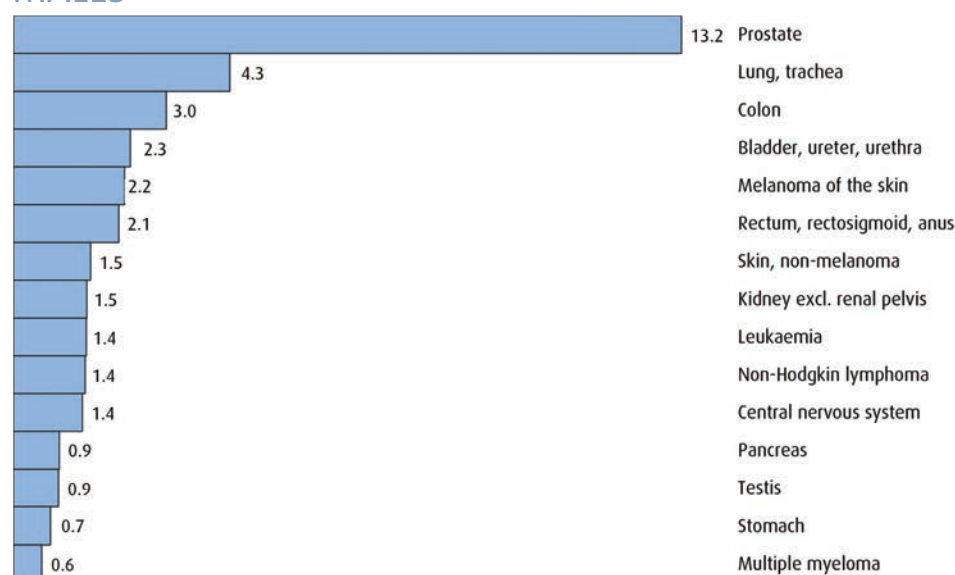
The cumulative risk of breast cancer ranks highest in women, with the figure of 8.0 indicating that about one in 12 Norwegian women develop this disease before the age of 75, in the absence of competing causes. As with men, lung and colon cancers rank second and third. Tables 9-18 provide further information on the distribution of cancer incidence in Norway. The number of incident cases and rates are tabulated according to year of diagnosis, age group, county of residence, and stage.

Further information

This report can be downloaded from the Cancer Registry of Norway website in various formats.

Figure 7. Cumulative risk of developing cancer (%) by the age of 75 for selected cancers by sex, 2008-2012

MALES



FEMALES

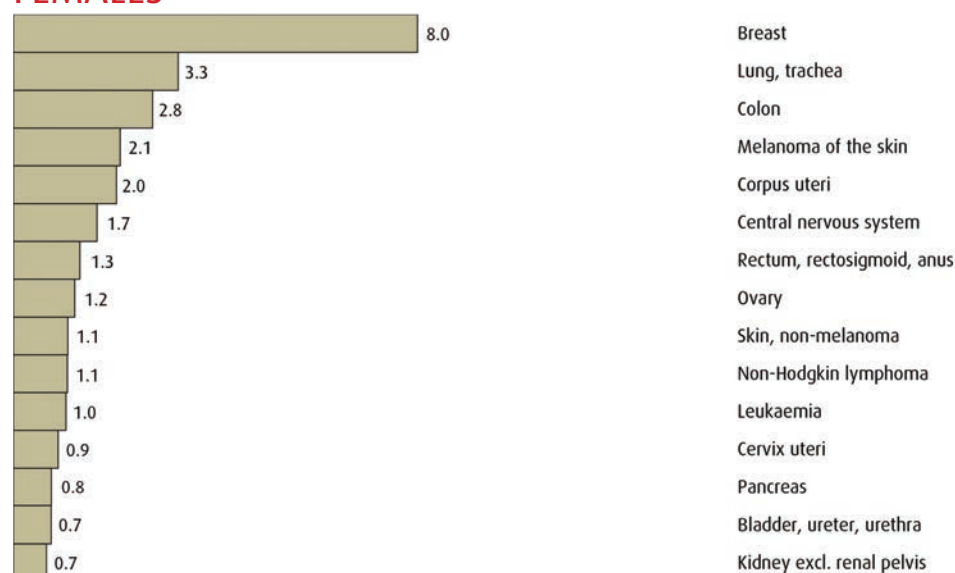


Table 8 Cumulative risk of developing cancer (%) by the age of 75 by primary site and sex, 2008-2012

ICD-10	Site	Males	Females
C00-96	All sites	35.3	28.5
C00-14	Mouth, pharynx	1.0	0.5
C00	Lip	0.2	0.1
C01-02	Tongue	0.2	0.1
C03-06	Mouth, other	0.1	0.1
C07-08	Salivary glands	0.1	0.1
C09-14	Pharynx	0.3	0.1
C15-26	Digestive organs	7.9	5.8
C15	Oesophagus	0.5	0.1
C16	Stomach	0.7	0.4
C17	Small intestine	0.2	0.2
C18	Colon	3.0	2.8
C19-21	Rectum, rectosigmoid, anus	2.1	1.3
C22	Liver	0.3	0.1
C23-24	Gallbladder, bile ducts	0.2	0.2
C25	Pancreas	0.9	0.8
C26	Other digestive organs	0.1	0.1
C30-34, C38	Respiratory organs	4.7	3.4
C30-31	Nose, sinuses	0.1	0.0
C32	Larynx, epiglottis	0.3	0.1
C33-34	Lung, trachea	4.3	3.3
C38	Mediastinum, pleura (non-mesothelioma)	0.0	0.0
C40-41	Bone	0.1	0.1
C43	Melanoma of the skin	2.2	2.1
C44	Skin, non-melanoma	1.5	1.1
C45	Mesothelioma	0.2	0.0
C46	Kaposi's sarcoma	0.0	0.0
C47	Autonomic nervous system	0.0	0.0
C48-49	Soft tissues	0.2	0.2
C50	Breast	0.1	8.0
C51-58	Female genital organs		4.4
C53	Cervix uteri		0.9
C54	Corpus uteri		2.0
C55	Uterus, other		0.0
C56	Ovary		1.2
C51-52, C57	Other female genital		0.3
C58	Placenta		0.0
C60-63	Male genital organs	14.1	
C61	Prostate	13.2	
C62	Testis	0.9	
C60, C63	Other male genital	0.1	
C64-68	Urinary organs	3.9	1.5
C64	Kidney excl. renal pelvis	1.5	0.7
C65	Renal pelvis	0.1	0.1
C66-68	Bladder, ureter, urethra	2.3	0.7
C69	Eye	0.1	0.1
C70-72, D32-33	Central nervous system	1.4	1.7
C73	Thyroid gland	0.2	0.6
C37, C74-75	Other endocrine glands	0.4	0.4
C39, C76, C80	Other or unspecified	0.3	0.3
C81-96	Lymphoid and haematopoietic tissue	3.7	2.7
C81	Hodgkin lymphoma	0.2	0.2
C82-85, C96	Non-Hodgkin lymphoma	1.4	1.1
C88	Malignant immunoproliferative diseases	0.1	0.1
C90	Multiple myeloma	0.6	0.4
C91-95, D45-47	Leukaemia	1.4	1.0

Table 9a Number of new cases by primary site and year, 2003-2012

MALES

ICD-10	Site	Year									
		2003	04	05	06	07	08	09	10	11	2012
C00-96	All sites	12757	13439	13386	13708	14639	14805	15176	15267	16273	16491
C00-14	Mouth, pharynx	255	257	250	289	286	273	346	311	327	359
C00	Lip	42	37	49	80	72	56	84	76	80	71
C01-02	Tongue	52	53	44	46	57	63	74	59	71	67
C03-06	Mouth, other	56	51	40	53	41	43	67	52	39	57
C07-08	Salivary glands	17	17	26	15	18	18	23	28	18	29
C09-14	Pharynx	88	99	91	95	98	93	98	96	119	135
C15-26	Digestive organs	2688	2800	2772	2733	2867	2939	2951	3238	3109	3290
C15	Oesophagus	138	149	133	148	134	162	148	186	180	170
C16	Stomach	347	348	303	303	336	300	263	303	319	287
C17	Small intestine	58	44	50	66	67	64	83	72	86	101
C18	Colon	990	1073	1075	1075	1110	1176	1124	1301	1227	1294
C19-21	Rectum, rectosigmoid, anus	677	692	689	659	657	695	748	777	712	764
C22	Liver	77	82	77	90	98	99	99	127	131	134
C23-24	Gallbladder, bile ducts	56	67	85	58	59	66	74	88	55	82
C25	Pancreas	307	305	327	303	367	340	359	318	329	391
C26	Other digestive organs	38	40	33	31	39	37	53	66	70	67
C30-34, C38	Respiratory organs	1565	1556	1556	1615	1628	1633	1657	1691	1766	1739
C30-31	Nose, sinuses	17	25	24	18	28	25	23	20	21	31
C32	Larynx, epiglottis	94	100	101	116	78	113	89	104	100	98
C33-34	Lung, trachea	1438	1419	1420	1468	1503	1486	1536	1559	1636	1602
C38	Mediastinum, pleura (non-mesothelioma)	16	12	11	13	19	9	9	8	9	8
C40-41	Bone	21	28	25	24	21	23	36	28	31	33
C43	Melanoma of the skin	479	491	592	561	580	674	706	745	865	880
C44	Skin, non-melanoma	655	692	663	762	752	780	865	828	874	889
C45	Mesothelioma	66	74	72	51	61	59	69	77	63	65
C46	Kaposi's sarcoma	5	9	9	9	3	5	7	7	4	5
C47	Autonomic nervous system	7	3	7	7	7	9	7	5	5	5
C48-49	Soft tissues	50	51	48	63	63	50	69	52	64	80
C50	Breast	19	14	18	14	19	21	15	13	28	28
C60-63	Male genital organs	3729	4165	4017	4198	4797	4779	4763	4563	5315	5285
C61	Prostate	3417	3850	3707	3893	4447	4424	4390	4239	4984	4919
C62	Testis	259	269	260	264	307	305	324	275	291	325
C60, C63	Other male genital	53	46	50	41	43	50	49	49	40	41
C64-68	Urinary organs	1249	1407	1303	1333	1450	1437	1470	1470	1520	1564
C64	Kidney excl. renal pelvis	334	395	366	364	401	415	427	491	530	525
C65	Renal pelvis	32	51	28	47	54	57	50	56	37	52
C66-68	Bladder, ureter, urethra	883	961	909	922	995	965	993	923	953	987
C69	Eye	42	31	28	38	29	40	26	38	24	29
C70-72, D32-33	Central nervous system	423	392	462	427	503	453	456	464	475	472
C73	Thyroid gland	54	50	69	77	67	60	73	81	78	92
C37, C74-75	Other endocrine glands	99	78	98	93	137	135	141	110	113	114
C39, C76, C80	Other or unspecified	244	203	215	199	174	171	169	144	166	128
C81-96	Lymphoid and haematopoietic tissue	1107	1138	1182	1215	1195	1264	1350	1402	1446	1434
C81	Hodgkin lymphoma	84	74	63	67	68	77	80	77	65	81
C82-85, C96	Non-Hodgkin lymphoma	372	412	421	468	419	466	480	552	499	532
C88	Malignant immunoproliferative diseases	37	30	32	31	35	34	28	32	32	46
C90	Multiple myeloma	168	180	220	185	188	209	221	202	239	204
C91-95, D45-47	Leukaemia	446	442	446	464	485	478	541	539	611	571

Table 9b Number of new cases by primary site and year, 2003-2012

FEMALES

ICD-10	Site	Year									
		2003	04	05	06	07	08	09	10	11	2012
C00-96	All sites	11607	12043	12232	12490	12549	12750	13048	13320	13815	13608
C00-14	Mouth, pharynx	128	133	182	205	169	195	173	210	201	181
C00	Lip	25	26	41	55	55	53	39	54	46	43
C01-02	Tongue	24	26	32	38	23	33	34	33	38	47
C03-06	Mouth, other	28	40	43	54	37	43	46	44	43	30
C07-08	Salivary glands	20	11	26	22	23	25	17	33	29	14
C09-14	Pharynx	31	30	40	36	31	41	37	46	45	47
C15-26	Digestive organs	2545	2567	2621	2682	2692	2750	2846	2736	2877	2927
C15	Oesophagus	57	54	60	45	56	59	54	66	60	69
C16	Stomach	223	218	235	218	216	212	219	176	200	183
C17	Small intestine	45	49	41	45	55	52	76	58	64	57
C18	Colon	1232	1186	1194	1286	1269	1286	1357	1272	1391	1423
C19-21	Rectum, rectosigmoid, anus	505	572	566	557	547	561	567	576	564	540
C22	Liver	41	42	58	43	54	65	67	79	78	81
C23-24	Gallbladder, bile ducts	83	65	82	78	83	82	86	91	86	105
C25	Pancreas	317	333	325	371	359	370	359	347	372	382
C26	Other digestive organs	42	48	60	39	53	63	61	71	62	87
C30-34, C38	Respiratory organs	936	978	992	1080	1158	1200	1186	1323	1275	1342
C30-31	Nose, sinuses	12	27	17	22	32	16	12	20	18	19
C32	Larynx, epiglottis	18	13	17	12	17	23	20	20	16	19
C33-34	Lung, trachea	904	926	951	1041	1102	1157	1146	1275	1235	1300
C38	Mediastinum, pleura (non-mesothelioma)	2	12	7	5	7	4	8	8	6	4
C40-41	Bone	18	16	17	19	22	23	29	24	23	13
C43	Melanoma of the skin	553	559	574	663	640	624	733	788	876	875
C44	Skin, non-melanoma	564	576	676	655	677	692	756	717	805	780
C45	Mesothelioma	11	10	9	20	14	10	12	14	13	15
C46	Kaposi's sarcoma	2	4	2	5	3	3	4	3	1	2
C47	Autonomic nervous system	3	8	4	8	5	8	5	6	1	0
C48-49	Soft tissues	69	89	85	83	93	80	103	88	83	74
C50	Breast	2743	2807	2820	2728	2750	2766	2753	2852	3105	2956
C51-58	Female genital organs	1497	1572	1578	1571	1549	1602	1584	1679	1674	1573
C53	Cervix uteri	295	269	306	313	279	297	298	318	299	330
C54	Corpus uteri	630	684	680	661	673	721	712	762	740	643
C55	Uterus, other	13	8	6	9	3	8	11	6	5	13
C56	Ovary	428	467	434	457	450	457	428	447	485	452
C51-52, C57	Other female genital	127	140	146	127	143	119	133	143	140	131
C58	Placenta	4	4	6	4	1	0	2	3	5	4
C64-68	Urinary organs	563	576	603	589	597	616	633	639	661	640
C64	Kidney excl. renal pelvis	203	212	243	212	254	256	238	243	262	256
C65	Renal pelvis	37	27	18	26	23	28	37	34	39	35
C66-68	Bladder, ureter, urethra	323	337	342	351	320	332	358	362	360	349
C69	Eye	34	37	25	30	29	31	39	28	32	30
C70-72, D32-33	Central nervous system	532	595	597	626	632	593	626	579	541	541
C73	Thyroid gland	132	173	168	147	162	176	186	204	219	220
C37, C74-75	Other endocrine glands	101	99	106	125	121	159	129	113	114	91
C39, C76, C80	Other or unspecified	295	283	269	243	234	194	200	192	167	167
C81-96	Lymphoid and haematopoietic tissue	881	961	904	1011	1002	1028	1051	1125	1147	1181
C81	Hodgkin lymphoma	53	47	49	48	49	42	47	57	71	60
C82-85, C96	Non-Hodgkin lymphoma	332	369	332	385	378	369	399	408	441	447
C88	Malignant immunoproliferative diseases	15	21	22	25	19	15	25	25	22	29
C90	Multiple myeloma	151	154	158	146	167	164	160	178	144	179
C91-95, D45-47	Leukaemia	330	370	343	407	389	438	420	457	469	466

Table 10a Age-standardised (world) incidence rates per 100 000 person-years by primary site and year, 2003-2012**MALES**

ICD-10	Site	Year									
		2003	04	05	06	07	08	09	10	11	2012
C00-96	All sites	343.1	354.1	347.5	351.1	370.3	367.4	369.7	359.6	376.3	373.3
C00-14	Mouth, pharynx	7.7	7.6	7.0	7.8	7.8	7.3	8.9	7.7	8.0	8.7
C00	Lip	1.1	1.0	1.2	1.9	1.8	1.3	1.9	1.7	1.7	1.5
C01-02	Tongue	1.7	1.6	1.3	1.2	1.6	1.8	2.1	1.6	1.8	1.6
C03-06	Mouth, other	1.7	1.5	1.1	1.5	1.1	1.2	1.7	1.2	0.9	1.4
C07-08	Salivary glands	0.5	0.5	0.7	0.4	0.5	0.5	0.6	0.6	0.5	0.7
C09-14	Pharynx	2.7	2.9	2.7	2.8	2.8	2.6	2.6	2.6	3.2	3.5
C15-26	Digestive organs	68.8	70.3	68.4	66.2	68.6	69.5	67.9	72.6	68.8	70.4
C15	Oesophagus	3.8	4.0	3.5	3.9	3.3	4.0	3.6	4.3	4.1	3.8
C16	Stomach	8.6	8.2	7.1	7.0	7.8	7.0	5.8	6.8	6.9	6.2
C17	Small intestine	1.7	1.2	1.3	1.8	1.7	1.6	2.2	1.8	2.1	2.4
C18	Colon	24.7	26.5	26.4	25.2	25.8	27.1	25.2	28.0	26.3	27.0
C19-21	Rectum, rectosigmoid, anus	17.8	17.8	17.3	16.2	16.5	16.7	17.9	18.1	16.3	16.6
C22	Liver	2.2	1.9	2.1	2.4	2.5	2.7	2.4	2.9	3.0	3.1
C23-24	Gallbladder, bile ducts	1.4	1.7	2.1	1.4	1.4	1.6	1.6	2.0	1.2	1.7
C25	Pancreas	7.9	8.0	7.9	7.6	8.7	8.0	8.0	7.1	7.4	8.2
C26	Other digestive organs	0.9	1.1	0.7	0.7	0.8	0.8	1.3	1.5	1.4	1.4
C30-34, C38	Respiratory organs	41.7	40.0	39.0	40.8	39.5	39.1	38.8	38.0	38.5	37.1
C30-31	Nose, sinuses	0.5	0.7	0.7	0.4	0.8	0.7	0.6	0.5	0.5	0.7
C32	Larynx, epiglottis	2.8	2.8	2.7	3.2	2.0	2.8	2.2	2.4	2.3	2.2
C33-34	Lung, trachea	38.0	36.2	35.4	36.9	36.2	35.4	35.8	34.8	35.5	34.1
C38	Mediastinum, pleura (non-meso-thelioma)	0.4	0.3	0.3	0.3	0.4	0.2	0.2	0.2	0.2	0.2
C40-41	Bone	0.8	1.1	0.9	1.1	0.7	1.0	1.3	1.0	1.1	1.1
C43	Melanoma of the skin	14.4	14.6	16.8	15.4	15.8	17.6	18.2	19.0	21.4	21.1
C44	Skin, non-melanoma	14.7	15.0	14.3	16.2	15.4	15.7	17.2	16.3	16.3	16.5
C45	Mesothelioma	1.7	1.9	1.7	1.3	1.4	1.4	1.5	1.6	1.4	1.3
C46	Kaposi's sarcoma	0.1	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1
C47	Autonomic nervous system	0.4	0.1	0.4	0.3	0.3	0.5	0.5	0.3	0.2	0.3
C48-49	Soft tissues	1.5	1.6	1.5	2.0	1.8	1.5	1.8	1.3	2.0	2.2
C50	Breast	0.5	0.3	0.5	0.3	0.5	0.5	0.4	0.3	0.7	0.6
C60-63	Male genital organs	99.2	110.8	105.8	108.5	124.2	120.2	119.1	109.5	124.8	122.3
C61	Prostate	87.2	98.7	93.4	96.7	110.5	107.0	105.3	97.8	113.1	109.4
C62	Testis	10.5	11.0	10.9	10.8	12.5	12.0	12.6	10.5	10.9	11.8
C60, C63	Other male genital	1.5	1.0	1.4	1.0	1.1	1.2	1.2	1.2	0.8	1.0
C64-68	Urinary organs	32.2	34.9	32.2	32.2	34.8	34.4	33.9	33.0	34.2	34.4
C64	Kidney excl. renal pelvis	9.4	10.9	9.8	9.8	10.4	10.9	11.0	12.2	13.2	12.9
C65	Renal pelvis	0.7	1.3	0.8	1.1	1.3	1.4	1.1	1.2	0.8	1.0
C66-68	Bladder, ureter, urethra	22.1	22.7	21.7	21.2	23.1	22.1	21.8	19.7	20.2	20.5
C69	Eye	1.2	1.1	0.8	1.2	0.8	1.2	0.8	1.0	0.6	0.8
C70-72, D32-33	Central nervous system	15.0	12.9	15.1	13.6	16.4	14.2	13.8	13.6	13.8	13.5
C73	Thyroid gland	1.7	1.5	2.2	2.3	1.8	1.7	2.1	2.3	2.2	2.6
C37, C74-75	Other endocrine glands	3.4	2.7	2.9	3.1	4.3	4.2	4.6	3.4	3.4	3.4
C39, C76, C80	Other or unspecified	5.5	4.6	4.8	4.6	3.8	3.7	3.4	3.0	3.4	2.7
C81-96	Lymphoid and haematopoietic tissue	32.4	33.1	32.9	34.1	32.2	33.6	35.3	35.5	35.6	34.3
C81	Hodgkin lymphoma	3.4	3.1	2.7	2.5	2.4	2.9	3.0	2.9	2.4	3.0
C82-85, C96	Non-Hodgkin lymphoma	10.9	12.0	11.5	12.7	11.4	12.2	12.4	13.7	12.1	12.4
C88	Malignant immunoproliferative diseases	0.9	0.7	0.8	0.7	0.9	0.7	0.7	0.7	0.7	1.0
C90	Multiple myeloma	4.3	4.5	5.4	4.7	4.5	5.0	5.1	4.5	5.4	4.2
C91-95, D45-47	Leukaemia	12.9	12.8	12.6	13.4	13.0	12.9	14.1	13.8	15.0	13.8

Table 10b Age-standardised (world) incidence rates per 100 000 person-years by primary site and year, 2003-2012**FEMALES**

ICD-10	Site	Year									
		2003	04	05	06	07	08	09	10	11	2012
C00-96	All sites	283.9	292.4	291.9	297.4	293.3	293.3	296.7	299.9	305.5	296.4
C00-14	Mouth, pharynx	3.2	3.2	4.1	4.9	3.7	4.2	3.9	4.8	4.5	3.7
C00	Lip	0.5	0.6	0.7	1.2	1.0	1.0	0.7	1.0	0.8	0.7
C01-02	Tongue	0.6	0.7	0.7	0.9	0.5	0.8	0.8	0.7	0.8	1.1
C03-06	Mouth, other	0.7	0.9	0.9	1.2	0.7	0.8	0.9	1.0	0.9	0.5
C07-08	Salivary glands	0.6	0.2	0.7	0.5	0.6	0.6	0.5	0.8	0.8	0.3
C09-14	Pharynx	0.8	0.8	1.1	1.1	0.8	1.1	1.0	1.3	1.2	1.2
C15-26	Digestive organs	49.8	51.4	50.4	52.1	51.0	50.7	53.0	50.0	52.9	53.2
C15	Oesophagus	1.1	1.1	1.1	0.9	1.0	1.2	1.0	1.2	1.2	1.3
C16	Stomach	4.0	4.5	4.4	4.1	4.0	3.5	3.8	3.0	3.4	3.2
C17	Small intestine	1.0	1.2	1.0	1.1	1.2	1.2	1.6	1.2	1.4	1.2
C18	Colon	23.8	23.3	22.5	24.1	23.6	23.2	24.1	22.5	25.1	25.5
C19-21	Rectum, rectosigmoid, anus	10.9	12.0	11.8	12.0	11.8	11.4	11.8	11.4	11.4	10.6
C22	Liver	0.9	1.0	1.3	0.8	1.0	1.2	1.4	1.4	1.5	1.5
C23-24	Gallbladder, bile ducts	1.5	1.2	1.5	1.5	1.6	1.5	1.6	1.8	1.6	1.9
C25	Pancreas	6.2	6.3	5.7	7.0	6.1	6.6	6.6	6.2	6.3	6.6
C26	Other digestive organs	0.6	0.9	1.0	0.6	0.8	0.9	1.0	1.2	1.0	1.5
C30-34, C38	Respiratory organs	23.1	23.4	23.4	24.9	26.1	26.4	25.4	28.2	26.2	26.9
C30-31	Nose, sinuses	0.3	0.5	0.4	0.5	0.7	0.3	0.3	0.4	0.5	0.4
C32	Larynx, epiglottis	0.5	0.3	0.5	0.3	0.4	0.6	0.5	0.5	0.3	0.5
C33-34	Lung, trachea	22.4	22.4	22.4	24.1	24.8	25.5	24.4	27.2	25.2	26.0
C38	Mediastinum, pleura (non-meso-thelioma)	0.0	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.0
C40-41	Bone	0.8	0.6	0.6	0.7	0.8	0.7	1.0	1.0	0.8	0.4
C43	Melanoma of the skin	15.9	15.8	16.1	18.8	16.9	16.5	19.3	20.0	21.3	22.0
C44	Skin, non-melanoma	9.1	9.5	10.3	10.3	10.2	10.9	11.2	10.8	11.2	11.3
C45	Mesothelioma	0.2	0.1	0.2	0.4	0.3	0.2	0.3	0.3	0.2	0.3
C46	Kaposi's sarcoma	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0
C47	Autonomic nervous system	0.1	0.4	0.2	0.3	0.3	0.4	0.2	0.2	0.1	0.0
C48-49	Soft tissues	1.9	2.5	2.6	2.2	2.5	2.1	2.6	2.2	2.2	1.8
C50	Breast	77.1	77.5	76.7	73.9	73.1	73.0	70.9	73.5	79.2	73.1
C51-58	Female genital organs	39.9	41.2	41.0	39.8	39.6	40.0	39.2	40.9	40.1	37.1
C53	Cervix uteri	9.5	8.7	9.9	9.8	8.9	9.2	9.6	10.0	9.5	10.0
C54	Corpus uteri	16.1	17.0	16.5	15.7	16.5	17.4	16.2	17.2	16.2	13.5
C55	Uterus, other	0.2	0.2	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.3
C56	Ovary	11.1	12.3	11.0	11.2	11.2	11.0	10.4	10.6	11.2	10.5
C51-52, C57	Other female genital	2.8	2.8	3.2	2.8	3.0	2.2	2.8	2.9	2.9	2.6
C58	Placenta	0.1	0.2	0.3	0.2	0.0	0.0	0.1	0.1	0.2	0.2
C64-68	Urinary organs	11.6	11.2	12.7	12.3	12.4	12.7	13.0	12.6	12.5	11.9
C64	Kidney excl. renal pelvis	4.8	4.9	5.6	5.0	5.8	5.7	5.6	5.4	5.6	5.6
C65	Renal pelvis	0.8	0.4	0.3	0.5	0.4	0.5	0.8	0.6	0.7	0.5
C66-68	Bladder, ureter, urethra	5.9	5.9	6.8	6.7	6.1	6.5	6.6	6.6	6.1	5.7
C69	Eye	0.8	1.0	0.8	0.9	0.8	0.8	1.2	0.9	0.7	0.6
C70-72, D32-33	Central nervous system	16.2	17.6	18.1	17.7	18.5	17.2	17.5	16.3	15.2	14.9
C73	Thyroid gland	4.2	5.4	5.2	4.7	5.0	5.4	6.0	6.4	6.5	7.0
C37, C74-75	Other endocrine glands	3.8	3.3	4.0	4.4	4.2	5.3	4.8	3.6	3.8	2.8
C39, C76, C80	Other or unspecified	4.5	4.7	4.4	4.0	3.6	3.2	3.0	2.9	2.2	2.5
C81-96	Lymphoid and haematopoietic tissue	21.6	23.4	21.1	25.1	24.3	23.4	24.2	25.3	26.0	26.7
C81	Hodgkin lymphoma	2.1	1.8	2.0	2.1	1.9	1.4	1.9	2.0	2.8	2.3
C82-85, C96	Non-Hodgkin lymphoma	7.9	9.1	7.8	9.2	9.1	8.5	9.2	9.1	9.5	9.9
C88	Malignant immunoproliferative diseases	0.3	0.4	0.4	0.6	0.4	0.3	0.4	0.5	0.5	0.5
C90	Multiple myeloma	2.8	3.1	3.3	2.7	3.4	3.2	3.3	3.3	2.6	3.4
C91-95, D45-47	Leukaemia	8.6	9.0	7.6	10.5	9.5	10.0	9.4	10.3	10.7	10.6

Table 11a Average annual number of new cases by primary site and five-year age group, 2008-2012

ICD-10	Site	0-4	5-9	10-14	15-19	20-24	25-29
C00-96	All sites	36	20	26	45	77	100
C00-14	Mouth, pharynx	0	0	0	2	0	1
C00	Lip	0	0	0	0	0	0
C01-02	Tongue	0	0	0	0	0	0
C03-06	Mouth, other	0	0	0	0	0	0
C07-08	Salivary glands	0	0	0	0	0	1
C09-14	Pharynx	0	0	0	1	0	0
C15-26	Digestive organs	1	0	0	2	3	7
C15	Oesophagus	0	0	0	0	0	0
C16	Stomach	0	0	0	0	1	1
C17	Small intestine	0	0	0	0	0	1
C18	Colon	0	0	0	1	2	3
C19-21	Rectum, rectosigmoid, anus	0	0	0	0	1	1
C22	Liver	1	0	0	0	0	0
C23-24	Gallbladder, bile ducts	0	0	0	0	0	0
C25	Pancreas	0	0	0	0	0	1
C26	Other digestive organs	0	0	0	0	0	0
C30-34, C38	Respiratory organs	0	0	0	1	1	1
C30-31	Nose, sinuses	0	0	0	0	0	0
C32	Larynx, epiglottis	0	0	0	0	0	0
C33-34	Lung, trachea	0	0	0	1	0	1
C38	Mediastinum, pleura (non-mesothelioma)	0	0	0	0	0	0
C40-41	Bone	0	1	3	3	3	1
C43	Melanoma of the skin	0	0	0	1	4	5
C44	Skin, non-melanoma	1	0	0	1	1	1
C45	Mesothelioma	0	0	0	0	0	0
C46	Kaposi's sarcoma	0	0	0	0	0	0
C47	Autonomic nervous system	3	1	0	0	1	0
C48-49	Soft tissues	2	0	0	0	1	1
C50	Breast	0	0	0	0	0	0
C60-63	Male genital organs	1	1	2	9	32	49
C61	Prostate	0	0	0	0	0	0
C62	Testis	1	1	2	9	32	49
C60, C63	Other male genital	0	0	0	0	0	0
C64-68	Urinary organs	3	1	0	1	1	2
C64	Kidney excl. renal pelvis	2	1	0	1	1	1
C65	Renal pelvis	0	0	0	0	0	0
C66-68	Bladder, ureter, urethra	0	0	0	1	1	1
C69	Eye	1	0	0	0	0	0
C70-72, D32-33	Central nervous system	9	8	6	8	8	11
C73	Thyroid gland	0	0	0	0	1	2
C37, C74-75	Other endocrine glands	2	1	1	3	5	3
C39, C76, C80	Other or unspecified	0	0	0	0	0	0
C81-96	Lymphoid and haematopoietic tissue	14	8	11	14	16	14
C81	Hodgkin lymphoma	0	1	3	5	9	7
C82-85, C96	Non-Hodgkin lymphoma	2	2	2	3	2	3
C88	Malignant immunoproliferative diseases	0	0	0	0	0	0
C90	Multiple myeloma	0	0	0	0	0	0
C91-95, D45-47	Leukaemia	12	5	5	5	5	4

Age												
30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	
151	198	280	410	711	1320	2187	2536	2245	2091	1779	1392	
2	5	9	13	31	46	52	50	36	33	22	20	
0	1	1	2	4	7	6	10	12	12	9	10	
0	1	2	4	8	8	12	12	9	5	3	2	
0	1	1	1	4	6	9	10	5	6	4	5	
1	1	1	1	1	2	2	3	3	2	3	2	
0	1	4	6	15	23	23	15	8	8	3	2	
13	25	49	78	141	259	382	489	455	470	415	317	
1	1	4	5	8	19	27	30	23	22	17	13	
1	4	5	9	15	21	35	42	40	44	44	34	
1	1	3	3	5	10	12	13	12	8	8	4	
6	7	16	24	46	86	135	185	186	201	184	143	
3	7	11	20	37	73	100	125	114	109	79	59	
1	1	3	6	8	11	18	15	14	13	17	9	
0	1	1	2	4	7	10	9	10	10	10	10	
0	3	5	8	16	27	42	59	50	51	51	35	
1	1	1	2	2	5	5	10	6	11	8	9	
2	6	11	29	67	135	253	293	279	266	223	128	
0	1	1	0	2	2	3	5	3	2	2	1	
0	0	1	2	6	13	17	20	13	13	11	6	
2	5	10	26	60	119	232	267	262	250	209	119	
0	0	0	0	0	1	1	1	2	1	1	1	
1	1	2	1	1	2	3	3	2	2	1	1	
16	27	44	45	56	76	102	111	89	80	67	50	
3	4	7	10	13	29	58	88	113	142	173	203	
0	0	0	0	2	3	10	12	12	13	9	7	
1	1	1	1	0	0	0	1	0	0	0	1	
0	0	0	0	0	0	0	0	0	0	0	0	
1	2	3	5	5	5	9	8	6	5	4	5	
0	0	1	1	1	2	4	3	4	2	1	2	
52	53	48	70	176	443	847	1001	771	603	454	330	
0	0	7	41	156	428	835	990	765	597	446	326	
52	51	40	26	17	9	5	5	1	2	2	1	
0	1	1	3	3	6	7	6	5	5	6	3	
5	12	28	47	75	122	197	216	216	228	188	150	
3	8	17	26	40	51	76	74	66	51	39	22	
0	0	0	1	2	3	7	8	9	8	8	3	
2	4	11	19	34	68	114	133	141	168	141	125	
0	0	2	2	2	3	5	4	3	4	2	1	
20	20	24	36	38	46	58	46	40	37	26	21	
6	7	8	6	6	7	7	6	6	7	4	3	
4	7	7	10	11	11	18	10	12	10	5	3	
0	1	2	4	5	9	14	18	23	20	28	32	
22	28	36	52	79	121	167	177	177	168	156	118	
8	6	5	5	5	4	4	5	4	2	2	2	
7	11	16	21	33	46	70	74	64	61	51	37	
0	0	0	0	1	3	4	7	4	5	6	3	
1	1	4	6	14	20	26	26	32	33	31	20	
6	10	10	21	26	49	63	64	73	67	66	56	

Table 11b Average annual number of new cases by primary site and five-year age group, 2008-2012

ICD-10	Site	0-4	5-9	10-14	15-19	20-24	25-29
C00-96	All sites	31	18	22	38	60	115
C00-14	Mouth, pharynx	0	0	1	0	1	3
C00	Lip	0	0	0	0	0	0
C01-02	Tongue	0	0	0	0	0	0
C03-06	Mouth, other	0	0	0	0	0	1
C07-08	Salivary glands	0	0	1	0	1	1
C09-14	Pharynx	0	0	0	0	0	0
C15-26	Digestive organs	1	0	1	2	3	6
C15	Oesophagus	0	0	0	0	0	0
C16	Stomach	0	0	0	0	0	0
C17	Small intestine	0	0	0	0	0	0
C18	Colon	0	0	0	2	2	3
C19-21	Rectum, rectosigmoid, anus	0	0	0	0	0	1
C22	Liver	1	0	0	0	0	0
C23-24	Gallbladder, bile ducts	0	0	0	0	0	0
C25	Pancreas	0	0	0	0	0	0
C26	Other digestive organs	0	0	0	0	0	0
C30-34, C38	Respiratory organs	0	0	0	0	1	1
C30-31	Nose, sinuses	0	0	0	0	0	0
C32	Larynx, epiglottis	0	0	0	0	0	0
C33-34	Lung, trachea	0	0	0	0	1	1
C38	Mediastinum, pleura (non-mesothelioma)	0	0	0	0	0	0
C40-41	Bone	0	1	1	2	2	1
C43	Melanoma of the skin	0	0	0	1	7	18
C44	Skin, non-melanoma	1	0	0	1	2	1
C45	Mesothelioma	0	0	0	0	0	0
C46	Kaposi's sarcoma	0	0	0	0	0	0
C47	Autonomic nervous system	1	0	0	0	0	0
C48-49	Soft tissues	1	1	1	1	1	2
C50	Breast	0	0	0	0	2	12
C51-58	Female genital organs	1	0	2	3	7	26
C53	Cervix uteri	0	0	0	0	4	21
C54	Corpus uteri	0	0	0	0	0	0
C55	Uterus, other	0	0	0	0	0	0
C56	Ovary	1	0	2	2	2	3
C51-52, C57	Other female genital	0	0	0	0	0	0
C58	Placenta	0	0	0	0	0	1
C64-68	Urinary organs	2	1	0	0	1	1
C64	Kidney excl. renal pelvis	2	1	0	0	1	1
C65	Renal pelvis	0	0	0	0	0	0
C66-68	Bladder, ureter, urethra	0	0	0	0	0	0
C69	Eye	1	0	0	0	0	1
C70-72, D32-33	Central nervous system	11	6	6	6	7	12
C73	Thyroid gland	0	0	1	2	6	11
C37, C74-75	Other endocrine glands	2	1	1	5	6	8
C39, C76, C80	Other or unspecified	0	0	0	0	0	0
C81-96	Lymphoid and haematopoietic tissue	11	6	8	15	12	12
C81	Hodgkin lymphoma	0	0	1	7	6	6
C82-85, C96	Non-Hodgkin lymphoma	1	1	2	2	2	3
C88	Malignant immunoproliferative diseases	0	0	0	0	0	0
C90	Multiple myeloma	0	0	0	0	0	0
C91-95, D45-47	Leukaemia	10	5	4	6	4	3

FEMALES

Age											
30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
177	315	491	704	962	1173	1573	1626	1402	1442	1452	1706
3	3	5	10	17	15	22	25	19	20	22	28
0	0	1	2	3	2	3	4	6	6	8	11
1	0	1	2	4	3	5	5	2	5	4	4
0	0	1	1	2	3	4	7	6	5	6	7
1	1	1	2	2	1	2	3	2	3	2	2
0	1	1	3	7	6	7	7	4	2	2	3
13	21	36	72	119	188	274	342	360	417	448	525
0	0	1	1	2	6	6	11	6	9	6	13
1	1	2	5	10	10	15	23	20	29	34	47
0	1	1	3	5	6	7	8	9	8	7	6
7	8	15	30	48	77	116	165	184	206	227	255
3	6	9	20	34	52	71	67	66	78	70	83
0	1	0	3	3	4	6	7	7	12	13	15
0	1	2	2	3	7	10	13	11	12	15	14
2	2	4	6	12	24	37	43	48	53	62	73
0	0	1	2	2	3	6	6	8	9	13	18
2	6	11	32	66	111	189	200	201	196	151	97
0	1	0	1	1	2	2	2	2	2	3	2
0	1	0	0	2	3	2	2	3	3	2	1
2	5	11	31	62	105	183	196	196	191	146	93
0	0	0	1	1	0	1	0	1	1	1	1
1	1	1	2	1	1	2	1	2	1	1	1
23	43	59	62	62	78	80	90	66	56	60	73
2	4	9	11	20	24	45	60	75	103	126	267
0	0	0	0	1	1	2	2	2	3	1	1
0	0	0	0	0	0	1	0	0	0	1	1
0	0	0	0	0	0	0	0	0	0	0	0
1	3	3	4	5	8	12	12	9	9	6	7
35	86	183	293	360	353	424	370	196	179	188	205
37	66	73	89	136	171	208	213	163	148	132	148
30	50	38	33	28	21	23	16	10	11	11	13
3	6	15	26	52	88	107	119	97	80	65	58
0	0	0	0	1	1	1	0	1	1	2	2
3	9	17	23	46	52	62	63	40	45	38	47
1	1	3	6	10	10	15	15	16	11	16	28
1	0	0	0	0	0	0	0	0	0	0	0
1	5	12	18	27	46	77	78	88	90	97	92
1	4	8	11	15	20	34	33	34	34	28	25
0	0	0	0	1	3	5	4	5	7	7	4
0	1	4	7	12	23	39	42	49	49	62	64
1	1	0	1	2	4	4	5	3	3	3	3
20	28	34	43	51	54	69	59	52	39	38	42
14	20	21	18	21	20	20	13	12	10	7	5
6	9	12	9	11	9	12	10	7	7	4	2
1	0	2	3	5	8	15	15	15	23	35	62
17	20	29	39	57	81	117	133	129	140	134	148
7	4	2	2	3	2	2	3	3	3	2	1
4	8	12	16	26	36	51	54	53	52	46	44
0	0	0	1	1	1	4	3	3	4	3	3
0	1	3	6	9	12	19	20	17	29	23	25
6	6	11	15	19	30	40	52	53	52	60	74

Table 12a Age-specific incidence rates per 100 000 person-years by primary site and five-year age group, 2008-2012

ICD-10	Site	0-4	5-9	10-14	15-19	20-24	25-29
C00-96	All sites	22.9	13.1	15.9	27.2	47.2	62.6
C00-14	Mouth, pharynx	0.0	0.3	0.3	1.0	0.2	0.6
C00	Lip	0.0	0.0	0.0	0.0	0.0	0.0
C01-02	Tongue	0.0	0.0	0.0	0.0	0.2	0.2
C03-06	Mouth, other	0.0	0.0	0.1	0.1	0.0	0.0
C07-08	Salivary glands	0.0	0.0	0.1	0.2	0.0	0.4
C09-14	Pharynx	0.0	0.3	0.0	0.6	0.0	0.0
C15-26	Digestive organs	0.9	0.0	0.2	1.0	1.8	4.1
C15	Oesophagus	0.0	0.0	0.0	0.0	0.0	0.0
C16	Stomach	0.0	0.0	0.0	0.2	0.3	0.4
C17	Small intestine	0.0	0.0	0.1	0.1	0.0	0.5
C18	Colon	0.0	0.0	0.1	0.6	1.1	1.9
C19-21	Rectum, rectosigmoid, anus	0.0	0.0	0.0	0.0	0.4	0.5
C22	Liver	0.9	0.0	0.0	0.0	0.0	0.3
C23-24	Gallbladder, bile ducts	0.0	0.0	0.0	0.0	0.0	0.0
C25	Pancreas	0.0	0.0	0.0	0.0	0.0	0.5
C26	Other digestive organs	0.0	0.0	0.0	0.0	0.0	0.1
C30-34, C38	Respiratory organs	0.0	0.0	0.1	0.6	0.5	0.8
C30-31	Nose, sinuses	0.0	0.0	0.0	0.1	0.2	0.0
C32	Larynx, epiglottis	0.0	0.0	0.0	0.0	0.0	0.0
C33-34	Lung, trachea	0.0	0.0	0.0	0.5	0.2	0.8
C38	Mediastinum, pleura (non-mesothelioma)	0.0	0.0	0.1	0.0	0.0	0.0
C40-41	Bone	0.0	0.7	2.1	1.6	2.0	0.7
C43	Melanoma of the skin	0.0	0.0	0.1	0.7	2.2	3.1
C44	Skin, non-melanoma	0.4	0.0	0.2	0.4	0.4	0.9
C45	Mesothelioma	0.0	0.0	0.0	0.0	0.0	0.0
C46	Kaposi's sarcoma	0.0	0.0	0.0	0.0	0.0	0.3
C47	Autonomic nervous system	1.7	0.4	0.0	0.2	0.5	0.0
C48-49	Soft tissues	1.0	0.1	0.3	0.1	0.3	0.6
C50	Breast	0.0	0.0	0.0	0.0	0.0	0.0
C60-63	Male genital organs	0.6	0.5	1.1	5.5	19.6	30.5
C61	Prostate	0.0	0.0	0.0	0.1	0.0	0.0
C62	Testis	0.6	0.5	1.0	5.4	19.6	30.5
C60, C63	Other male genital	0.0	0.0	0.1	0.0	0.0	0.0
C64-68	Urinary organs	1.7	0.4	0.2	0.8	0.9	1.5
C64	Kidney excl. renal pelvis	1.4	0.4	0.2	0.5	0.4	0.7
C65	Renal pelvis	0.0	0.0	0.0	0.0	0.0	0.0
C66-68	Bladder, ureter, urethra	0.3	0.0	0.0	0.4	0.5	0.7
C69	Eye	0.8	0.0	0.0	0.0	0.1	0.0
C70-72, D32-33	Central nervous system	5.6	4.9	3.7	5.1	5.1	7.1
C73	Thyroid gland	0.0	0.0	0.0	0.2	0.7	1.4
C37, C74-75	Other endocrine glands	1.4	0.8	0.9	1.9	2.9	2.0
C39, C76, C80	Other or unspecified	0.0	0.0	0.0	0.0	0.1	0.1
C81-96	Lymphoid and haematopoietic tissue	8.9	5.1	6.6	8.2	9.9	9.0
C81	Hodgkin lymphoma	0.1	0.9	1.9	3.1	5.3	4.2
C82-85, C96	Non-Hodgkin lymphoma	1.3	1.0	1.4	2.0	1.3	2.0
C88	Malignant immunoproliferative diseases	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
C91-95, D45-47	Leukaemia	7.5	3.1	3.4	3.0	3.3	2.7

MALES

Age												
30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	
91.2	108.8	147.7	231.8	433.7	867.5	1501.8	2229.6	2918.5	3575.1	4046.0	4007.6	
1.2	2.5	4.7	7.6	19.2	30.1	35.5	43.5	47.0	57.2	50.0	58.5	
0.1	0.3	0.6	0.9	2.2	4.7	4.1	9.1	15.3	21.2	20.5	27.5	
0.2	0.8	1.1	2.2	4.8	5.4	7.9	10.4	11.8	7.9	7.7	5.7	
0.1	0.5	0.5	0.7	2.2	3.7	6.5	9.1	6.2	10.3	8.2	13.1	
0.5	0.5	0.6	0.6	0.9	1.3	1.2	2.2	3.3	4.1	6.8	6.4	
0.2	0.3	1.9	3.3	9.2	15.0	15.7	12.8	10.4	13.7	6.8	5.8	
8.0	13.6	25.7	43.9	85.8	170.2	262.6	430.9	592.3	803.0	944.3	913.6	
0.4	0.4	2.1	3.0	5.0	12.8	18.5	26.3	29.8	37.2	38.7	36.8	
0.5	2.0	2.5	5.0	9.0	13.8	23.8	37.7	52.2	74.8	99.2	99.4	
0.6	0.6	1.7	1.4	2.9	6.4	8.0	11.8	15.8	14.4	17.3	12.5	
3.4	3.9	8.6	13.5	28.2	56.3	92.8	162.1	242.2	343.0	418.0	412.4	
2.0	4.1	5.7	11.2	22.3	48.2	68.8	110.5	148.1	187.1	178.8	170.7	
0.5	0.3	1.7	3.4	4.6	7.4	12.2	13.5	18.2	22.9	37.8	26.9	
0.0	0.6	0.5	1.2	2.3	4.5	6.6	8.3	12.5	17.5	22.3	28.5	
0.1	1.4	2.6	4.3	10.0	17.8	28.6	52.1	65.0	87.9	115.1	101.8	
0.5	0.3	0.3	1.0	1.3	3.1	3.3	8.5	8.4	18.2	17.3	24.6	
1.5	3.2	6.0	16.2	41.0	89.0	173.7	258.1	364.1	455.6	507.3	368.5	
0.2	0.3	0.3	0.1	1.2	1.4	2.3	4.5	4.1	4.1	4.5	4.0	
0.0	0.2	0.5	1.1	3.4	8.6	11.6	17.3	16.7	21.5	24.6	17.3	
1.2	2.6	5.1	14.8	36.4	78.2	159.4	235.3	341.1	428.2	476.3	343.2	
0.0	0.0	0.1	0.2	0.0	0.8	0.4	1.1	2.1	1.7	1.8	4.0	
0.6	0.3	0.8	0.5	0.6	1.4	1.9	2.2	2.6	3.8	2.7	1.7	
9.9	14.6	23.4	25.6	34.4	50.1	69.9	96.1	114.8	136.7	152.4	144.2	
2.1	2.3	3.6	5.7	7.8	19.4	40.1	77.6	147.0	243.2	393.6	584.0	
0.0	0.0	0.0	0.2	1.0	1.7	7.0	10.6	15.3	21.9	19.6	19.0	
0.5	0.3	0.4	0.4	0.0	0.0	0.1	0.7	0.3	0.0	0.5	2.3	
0.2	0.0	0.2	0.1	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.6	
0.7	1.2	1.4	3.0	2.9	3.2	6.5	6.9	8.4	9.2	9.5	13.2	
0.0	0.1	0.4	0.5	0.7	1.4	2.6	2.4	4.6	4.1	3.2	5.1	
31.5	29.0	25.5	39.3	107.6	290.7	581.7	879.7	1001.9	1030.1	1033.4	951.4	
0.0	0.1	3.9	23.0	95.3	280.9	573.5	870.2	993.5	1019.5	1015.6	939.3	
31.4	28.3	21.1	14.9	10.2	5.9	3.7	4.1	1.8	2.7	3.6	3.4	
0.1	0.7	0.5	1.5	2.1	3.8	4.5	5.4	6.6	7.9	14.1	8.7	
3.0	6.6	14.7	26.3	46.0	80.3	135.0	190.1	280.5	389.5	428.7	431.8	
1.8	4.2	9.1	14.7	24.4	33.2	51.9	64.5	85.3	87.6	88.8	62.3	
0.0	0.1	0.0	0.7	1.0	2.2	4.7	7.3	11.7	14.4	18.6	9.8	
1.2	2.3	5.7	10.9	20.6	44.9	78.5	118.4	183.5	287.6	321.2	359.7	
0.2	0.2	0.9	1.1	1.5	2.0	3.7	3.9	4.0	7.5	3.6	4.0	
12.3	11.1	12.5	20.6	23.1	30.5	39.8	40.6	52.4	62.6	59.6	61.9	
3.4	4.0	4.0	3.4	3.7	4.7	4.8	5.4	7.8	12.3	8.7	8.6	
2.7	3.8	3.5	5.7	6.5	7.2	12.1	8.8	15.7	16.7	10.5	9.3	
0.0	0.3	1.1	2.2	3.3	5.6	9.7	16.2	30.0	34.2	63.3	91.4	
13.5	15.5	18.7	29.4	48.5	79.9	114.9	155.5	229.8	287.5	355.3	338.6	
4.7	3.4	2.7	2.6	2.8	2.6	3.0	4.1	4.9	3.4	4.1	5.3	
4.4	5.9	8.5	11.7	20.2	30.2	48.3	65.2	82.9	104.3	115.1	106.8	
0.0	0.0	0.1	0.1	0.9	2.1	2.6	6.6	4.8	8.2	14.5	9.3	
0.6	0.7	2.1	3.4	8.8	12.9	17.9	23.8	42.1	57.1	70.5	56.1	
3.8	5.5	5.2	11.6	15.8	32.1	43.1	55.7	95.1	114.5	151.0	161.1	

Table 12b Age-specific incidence rates per 100 000 person-years by primary site and five-year age group, 2008-2012

ICD-10	Site	0-4	5-9	10-14	15-19	20-24	25-29
C00-96	All sites	21.0	12.4	14.4	24.1	38.6	73.9
C00-14	Mouth, pharynx	0.0	0.0	0.4	0.1	0.8	1.7
C00	Lip	0.0	0.0	0.0	0.0	0.0	0.3
C01-02	Tongue	0.0	0.0	0.0	0.0	0.1	0.3
C03-06	Mouth, other	0.0	0.0	0.0	0.0	0.0	0.4
C07-08	Salivary glands	0.0	0.0	0.4	0.1	0.5	0.6
C09-14	Pharynx	0.0	0.0	0.0	0.0	0.1	0.1
C15-26	Digestive organs	0.5	0.3	0.4	1.4	2.2	3.7
C15	Oesophagus	0.0	0.0	0.0	0.0	0.1	0.0
C16	Stomach	0.0	0.0	0.0	0.0	0.1	0.3
C17	Small intestine	0.0	0.0	0.0	0.0	0.0	0.0
C18	Colon	0.0	0.0	0.1	1.1	1.4	2.2
C19-21	Rectum, rectosigmoid, anus	0.0	0.0	0.0	0.0	0.3	0.9
C22	Liver	0.5	0.3	0.3	0.3	0.1	0.1
C23-24	Gallbladder, bile ducts	0.0	0.0	0.0	0.0	0.1	0.0
C25	Pancreas	0.0	0.0	0.0	0.0	0.0	0.0
C26	Other digestive organs	0.0	0.0	0.0	0.0	0.0	0.3
C30-34, C38	Respiratory organs	0.0	0.3	0.1	0.0	0.9	0.4
C30-31	Nose, sinuses	0.0	0.1	0.0	0.0	0.2	0.0
C32	Larynx, epiglottis	0.0	0.0	0.0	0.0	0.0	0.0
C33-34	Lung, trachea	0.0	0.1	0.1	0.0	0.6	0.4
C38	Mediastinum, pleura (non-mesothelioma)	0.0	0.0	0.0	0.0	0.0	0.0
C40-41	Bone	0.1	0.4	0.9	1.1	1.1	0.9
C43	Melanoma of the skin	0.3	0.3	0.1	0.6	4.7	11.9
C44	Skin, non-melanoma	0.4	0.0	0.1	0.4	1.2	0.7
C45	Mesothelioma	0.0	0.0	0.0	0.0	0.0	0.0
C46	Kaposi's sarcoma	0.0	0.0	0.0	0.0	0.0	0.1
C47	Autonomic nervous system	0.7	0.1	0.0	0.3	0.1	0.0
C48-49	Soft tissues	0.7	0.5	0.4	0.5	0.5	1.0
C50	Breast	0.0	0.0	0.0	0.3	1.5	7.7
C51-58	Female genital organs	0.7	0.1	1.3	1.7	4.4	16.6
C53	Cervix uteri	0.0	0.0	0.0	0.1	2.6	13.4
C54	Corpus uteri	0.0	0.0	0.0	0.0	0.1	0.3
C55	Uterus, other	0.0	0.0	0.0	0.0	0.0	0.0
C56	Ovary	0.5	0.1	1.3	1.5	1.4	2.1
C51-52, C57	Other female genital	0.1	0.0	0.0	0.0	0.1	0.1
C58	Placenta	0.0	0.0	0.0	0.0	0.1	0.8
C64-68	Urinary organs	1.1	0.8	0.3	0.3	0.4	0.6
C64	Kidney excl. renal pelvis	1.1	0.8	0.3	0.1	0.4	0.5
C65	Renal pelvis	0.0	0.0	0.0	0.0	0.0	0.0
C66-68	Bladder, ureter, urethra	0.0	0.0	0.0	0.1	0.0	0.1
C69	Eye	0.9	0.0	0.0	0.0	0.1	0.9
C70-72, D32-33	Central nervous system	7.1	4.2	4.2	4.0	4.6	7.5
C73	Thyroid gland	0.0	0.1	0.8	1.3	3.9	6.8
C37, C74-75	Other endocrine glands	1.2	0.7	0.4	2.9	4.2	5.3
C39, C76, C80	Other or unspecified	0.0	0.1	0.0	0.0	0.3	0.3
C81-96	Lymphoid and haematopoietic tissue	7.4	4.4	5.0	9.3	7.7	7.7
C81	Hodgkin lymphoma	0.0	0.0	0.9	4.3	4.0	3.7
C82-85, C96	Non-Hodgkin lymphoma	0.5	0.8	1.2	1.0	1.2	2.2
C88	Malignant immunoproliferative diseases	0.0	0.0	0.0	0.0	0.0	0.0
C90	Multiple myeloma	0.0	0.0	0.0	0.1	0.0	0.0
C91-95, D45-47	Leukaemia	6.8	3.5	2.9	3.8	2.6	1.8

FEMALES

Age												
30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	
111.9	182.6	273.8	422.9	612.8	792.3	1101.7	1394.8	1625.2	1967.8	2233.0	2212.6	
1.8	1.7	2.6	5.9	10.8	10.4	15.1	21.5	22.3	26.9	33.2	35.8	
0.3	0.2	0.6	1.0	1.7	1.6	2.4	3.5	6.7	7.9	12.3	14.5	
0.6	0.2	0.7	1.3	2.4	1.7	3.5	4.1	2.7	6.3	6.8	5.2	
0.1	0.1	0.3	0.5	1.4	2.0	2.7	5.6	6.6	6.2	8.6	9.6	
0.5	0.5	0.3	1.2	1.0	0.9	1.7	2.2	1.8	3.8	3.1	3.1	
0.3	0.7	0.7	1.9	4.3	4.0	4.9	6.0	4.4	2.7	2.5	3.4	
8.2	12.1	20.0	43.1	75.8	127.2	191.8	293.4	418.1	568.6	688.1	680.6	
0.0	0.0	0.6	0.6	1.5	3.8	4.2	8.9	7.2	12.8	8.9	17.1	
0.5	0.8	1.2	3.2	6.1	6.5	10.8	19.5	23.5	39.2	52.5	61.2	
0.3	0.3	0.7	1.8	2.9	4.1	5.2	6.6	10.8	11.2	10.5	8.3	
4.1	4.7	8.3	17.8	30.6	52.2	81.3	141.8	213.4	281.4	349.7	331.1	
1.6	3.5	5.2	12.1	21.9	34.9	49.5	57.8	77.1	106.6	107.9	107.7	
0.3	0.6	0.2	1.7	1.9	3.0	4.4	5.7	7.9	16.1	20.4	19.5	
0.1	0.7	0.9	0.9	2.0	4.6	6.9	10.9	12.9	16.9	23.7	17.9	
1.1	1.3	2.5	3.9	7.4	16.2	25.8	36.9	56.1	71.8	94.7	94.7	
0.1	0.2	0.6	1.0	1.4	2.0	3.9	5.3	9.2	12.6	19.9	23.1	
1.5	3.4	6.3	19.2	42.1	74.7	132.3	171.8	233.0	267.0	232.8	125.2	
0.1	0.4	0.1	0.4	0.6	1.2	1.5	1.4	2.1	2.5	4.3	2.3	
0.1	0.3	0.2	0.1	1.5	2.2	1.7	1.9	3.3	3.5	2.8	1.0	
1.3	2.7	6.0	18.4	39.4	71.1	128.4	168.3	226.7	260.3	224.5	120.7	
0.0	0.0	0.0	0.4	0.5	0.3	0.7	0.2	0.9	0.8	1.2	1.0	
0.6	0.3	0.8	1.0	0.4	0.8	1.7	1.1	2.1	1.4	1.6	1.8	
14.5	24.8	32.8	36.8	39.2	52.8	55.8	76.1	76.5	76.0	92.9	95.1	
1.5	2.1	5.1	6.5	12.5	16.3	31.8	51.1	87.2	140.0	194.0	345.8	
0.0	0.1	0.2	0.0	0.5	0.4	1.5	1.4	2.3	3.6	1.8	1.5	
0.0	0.0	0.2	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.9	0.8	
0.1	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.0	0.3	0.5	
0.9	1.8	1.9	2.2	2.9	5.1	8.7	10.4	10.9	11.7	9.8	9.6	
22.0	49.9	101.7	176.1	229.7	238.5	296.9	316.8	227.5	244.8	289.4	265.6	
23.4	38.2	40.7	53.2	87.0	115.8	145.9	183.1	189.5	202.0	202.4	191.4	
18.8	28.8	21.1	19.9	17.7	14.4	15.8	13.2	12.1	15.0	17.2	16.4	
1.8	3.5	8.3	15.7	33.0	59.2	75.2	103.0	112.4	108.7	99.8	75.7	
0.0	0.0	0.2	0.2	0.4	0.4	0.7	0.3	0.7	1.6	2.5	2.3	
1.8	5.0	9.3	13.6	29.1	34.9	43.4	54.3	46.2	61.3	58.4	61.2	
0.6	0.7	1.9	3.6	6.6	6.9	10.8	12.3	18.1	15.3	24.6	35.8	
0.4	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.9	2.8	6.7	11.1	17.5	31.0	54.0	67.2	102.1	123.4	148.7	119.3	
0.8	2.4	4.4	6.4	9.3	13.5	23.5	28.1	39.9	46.7	43.0	31.9	
0.0	0.0	0.2	0.2	0.4	2.0	3.2	3.4	5.4	9.3	10.2	4.7	
0.1	0.3	2.0	4.5	7.8	15.5	27.3	35.7	56.8	67.4	95.6	82.7	
0.4	0.6	0.2	0.6	1.3	2.7	2.8	3.9	3.0	4.1	4.0	4.2	
12.4	16.2	18.7	25.8	32.7	36.4	48.2	51.1	60.9	53.6	57.7	53.9	
9.1	11.7	11.8	10.5	13.4	13.6	14.2	10.8	14.0	13.0	10.2	6.5	
3.6	5.3	6.7	5.4	7.3	6.1	8.4	8.6	8.7	9.3	6.1	3.1	
0.5	0.2	1.0	1.8	3.2	5.3	10.4	12.9	17.2	31.3	53.4	80.6	
10.6	11.4	15.9	23.6	36.4	54.9	81.6	113.9	149.3	191.2	205.5	191.3	
4.4	2.5	1.2	1.2	1.8	1.4	1.7	2.9	3.8	3.8	3.1	1.3	
2.3	4.9	6.4	9.6	16.4	24.5	36.0	47.0	60.9	70.4	70.9	57.5	
0.0	0.0	0.1	0.5	0.5	0.9	2.5	2.8	3.4	6.0	4.3	3.6	
0.1	0.4	1.9	3.6	5.6	8.1	13.3	17.1	20.1	40.1	35.1	32.7	
3.8	3.6	6.2	8.7	12.1	20.0	28.1	44.0	61.1	70.9	92.2	96.2	

Table 13a Average annual number of new cases by primary site and five-year period, 1953-2012

ICD-10	Site	1953-57	1958-62	1963-67	1968-72
C00-96	All sites	3604	4192	4892	5787
C00-14	Mouth, pharynx	172	187	191	227
C00	Lip	90	96	98	118
C01-02	Tongue	16	20	22	22
C03-06	Mouth, other	21	24	24	32
C07-08	Salivary glands	10	11	13	15
C09-14	Pharynx	35	36	35	41
C15-26	Digestive organs	1594	1667	1778	1905
C15	Oesophagus	73	81	75	83
C16	Stomach	880	825	787	726
C17	Small intestine	13	9	14	17
C18	Colon	206	261	329	369
C19-21	Rectum, rectosigmoid, anus	147	166	196	293
C22	Liver	15	22	28	44
C23-24	Gallbladder, bile ducts	13	22	24	26
C25	Pancreas	120	147	197	232
C26	Other digestive organs	128	135	129	115
C30-34, C38	Respiratory organs	255	377	510	716
C30-31	Nose, sinuses	18	20	19	24
C32	Larynx, epiglottis	24	36	58	67
C33-34	Lung, trachea	203	308	424	610
C38	Mediastinum, pleura (non-mesothelioma)	10	13	9	15
C40-41	Bone	20	12	18	18
C43	Melanoma of the skin	38	61	88	123
C44	Skin, non-melanoma	83	81	71	121
C45	Mesothelioma	0	1	2	5
C46	Kaposi's sarcoma	1	2	4	5
C47	Autonomic nervous system	17	18	16	13
C48-49	Soft tissues	19	23	28	37
C50	Breast	6	7	8	9
C60-63	Male genital organs	650	791	1002	1191
C61	Prostate	582	709	913	1085
C62	Testis	51	62	65	85
C60, C63	Other male genital	17	19	25	22
C64-68	Urinary organs	255	336	453	555
C64	Kidney excl. renal pelvis	70	110	138	164
C65	Renal pelvis	6	10	12	21
C66-68	Bladder, ureter, urethra	178	215	303	370
C69	Eye	19	18	18	23
C70-72, D32-33	Central nervous system	109	122	142	152
C73	Thyroid gland	17	23	26	38
C37, C74-75	Other endocrine glands	5	7	9	23
C39, C76, C80	Other or unspecified	41	70	95	131
C81-96	Lymphoid and haematopoietic tissue	303	388	435	495
C81	Hodgkin lymphoma	40	48	55	63
C82-85, C96	Non-Hodgkin lymphoma	80	101	121	135
C88	Malignant immunoproliferative diseases	0	0	0	3
C90	Multiple myeloma	49	75	85	101
C91-95, D45-47	Leukaemia	133	163	174	194

Period							
1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12
6786	7839	8801	9657	10699	11607	13586	15602
239	242	260	254	259	259	267	323
115	108	103	87	72	58	56	73
27	30	38	38	42	49	50	67
30	41	46	49	56	46	48	52
16	14	14	21	18	23	19	23
52	49	59	60	71	83	94	108
2019	2246	2366	2422	2485	2583	2772	3105
82	90	86	105	110	122	140	169
639	602	561	505	438	367	327	294
18	21	28	27	36	49	57	81
442	563	693	797	857	959	1065	1224
361	476	526	557	591	627	675	739
51	56	67	61	56	78	85	118
32	38	48	52	54	59	65	73
254	279	297	289	283	283	322	347
140	120	59	30	59	38	36	59
870	1089	1248	1310	1421	1459	1584	1697
24	22	21	23	21	25	22	24
81	92	109	103	108	109	98	101
746	956	1108	1173	1272	1310	1450	1564
19	19	10	10	20	15	14	9
24	22	23	20	22	22	24	30
179	221	278	407	439	470	541	774
193	234	308	398	519	590	705	847
13	20	29	39	39	54	65	67
7	6	10	15	11	5	7	6
11	9	8	7	6	6	6	6
46	50	43	44	48	51	55	63
11	12	12	13	13	16	17	21
1469	1715	1922	2251	2757	3246	4181	4941
1355	1564	1746	2038	2508	2964	3863	4591
88	122	148	187	209	249	272	304
25	29	28	25	40	32	47	46
711	845	1019	1093	1129	1163	1348	1492
179	220	253	266	271	302	372	478
30	32	35	32	41	35	42	50
503	593	732	795	817	826	934	964
22	24	25	25	29	28	34	31
173	202	236	242	290	358	441	464
37	47	44	49	45	50	63	77
26	37	42	43	58	70	101	123
168	192	242	289	296	258	207	156
570	629	685	737	834	920	1167	1379
64	64	49	53	51	56	71	76
153	178	235	286	332	356	418	506
7	9	8	9	20	23	33	34
133	152	156	158	166	165	188	215
212	226	237	231	264	321	457	548

Table 13b Average annual number of new cases by primary site and five-year period, 1953-2012

ICD-10	Site	1953-57	1958-62	1963-67	1968-72
C00-96	All sites	3841	4328	4837	5599
C00-14	Mouth, pharynx	61	62	70	76
C00	Lip	8	8	8	11
C01-02	Tongue	13	12	15	17
C03-06	Mouth, other	12	13	14	17
C07-08	Salivary glands	7	8	14	14
C09-14	Pharynx	22	21	19	17
C15-26	Digestive organs	1313	1403	1502	1633
C15	Oesophagus	24	25	32	27
C16	Stomach	608	563	538	468
C17	Small intestine	9	7	11	16
C18	Colon	237	297	381	452
C19-21	Rectum, rectosigmoid, anus	108	130	164	241
C22	Liver	10	13	13	27
C23-24	Gallbladder, bile ducts	38	52	51	60
C25	Pancreas	82	111	129	169
C26	Other digestive organs	197	207	183	172
C30-34, C38	Respiratory organs	84	95	124	174
C30-31	Nose, sinuses	13	14	13	13
C32	Larynx, epiglottis	2	3	6	7
C33-34	Lung, trachea	64	74	97	148
C38	Mediastinum, pleura (non-mesothelioma)	5	5	8	5
C40-41	Bone	13	10	10	13
C43	Melanoma of the skin	46	68	98	134
C44	Skin, non-melanoma	56	51	38	69
C45	Mesothelioma	0	0	1	2
C46	Kaposi's sarcoma	0	0	1	3
C47	Autonomic nervous system	17	14	9	17
C48-49	Soft tissues	18	20	25	31
C50	Breast	855	968	1114	1261
C51-58	Female genital organs	793	909	996	1159
C53	Cervix uteri	322	346	376	410
C54	Corpus uteri	154	191	232	282
C55	Uterus, other	20	22	17	13
C56	Ovary	232	275	306	358
C51-52, C57	Other female genital	63	72	61	92
C58	Placenta	2	3	4	4
C64-68	Urinary organs	164	205	231	283
C64	Kidney excl. renal pelvis	63	82	93	113
C65	Renal pelvis	5	5	7	12
C66-68	Bladder, ureter, urethra	96	117	131	157
C69	Eye	15	17	17	17
C70-72, D32-33	Central nervous system	93	114	124	128
C73	Thyroid gland	50	54	65	95
C37, C74-75	Other endocrine glands	6	7	6	14
C39, C76, C80	Other or unspecified	38	58	74	101
C81-96	Lymphoid and haematopoietic tissue	220	272	332	391
C81	Hodgkin lymphoma	29	35	40	45
C82-85, C96	Non-Hodgkin lymphoma	50	71	90	115
C88	Malignant immunoproliferative diseases	0	0	0	1
C90	Multiple myeloma	36	41	70	87
C91-95, D45-47	Leukaemia	105	124	132	143

FEMALES

Period							
1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12
6446	7312	8081	8858	9836	10836	12184	13308
82	90	110	112	129	134	163	192
13	16	21	29	29	25	40	47
18	15	27	24	22	29	29	37
16	25	27	29	39	32	40	41
10	16	13	14	18	21	20	24
24	18	22	16	21	27	34	43
1783	2076	2177	2220	2404	2499	2621	2827
31	33	35	37	43	51	54	62
416	407	380	326	293	241	222	198
19	23	27	31	29	50	47	61
546	715	809	902	1046	1125	1233	1346
290	398	427	462	498	517	549	562
29	37	44	46	38	50	48	74
55	74	84	74	75	80	78	90
202	231	281	291	310	331	341	366
195	159	91	51	72	56	48	69
207	277	373	508	658	801	1029	1265
13	14	15	15	16	16	22	17
7	11	11	12	21	20	15	20
179	247	343	476	614	757	985	1223
9	5	4	4	8	7	7	6
14	14	14	15	18	20	18	22
219	277	376	463	507	510	598	779
129	161	231	321	424	487	630	750
3	2	5	8	8	8	13	13
4	3	6	6	5	3	3	3
8	5	6	8	9	4	6	4
39	40	48	45	45	65	84	86
1460	1602	1769	1911	2186	2550	2770	2886
1267	1285	1295	1346	1403	1468	1553	1622
444	389	338	357	338	307	292	308
333	374	394	427	465	552	666	716
7	8	5	6	9	10	8	9
349	378	453	447	465	473	447	454
131	132	102	102	124	122	137	133
2	3	3	7	3	3	4	3
342	393	429	481	499	521	586	638
125	141	162	188	193	191	225	251
17	19	17	20	25	24	26	35
200	233	249	272	281	306	335	352
21	22	20	25	30	29	31	32
162	197	229	265	333	449	596	576
113	139	143	137	127	132	156	201
19	36	43	44	52	68	110	121
128	182	236	304	311	301	265	184
446	510	569	640	688	786	952	1106
43	40	35	37	32	44	49	55
125	158	214	264	285	327	359	413
4	5	6	8	13	15	20	23
112	127	133	140	141	152	155	165
162	180	182	192	217	248	368	450

Table 14a Age-standardised (world) incidence rates per 100 000 person-years by primary site and five-year period, 1953-2012

ICD-10	Site	1953-57	1958-62	1963-67	1968-72
C00-96	All sites	165.3	174.1	186.8	206.0
C00-14	Mouth, pharynx	7.8	7.8	7.3	8.1
C00	Lip	4.0	4.0	3.7	4.2
C01-02	Tongue	0.7	0.8	0.8	0.8
C03-06	Mouth, other	0.9	1.0	0.9	1.1
C07-08	Salivary glands	0.5	0.5	0.5	0.5
C09-14	Pharynx	1.6	1.5	1.4	1.5
C15-26	Digestive organs	71.7	67.3	65.6	65.1
C15	Oesophagus	3.3	3.3	2.7	2.8
C16	Stomach	39.5	33.2	29.0	24.7
C17	Small intestine	0.6	0.4	0.6	0.6
C18	Colon	9.3	10.5	12.2	12.7
C19-21	Rectum, rectosigmoid, anus	6.5	6.7	7.3	10.1
C22	Liver	0.7	0.9	1.1	1.6
C23-24	Gallbladder, bile ducts	0.6	0.9	0.9	0.9
C25	Pancreas	5.5	6.0	7.3	7.9
C26	Other digestive organs	5.7	5.4	4.7	3.9
C30-34, C38	Respiratory organs	12.0	16.1	19.9	26.1
C30-31	Nose, sinuses	0.8	0.8	0.7	0.8
C32	Larynx, epiglottis	1.2	1.5	2.2	2.5
C33-34	Lung, trachea	9.6	13.1	16.6	22.2
C38	Mediastinum, pleura (non-mesothelioma)	0.5	0.5	0.4	0.6
C40-41	Bone	1.2	0.7	0.9	0.8
C43	Melanoma of the skin	1.8	2.8	3.9	5.4
C44	Skin, non-melanoma	3.6	3.2	2.5	4.1
C45	Mesothelioma	0.0	0.0	0.1	0.2
C46	Kaposi's sarcoma	0.1	0.1	0.1	0.2
C47	Autonomic nervous system	0.9	0.9	0.7	0.6
C48-49	Soft tissues	1.0	1.0	1.2	1.5
C50	Breast	0.2	0.3	0.3	0.3
C60-63	Male genital organs	28.2	30.9	35.8	39.4
C61	Prostate	24.7	26.7	31.3	34.2
C62	Testis	2.8	3.4	3.5	4.4
C60, C63	Other male genital	0.8	0.8	0.9	0.8
C64-68	Urinary organs	11.8	14.0	17.2	19.6
C64	Kidney excl. renal pelvis	3.4	4.8	5.4	6.0
C65	Renal pelvis	0.3	0.4	0.5	0.8
C66-68	Bladder, ureter, urethra	8.1	8.8	11.3	12.8
C69	Eye	0.9	0.8	0.8	1.0
C70-72, D32-33	Central nervous system	5.8	6.0	6.8	7.0
C73	Thyroid gland	0.8	1.0	1.1	1.5
C37, C74-75	Other endocrine glands	0.3	0.4	0.4	1.1
C39, C76, C80	Other or unspecified	1.9	2.9	3.7	4.6
C81-96	Lymphoid and haematopoietic tissue	15.2	17.8	18.4	19.6
C81	Hodgkin lymphoma	2.2	2.5	2.6	2.8
C82-85, C96	Non-Hodgkin lymphoma	4.0	4.6	5.0	5.3
C88	Malignant immunoproliferative diseases	0.0	0.0	0.0	0.1
C90	Multiple myeloma	2.3	3.0	3.2	3.5
C91-95, D45-47	Leukaemia	6.8	7.7	7.6	7.9

Period							
1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12
226.0	247.8	265.5	282.3	305.5	322.2	353.2	369.2
8.2	8.0	8.6	8.2	8.3	7.9	7.6	8.1
3.8	3.4	3.2	2.5	2.1	1.6	1.4	1.6
1.0	1.0	1.3	1.3	1.4	1.5	1.5	1.8
1.0	1.4	1.6	1.6	1.9	1.4	1.4	1.3
0.6	0.5	0.4	0.7	0.5	0.7	0.5	0.6
1.8	1.6	2.1	2.1	2.4	2.6	2.8	2.9
64.8	68.0	68.5	68.4	68.1	68.0	68.5	69.9
2.6	2.7	2.7	3.2	3.3	3.4	3.7	4.0
20.4	18.0	15.8	13.8	11.6	9.2	7.7	6.5
0.6	0.7	0.9	0.9	1.1	1.4	1.6	2.0
14.2	17.1	20.1	22.5	23.2	24.9	25.7	26.7
11.7	14.7	15.6	16.0	16.7	17.0	17.1	17.1
1.7	1.8	2.1	1.8	1.7	2.1	2.2	2.8
1.0	1.1	1.4	1.5	1.4	1.5	1.6	1.6
8.2	8.4	8.5	8.1	7.7	7.5	8.0	7.7
4.4	3.4	1.5	0.8	1.5	1.0	0.8	1.3
29.6	35.4	38.8	39.6	42.0	40.4	40.2	38.3
0.8	0.7	0.7	0.7	0.6	0.8	0.6	0.6
2.8	3.1	3.5	3.3	3.4	3.1	2.7	2.4
25.3	30.9	34.3	35.3	37.3	36.2	36.6	35.1
0.7	0.7	0.3	0.3	0.6	0.4	0.3	0.2
1.1	1.0	1.0	0.9	1.0	0.9	0.9	1.1
7.4	8.9	10.6	14.7	14.8	14.5	15.4	19.5
5.9	6.8	8.4	10.3	13.1	14.2	15.1	16.4
0.4	0.6	0.9	1.2	1.1	1.4	1.6	1.4
0.2	0.2	0.3	0.4	0.3	0.1	0.2	0.2
0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.4
1.8	1.9	1.6	1.6	1.7	1.7	1.7	1.7
0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5
44.7	49.0	51.7	58.7	72.9	89.0	109.7	119.2
39.5	42.2	44.2	49.9	63.0	77.7	97.3	106.5
4.4	5.9	6.6	8.0	8.8	10.4	11.2	11.6
0.8	0.9	0.9	0.8	1.1	0.9	1.2	1.1
23.8	26.6	30.5	31.5	31.4	30.9	33.3	34.0
6.4	7.5	8.3	8.2	8.2	8.8	10.1	12.0
1.0	1.0	1.1	1.0	1.2	0.9	1.0	1.1
16.4	18.1	21.2	22.4	22.1	21.1	22.2	20.8
0.9	1.0	1.0	0.9	1.0	1.0	1.0	0.9
7.5	8.5	9.5	9.4	10.8	12.6	14.6	13.8
1.5	1.6	1.5	1.8	1.6	1.7	1.9	2.2
1.2	1.7	1.9	1.7	2.2	2.5	3.3	3.8
5.6	5.9	7.0	8.0	7.8	6.3	4.7	3.2
20.6	22.0	22.9	24.2	26.7	28.2	32.9	34.9
2.7	2.6	2.0	2.2	2.2	2.3	2.8	2.8
5.4	6.2	7.9	9.4	10.7	10.8	11.7	12.6
0.2	0.3	0.2	0.3	0.5	0.6	0.8	0.7
4.3	4.7	4.6	4.5	4.5	4.4	4.7	4.8
8.0	8.2	8.2	7.8	8.7	10.0	12.9	13.9

Table 14b Age-standardised (world) incidence rates per 100 000 person-years by primary site and five-year period, 1953-2012

ICD-10	Site	1953-57	1958-62	1963-67	1968-72
C00-96	All sites	159.9	166.0	172.3	187.1
C00-14	Mouth, pharynx	2.4	2.2	2.3	2.3
C00	Lip	0.3	0.3	0.3	0.3
C01-02	Tongue	0.5	0.4	0.5	0.4
C03-06	Mouth, other	0.5	0.5	0.4	0.5
C07-08	Salivary glands	0.3	0.3	0.5	0.5
C09-14	Pharynx	0.9	0.8	0.6	0.6
C15-26	Digestive organs	49.1	47.7	46.0	45.6
C15	Oesophagus	0.9	0.8	0.9	0.7
C16	Stomach	22.4	18.8	16.2	12.7
C17	Small intestine	0.4	0.3	0.4	0.5
C18	Colon	9.0	10.3	11.8	13.0
C19-21	Rectum, rectosigmoid, anus	4.2	4.6	5.2	7.0
C22	Liver	0.4	0.5	0.5	0.8
C23-24	Gallbladder, bile ducts	1.4	1.7	1.6	1.6
C25	Pancreas	3.1	3.9	3.9	4.7
C26	Other digestive organs	7.2	6.8	5.4	4.5
C30-34, C38	Respiratory organs	3.4	3.5	4.2	5.5
C30-31	Nose, sinuses	0.5	0.5	0.4	0.4
C32	Larynx, epiglottis	0.1	0.1	0.2	0.2
C33-34	Lung, trachea	2.6	2.7	3.2	4.7
C38	Mediastinum, pleura (non-mesothelioma)	0.2	0.2	0.3	0.2
C40-41	Bone	0.7	0.6	0.5	0.6
C43	Melanoma of the skin	2.1	3.0	4.3	5.7
C44	Skin, non-melanoma	2.1	1.7	1.2	1.8
C45	Mesothelioma	0.0	0.0	0.0	0.1
C46	Kaposi's sarcoma	0.0	0.0	0.0	0.1
C47	Autonomic nervous system	0.8	0.6	0.5	0.8
C48-49	Soft tissues	0.8	0.9	1.0	1.3
C50	Breast	36.7	38.3	41.6	44.2
C51-58	Female genital organs	35.3	37.9	39.2	43.9
C53	Cervix uteri	14.8	15.3	16.4	17.6
C54	Corpus uteri	6.7	7.6	8.6	9.8
C55	Uterus, other	0.7	0.8	0.5	0.3
C56	Ovary	10.4	11.4	11.6	13.2
C51-52, C57	Other female genital	2.5	2.6	2.0	2.7
C58	Placenta	0.1	0.2	0.2	0.2
C64-68	Urinary organs	6.6	7.4	7.5	8.3
C64	Kidney excl. renal pelvis	2.8	3.1	3.2	3.6
C65	Renal pelvis	0.2	0.2	0.2	0.3
C66-68	Bladder, ureter, urethra	3.6	4.1	4.0	4.4
C69	Eye	0.7	0.8	0.7	0.7
C70-72, D32-33	Central nervous system	4.6	5.4	5.4	5.6
C73	Thyroid gland	2.1	2.2	2.7	3.7
C37, C74-75	Other endocrine glands	0.3	0.3	0.3	0.6
C39, C76, C80	Other or unspecified	1.6	2.1	2.4	3.0
C81-96	Lymphoid and haematopoietic tissue	10.4	11.4	12.6	13.3
C81	Hodgkin lymphoma	1.5	1.7	1.8	1.9
C82-85, C96	Non-Hodgkin lymphoma	2.3	2.8	3.3	3.9
C88	Malignant immunoproliferative diseases	0.0	0.0	0.0	0.0
C90	Multiple myeloma	1.4	1.5	2.2	2.5
C91-95, D45-47	Leukaemia	5.2	5.4	5.3	5.1

FEMALES

Period							
1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12
203.9	215.3	225.0	237.4	257.7	272.6	291.8	298.4
2.3	2.5	2.8	2.9	3.3	3.4	3.8	4.2
0.4	0.4	0.5	0.7	0.6	0.6	0.8	0.8
0.5	0.4	0.7	0.6	0.6	0.7	0.7	0.8
0.4	0.6	0.6	0.7	1.0	0.7	0.9	0.8
0.3	0.5	0.4	0.4	0.5	0.6	0.5	0.6
0.7	0.5	0.7	0.5	0.6	0.8	0.9	1.1
45.8	49.1	47.9	47.6	49.7	50.3	51.0	52.0
0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1
10.4	9.2	8.0	6.5	5.5	4.5	4.2	3.4
0.6	0.6	0.7	0.8	0.7	1.3	1.1	1.3
14.4	17.4	18.2	19.6	21.9	22.6	23.5	24.1
8.0	10.1	10.2	10.7	11.2	11.4	11.7	11.3
0.8	1.0	1.0	1.1	0.9	1.1	1.0	1.4
1.3	1.6	1.7	1.5	1.5	1.5	1.5	1.7
5.1	5.3	5.9	5.9	6.0	6.1	6.3	6.5
4.5	3.2	1.5	0.8	1.1	0.8	0.8	1.1
6.2	8.1	10.6	13.9	18.0	20.7	24.2	26.6
0.4	0.3	0.4	0.3	0.4	0.4	0.5	0.4
0.2	0.3	0.3	0.3	0.6	0.5	0.4	0.5
5.4	7.3	9.7	13.1	16.8	19.7	23.2	25.7
0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.1
0.6	0.6	0.6	0.6	0.7	0.8	0.7	0.8
9.1	10.4	13.7	16.0	16.7	15.2	16.7	19.8
3.2	3.5	4.7	6.0	7.7	8.2	9.9	11.1
0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.3
0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
0.4	0.3	0.3	0.4	0.4	0.2	0.3	0.2
1.3	1.4	1.5	1.5	1.4	1.7	2.4	2.2
49.1	51.0	53.0	55.2	63.8	73.1	75.6	73.9
46.2	44.2	42.1	41.8	41.7	40.7	40.3	39.5
18.7	15.5	12.6	12.6	11.7	10.2	9.3	9.7
11.0	12.2	12.3	12.8	13.5	14.4	16.4	16.1
0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2
12.6	12.8	14.4	13.6	13.4	13.1	11.4	10.7
3.6	3.3	2.5	2.4	2.8	2.7	2.9	2.7
0.1	0.1	0.2	0.3	0.1	0.1	0.2	0.1
9.4	10.0	10.0	11.2	11.0	11.2	12.0	12.5
3.9	4.0	4.1	4.8	4.7	4.4	5.2	5.6
0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6
5.1	5.5	5.5	6.0	5.8	6.3	6.3	6.3
0.8	0.8	0.7	0.8	1.0	0.8	0.9	0.8
6.7	7.7	8.6	9.3	11.3	14.2	17.6	16.2
4.5	5.1	5.2	4.8	4.3	4.3	4.9	6.2
0.9	1.6	2.0	1.8	2.0	2.5	4.0	4.0
3.4	4.3	5.0	6.2	6.1	5.1	4.2	2.8
14.0	14.8	16.0	17.1	18.3	19.9	23.1	25.1
1.7	1.6	1.3	1.4	1.4	1.8	2.0	2.1
3.9	4.5	6.0	7.1	7.6	8.1	8.6	9.2
0.1	0.2	0.1	0.2	0.3	0.3	0.4	0.5
3.0	3.0	3.0	3.0	2.8	3.1	3.1	3.2
5.3	5.5	5.6	5.4	6.1	6.6	9.0	10.2

Table 15a Average annual number of new cases by primary site and county, 2008-2012

ICD-10	Site	Norway	Østfold	Akershus	Oslo	Hedmark	Oppland	Buskerud
C00-96	All sites	15602	1019	1612	1394	688	651	910
C00-14	Mouth, pharynx	323	21	30	39	14	10	18
C00	Lip	73	6	7	4	4	3	6
C01-02	Tongue	67	3	6	9	3	3	3
C03-06	Mouth, other	52	4	5	7	1	2	2
C07-08	Salivary glands	23	2	3	3	1	0	1
C09-14	Pharynx	108	6	9	17	6	3	7
C15-26	Digestive organs	3105	189	314	288	137	136	173
C15	Oesophagus	169	9	18	17	9	8	10
C16	Stomach	294	14	29	26	12	14	15
C17	Small intestine	81	4	9	5	4	4	4
C18	Colon	1224	80	117	104	53	55	70
C19-21	Rectum, rectosigmoid, anus	739	48	78	68	32	30	45
C22	Liver	118	6	14	17	7	5	4
C23-24	Gallbladder, bile ducts	73	4	7	8	3	5	4
C25	Pancreas	347	19	35	35	16	14	19
C26	Other digestive organs	59	4	7	7	3	2	3
C30-34, C38	Respiratory organs	1697	116	152	139	77	79	86
C30-31	Nose, sinuses	24	1	3	2	1	1	1
C32	Larynx, epiglottitis	101	6	8	10	6	5	5
C33-34	Lung, trachea	1564	108	140	127	70	72	80
C38	Mediastinum, pleura (non-mesothelioma)	9	1	1	0	0	1	0
C40-41	Bone	30	2	3	4	1	1	1
C43	Melanoma of the skin	774	55	105	79	35	26	49
C44	Skin, non-melanoma	847	56	85	74	35	30	67
C45	Mesothelioma	67	4	7	5	2	3	5
C46	Kaposi's sarcoma	6	0	0	3	0	0	0
C47	Autonomic nervous system	6	0	0	0	1	0	1
C48-49	Soft tissues	63	3	7	9	3	3	4
C50	Breast	21	1	3	2	1	1	1
C60-63	Male genital organs	4941	340	510	387	202	207	299
C61	Prostate	4591	322	474	342	190	192	283
C62	Testis	304	16	32	41	10	13	13
C60, C63	Other male genital	46	2	4	4	1	2	3
C64-68	Urinary organs	1492	10	156	135	69	60	84
C64	Kidney excl. renal pelvis	478	32	53	45	23	20	30
C65	Renal pelvis	50	4	5	4	1	2	2
C66-68	Bladder, ureter, urethra	964	71	97	85	45	38	52
C69	Eye	31	2	4	3	1	1	1
C70-72, D32-33	Central nervous system	464	29	47	42	20	15	24
C73	Thyroid gland	77	5	8	10	3	2	5
C37, C74-75	Other endocrine glands	123	7	12	14	6	5	7
C39, C76, C80	Other or unspecified	156	11	12	16	8	9	9
C81-96	Lymphoid and haematopoietic tissue	1379	71	158	146	72	63	77
C81	Hodgkin lymphoma	76	4	8	9	5	2	3
C82-85, C96	Non-Hodgkin lymphoma	506	28	49	57	28	27	20
C88	Malignant immunoproliferative diseases	34	1	5	2	1	1	3
C90	Multiple myeloma	215	10	26	22	9	10	13
C91-95, D45-47	Leukaemia	548	28	70	57	29	23	37

Vestfold	Telemark	Aust-Agder	Vest-Agder	Rogaland	Hordaland	Sogn og Fjordane	Møre og Romsdal	Sør-Trøn- delag	Nord-Trøn- delag	Nordland	Troms	Finnmark
883	607	392	531	1291	1530	398	912	834	426	825	481	218
18	14	8	10	26	31	7	19	18	8	18	8	4
4	4	2	3	8	7	1	4	4	2	3	2	1
6	2	2	1	4	6	1	6	4	1	4	1	1
2	2	1	1	6	6	2	3	2	1	3	1	1
2	1	0	1	2	2	0	1	0	0	1	1	0
5	5	3	4	6	9	2	5	8	3	6	4	2
168	110	69	100	246	311	80	185	177	97	175	107	43
10	5	4	6	11	18	6	8	10	4	11	5	3
14	12	7	10	22	31	9	18	15	8	21	11	8
5	3	1	3	9	9	1	4	7	3	3	2	1
72	44	24	41	103	128	31	79	66	43	66	37	13
40	20	18	24	59	73	22	47	40	19	38	31	10
6	6	2	3	9	10	2	4	8	3	7	4	0
3	3	3	3	5	6	3	3	6	2	4	1	1
16	16	9	9	27	33	7	20	22	12	22	12	5
4	1	1	2	3	3	1	3	3	2	3	3	2
102	63	50	73	141	157	40	96	92	48	93	57	38
2	1	0	1	2	3	0	1	1	1	2	1	1
6	5	3	4	8	10	1	7	5	3	7	3	1
94	56	46	69	130	143	38	88	86	43	84	53	36
1	0	0	0	0	1	0	1	1	0	1	0	0
1	2	1	1	3	3	1	2	1	1	2	0	1
58	30	15	24	81	70	14	29	42	21	25	14	5
57	47	29	44	79	82	17	32	41	23	30	16	5
5	3	2	2	6	8	3	3	3	1	2	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	1	0	0	1	0	0	0	0
3	2	2	2	4	6	2	3	3	3	3	2	0
1	1	1	1	2	2	0	1	1	0	1	0	1
267	192	122	148	429	491	145	334	249	117	277	162	63
251	180	114	135	397	455	139	314	228	111	259	149	57
13	9	7	12	27	30	6	19	19	6	15	12	5
3	3	1	2	4	6	1	2	2	0	4	1	1
84	56	38	47	109	145	38	91	78	40	84	49	23
25	17	11	19	34	46	11	31	27	11	22	13	7
2	3	1	1	3	5	1	3	4	2	2	2	1
57	36	26	27	71	94	25	57	46	27	59	34	15
2	1	2	1	3	3	0	2	1	1	2	0	1
22	19	12	16	39	48	10	24	34	15	25	15	8
3	2	1	4	3	8	1	6	6	2	4	2	2
8	6	2	5	7	16	3	4	7	4	6	3	1
7	5	4	6	11	15	4	8	9	5	9	5	4
74	53	36	49	103	132	34	72	71	40	70	39	19
4	2	2	2	7	8	1	4	5	2	4	3	1
22	19	15	19	38	48	14	29	27	15	27	14	9
4	1	0	1	1	5	0	1	1	1	2	1	0
12	9	6	4	15	18	5	12	11	8	13	7	4
32	22	14	23	41	52	13	24	26	14	25	13	5

Table 15b Average annual number of new cases by primary site and county, 2008-2012

ICD-10	Site	Norway	Østfold	Akershus	Oslo	Hedmark	Oppland	Buskerud
C00-96	All sites	13308	830	1419	1460	592	552	782
C00-14	Mouth, pharynx	192	12	19	25	9	10	10
C00	Lip	47	3	4	6	2	3	3
C01-02	Tongue	37	1	5	5	2	2	2
C03-06	Mouth, other	41	3	4	5	2	2	2
C07-08	Salivary glands	24	2	2	3	2	2	0
C09-14	Pharynx	43	3	4	7	2	2	2
C15-26	Digestive organs	2827	186	286	275	124	112	157
C15	Oesophagus	62	3	7	11	2	3	3
C16	Stomach	198	9	14	19	8	8	9
C17	Small intestine	61	4	6	6	3	2	3
C18	Colon	1346	95	133	136	58	49	79
C19-21	Rectum, rectosigmoid, anus	562	38	66	50	22	24	30
C22	Liver	74	4	9	8	4	3	3
C23-24	Gallbladder, bile ducts	90	5	9	8	5	5	5
C25	Pancreas	366	24	37	32	17	14	21
C26	Other digestive organs	69	4	7	6	4	4	4
C30-34, C38	Respiratory organs	1265	85	142	135	58	54	70
C30-31	Nose, sinuses	17	1	2	1	2	1	2
C32	Larynx, epiglottis	20	1	2	5	1	1	1
C33-34	Lung, trachea	1223	83	138	129	56	52	67
C38	Mediastinum, pleura (non-mesothelioma)	6	1	1	0	0	0	0
C40-41	Bone	22	2	1	3	1	1	0
C43	Melanoma of the skin	779	50	94	90	32	31	49
C44	Skin, non-melanoma	750	48	69	70	28	23	68
C45	Mesothelioma	13	1	2	2	0	0	1
C46	Kaposi's sarcoma	3	0	0	0	0	0	0
C47	Autonomic nervous system	4	0	0	0	0	0	0
C48-49	Soft tissues	86	6	9	9	3	4	3
C50	Breast	2886	170	326	354	123	115	166
C51-58	Female genital organs	1622	103	173	185	83	79	92
C53	Cervix uteri	308	17	38	38	16	15	16
C54	Corpus uteri	716	45	75	78	38	34	40
C55	Uterus, other	9	0	1	1	0	0	1
C56	Ovary	454	33	49	55	23	23	27
C51-52, C57	Other female genital	133	8	11	13	7	7	8
C58	Placenta	3	0	0	1	0	0	0
C64-68	Urinary organs	638	48	54	73	27	28	33
C64	Kidney excl. renal pelvis	251	21	20	26	11	10	16
C65	Renal pelvis	35	2	3	4	1	1	1
C66-68	Bladder, ureter, urethra	352	25	31	42	15	17	16
C69	Eye	32	2	3	5	1	2	2
C70-72, D32-33	Central nervous system	576	30	60	53	24	26	32
C73	Thyroid gland	201	8	25	27	10	6	11
C37, C74-75	Other endocrine glands	121	6	13	12	5	3	7
C39, C76, C80	Other or unspecified	184	11	16	20	11	9	11
C81-96	Lymphoid and haematopoietic tissue	1106	62	127	121	51	49	68
C81	Hodgkin lymphoma	55	2	7	7	2	2	4
C82-85, C96	Non-Hodgkin lymphoma	413	24	44	46	20	18	21
C88	Malignant immunoproliferative diseases	23	2	3	2	1	0	3
C90	Multiple myeloma	165	8	19	18	9	11	10
C91-95, D45-47	Leukaemia	450	26	54	49	18	18	31

FEMALES

Vestfold	Telemark	Aust-Agder	Vest-Agder	Rogaland	Hordaland	Sogn og Fjordane	Møre og Romsdal	Sør-Trøndelag	Nord-Trøndelag	Nordland	Troms	Finmark
707	518	310	485	1088	1267	286	678	769	369	653	377	167
11	8	6	7	15	13	3	8	10	5	13	7	2
3	2	1	3	6	3	1	2	2	1	3	1	0
2	2	1	1	2	1	1	2	2	1	2	2	0
2	3	1	1	2	3	1	2	2	1	4	2	0
1	0	1	1	2	2	0	1	2	1	1	1	0
2	2	1	1	3	4	0	1	2	1	3	1	1
144	95	58	93	232	289	73	171	169	81	158	82	40
4	3	1	1	3	4	2	2	4	1	3	2	1
9	8	3	5	16	25	5	15	13	6	14	7	5
2	1	2	2	4	6	2	3	7	2	4	1	1
65	44	27	44	119	137	34	84	77	38	73	38	14
35	17	13	22	43	61	14	30	29	17	29	14	8
3	2	1	3	6	7	2	3	6	2	3	3	2
4	4	2	3	5	9	4	6	6	4	3	3	1
19	12	7	11	30	34	8	23	23	9	24	12	8
3	3	2	2	4	5	2	5	5	3	5	1	0
68	50	34	54	93	109	21	58	73	31	67	42	20
1	1	0	1	0	2	0	1	1	0	1	1	0
1	1	0	0	1	2	0	0	1	0	1	1	0
66	48	34	53	92	105	20	56	71	31	65	40	18
0	0	0	0	0	0	0	0	1	0	0	0	1
2	1	1	1	2	2	0	2	1	1	1	0	0
50	31	19	28	82	72	13	33	46	20	18	13	6
41	45	30	47	76	70	10	26	38	20	27	11	5
1	0	0	0	1	1	0	1	1	1	0	1	0
0	0	0	0	0	0	0	1	0	0	0	0	0
0	0	0	0	0	1	0	0	0	0	0	0	0
4	4	1	2	5	8	2	5	5	3	6	4	2
156	102	62	105	240	265	59	151	160	83	132	80	35
81	67	35	57	128	149	32	74	91	44	79	51	18
16	12	5	10	20	31	6	13	15	9	19	10	3
37	30	16	27	62	67	14	31	44	18	31	22	6
0	0	0	0	1	1	0	0	0	1	0	0	0
19	17	11	17	36	37	9	22	24	11	22	13	8
8	8	3	4	9	13	4	8	8	4	6	5	1
1	0	0	0	0	0	0	0	0	0	0	0	0
29	23	19	20	42	63	15	36	45	15	39	21	10
10	10	5	9	14	24	7	13	18	8	17	9	4
3	1	1	1	3	4	0	2	2	1	2	1	0
17	13	13	10	26	34	8	20	26	7	20	10	5
2	1	0	0	4	3	1	2	1	0	1	1	0
31	23	9	19	50	62	17	26	37	23	28	17	9
10	9	3	9	9	18	3	11	14	3	14	8	3
5	3	2	4	6	19	5	7	8	3	8	2	1
11	9	4	7	14	12	4	9	9	7	11	8	3
61	47	26	32	86	110	26	59	58	28	52	29	13
2	2	2	2	4	5	1	4	4	1	2	2	0
23	16	10	15	32	43	8	23	21	10	22	12	7
1	1	0	1	1	3	1	1	1	0	0	0	1
8	7	3	4	12	15	4	9	9	4	8	5	1
27	21	11	12	37	43	12	22	23	13	20	10	5

Table 16a Age-standardised (world) incidence rates per 100 000 person-years by primary site and county, 2008-2012

ICD-10	Site	Norway	Østfold	Akershus	Oslo	Hedmark	Oppland	Buskerud
C00-96	All sites	369.2	401.2	362.1	339.1	349.8	343.7	387.8
C00-14	Mouth, pharynx	8.1	8.9	7.2	10.3	8.0	5.6	7.9
C00	Lip	1.6	2.2	1.5	1.0	1.7	1.2	2.3
C01-02	Tongue	1.8	1.2	1.5	2.4	1.8	1.5	1.4
C03-06	Mouth, other	1.3	1.7	1.1	1.7	0.6	1.0	0.8
C07-08	Salivary glands	0.6	0.9	0.7	0.7	0.3	0.3	0.3
C09-14	Pharynx	2.9	2.8	2.3	4.5	3.7	1.6	3.2
C15-26	Digestive organs	69.9	70.5	67.4	67.8	64.5	68.5	69.9
C15	Oesophagus	4.0	3.8	3.8	4.3	4.3	4.4	4.1
C16	Stomach	6.5	5.5	6.2	6.2	5.3	7.1	5.8
C17	Small intestine	2.0	1.9	2.1	1.3	1.7	2.1	1.5
C18	Colon	26.7	28.5	24.5	24.0	24.2	26.3	28.2
C19-21	Rectum, rectosigmoid, anus	17.1	18.5	17.3	16.2	15.0	15.8	18.2
C22	Liver	2.8	2.4	3.2	4.1	3.6	2.5	1.6
C23-24	Gallbladder, bile ducts	1.6	1.4	1.5	1.8	1.2	2.4	1.7
C25	Pancreas	7.7	7.0	7.3	8.3	7.9	6.8	7.7
C26	Other digestive organs	1.3	1.4	1.5	1.6	1.4	1.0	1.3
C30-34, C38	Respiratory organs	38.3	44.0	32.0	33.9	36.8	39.0	34.7
C30-31	Nose, sinuses	0.6	0.3	0.8	0.5	0.5	0.9	0.5
C32	Larynx, epiglottis	2.4	2.1	1.9	2.3	2.9	2.5	1.8
C33-34	Lung, trachea	35.1	41.3	29.2	31.0	33.3	35.3	32.4
C38	Mediastinum, pleura (non-mesothelioma)	0.2	0.3	0.2	0.1	0.2	0.4	0.0
C40-41	Bone	1.1	1.5	1.0	1.1	0.8	1.0	0.4
C43	Melanoma of the skin	19.5	23.0	24.9	18.7	18.8	15.6	22.0
C44	Skin, non-melanoma	16.4	18.0	15.5	14.9	12.8	12.5	23.9
C45	Mesothelioma	1.4	1.5	1.5	1.0	0.9	1.5	2.2
C46	Kaposi's sarcoma	0.2	0.1	0.1	0.7	0.0	0.0	0.1
C47	Autonomic nervous system	0.4	0.4	0.1	0.2	0.9	0.2	0.8
C48-49	Soft tissues	1.7	1.3	2.0	2.3	2.4	1.9	2.0
C50	Breast	0.5	0.5	0.6	0.6	0.4	0.3	0.6
C60-63	Male genital organs	119.2	133.3	116.5	96.0	103.8	112.3	129.7
C61	Prostate	106.5	121.2	104.5	84.4	91.3	95.4	118.6
C62	Testis	11.6	11.1	11.2	10.7	11.6	15.8	9.7
C60, C63	Other male genital	1.1	0.9	0.8	0.9	0.9	1.2	1.3
C64-68	Urinary organs	34.0	41.7	33.9	32.4	32.9	30.9	35.3
C64	Kidney excl. renal pelvis	12.0	13.5	12.5	11.6	12.2	11.0	13.8
C65	Renal pelvis	1.1	1.7	1.1	1.1	0.5	1.0	0.9
C66-68	Bladder, ureter, urethra	20.8	26.5	20.3	19.7	20.1	18.9	20.6
C69	Eye	0.9	1.0	1.0	1.0	0.6	0.5	0.5
C70-72, D32-33	Central nervous system	13.8	15.1	13.3	11.5	14.3	10.4	12.5
C73	Thyroid gland	2.2	2.2	2.1	2.6	2.0	0.9	2.8
C37, C74-75	Other endocrine glands	3.8	3.8	3.3	3.9	5.6	3.6	4.1
C39, C76, C80	Other or unspecified	3.2	3.7	2.2	3.6	3.2	3.7	3.3
C81-96	Lymphoid and haematopoietic tissue	34.9	30.6	37.4	36.6	40.8	35.2	35.1
C81	Hodgkin lymphoma	2.8	2.6	2.9	2.7	5.3	1.8	2.4
C82-85, C96	Non-Hodgkin lymphoma	12.6	11.8	11.2	14.3	15.0	15.2	9.0
C88	Malignant immunoproliferative diseases	0.7	0.5	1.1	0.4	0.5	0.4	1.3
C90	Multiple myeloma	4.8	3.9	5.7	5.1	4.0	4.6	5.6
C91-95, D45-47	Leukaemia	13.9	11.8	16.5	14.2	16.0	13.2	16.8

Vestfold	Telemark	Aust-Agder	Vest-Agder	Rogaland	Hordaland	Sogn og Fjordane	More og Romsdal	Sør-Trøn- delag	Nord-Trøn- delag	Nordland	Trøndelag	Finnmark
411.5	371.0	398.5	374.9	393.3	382.0	374.8	384.8	343.3	328.7	360.3	352.1	331.9
8.9	8.9	8.4	7.1	8.2	8.2	6.9	8.6	8.2	6.7	8.2	6.1	7.3
1.8	1.8	2.0	1.8	2.4	1.5	1.2	1.6	1.6	1.4	1.1	1.2	0.9
3.0	1.7	2.1	0.9	1.4	1.8	0.5	2.9	1.8	1.3	2.2	0.5	2.5
1.1	1.0	1.2	0.3	1.9	1.7	2.4	1.3	0.8	1.0	1.2	0.8	0.8
0.7	1.0	0.2	1.1	0.5	0.6	0.4	0.5	0.2	0.2	0.6	0.5	0.5
2.2	3.5	2.9	3.1	2.0	2.6	2.4	2.3	3.8	2.8	3.0	3.1	2.7
74.3	65.0	67.1	67.6	72.6	74.0	70.4	72.0	68.3	68.9	70.8	74.7	62.4
4.8	3.3	4.7	3.9	3.2	4.2	5.9	3.5	3.8	2.5	4.7	3.7	4.3
5.8	6.9	6.7	6.9	6.3	7.3	7.9	7.1	5.3	5.6	8.1	7.7	11.0
2.4	2.0	0.9	2.7	2.7	2.3	1.1	1.8	2.9	2.3	1.5	1.7	2.2
30.5	24.8	22.8	26.8	29.6	29.7	26.0	29.2	24.3	30.2	26.3	25.2	18.5
17.9	12.3	17.1	16.8	17.8	18.0	19.0	18.9	16.2	14.9	15.7	22.5	14.7
2.6	3.9	2.1	1.8	3.0	2.8	1.6	1.6	3.4	2.5	3.1	2.9	0.4
1.4	1.8	2.6	1.7	1.5	1.5	2.4	1.1	2.7	1.0	1.6	0.8	1.1
7.2	9.5	9.2	5.8	7.9	7.5	5.6	7.4	8.6	8.4	8.6	8.4	7.3
1.7	0.6	0.9	1.2	0.8	0.7	0.8	1.4	1.0	1.5	1.2	1.8	2.9
46.4	36.5	50.0	50.2	41.6	37.1	35.7	39.2	35.1	33.7	37.6	38.2	53.2
0.9	1.1	0.4	0.4	0.7	0.6	0.1	0.4	0.4	0.6	0.9	0.6	1.2
2.6	3.0	3.5	2.6	2.4	2.4	0.9	3.1	2.0	2.6	2.9	1.9	1.9
42.7	32.2	46.0	47.0	38.4	33.8	34.5	35.5	32.5	30.5	33.5	35.5	50.0
0.3	0.2	0.0	0.2	0.1	0.3	0.2	0.2	0.3	0.1	0.4	0.2	0.2
0.8	1.7	1.1	0.8	1.2	1.3	1.6	1.3	0.4	1.2	2.0	0.3	2.2
29.5	20.7	15.3	17.3	25.2	18.9	14.7	12.4	18.5	17.7	12.4	11.5	8.3
21.4	22.8	25.4	25.7	20.6	16.6	11.1	10.4	14.1	14.7	11.0	10.1	6.6
2.0	1.6	2.0	1.3	1.6	1.9	2.2	1.1	1.2	0.8	1.0	0.8	1.2
0.2	0.1	0.0	0.3	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.2	0.0
0.5	0.1	0.2	0.6	0.5	0.4	0.0	0.0	0.5	1.2	0.2	0.0	0.0
1.6	1.4	1.9	1.2	1.6	1.7	1.9	1.4	1.3	3.2	1.4	1.8	0.5
0.7	0.6	0.7	0.7	0.5	0.6	0.1	0.2	0.6	0.2	0.5	0.3	1.0
125.9	118.4	125.5	109.7	133.2	125.3	142.3	146.1	104.7	92.8	124.3	118.8	96.6
114.4	106.5	113.7	94.4	120.9	112.5	131.0	130.0	92.2	83.3	109.9	103.8	82.9
10.0	10.3	10.9	14.1	11.1	11.2	10.2	15.3	11.7	9.1	12.9	14.3	12.6
1.5	1.7	0.9	1.2	1.2	1.6	1.1	0.8	0.8	0.3	1.5	0.8	1.2
37.4	32.8	37.5	30.9	31.9	34.5	33.1	37.0	31.2	29.0	35.3	32.9	35.3
12.4	11.6	12.4	13.6	10.8	12.2	11.0	14.6	12.1	9.1	11.3	9.6	11.0
0.7	1.9	1.0	0.9	0.9	1.2	0.8	1.2	1.7	1.2	0.6	1.3	1.4
24.4	19.3	24.1	16.4	20.1	21.2	21.3	21.3	17.4	18.7	23.5	22.0	22.8
1.3	0.4	1.9	0.7	0.9	0.9	0.3	1.2	0.6	0.6	0.7	0.5	0.9
14.1	15.0	15.2	13.7	14.5	14.7	11.0	13.9	16.5	15.4	13.6	14.3	15.0
1.9	1.5	1.2	3.7	0.9	2.3	1.3	3.1	3.2	2.2	1.8	1.8	2.5
4.6	5.2	3.1	4.6	2.5	5.1	3.5	2.2	3.7	4.3	3.2	3.2	3.1
2.9	2.7	3.6	3.8	3.0	3.3	3.5	3.0	3.4	2.5	3.2	3.1	5.5
36.9	35.6	38.7	35.1	32.8	35.2	35.3	31.8	31.9	33.4	33.3	33.7	30.4
2.7	1.8	2.9	2.4	3.0	2.9	1.8	3.0	3.3	2.8	2.6	4.4	1.4
10.9	12.1	14.3	14.1	11.6	13.1	13.5	12.9	11.6	12.4	12.4	12.5	14.2
1.9	0.8	0.1	0.4	0.3	1.1	0.5	0.5	0.5	1.0	0.6	0.7	0.5
5.3	5.7	6.1	2.5	4.5	4.2	5.1	4.7	4.5	5.5	5.3	4.7	5.3
16.1	15.1	15.2	15.7	13.3	13.9	14.5	10.7	12.1	11.8	12.3	11.5	9.0

Table 16b Age-standardised (world) incidence rates per 100 000 person-years by primary site and county, 2008-2012

ICD-10	Site	Norway	Østfold	Akershus	Oslo	Hedmark	Oppland	Buskerud
C00-96	All sites	298.4	307.6	303.8	305.8	293.8	287.9	314.3
C00-14	Mouth, pharynx	4.2	4.2	3.9	5.4	4.7	4.8	3.8
C00	Lip	0.8	0.8	0.6	1.1	0.6	0.9	0.9
C01-02	Tongue	0.8	0.6	1.2	1.1	0.9	1.1	1.0
C03-06	Mouth, other	0.8	0.7	0.7	1.0	0.8	0.8	0.8
C07-08	Salivary glands	0.6	1.1	0.5	0.6	1.1	1.1	0.2
C09-14	Pharynx	1.1	1.1	1.0	1.7	1.2	0.9	1.0
C15-26	Digestive organs	52.0	57.5	52.5	48.9	47.2	45.7	52.1
C15	Oesophagus	1.1	1.0	1.3	2.0	0.8	1.3	0.9
C16	Stomach	3.4	2.4	2.4	3.2	3.0	2.9	2.9
C17	Small intestine	1.3	1.6	1.2	1.4	1.6	0.4	1.4
C18	Colon	24.1	28.1	23.8	23.2	22.4	20.4	25.2
C19-21	Rectum, rectosigmoid, anus	11.3	12.7	12.7	9.7	9.0	10.0	11.3
C22	Liver	1.4	1.4	1.6	1.6	1.7	1.3	1.1
C23-24	Gallbladder, bile ducts	1.7	1.7	1.7	1.6	1.9	2.2	1.8
C25	Pancreas	6.5	7.4	6.5	5.3	5.8	5.8	6.2
C26	Other digestive organs	1.1	1.2	1.3	1.0	1.1	1.3	1.4
C30-34, C38	Respiratory organs	26.6	29.0	27.9	27.1	26.4	26.4	25.7
C30-31	Nose, sinuses	0.4	0.3	0.5	0.3	0.7	0.5	0.6
C32	Larynx, epiglottis	0.5	0.3	0.4	1.0	0.6	0.3	0.4
C33-34	Lung, trachea	25.7	28.4	26.9	25.8	25.1	25.6	24.6
C38	Mediastinum, pleura (non-mesothelioma)	0.1	0.1	0.1	0.1	0.0	0.0	0.0
C40-41	Bone	0.8	0.9	0.5	0.8	0.9	0.5	0.4
C43	Melanoma of the skin	19.8	21.3	22.5	19.6	17.7	19.9	23.8
C44	Skin, non-melanoma	11.1	11.0	10.2	8.9	8.9	7.0	20.1
C45	Mesothelioma	0.3	0.3	0.4	0.3	0.2	0.1	0.5
C46	Kaposi's sarcoma	0.1	0.0	0.1	0.1	0.0	0.0	0.0
C47	Autonomic nervous system	0.2	0.1	0.1	0.2	0.0	0.0	0.2
C48-49	Soft tissues	2.2	2.6	2.0	2.2	1.9	2.2	1.6
C50	Breast	73.9	72.7	76.8	84.9	70.3	68.4	75.2
C51-58	Female genital organs	39.5	42.2	39.4	41.6	44.1	44.4	41.0
C53	Cervix uteri	9.7	8.9	10.5	9.6	11.6	11.7	10.3
C54	Corpus uteri	16.1	16.8	15.8	17.5	17.8	16.0	16.4
C55	Uterus, other	0.2	0.1	0.1	0.2	0.1	0.1	0.5
C56	Ovary	10.7	13.9	10.7	11.8	10.9	12.9	11.0
C51-52, C57	Other female genital	2.7	2.5	2.2	2.2	3.5	3.3	2.8
C58	Placenta	0.1	0.0	0.1	0.2	0.2	0.4	0.0
C64-68	Urinary organs	12.5	16.4	9.7	12.6	12.1	13.0	11.8
C64	Kidney excl. renal pelvis	5.6	7.4	3.9	5.4	5.5	5.4	6.3
C65	Renal pelvis	0.6	0.7	0.5	0.7	0.7	0.4	0.3
C66-68	Bladder, ureter, urethra	6.3	8.3	5.3	6.4	5.9	7.2	5.3
C69	Eye	0.8	0.6	0.7	1.1	1.2	1.0	0.8
C70-72, D32-33	Central nervous system	16.2	14.8	15.0	12.5	16.7	18.8	16.6
C73	Thyroid gland	6.2	4.5	7.2	7.1	7.1	5.0	6.6
C37, C74-75	Other endocrine glands	4.0	4.0	4.2	3.6	4.1	2.3	3.9
C39, C76, C80	Other or unspecified	2.8	2.7	2.4	2.8	3.9	3.0	2.6
C81-96	Lymphoid and haematopoietic tissue	25.1	22.8	28.6	26.2	26.5	25.3	27.5
C81	Hodgkin lymphoma	2.1	1.7	2.7	2.3	3.0	1.5	2.4
C82-85, C96	Non-Hodgkin lymphoma	9.2	8.4	9.5	9.6	11.0	9.2	8.3
C88	Malignant immunoproliferative diseases	0.5	0.6	0.6	0.5	0.3	0.2	0.9
C90	Multiple myeloma	3.2	2.4	4.0	3.2	3.4	4.8	3.3
C91-95, D45-47	Leukaemia	10.2	9.6	11.7	10.6	8.8	9.6	12.7

FEMALES

Vestfold	Telemark	Aust-Agder	Vest-Agder	Rogaland	Hordaland	Sogn og Fjordane	Møre og Romsdal	Sør-Trøn- delag	Nord-Trøn- delag	Nordland	Troms	Finnmark
308.5	301.2	299.9	313.2	310.4	297.5	279.0	279.0	301.2	290.8	283.3	269.8	262.0
4.5	4.7	5.8	4.5	4.2	3.0	2.4	3.1	3.7	3.3	5.4	5.9	2.9
1.0	0.6	1.2	1.6	1.5	0.6	1.1	0.6	0.4	0.5	1.3	0.6	0.0
1.1	1.1	0.7	0.7	0.7	0.3	0.6	0.7	0.6	0.7	0.6	1.3	0.5
0.8	1.6	0.9	0.6	0.6	0.6	0.3	0.7	0.5	0.8	1.4	1.2	0.0
0.3	0.0	1.2	0.7	0.5	0.5	0.4	0.4	0.9	0.5	0.5	1.6	0.7
1.3	1.4	1.7	1.0	0.9	1.0	0.0	0.7	1.3	0.8	1.6	1.3	1.7
49.9	43.5	46.6	50.6	57.4	55.6	53.4	55.2	54.1	52.4	53.5	46.2	50.9
1.4	1.3	0.7	0.5	1.0	0.8	1.9	0.6	1.4	0.8	1.0	1.3	1.2
2.8	4.1	1.7	2.6	3.6	4.5	3.1	5.1	3.7	3.3	4.4	3.7	6.0
0.7	0.7	1.8	1.4	1.1	1.6	2.0	1.1	2.5	1.2	1.4	0.6	1.0
21.9	20.3	21.9	22.2	28.6	25.7	24.3	26.0	24.1	23.4	24.1	21.3	19.1
12.8	7.9	11.2	13.2	11.6	13.2	12.4	10.4	10.3	12.6	11.8	8.7	11.2
1.3	0.7	0.4	1.3	1.5	1.3	1.7	1.2	1.8	1.4	1.2	1.8	1.6
1.1	1.9	1.5	1.8	1.5	1.8	2.2	2.1	1.4	2.3	1.3	1.6	0.7
6.6	5.3	6.0	6.5	7.5	6.3	4.4	7.7	7.4	6.1	7.1	6.3	9.6
1.1	1.3	1.4	1.2	1.0	0.6	1.5	1.1	1.4	1.4	1.3	0.8	0.5
28.9	27.8	32.2	34.1	25.6	23.9	21.0	22.3	26.2	21.7	26.0	28.2	28.8
0.7	0.4	0.4	0.5	0.1	0.3	0.0	0.4	0.2	0.0	0.3	0.6	0.1
0.5	0.6	0.2	0.2	0.3	0.4	0.4	0.1	0.4	0.3	0.2	1.1	0.5
27.6	26.6	31.6	33.4	25.1	23.1	20.4	21.6	25.3	21.3	25.5	26.5	26.8
0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.0	1.4
1.1	0.8	2.3	0.8	1.1	0.7	0.1	1.3	0.7	1.3	0.5	0.0	0.3
24.7	21.5	19.7	20.4	24.5	18.7	15.7	15.2	21.8	21.3	9.6	12.2	12.4
11.1	17.7	20.3	19.6	14.4	10.6	5.4	6.8	10.3	10.3	8.1	6.2	6.3
0.3	0.0	0.2	0.1	0.3	0.2	0.5	0.3	0.2	0.5	0.0	0.4	0.2
0.0	0.0	0.0	0.2	0.0	0.1	0.4	0.1	0.1	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.8	0.1	0.5	0.8	0.2	0.4	0.0	0.2	0.0	0.0
2.3	2.8	1.4	1.3	1.5	2.2	2.8	2.0	2.7	2.0	2.7	3.3	3.6
77.0	69.6	71.3	77.4	78.5	72.2	67.3	73.4	69.6	75.1	67.1	64.7	60.1
39.3	41.3	37.1	40.4	39.6	38.4	35.3	32.5	38.3	37.1	39.8	39.5	32.5
10.3	9.5	7.8	9.3	7.3	10.3	9.2	7.7	8.2	10.6	13.5	10.9	7.8
16.0	18.4	14.6	17.1	18.3	16.0	13.6	12.5	17.0	14.3	13.8	15.9	10.4
0.2	0.3	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.4
8.7	10.0	11.6	12.0	11.0	9.1	9.0	9.3	10.3	9.1	10.3	9.5	12.5
3.3	3.2	3.0	1.9	2.6	2.7	3.6	3.1	2.7	2.7	2.2	2.9	1.4
0.6	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.2	0.0	0.0	0.3	0.0
11.4	12.2	16.0	11.5	10.9	12.7	11.9	13.0	15.5	11.6	14.2	12.8	13.8
4.8	5.6	5.2	5.9	4.3	5.7	5.4	5.7	6.8	6.4	6.9	5.8	7.4
1.2	0.3	1.2	0.7	0.5	0.9	0.3	0.8	0.7	0.4	0.6	0.8	0.4
5.4	6.2	9.6	4.9	6.1	6.2	6.2	6.5	8.0	4.8	6.8	6.2	6.1
1.1	0.7	0.0	0.1	1.4	1.2	1.7	0.6	0.5	0.2	0.5	1.0	0.7
16.8	17.9	11.8	15.1	18.3	17.7	20.9	14.0	18.7	22.5	15.9	14.6	19.2
6.1	7.8	4.2	8.3	3.0	6.1	4.1	6.5	7.3	4.0	8.2	7.7	4.3
3.9	3.0	1.9	3.1	2.4	6.5	8.8	5.4	4.7	3.8	6.1	2.4	2.1
3.2	3.8	2.7	2.4	3.0	2.0	1.8	2.3	2.4	3.3	3.0	3.8	3.4
26.7	26.1	26.4	22.4	24.4	25.1	24.6	25.0	23.8	20.3	22.5	21.1	20.5
1.8	2.0	3.0	1.9	1.7	2.0	2.0	2.7	2.6	1.9	1.1	1.8	1.0
9.9	8.1	9.2	9.3	9.3	9.8	8.5	9.0	8.6	7.0	8.9	9.4	9.3
0.3	0.7	0.5	0.4	0.2	0.7	0.8	0.4	0.3	0.0	0.2	0.3	0.6
3.2	2.9	2.3	1.7	2.8	3.1	2.5	3.5	3.1	2.7	3.0	3.1	1.6
11.4	12.3	11.6	9.1	10.4	9.6	10.8	9.5	9.3	8.7	9.3	6.5	7.9

Table 17a Average annual number of new cases for selected primary sites, stage and period of diagnosis, 1953-2012

ICD-10	Site	Stage	1953-57	1958-62	1963-67	1968-72
C00-14	Mouth, pharynx	Total	172	187	191	227
		Localised	119	126	138	144
		Regional	42	46	41	52
		Distant	2	5	6	11
		Unknown	9	10	5	20
C15	Oesophagus	Total	73	81	75	83
		Localised	42	50	46	40
		Regional	10	11	10	14
		Distant	15	14	17	20
		Unknown	6	6	2	8
C16	Stomach	Total	880	825	787	726
		Localised	249	226	217	178
		Regional	189	167	165	161
		Distant	329	362	338	323
		Unknown	113	70	68	65
C18	Colon	Total	206	261	329	369
		Localised	86	104	133	135
		Regional	49	68	78	88
		Distant	55	75	103	127
		Unknown	16	14	15	19
C19-21	Rectum, rectosigmoid, anus	Total	147	166	196	293
		Localised	72	81	95	135
		Regional	30	41	54	77
		Distant	29	32	41	66
		Unknown	15	13	5	14
C22	Liver	Total	15	22	28	44
		Localised	8	10	15	20
		Regional	1	0	1	1
		Distant	4	10	11	18
		Unknown	2	2		5
C23-24	Gallbladder, bile ducts	Total	13	22	24	26
		Localised	7	8	9	8
		Regional	1	4	4	4
		Distant	4	8	10	12
		Unknown	1	1	1	2
C25	Pancreas	Total	120	147	197	232
		Localised	36	43	58	49
		Regional	10	17	25	29
		Distant	63	76	104	131
		Unknown	11	11	8	23
C33-34	Lung, trachea	Total	203	308	424	610
		Localised	61	91	147	197
		Regional	41	64	90	114
		Distant	83	129	170	256
		Unknown	18	24	17	44
C43	Melanoma of the skin	Total	38	61	88	123
		Localised	21	39	58	81
		Regional	9	9	13	15
		Distant	5	12	15	16
		Unknown	3	2	2	12
C61	Prostate	Total	582	709	913	1085
		Localised	340	423	609	687
		Regional	31	32	32	44
		Distant	155	186	218	238
		Unknown	57	68	53	115
C62	Testis	Total	51	62	65	85
		Localised	34	43	42	51
		Regional	2	3	3	9
		Distant	13	15	18	21
		Unknown	2	2	1	3
C64	Kidney except renal pelvis	Total	70	110	138	164
		Localised	37	58	75	73
		Regional	4	11	19	27
		Distant	26	36	41	59
		Unknown	4	5	4	5
C66-68	Bladder, ureter, urethra	Total	178	215	303	370
		Localised	131	175	256	291
		Regional	14	18	25	40
		Distant	22	13	17	20
		Unknown	12	9	5	19
C70-72, D32-33	Central nervous system	Total	109	122	142	152
		Non-malignant	27	36	37	46
		Malignant	82	85	105	107
C73	Thyroid gland	Total	17	23	26	38
		Localised	7	6	5	14
		Regional	5	11	14	14
		Distant	4	5	7	9
		Unknown	1	1	0	1

MALES

Period								% 2008-12
1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12	
239	242	260	254	259	259	267	323	100.0
158	150	163	154	137	90	89	145	44.9
66	78	88	85	91	100	127	151	46.7
8	8	6	10	13	13	12	13	4.0
7	6	3	5	19	56	38	14	4.3
82	90	86	105	110	122	140	169	100.0
41	43	37	43	46	22	30	59	35.1
16	20	24	24	22	26	41	47	28.0
20	22	23	33	28	36	43	49	29.2
4	5	2	4	14	37	27	13	7.7
639	602	561	505	438	367	327	294	100.0
172	183	179	181	127	59	62	96	32.6
140	160	157	136	135	104	100	85	28.8
283	227	199	166	140	131	115	91	31.0
43	32	26	22	36	73	50	22	7.6
442	563	693	797	857	959	1065	1224	100.0
153	156	209	279	206	167	195	212	17.3
138	234	282	273	387	464	541	656	53.6
137	154	179	217	226	251	263	321	26.2
15	20	23	28	39	78	65	36	2.9
361	476	526	557	591	627	675	739	100.0
174	213	226	255	235	173	170	204	27.6
101	165	198	187	226	245	302	385	52.1
77	87	92	103	107	128	135	132	17.9
9	11	10	11	23	81	68	18	2.5
51	56	67	61	56	78	85	118	100.0
24	28	36	36	30	27	28	55	46.8
5	4	5	4	2	5	10	13	10.8
19	16	19	10	11	19	20	27	22.9
2	7	7	10	13	28	27	23	19.5
32	38	48	52	54	59	65	73	100.0
9	12	18	19	12	12	11	15	20.5
8	9	10	10	10	13	22	29	39.7
14	15	16	15	17	14	19	21	29.3
1	3	4	8	15	20	13	8	10.4
254	279	297	289	283	283	322	347	100.0
48	49	61	66	36	19	25	39	11.1
33	35	42	26	35	43	78	72	20.7
152	160	156	153	134	141	173	192	55.2
21	35	40	45	78	80	46	45	13.0
746	956	1108	1173	1272	1310	1450	1564	100.0
239	320	367	395	334	212	194	318	20.3
138	163	235	226	277	326	437	431	27.6
315	410	432	466	495	601	674	711	45.4
54	63	74	87	166	171	145	104	6.7
179	221	278	407	439	470	541	774	100.0
144	181	235	348	370	278	289	592	76.4
16	16	16	18	14	18	23	43	5.5
16	16	18	25	23	31	32	28	3.7
3	8	9	16	32	144	197	111	14.4
1355	1564	1746	2038	2508	2964	3863	4591	100.0
913	1060	1159	1401	1530	962	1781	2821	61.5
76	64	61	68	105	125	287	973	21.2
286	337	465	462	395	395	417	341	7.4
80	102	61	108	478	1482	1377	456	9.9
88	122	148	187	209	249	272	304	100.0
49	64	88	126	142	130	152	236	77.5
18	32	36	33	34	37	47	37	12.0
21	23	23	26	25	32	29	28	9.3
1	3	2	2	9	50	44	3	1.1
179	220	253	266	271	302	372	478	100.0
72	87	115	127	132	112	169	311	65.1
42	48	51	41	42	41	40	42	8.7
61	78	76	82	68	74	87	84	17.5
4	6	10	15	29	75	76	42	8.7
503	593	732	795	817	826	934	964	100.0
407	503	632	705	678	420	511	773	80.1
54	52	57	48	39	47	79	67	6.9
29	28	29	28	25	37	35	36	3.8
12	11	14	14	75	322	310	89	9.2
173	202	236	242	290	358	441	464	100.0
47	64	73	80	122	161	225	227	48.9
126	138	163	163	168	197	217	237	51.1
37	47	44	49	45	50	63	77	100.0
18	23	21	26	21	17	21	33	43.2
14	17	16	14	13	19	27	35	45.8
5	7	7	7	9	7	8	5	6.8
1	0	0	1	2	7	8	3	4.2

Table 17b Average annual number of new cases for selected primary sites, stage and period of diagnosis, 1953-2012

ICD-10	Site	Stage	1953-57	1958-62	1963-67	1968-72
C00-14	Mouth, pharynx	Total	61	62	70	76
		Localised	39	35	39	43
		Regional	17	19	27	25
		Distant	1	3	3	4
		Unknown	4	4	1	4
C15	Oesophagus	Total	24	25	32	27
		Localised	17	15	22	15
		Regional	2	4	4	3
		Distant	1	3	5	6
		Unknown	3	2	2	3
C16	Stomach	Total	608	563	538	468
		Localised	177	150	157	104
		Regional	108	96	98	89
		Distant	217	234	223	218
		Unknown	105	83	60	57
C18	Colon	Total	237	297	381	452
		Localised	102	119	152	170
		Regional	47	75	91	121
		Distant	64	79	119	137
		Unknown	25	24	18	23
C19-21	Rectum, rectosigmoid, anus	Total	108	130	164	241
		Localised	53	59	80	112
		Regional	26	34	41	66
		Distant	19	28	35	53
		Unknown	9	9	7	10
C22	Liver	Total	10	13	13	27
		Localised	4	5	6	13
		Regional	1	0	1	1
		Distant	4	5	7	11
		Unknown	1	2	0	3
C23-24	Gallbladder, bile ducts	Total	38	52	51	60
		Localised	11	13	15	15
		Regional	6	10	7	9
		Distant	18	26	28	34
		Unknown	2	3	1	3
C25	Pancreas	Total	82	111	129	169
		Localised	25	32	43	40
		Regional	8	10	13	20
		Distant	41	58	66	90
		Unknown	7	11	6	20
C33-34	Lung, trachea	Total	64	74	97	148
		Localised	18	18	32	49
		Regional	7	10	12	21
		Distant	29	39	48	67
		Unknown	10	8	5	11
C43	Melanoma of the skin	Total	46	68	98	134
		Localised	33	55	79	97
		Regional	6	6	6	10
		Distant	5	5	10	11
		Unknown	2	2	2	16
C50	Breast	Total	855	968	1114	1261
		Page's stage 0				10
		I	370	431	532	590
		II	322	356	360	393
		III	48	55	92	84
		IV	82	96	101	118
C53	Cervix uteri	Unknown	32	29	29	67
		Total	322	346	376	410
		I	121	144	168	211
		II	88	121	134	122
		III	73	52	46	50
		IV	28	22	23	20
C54	Corpus uteri	Unknown	12	7	5	7
		Total	154	191	232	282
		Localised	120	156	190	228
		Regional	11	10	13	15
		Distant	17	18	27	34
		Unknown	6	7	1	6
C56	Ovary	Total	232	275	306	358
		Localised	71	87	100	131
		Regional	20	22	15	24
		Distant	131	152	186	195
		Unknown	11	14	6	7
C64	Kidney except renal pelvis	Total	63	82	93	113
		Localised	38	46	52	59
		Regional	6	9	9	17
		Distant	15	23	28	34
		Unknown	4	4	3	4
C66-68	Bladder, ureter, urethra	Total	96	117	131	157
		Localised	59	73	86	102
		Regional	9	15	19	23
		Distant	15	19	19	20
		Unknown	12	10	6	12
C70-72, D32-33	Central nervous system	Total	93	114	124	128
		Non-malignant	33	50	59	56
		Malignant	60	63	65	72
C73	Thyroid gland	Total	50	54	65	95
		Localised	24	21	32	52
		Regional	16	19	23	29
		Distant	8	12	10	10
		Unknown	3	3	1	5

FEMALES

Period								
1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12	% 2008-12
82	90	110	112	129	134	163	192	100.0
45	54	62	75	80	51	66	103	53.6
28	30	42	31	36	44	61	73	38.2
4	3	4	4	5	6	6	5	2.7
5	4	2	2	8	33	31	10	5.4
31	33	35	37	43	51	54	62	100.0
17	16	20	18	22	12	13	27	44.5
7	6	9	8	6	8	15	13	21.1
5	8	5	9	8	11	12	13	21.8
2	3	1	3	7	19	15	8	12.7
416	407	380	326	293	241	222	198	100.0
104	120	136	124	96	44	45	68	34.4
89	107	94	82	74	62	58	43	21.8
189	145	126	106	92	80	81	67	33.6
34	35	24	14	31	55	38	20	10.1
546	715	809	902	1046	1125	1233	1346	100.0
184	195	230	321	251	205	229	242	18.0
175	296	349	326	478	549	633	739	54.9
166	189	197	214	245	262	294	309	23.0
21	35	33	40	72	110	78	55	4.1
290	398	427	462	498	517	549	562	100.0
137	180	189	233	205	155	146	179	31.8
85	132	148	140	182	197	236	268	47.8
60	74	77	75	84	90	102	97	17.2
8	12	13	14	27	75	66	18	3.2
29	37	44	46	38	50	48	74	100.0
15	16	21	24	15	11	14	29	39.5
1	1	3	2	2	6	8	8	10.8
11	16	13	11	7	11	10	18	23.8
1	4	7	9	14	21	16	19	25.9
55	74	84	74	75	80	78	90	100.0
15	22	28	24	19	9	16	13	14.4
10	12	21	13	12	16	19	29	32.2
27	34	27	24	23	27	27	34	37.8
3	6	7	13	22	28	16	14	15.6
202	231	281	291	310	331	341	366	100.0
43	48	64	78	41	27	35	49	13.5
26	30	36	28	33	44	72	73	20.1
113	124	140	130	132	150	167	180	49.1
19	30	41	55	104	109	68	63	17.3
179	247	343	476	614	757	985	1223	100.0
51	73	101	144	153	112	151	281	23.0
27	34	62	93	124	174	264	315	25.7
88	119	155	201	246	362	465	548	44.8
13	21	26	38	91	109	104	79	6.5
219	277	376	463	507	510	598	779	100.0
195	248	341	426	438	331	333	627	80.4
8	12	14	11	12	11	17	27	3.5
13	11	12	12	19	20	20	16	2.1
3	7	8	15	39	148	227	109	14.0
1460	1602	1769	1911	2186	2550	2770	2886	100.0
22	26	34	37	16	20	17	19	0.7
734	841	672	308	560	840	1153	1177	40.8
408	392	552	702	800	976	1155	1096	38.0
97	57	103	109	82	91	79	172	5.9
104	80	103	126	135	127	123	102	3.5
94	206	305	630	593	495	242	321	11.1
444	389	338	357	338	307	292	308	100.0
251	219	191	204	209	182	165	183	59.5
108	84	68	72	62	59	57	65	21.2
59	53	52	47	36	35	29	23	7.3
24	22	23	28	27	26	29	31	9.9
3	10	4	6	4	6	13	6	2.1
333	374	394	427	465	552	666	716	100.0
274	282	297	321	348	345	427	547	76.4
26	49	49	47	45	64	78	54	7.5
31	34	40	53	59	72	88	94	13.2
3	10	8	6	12	72	72	21	2.9
349	378	453	447	465	473	447	454	100.0
127	101	121	129	112	84	86	95	20.9
20	39	31	17	15	12	12	15	3.2
198	231	287	286	301	317	306	304	67.0
4	7	14	15	36	61	42	40	8.9
125	141	162	188	193	191	225	251	100.0
64	64	72	100	99	69	106	164	65.5
24	31	33	25	22	18	24	20	7.8
34	42	48	48	45	52	39	39	15.4
4	5	9	16	26	51	56	28	11.3
200	233	249	272	281	306	335	352	100.0
140	175	202	231	209	137	173	267	75.8
26	26	26	16	19	19	32	28	7.8
23	20	13	16	15	24	22	19	5.4
11	13	8	9	38	126	107	39	11.0
162	197	229	265	333	449	596	576	100.0
63	88	111	140	193	295	423	401	69.5
99	109	119	124	140	155	173	175	30.5
113	139	143	137	127	132	156	201	100.0
70	90	98	92	74	61	72	119	59.4
29	32	32	31	38	39	51	63	31.2
12	13	10	10	9	11	10	7	3.5
2	3	3	4	6	21	24	12	5.9

Table 18a Age-standardised (world) incidence rates per 100 000 person-years for selected primary sites, stage and period of diagnosis, 1953-2012

ICD-10	Site	Stage	1953-57	1958-62	1963-67	1968-72
C00-14	Mouth, pharynx	Total	7.8	7.8	7.3	8.1
		Localised	5.4	5.2	5.3	5.2
		Regional	1.9	1.9	1.6	1.8
		Distant	0.1	0.2	0.3	0.4
		Unknown	0.4	0.4	0.2	0.7
C15	Oesophagus	Total	3.3	3.3	2.7	2.8
		Localised	1.9	2.0	1.6	1.3
		Regional	0.4	0.5	0.4	0.5
		Distant	0.7	0.6	0.6	0.7
		Unknown	0.3	0.2	0.1	0.3
C16	Stomach	Total	39.5	33.2	29.0	24.7
		Localised	10.8	8.8	7.7	5.8
		Regional	8.8	7.0	6.3	5.6
		Distant	15.1	14.7	12.6	11.1
		Unknown	4.8	2.6	2.3	2.1
C18	Colon	Total	9.3	10.5	12.2	12.7
		Localised	3.9	4.1	4.9	4.6
		Regional	2.2	2.8	3.0	3.1
		Distant	2.4	3.1	3.8	4.4
		Unknown	0.7	0.5	0.5	0.6
C19-21	Rectum, rectosigmoid, anus	Total	6.5	6.7	7.3	10.1
		Localised	3.2	3.2	3.5	4.5
		Regional	1.4	1.7	2.0	2.8
		Distant	1.3	1.3	1.5	2.3
		Unknown	0.7	0.5	0.2	0.5
C22	Liver	Total	0.7	0.9	1.1	1.6
		Localised	0.4	0.4	0.6	0.7
		Regional	0.1	0.0	0.1	0.0
		Distant	0.2	0.4	0.4	0.7
		Unknown	0.1	0.1	0.0	0.2
C23-24	Gallbladder, bile ducts	Total	0.6	0.9	0.9	0.9
		Localised	0.3	0.3	0.3	0.3
		Regional	0.0	0.2	0.1	0.1
		Distant	0.2	0.3	0.4	0.4
		Unknown	0.0	0.1	0.0	0.1
C25	Pancreas	Total	5.5	6.0	7.3	7.9
		Localised	1.6	1.7	2.1	1.6
		Regional	0.5	0.7	1.0	1.0
		Distant	2.9	3.2	3.9	4.5
		Unknown	0.5	0.4	0.3	0.7
C33-34	Lung, trachea	Total	9.6	13.1	16.6	22.2
		Localised	2.9	3.8	5.7	7.1
		Regional	2.0	2.8	3.6	4.3
		Distant	3.9	5.5	6.6	9.4
		Unknown	0.8	1.0	0.7	1.5
C43	Melanoma of the skin	Total	1.8	2.8	3.9	5.4
		Localised	1.0	1.8	2.6	3.6
		Regional	0.4	0.4	0.6	0.6
		Distant	0.2	0.5	0.6	0.7
		Unknown	0.2	0.1	0.1	0.5
C61	Prostate	Total	24.7	26.7	31.3	34.2
		Localised	14.4	15.8	20.8	21.6
		Regional	1.3	1.3	1.1	1.4
		Distant	6.6	7.1	7.5	7.6
		Unknown	2.4	2.6	1.8	3.6
C62	Testis	Total	2.8	3.4	3.5	4.4
		Localised	1.8	2.4	2.3	2.7
		Regional	0.1	0.2	0.2	0.5
		Distant	0.8	0.8	1.0	1.1
		Unknown	0.1	0.1	0.1	0.2
C64	Kidney except renal pelvis	Total	3.4	4.8	5.4	6.0
		Localised	1.8	2.5	2.9	2.7
		Regional	0.2	0.5	0.8	1.0
		Distant	1.2	1.5	1.6	2.2
		Unknown	0.2	0.2	0.1	0.2
C66-68	Bladder, ureter, urethra	Total	8.1	8.8	11.3	12.8
		Localised	5.9	7.2	9.6	10.2
		Regional	0.6	0.7	0.9	1.4
		Distant	1.0	0.6	0.6	0.7
		Unknown	0.5	0.3	0.2	0.6
C70-72, D32-33	Central nervous system	Total	5.8	6.0	6.8	7.0
		Non-malignant	1.4	1.8	1.7	2.0
		Malignant	4.4	4.3	5.1	5.0
C73	Thyroid gland	Total	0.8	1.0	1.1	1.5
		Localised	0.3	0.3	0.2	0.6
		Regional	0.3	0.5	0.6	0.6
		Distant	0.2	0.2	0.3	0.3
		Unknown	0.1	0.0	0.0	0.1

Period							
1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12
8.2	8.0	8.6	8.2	8.3	7.9	7.6	8.1
5.4	4.9	5.3	4.7	4.3	2.7	2.5	3.5
2.3	2.6	3.0	3.0	3.0	3.2	3.7	3.9
0.3	0.3	0.2	0.3	0.4	0.4	0.4	0.3
0.2	0.2	0.1	0.2	0.6	1.6	1.0	0.3
2.6	2.7	2.7	3.2	3.3	3.4	3.7	4.0
1.3	1.2	1.0	1.2	1.3	0.6	0.7	1.3
0.6	0.7	0.7	0.8	0.8	0.8	1.2	1.1
0.7	0.7	0.8	1.1	0.9	1.0	1.1	1.2
0.1	0.1	0.1	0.1	0.4	0.9	0.6	0.3
20.4	18.0	15.8	13.8	11.6	9.2	7.7	6.5
5.4	5.3	4.8	4.7	3.2	1.4	1.4	2.1
4.6	5.0	4.5	3.9	3.8	2.8	2.4	1.9
9.2	6.9	5.8	4.6	3.8	3.4	2.8	2.1
1.3	0.9	0.7	0.5	0.8	1.6	1.1	0.5
14.2	17.1	20.1	22.5	23.2	24.9	25.7	26.7
4.9	4.7	5.9	7.5	5.5	4.3	4.7	4.6
4.5	7.2	8.3	7.9	10.5	12.0	12.9	14.3
4.4	4.6	5.3	6.3	6.3	6.7	6.7	7.2
0.4	0.6	0.6	0.7	0.9	1.9	1.4	0.6
11.7	14.7	15.6	16.0	16.7	17.0	17.1	17.1
5.6	6.5	6.5	7.1	6.5	4.6	4.3	4.6
3.3	5.1	6.0	5.6	6.4	6.7	7.7	9.0
2.5	2.7	2.8	3.0	3.2	3.7	3.5	3.2
0.3	0.3	0.3	0.3	0.6	2.0	1.6	0.4
1.7	1.8	2.1	1.8	1.7	2.1	2.2	2.8
0.8	0.9	1.1	1.1	0.9	0.8	0.7	1.3
0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.3
0.7	0.6	0.7	0.3	0.3	0.5	0.5	0.7
0.1	0.2	0.2	0.3	0.4	0.7	0.7	0.5
1.0	1.1	1.4	1.5	1.4	1.5	1.6	1.6
0.3	0.4	0.5	0.5	0.3	0.3	0.3	0.3
0.3	0.3	0.3	0.3	0.3	0.4	0.6	0.7
0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.5
0.0	0.1	0.1	0.2	0.3	0.5	0.2	0.1
8.2	8.4	8.5	8.1	7.7	7.5	8.0	7.7
1.5	1.4	1.6	1.7	0.9	0.5	0.6	0.8
1.1	1.1	1.2	0.8	1.1	1.2	2.0	1.7
5.0	5.0	4.6	4.4	3.8	3.9	4.5	4.4
0.7	1.0	1.0	1.1	1.8	1.9	1.0	0.8
25.3	30.9	34.3	35.3	37.3	36.2	36.6	35.1
7.9	9.9	10.7	11.1	9.7	5.8	4.9	7.0
5.0	5.7	7.7	7.3	8.3	9.0	11.1	9.7
10.8	13.5	13.9	14.6	15.1	17.2	17.3	16.3
1.7	1.8	2.0	2.3	4.2	4.2	3.3	2.1
7.4	8.9	10.6	14.7	14.8	14.5	15.4	19.5
6.1	7.3	9.0	12.7	12.5	8.7	8.4	14.9
0.6	0.7	0.6	0.7	0.4	0.5	0.7	1.0
0.7	0.6	0.7	0.9	0.8	0.9	0.9	0.7
0.1	0.3	0.3	0.5	1.0	4.3	5.5	2.9
39.5	42.2	44.2	49.9	63.0	77.7	97.3	106.5
26.5	28.4	29.1	33.8	38.4	27.2	47.2	67.8
2.2	1.8	1.7	2.1	3.5	4.0	7.7	22.0
8.5	9.3	11.9	11.6	9.6	9.2	9.1	6.7
2.3	2.7	1.6	2.4	11.5	37.4	33.3	10.0
4.4	5.9	6.6	8.0	8.8	10.4	11.2	11.6
2.5	3.1	3.9	5.4	5.9	5.5	6.2	9.0
0.9	1.6	1.6	1.4	1.4	1.6	1.9	1.4
1.1	1.1	1.0	1.1	1.1	1.4	1.2	1.1
0.0	0.1	0.1	0.1	0.4	2.0	1.8	0.1
6.4	7.5	8.3	8.2	8.2	8.8	10.1	12.0
2.6	3.0	3.9	4.0	4.1	3.5	4.7	8.0
1.5	1.7	1.7	1.3	1.3	1.2	1.1	1.0
2.1	2.5	2.4	2.4	2.0	2.1	2.3	2.1
0.1	0.2	0.3	0.4	0.8	2.1	2.0	1.0
16.4	18.1	21.2	22.4	22.1	21.1	22.2	20.8
13.4	15.5	18.4	19.8	18.6	11.0	12.2	16.7
1.7	1.5	1.6	1.4	1.0	1.2	2.0	1.5
0.9	0.8	0.8	0.8	0.6	0.9	0.8	0.8
0.4	0.3	0.4	0.4	1.8	8.0	7.1	1.9
7.5	8.5	9.5	9.4	10.8	12.6	14.6	13.8
1.9	2.5	2.8	2.8	4.4	5.5	7.3	6.6
5.6	6.0	6.7	6.7	6.4	7.1	7.3	7.2
1.5	1.6	1.5	1.8	1.6	1.7	1.9	2.2
0.7	0.8	0.8	0.9	0.7	0.6	0.7	0.9
0.6	0.6	0.5	0.6	0.5	0.6	0.8	1.0
0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1
0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1

Table 18b Age-standardised (world) incidence rates per 100 000 person-years for selected primary sites, stage and period of diagnosis, 1953-2012

ICD-10	Site	Stage	1953-57	1958-62	1963-67	1968-72
C00-14	Mouth, pharynx	Total	2.4	2.2	2.3	2.3
		Localised	1.5	1.3	1.3	1.4
		Regional	0.7	0.7	0.8	0.7
		Distant	0.1	0.1	0.1	0.1
		Unknown	0.2	0.1	0.0	0.1
C15	Oesophagus	Total	0.9	0.8	0.9	0.7
		Localised	0.6	0.5	0.6	0.4
		Regional	0.1	0.1	0.1	0.1
		Distant	0.1	0.1	0.1	0.2
		Unknown	0.1	0.1	0.1	0.1
C16	Stomach	Total	22.4	18.8	16.2	12.7
		Localised	6.3	4.8	4.5	2.6
		Regional	4.5	3.5	3.2	2.6
		Distant	8.4	8.2	7.0	6.2
		Unknown	3.4	2.4	1.6	1.3
C18	Colon	Total	9.0	10.3	11.8	13.0
		Localised	3.9	4.1	4.7	4.9
		Regional	1.8	2.7	2.9	3.6
		Distant	2.4	2.8	3.8	3.9
		Unknown	0.8	0.7	0.5	0.6
C19-21	Rectum, rectosigmoid, anus	Total	4.2	4.6	5.2	7.0
		Localised	2.0	2.1	2.6	3.3
		Regional	1.0	1.3	1.3	1.9
		Distant	0.8	1.0	1.1	1.6
		Unknown	0.4	0.3	0.2	0.2
C22	Liver	Total	0.4	0.5	0.5	0.8
		Localised	0.1	0.2	0.2	0.4
		Regional	0.0	0.0	0.0	0.0
		Distant	0.2	0.2	0.3	0.3
		Unknown	0.0	0.1	0.0	0.1
C23-24	Gallbladder, bile ducts	Total	1.4	1.7	1.6	1.6
		Localised	0.4	0.4	0.5	0.4
		Regional	0.2	0.3	0.2	0.2
		Distant	0.7	0.9	0.9	0.9
		Unknown	0.1	0.1	0.0	0.1
C25	Pancreas	Total	3.1	3.9	3.9	4.7
		Localised	0.9	1.1	1.2	1.1
		Regional	0.3	0.4	0.4	0.6
		Distant	1.6	2.1	2.1	2.5
		Unknown	0.3	0.4	0.2	0.5
C33-34	Lung, trachea	Total	2.6	2.7	3.2	4.7
		Localised	0.7	0.6	1.1	1.5
		Regional	0.3	0.4	0.4	0.7
		Distant	1.2	1.5	1.6	2.2
		Unknown	0.4	0.2	0.2	0.3
C43	Melanoma of the skin	Total	2.1	3.0	4.3	5.7
		Localised	1.5	2.5	3.5	4.3
		Regional	0.3	0.3	0.3	0.4
		Distant	0.2	0.2	0.4	0.4
		Unknown	0.1	0.1	0.1	0.6
C50	Breast	Total	36.7	38.3	41.6	44.2
		Pagets stage 0	0.0	0.0	0.0	0.3
		I	15.9	16.9	19.8	20.5
		II	14.3	14.7	14.0	14.6
		III	1.9	2.0	3.2	2.7
		IV	3.3	3.6	3.5	3.8
C53	Cervix uteri	Unknown	1.3	1.1	1.1	2.3
		Total	14.8	15.3	16.4	17.6
		I	5.7	6.7	7.8	10.0
		II	4.1	5.3	5.7	4.9
		III	3.3	2.1	1.8	1.9
		IV	1.2	0.9	0.9	0.7
C54	Corpus uteri	Unknown	0.5	0.3	0.2	0.2
		Total	6.7	7.6	8.6	9.8
		Localised	5.3	6.2	7.1	8.0
		Regional	0.4	0.4	0.4	0.5
		Distant	0.7	0.7	0.9	1.1
		Unknown	0.3	0.3	0.0	0.2
C56	Ovary	Total	10.4	11.4	11.6	13.2
		Localised	3.3	3.9	3.9	5.1
		Regional	0.9	0.9	0.5	0.9
		Distant	5.8	6.1	6.9	7.0
		Unknown	0.5	0.6	0.2	0.2
C64	Kidney except renal pelvis	Total	2.8	3.1	3.2	3.6
		Localised	1.7	1.7	1.8	1.9
		Regional	0.3	0.3	0.3	0.6
		Distant	0.6	0.9	1.0	1.0
		Unknown	0.2	0.1	0.1	0.1
C66-68	Bladder, ureter, urethra	Total	3.6	4.1	4.0	4.4
		Localised	2.2	2.5	2.7	2.9
		Regional	0.4	0.5	0.6	0.7
		Distant	0.6	0.7	0.6	0.5
		Unknown	0.4	0.3	0.2	0.3
C70-72, D32-33	Central nervous system	Total	4.6	5.4	5.4	5.6
		Non-malignant	1.6	2.3	2.4	2.3
		Malignant	3.1	3.1	3.0	3.3
C73	Thyroid gland	Total	2.1	2.2	2.7	3.7
		Localised	1.0	0.9	1.3	2.1
		Regional	0.7	0.8	1.0	1.1
		Distant	0.3	0.4	0.3	0.3
		Unknown	0.1	0.1	0.0	0.2

FEMALES

Period							
1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12
2.3	2.5	2.8	2.9	3.3	3.4	3.8	4.2
1.2	1.5	1.6	1.9	2.1	1.3	1.6	2.2
0.8	0.8	1.1	0.8	0.9	1.1	1.5	1.8
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.2	0.8	0.7	0.2
0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1
0.4	0.3	0.4	0.4	0.4	0.2	0.2	0.5
0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3
0.1	0.2	0.1	0.2	0.2	0.3	0.3	0.3
0.0	0.1	0.0	0.0	0.1	0.3	0.2	0.1
10.4	9.2	8.0	6.5	5.5	4.5	4.2	3.4
2.4	2.6	2.6	2.3	1.6	0.8	0.8	1.1
2.4	2.6	2.1	1.9	1.5	1.3	1.2	0.7
4.9	3.4	2.9	2.1	2.0	1.7	1.7	1.3
0.7	0.6	0.4	0.2	0.4	0.7	0.5	0.3
14.4	17.4	18.2	19.6	21.9	22.6	23.5	24.1
4.8	4.6	5.0	6.8	5.2	4.2	4.2	4.3
4.7	7.5	8.0	7.2	10.1	11.2	12.1	13.3
4.4	4.7	4.6	5.0	5.6	5.5	6.0	5.9
0.5	0.6	0.5	0.6	1.0	1.7	1.2	0.6
8.0	10.1	10.2	10.7	11.2	11.4	11.7	11.3
3.7	4.6	4.5	5.2	4.6	3.6	3.1	3.6
2.5	3.4	3.6	3.5	4.4	4.4	5.2	5.5
1.7	1.9	1.9	1.8	1.9	2.0	2.3	2.0
0.2	0.2	0.2	0.2	0.4	1.3	1.2	0.2
0.8	1.0	1.0	1.1	0.9	1.1	1.0	1.4
0.4	0.4	0.5	0.6	0.4	0.3	0.3	0.6
0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2
0.3	0.4	0.3	0.3	0.1	0.3	0.2	0.4
0.0	0.1	0.1	0.1	0.2	0.4	0.3	0.3
1.3	1.6	1.7	1.5	1.5	1.5	1.5	1.7
0.4	0.5	0.6	0.5	0.4	0.2	0.3	0.2
0.3	0.3	0.5	0.3	0.3	0.4	0.4	0.6
0.6	0.7	0.5	0.5	0.5	0.6	0.5	0.7
0.1	0.1	0.1	0.2	0.3	0.4	0.2	0.2
5.1	5.3	5.9	5.9	6.0	6.1	6.3	6.5
1.0	1.0	1.2	1.4	0.8	0.4	0.5	0.9
0.7	0.7	0.8	0.7	0.8	0.9	1.4	1.4
2.9	3.0	3.1	2.9	2.9	3.1	3.4	3.4
0.5	0.6	0.7	0.8	1.5	1.6	0.9	0.7
5.4	7.3	9.7	13.1	16.8	19.7	23.2	25.7
1.5	2.1	2.6	3.7	4.3	2.9	3.5	5.9
0.9	1.1	2.0	2.7	3.5	4.7	6.4	6.8
2.7	3.6	4.6	5.9	7.2	9.7	11.2	11.8
0.3	0.5	0.6	0.8	1.9	2.4	2.1	1.1
9.1	10.4	13.7	16.0	16.7	15.2	16.7	19.8
8.2	9.5	12.6	15.0	14.7	10.2	9.5	16.1
0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.5
0.4	0.3	0.4	0.3	0.5	0.5	0.5	0.4
0.1	0.2	0.2	0.4	1.2	4.2	6.3	2.8
49.1	51.0	53.0	55.2	63.8	73.1	75.6	73.9
0.7	0.8	1.0	1.0	0.4	0.5	0.4	0.5
24.4	26.0	19.6	9.1	17.1	26.2	33.7	31.8
14.5	13.0	17.2	21.6	25.0	29.5	32.6	29.1
2.8	1.4	2.6	2.9	2.0	2.4	1.8	4.3
3.2	2.3	2.8	3.4	3.8	3.2	2.9	2.4
3.4	7.5	9.7	17.1	15.5	11.3	4.3	5.9
18.7	15.5	12.6	12.6	11.7	10.2	9.3	9.7
11.7	9.6	7.8	7.7	7.7	6.6	5.7	6.2
4.1	3.0	2.4	2.4	2.0	1.8	1.7	1.9
2.0	1.7	1.6	1.5	1.1	1.0	0.8	0.6
0.8	0.7	0.6	0.8	0.8	0.7	0.8	0.8
0.1	0.4	0.1	0.2	0.1	0.2	0.4	0.1
11.0	12.2	12.3	12.8	13.5	14.4	16.4	16.1
9.3	9.5	9.6	10.0	10.2	9.3	10.9	12.5
0.8	1.4	1.4	1.3	1.3	1.6	1.8	1.1
0.9	0.9	1.1	1.4	1.7	1.8	2.1	2.1
0.1	0.3	0.2	0.1	0.3	1.7	1.5	0.4
12.6	12.8	14.4	13.6	13.4	13.1	11.4	10.7
4.8	3.6	4.2	4.3	3.7	2.7	2.6	2.6
0.8	1.3	1.1	0.5	0.4	0.3	0.3	0.4
6.9	7.7	8.9	8.4	8.6	8.6	7.6	7.1
0.1	0.2	0.3	0.3	0.7	1.4	0.9	0.6
3.9	4.0	4.1	4.8	4.7	4.4	5.2	5.6
2.0	1.9	1.9	2.6	2.7	1.8	2.7	3.9
0.7	0.8	0.9	0.7	0.6	0.4	0.5	0.4
1.0	1.2	1.1	1.2	1.0	1.2	0.8	0.8
0.1	0.1	0.1	0.3	0.4	1.1	1.2	0.5
5.1	5.5	5.5	6.0	5.8	6.3	6.3	6.3
3.6	4.2	4.5	5.1	4.3	3.0	3.4	4.8
0.6	0.6	0.6	0.4	0.4	0.4	0.6	0.6
0.6	0.5	0.3	0.4	0.3	0.5	0.4	0.4
0.3	0.3	0.1	0.1	0.7	2.3	1.8	0.6
6.7	7.7	8.6	9.3	11.3	14.2	17.6	16.2
2.5	3.3	3.8	4.6	6.2	8.9	12.1	10.9
4.2	4.4	4.8	4.8	5.1	5.2	5.5	5.3
4.5	5.1	5.2	4.8	4.3	4.3	4.9	6.2
3.0	3.5	3.8	3.4	2.7	2.2	2.4	3.8
1.1	1.2	1.1	1.1	1.3	1.3	1.6	2.0
0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1
0.1	0.1	0.1	0.1	0.1	0.6	0.7	0.3

Mortality

There were 10 906 deaths from cancer in Norway in 2012, of which 5 817 were among men and 5 089 among women (Table 19). Cancers of the lung, colon, rectum, prostate and female breast account for half of the total cancer mortality. As previously, lung cancer ranks first in men in terms of cancer mortality numbers, responsible for 1 242 deaths, followed by prostate cancer (1 006 deaths) colon cancer (611 deaths) and pancreas cancer (365 deaths).

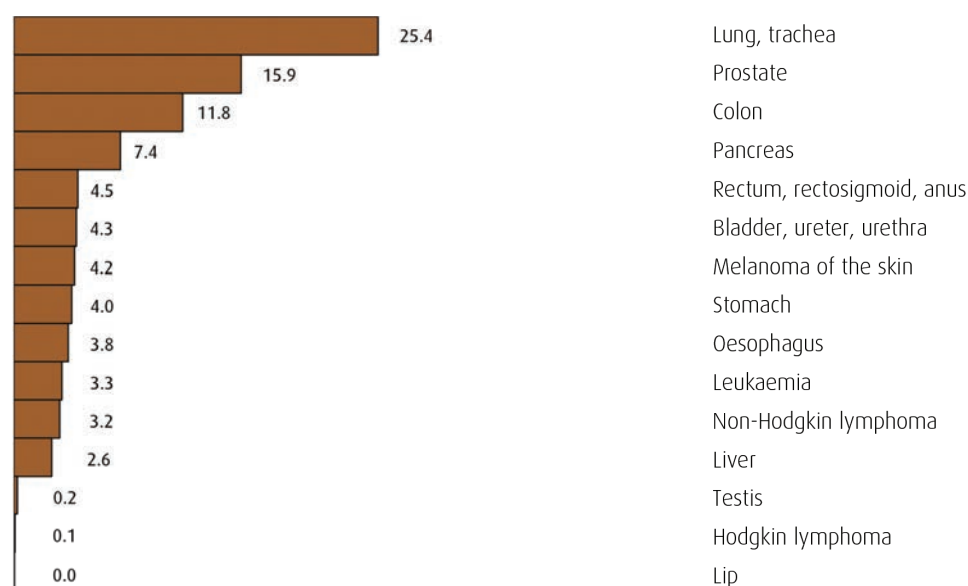
Lung cancer mortality also ranks highest among women (943 deaths). Breast cancer (645 deaths) and colon cancer (595 deaths), respectively, represent the second and third most frequent cause of cancer deaths among women.

Figure 8 shows the distribution of age-standardised mortality rates for selected cancer sites. There is at least a 100-fold difference in rates across these cancers. Given the very poor prognosis for pancreatic cancer, it ranks among the top five causes of cancer death among both men and women, even though pancreatic cancer is a relatively rare cancer.

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

Figure 8. Age-standardised (world) mortality rates per 100 000 person-years for selected cancers in Norway, 2012 (Source: Statistics Norway)

Males



Females

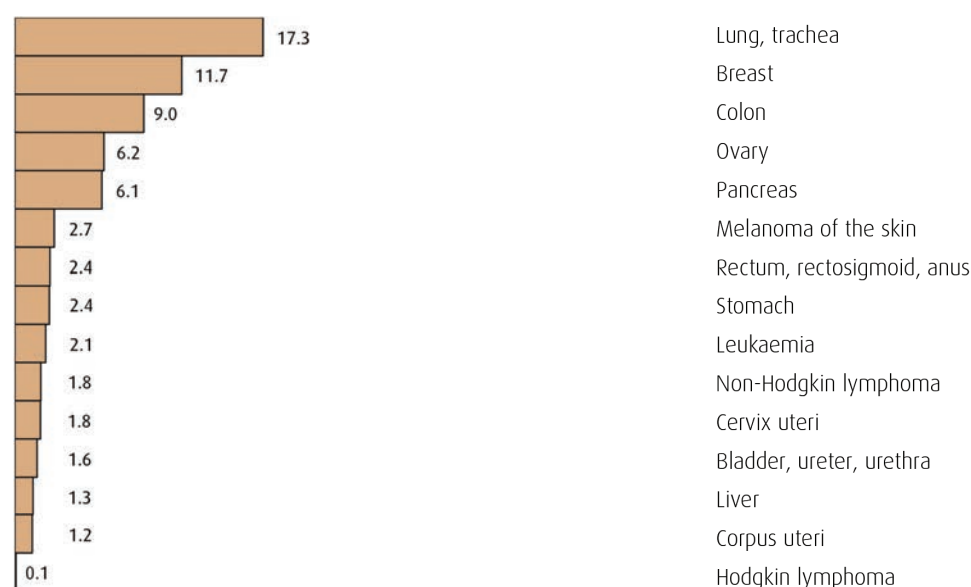


Table 19 Number of cancer deaths in Norway by primary site and sex, 2012

ICD-10	Site	Males	Females	Total
C00-96	All sites	5817	5089	10906
C00-14	Mouth, pharynx	80	64	144
C00	Lip	1	1	2
C01-02	Tongue	20	13	33
C03-06	Mouth, other	16	25	41
C07-08	Salivary glands	8	9	17
C09-14	Pharynx	35	16	51
C15-26	Digestive organs	1748	1538	3286
C15	Oesophagus	154	51	205
C16	Stomach	192	134	326
C17	Small intestine	23	24	47
C18	Colon	611	595	1206
C19-21	Rectum, rectosigmoid, anus	217	181	398
C22	Liver	121	107	228
C23-24	Gallbladder, bile ducts	26	42	68
C25	Pancreas	365	359	724
C26	Other digestive organs	39	45	84
C30-34, C38	Respiratory organs	1281	959	2240
C30-31	Nose, sinuses	8	1	9
C32	Larynx, epiglottis	27	12	39
C33-34	Lung, trachea	1242	943	2185
C38	Mediastinum, pleura (non-mesothelioma)	4	3	7
C40-41	Bone	10	10	20
C43	Melanoma of the skin	188	126	314
C44	Skin, non-melanoma	21	12	33
C45	Mesothelioma	50	13	63
C46	Kaposi's sarcoma	1	1	2
C47	Autonomic nervous system		1	1
C48-49	Soft tissues	32	44	76
C50	Breast	4	645	649
C51-58	Female genital organs		618	618
C53	Cervix uteri		68	68
C54	Corpus uteri		80	80
C55	Uterus, other		73	73
C56	Ovary		328	328
C51-52, C57	Other female genital		68	68
C58	Placenta		1	1
C60-63	Male genital organs	1025		1025
C61	Prostate	1006		1006
C62	Testis	8		8
C60, C63	Other male genital	11		11
C64-68	Urinary organs	443	202	645
C64	Kidney excl. renal pelvis	178	101	279
C65	Renal pelvis	7	3	10
C66-68	Bladder, ureter, urethra	258	98	356
C69	Eye	2	1	3
C70-72, D32-33	Central nervous system	186	154	340
C73	Thyroid gland	10	17	27
C37, C74-75	Other endocrine glands	9	15	24
C39, C76, C80	Other or unspecified	189	246	435
C81-96	Lymphoid and haematopoietic tissue	538	423	961
C81	Hodgkin lymphoma	3	4	7
C82-85, C96	Non-Hodgkin lymphoma	161	133	294
C88	Malignant immunoproliferative diseases	6	7	13
C90	Multiple myeloma	131	109	240
C91-95, D45-47	Leukaemia	237	169	406

Survival

Long-term estimates of survival are becoming increasingly relevant as life expectancy amongst cancer patients increases and cancer care continues to advance (Brenner & Hakulinen, 2002). Table 21 gives the 1-, 5-, 10- and 15-year relative survival estimates (with 95% confidence intervals) for the follow-up period 2010-2012 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. (Janssen-Heijnen & al, 2007). Figures 9-A to 9-X depict these two aspects of cancer survival in Norway for all cancers combined and for 23 specific cancer types. 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 curves tend to level off a certain number of years after diagnosis, indicating that from this point forward, the cancer patient group has similar mortality to the group without cancer, or in other words, statistically, these patients appear to be “cured” (Lambert, 2007). This concept of “statistical cure” involves attributes of survival observed among patients as a group, and should be distinguished from clinical cure, as is determined on the basis of a 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, and better quantify the prognosis of cancer patients at time points beyond the initial diagnosis (Figure 9-A to 9-X, dashed lines). When conditional five-year relative survival reaches 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 9-A. The levelling-off of the five-year relative survival occurs some 8 to 10 years after diagnosis, while the attainment of five-year conditional relative survival estimates of 90-95% is observed in patients alive 3-5 years after diagnosis (dashed lines). As mentioned in the Trends section, 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 9-B to 9-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 9-Q) compared to patients with pancreatic cancer (Figure 9-I) strikingly illustrates the wide differential in prognosis according to type of cancer. Long-term survival following diagnosis of melanoma and cancers of the oral cavity, central nervous system and thyroid gland clearly varies between men and women. This may be due to biological or anatomical differences or may relate 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 colon cancer (Figure 9-E) relative to, for example, ovarian cancer (Figure 9-O) or leukaemia (Figure 9-X). For certain cancers, including breast and corpus uteri cancer, long-term survival among patients diagnosed under the age of 50 is lower than for patients diagnosed at the age 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% 2 years after diagnosis (Figure 9-L) and slowly increases to 94% 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 this group.

Table 20 provides the five-year relative survival estimates over the last four decades by stage, cancer site and sex. While the stage-specific count of cases by five-year period of diagnosis in Tables 17 a and b 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.

In general, caution is required in interpreting cancer-specific incidence and survival according to stage, particularly given the time-varying proportion of staging recorded as unknown. Due to changes in coding practice described in the Data sources and methods section, any observed reduction in relative survival for localised disease between the last two periods in table 20 are most probably due to those coding changes and do not reflect a real change in survival for patients with localised cancer.

A visual description of survival trends in colon, breast and prostate cancer by stage was provided in the Special Issue in Cancer in Norway 2007.

Table 20a Five-year relative survival (period approach) by primary site, stage and period of follow-up, 1973 - 2012

ICD10	Site	Stage	Relative survival (%)							
			1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12 ^{1,2}
C00-96	All sites	Total	35.2	39.2	42.3	45.3	50.4	55.6	62.7	68.8
C00-14	Mouth, pharynx	Total	64.3	63.2	57.0	54.8	59.0	55.9	57.7	62.9
		Localized	83.4	82.9	78.4	73.8	80.0	79.3	82.1	78.0
		Regional	24.3	29.1	24.3	27.1	33.7	37.5	45.2	52.5
		Distant	-	-	-	7.7	15.8	10.4	14.1	11.2
		Unknown	-	-	-	-	56.6	57.8	58.7	75.1
C15	Oesophagus	Total	2.8	3.4	3.5	5.7	4.6	8.0	8.4	13.7
		Localized	3.5	3.2	5.0	10.0	7.2	20.9	22.8	25.8
		Regional	2.3	5.0	7.1	5.3	6.5	8.7	8.8	15.7
		Distant	0.0	0.5	0.0	1.3	0.3	1.2	0.9	0.2
		Unknown	-	-	-	-	0.2	5.4	7.2	11.9
C16	Stomach	Total	13.5	15.6	16.6	17.2	17.0	18.5	18.3	24.4
		Localized	41.0	37.2	38.3	34.7	37.6	57.5	56.4	46.7
		Regional	14.0	20.4	20.3	20.3	19.0	19.7	20.8	25.1
		Distant	1.6	0.8	1.1	0.6	0.5	1.4	1.3	2.6
		Unknown	6.8	2.5	2.3	8.8	6.3	14.6	17.4	35.8
C18	Colon	Total	39.2	43.5	48.2	46.2	50.6	52.7	57.8	59.5
		Localized	69.4	71.9	79.1	75.4	82.2	88.5	88.4	81.2
		Regional	43.6	52.8	57.4	55.4	62.1	66.0	72.0	76.7
		Distant	6.0	5.2	3.9	5.0	3.5	5.6	8.5	11.1
		Unknown	14.1	20.0	11.0	15.2	11.6	48.0	55.9	45.4
C19-21	Rectum, rectosigmoid, anus	Total	35.0	40.2	45.6	46.5	50.9	56.3	60.5	65.2
		Localized	56.5	60.1	66.4	67.8	72.1	83.0	85.0	78.8
		Regional	24.7	35.3	41.6	45.6	50.6	61.7	69.0	77.1
		Distant	5.4	3.6	3.5	2.1	4.7	8.1	10.9	16.1
		Unknown	-	16.8	23.6	55.5	23.1	41.7	58.5	43.9
C22	Liver	Total	2.0	1.7	0.7	3.1	3.7	4.7	7.8	14.0
		Localized	4.7	2.5	1.7	4.2	6.9	15.0	16.2	24.2
		Regional	-	-	-	-	-	-	-	4.7
		Distant	0.1	0.8	0.1	-	0.4	1.3	1.1	1.9
		Unknown	-	-	-	-	2.0	0.5	5.4	14.9
C23-24	Gallbladder, bile ducts	Total	5.6	6.7	8.3	9.5	8.7	14.1	13.1	15.4
		Localized	-	13.9	13.6	15.6	23.3	27.5	40.2	31.4
		Regional	-	-	12.2	18.6	20.4	23.7	16.7	18.4
		Distant	0.3	0.8	1.0	1.4	1.0	1.6	2.1	1.3
		Unknown	-	-	-	-	0.6	12.9	1.9	-
C25	Pancreas	Total	1.1	0.9	1.1	1.2	1.8	1.8	4.0	4.6
		Localized	4.1	2.7	2.0	2.3	4.9	4.8	21.6	17.7
		Regional	1.1	5.0	2.9	4.1	6.1	5.8	6.3	8.8
		Distant	0.3	0.1	0.3	0.3	0.6	0.7	1.4	1.4
		Unknown	1.8	1.6	3.5	1.7	1.1	1.3	2.6	6.7
C33-34	Lung, trachea	Total	7.1	7.3	7.9	7.4	7.9	8.0	10.2	12.4
		Localized	17.1	16.3	19.6	15.4	19.6	30.8	42.3	40.9
		Regional	9.1	10.4	9.0	11.3	9.9	8.9	12.0	15.9
		Distant	0.6	0.8	0.6	0.7	0.6	0.5	1.1	1.4
		Unknown	2.0	3.8	2.4	2.1	6.1	6.0	11.4	12.9
C43	Melanoma of the skin	Total	58.3	72.3	70.3	75.6	78.6	78.7	77.2	78.0
		Localized	68.9	80.9	79.3	83.8	85.6	86.7	88.9	83.7
		Regional	28.6	34.9	27.8	32.7	37.1	31.2	46.7	37.9
		Distant	5.9	12.8	1.8	5.2	10.4	9.7	7.2	9.2
		Unknown	-	-	58.1	43.3	59.6	78.1	74.3	77.2
C61	Prostate	Total	53.5	54.2	57.0	57.3	64.9	75.1	83.4	90.9
		Localized	67.0	68.1	73.1	70.5	75.8	88.1	96.6	98.2
		Regional	38.0	40.6	36.7	53.5	71.3	78.6	80.8	89.9
		Distant	18.2	19.9	19.0	24.7	24.3	23.0	29.8	35.3
		Unknown	47.3	34.4	42.3	52.7	61.3	80.2	84.1	90.8
C62	Testis	Total	69.1	84.5	92.5	95.2	96.9	95.4	96.8	97.2
		Localized	87.9	94.3	98.2	99.0	99.9	98.5	99.3	99.3
		Regional	72.6	90.7	94.6	94.4	98.8	95.9	97.6	96.4
		Distant	24.3	48.4	73.9	77.9	77.4	81.7	83.2	86.4
		Unknown	-	-	-	-	-	95.1	97.0	92.1
C64	Kidney except renal pelvis	Total	35.8	35.4	40.7	41.7	48.4	49.9	60.4	67.3
		Localized	63.4	69.6	69.5	69.8	73.1	77.4	85.9	85.5
		Regional	45.6	41.5	47.7	48.9	50.3	53.6	54.3	54.4
		Distant	5.0	3.7	4.3	5.1	6.7	4.9	7.9	11.3
		Unknown	-	-	-	19.8	23.0	53.0	69.1	74.2
C66-68	Bladder, ureter, urethra	Total	59.2	65.5	67.7	70.8	71.1	71.1	74.2	73.3
		Localized	68.9	74.8	75.3	76.8	77.3	83.2	84.5	82.2
		Regional	16.4	23.6	26.6	29.5	21.9	29.7	25.5	30.1
		Distant	7.0	1.7	1.8	7.8	4.7	4.4	4.1	4.4
		Unknown	39.0	25.4	32.2	63.7	53.2	67.2	75.9	71.8
C70-72, D32-33	Central nervous system	Total	25.1	34.6	36.7	42.1	47.2	53.8	61.5	61.4
		Non-malignant	52.2	57.0	76.3	74.5	83.8	91.9	94.1	93.2
		Malignant	15.8	25.7	22.4	29.4	27.1	26.0	29.3	30.2
C73	Thyroid gland	Total	78.5	76.8	76.7	81.7	76.4	82.5	85.3	86.5
		Localized	92.6	92.8	89.1	93.7	100.1	98.6	97.2	95.0
		Regional	78.9	83.7	83.6	91.4	82.9	81.5	90.9	91.0
		Distant	-	-	-	-	-	-	-	-
		Unknown	-	-	-	-	-	-	-	-
C81	Hodgkin lymphoma	Total	51.0	58.5	65.9	78.8	83.7	90.7	88.6	87.0
C82-85, C96	Non-Hodgkin lymphoma	Total	33.5	41.7	43.4	46.8	50.8	52.5	64.1	69.9
C91-95	Leukaemia	Total	17.3	22.6	28.1	35.0	42.0	47.6	55.8	62.8

^{1,2}: Not estimated due to few patients in the group (<50 patients at start of interval 0-1)

* Caution is required in interpreting survival according to stage due to changes in coding practices.

Table 20b Five-year relative survival (period approach) by primary site, stage and period of follow-up, 1973 - 2012**FEMALES**

ICD10	Site	Stage	Relative survival (%)							
			1973-77	1978-82	1983-87	1988-92	1993-97	1998-02	2003-07	2008-12 [*]
C00-96	All sites	Total	48.0	50.8	53.0	55.5	58.4	62.3	66.5	69.8
C00-14	Mouth, pharynx	Total	58.5	60.4	58.6	60.4	63.6	60.7	66.7	71.5
		Localized	76.1	75.1	76.2	73.3	80.1	84.3	82.9	82.9
		Regional	40.8	36.9	37.1	39.7	38.5	38.1	53.8	55.5
		Distant	-	-	-	-	-	-	-	-
		Unknown	-	-	-	-	-	57.4	66.0	82.8
C15	Oesophagus	Total	3.8	9.3	9.5	6.4	10.2	7.6	9.9	12.1
		Localized	3.8	17.7	7.6	13.7	12.9	16.4	29.4	21.1
		Regional	-	-	17.8	-	-	-	6.8	20.3
		Distant	-	-	-	-	-	0.0	5.2	0.1
		Unknown	-	-	-	-	-	7.9	6.2	-
C16	Stomach	Total	11.8	15.3	19.3	20.4	20.7	22.8	21.4	23.6
		Localized	30.7	41.0	42.4	37.7	41.7	68.3	55.5	49.2
		Regional	15.7	17.6	18.8	25.0	24.5	30.4	23.6	23.0
		Distant	2.5	1.1	1.1	0.9	1.1	1.7	3.4	2.7
		Unknown	8.2	3.3	6.6	10.2	11.9	10.0	23.0	34.9
C18	Colon	Total	39.0	43.6	47.5	51.9	53.6	57.2	59.0	62.8
		Localized	70.9	71.0	76.8	81.7	85.1	89.2	91.2	86.1
		Regional	41.1	55.7	55.7	61.4	62.8	69.0	71.0	78.0
		Distant	5.0	3.3	4.4	4.3	5.8	8.9	9.1	13.0
		Unknown	25.8	19.5	7.8	24.6	19.9	47.4	53.5	31.4
C19-21	Rectum, rectosigmoid, anus	Total	39.7	45.7	48.6	52.1	55.7	60.4	65.3	67.8
		Localized	64.8	69.3	70.9	72.2	75.8	88.4	90.2	84.8
		Regional	25.2	39.3	43.2	49.6	56.2	63.8	70.0	75.9
		Distant	4.2	5.2	5.2	6.3	3.5	7.5	13.5	18.0
		Unknown	-	-	14.0	24.5	36.4	48.8	61.3	53.0
C22	Liver	Total	2.4	1.0	2.6	4.9	7.0	6.2	12.4	14.4
		Localized	3.6	4.7	5.2	9.3	10.6	19.0	27.8	21.2
		Regional	-	-	-	-	-	-	-	-
		Distant	0.4	0.0	-	0.3	-	0.1	-	1.4
		Unknown	-	-	-	-	5.9	3.5	10.0	-
C23-24	Gallbladder, bile ducts	Total	4.2	8.8	8.0	8.6	6.0	11.2	10.7	15.4
		Localized	13.1	27.9	17.7	18.7	20.1	33.3	25.0	28.8
		Regional	13.7	9.6	10.5	18.5	7.3	24.6	19.3	28.9
		Distant	0.0	0.5	0.1	0.0	0.4	1.6	1.3	0.7
		Unknown	-	-	-	1.1	2.0	6.7	6.3	-
C25	Pancreas	Total	1.1	0.7	1.6	1.8	2.1	2.1	3.2	5.5
		Localized	5.8	2.2	2.4	4.0	8.9	9.7	12.3	17.9
		Regional	1.6	1.5	5.5	7.3	4.6	3.2	3.8	9.3
		Distant	0.2	0.2	0.6	0.3	0.4	0.4	1.0	1.5
		Unknown	-	0.0	2.2	1.1	0.8	3.4	3.8	6.1
C33-34	Lung, trachea	Total	9.7	11.2	7.5	9.3	10.2	12.6	13.8	17.9
		Localized	27.5	28.8	23.1	20.4	27.2	50.1	51.4	51.4
		Regional	13.9	13.5	7.4	13.9	11.3	13.5	15.9	21.1
		Distant	1.1	0.9	0.4	1.1	1.2	1.9	1.8	2.3
		Unknown	2.8	10.4	6.1	6.4	4.3	10.7	16.0	20.4
C43	Melanoma of the skin	Total	79.2	84.7	84.5	88.7	89.8	89.3	87.8	89.0
		Localized	86.0	89.9	89.7	92.5	93.7	95.2	93.3	93.5
		Regional	39.5	41.7	43.8	41.4	51.7	51.8	58.6	50.0
		Distant	18.1	14.6	8.5	10.7	16.8	15.5	15.7	27.1
		Unknown	-	-	-	69.7	79.7	89.1	88.1	85.2
C50	Breast	Total	67.9	70.6	73.9	74.8	77.6	83.5	86.9	89.1
		Pageets stage 0	77.4	73.4	79.9	71.4	87.2	96.5	101.8	94.3
		I	84.8	86.0	86.9	92.6	94.0	97.0	97.9	99.1
		II	57.8	60.5	69.3	72.8	75.9	81.1	86.0	89.0
		III	45.0	51.7	53.8	50.1	53.3	62.9	66.4	75.5
		IV	15.3	11.2	15.8	17.9	19.5	16.1	17.1	26.6
C53	Cervix uteri	Unknown	71.6	58.2	62.9	81.2	84.8	85.9	81.0	67.1
		Total	71.0	70.1	68.2	66.8	72.0	72.1	78.0	78.6
		I	89.9	87.8	87.2	83.6	87.2	91.3	94.0	92.6
		II	65.8	63.1	58.4	59.2	60.0	57.5	72.2	75.2
		III	29.9	31.8	32.8	28.4	37.9	37.4	46.9	48.4
		IV	9.2	9.7	5.3	16.4	22.3	9.4	18.6	21.9
C54	Corpus uteri	Unknown	-	-	-	-	-	-	69.2	-
		Total	76.2	78.1	75.0	76.6	78.7	82.1	83.1	84.3
		Localized	83.1	87.2	85.8	86.7	87.0	94.5	91.3	94.6
		Regional	51.7	60.0	60.4	64.0	73.5	68.6	80.8	70.3
		Distant	25.6	20.0	22.5	26.7	36.5	36.0	39.0	39.3
C56	Ovary	Unknown	-	-	27.9	-	31.9	60.4	86.0	81.2
		Total	39.6	40.8	36.2	37.9	40.3	44.3	44.3	45.1
		Localized	70.7	80.2	82.6	81.6	84.5	90.2	92.6	86.7
		Regional	38.2	48.3	46.8	48.3	45.4	60.4	64.1	71.1
		Distant	16.2	20.3	16.0	18.2	21.9	27.6	27.7	30.9
C64	Kidney except renal pelvis	Unknown	-	-	38.5	15.1	21.4	50.9	54.9	44.3
		Total	40.9	40.5	43.6	50.1	50.7	51.9	62.6	72.2
		Localized	66.8	71.1	70.3	76.3	78.8	83.7	85.3	89.0
		Regional	42.3	45.1	51.6	48.9	50.2	46.8	46.0	51.0
		Distant	4.6	3.2	4.6	8.6	3.1	7.9	11.3	11.8
C66-68	Bladder, ureter, urethra	Unknown	-	-	-	21.5	20.7	53.6	60.5	79.1
		Total	46.9	52.5	58.5	63.3	60.0	60.5	65.5	67.5
		Localized	62.2	66.5	70.0	71.7	69.9	81.1	82.2	77.2
		Regional	16.6	11.5	15.4	17.9	22.3	27.9	21.1	23.8
		Distant	2.4	3.0	4.2	4.9	3.6	4.1	4.3	8.5
C70-72, D32-33	Central nervous system	Unknown	-	27.0	-	-	37.8	53.9	62.6	66.4
		Total	35.4	42.9	50.2	57.9	60.9	67.9	77.5	76.7
		Non-malignant	71.7	73.7	85.6	83.3	86.8	91.5	95.4	94.9
		Malignant	15.4	20.4	23.4	32.6	31.4	28.8	34.8	32.3
C73	Thyroid gland	Total	81.5	83.1	87.9	87.8	90.9	89.5	92.3	94.5
		Localized	96.4	93.6	96.8	95.4	99.4	101.3	101.2	99.9
		Regional	77.8	82.3	83.8	83.7	87.5	88.0	88.0	93.0
		Distant	11.5	13.9	10.1	16.0	-	26.6	-	-
		Unknown	-	-	-	-	-	86.7	89.0	91.9
C81	Hodgkin lymphoma	Total	45.7	64.3	68.9	74.1	84.7	87.1	86.4	89.9
C82-85, C96	Non-Hodgkin lymphoma	Total	39.2	42.8	50.2	53.9	53.7	57.0	64.5	74.3
C91-95	Leukaemia	Total	19.5	22.7	30.2	31.1	43.7	50.6	58.6	64.6

‘-’: Not estimated due to few patients in the group (<50 patients at start of interval 0-1)

* Caution is required in interpreting survival according to stage due to changes in coding practices.

Table 21 1-, 5-, 10-, and 15-year relative survival proportion (95% confidence interval) by cancer site and sex, period approach follow-up 2010-2012

ICD-10	Site	Sex	1-year		5-year		10-year		15-year	
C00-14	Mouth, pharynx	M	84.1	(81.4, 86.5)	61.7	(57.9, 65.5)	49.5	(44.9, 54.1)	40.5	(35.5, 45.8)
		F	87.1	(83.8, 89.9)	69.7	(64.7, 74.3)	61.9	(55.5, 68.1)	57.2	(49.3, 65.3)
C15	Oesophagus	M	39.1	(34.9, 43.2)	13.5	(10.2, 17.3)	12.2	(8.4, 17.0)	10.5	(6.0, 16.9)
		F	39.1	(32.0, 46.3)	13.4	(8.1, 20.2)	15.8	(9.2, 24.5)	12.8	(5.5, 24.7)
C16	Stomach	M	50.9	(47.4, 54.2)	23.1	(20.0, 26.3)	21.7	(18.1, 25.6)	21.6	(17.3, 26.5)
		F	45.3	(40.9, 49.5)	23.3	(19.5, 27.3)	20.8	(16.7, 25.4)	18.5	(14.0, 23.7)
C18	Colon	M	77.7	(76.1, 79.1)	59.2	(57.1, 61.3)	53.3	(50.6, 56.0)	48.5	(45.0, 52.1)
		F	78.5	(77.1, 79.9)	63.0	(61.0, 65.0)	58.0	(55.5, 60.5)	53.1	(49.9, 56.3)
C19-21	Rectum, rectosigmoid, anus	M	86.2	(84.5, 87.7)	66.0	(63.4, 68.6)	54.6	(51.2, 57.9)	51.1	(47.0, 55.4)
		F	85.7	(83.8, 87.5)	67.6	(64.7, 70.4)	62.6	(59.0, 66.1)	59.6	(55.1, 64.2)
C22	Liver	M	31.1	(26.2, 36.2)	14.4	(10.4, 19.1)	10.6	(5.2, 18.6)	10.1	(4.1, 20.0)
		F	31.2	(24.8, 37.9)	16.9	(11.4, 23.5)	12.8	(6.7, 21.3)	16.5	(8.7, 27.4)
C23-24	Gallbladder, bile ducts	M	47.0	(39.8, 54.0)	17.8	(12.0, 24.6)	14.5	(8.7, 22.0)	13.6	(6.5, 24.3)
		F	40.3	(34.2, 46.3)	14.6	(10.3, 19.7)	11.2	(6.8, 17.2)	13.7	(8.0, 21.4)
C25	Pancreas	M	22.7	(20.2, 25.4)	4.5	(3.2, 6.1)	3.0	(1.8, 4.6)	2.2	(1.0, 4.4)
		F	23.1	(20.5, 25.7)	6.6	(5.0, 8.6)	5.4	(3.6, 7.9)	4.3	(2.2, 7.4)
C33-34	Lung, trachea	M	37.1	(35.7, 38.6)	12.5	(11.4, 13.6)	8.8	(7.7, 10.0)	7.2	(6.0, 8.6)
		F	44.8	(43.2, 46.5)	18.8	(17.4, 20.3)	14.5	(12.9, 16.1)	11.2	(9.4, 13.1)
C43	Melanoma of the skin	M	94.9	(93.7, 95.9)	78.6	(76.2, 80.9)	73.7	(70.5, 76.8)	70.6	(66.7, 74.4)
		F	97.3	(96.4, 98.1)	87.7	(85.7, 89.6)	84.6	(82.0, 87.2)	83.1	(79.8, 86.2)
C50	Breast	F	97.3	(96.8, 97.7)	88.7	(87.8, 89.6)	81.9	(80.6, 83.1)	76.2	(74.6, 77.8)
C53	Cervix uteri	F	92.7	(90.7, 94.3)	81.2	(78.1, 84.0)	78.2	(74.6, 81.5)	75.2	(71.2, 79.1)
C54	Corpus uteri	F	92.8	(91.5, 94.0)	84.3	(82.2, 86.3)	79.8	(77.0, 82.6)	77.1	(73.5, 80.7)
C56	Ovary	F	75.8	(73.2, 78.1)	45.0	(42.0, 47.9)	38.0	(34.9, 41.3)	37.6	(34.1, 41.2)
C61	Prostate	M	98.5	(98.1, 98.8)	91.8	(90.9, 92.7)	81.4	(79.8, 82.9)	72.9	(70.3, 75.4)
C62	Testis	M	98.2	(97.0, 99.0)	97.0	(95.4, 98.1)	95.9	(93.9, 97.5)	95.6	(93.2, 97.5)
C64	Kidney except renal pelvis	M	84.7	(82.5, 86.6)	68.8	(65.6, 71.9)	58.7	(54.4, 62.9)	55.4	(49.7, 61.2)
		F	82.3	(79.0, 85.1)	71.8	(67.6, 75.8)	65.0	(59.2, 70.6)	60.4	(52.9, 68.0)
C66-68	Bladder, ureter, urethra	M	87.7	(86.2, 89.1)	73.6	(71.2, 75.9)	67.1	(63.9, 70.3)	63.5	(59.3, 67.8)
		F	82.1	(79.4, 84.6)	66.4	(62.6, 70.1)	65.1	(60.1, 70.0)	59.8	(53.3, 66.3)
C70-72, D32-33	Central nervous system	M	76.9	(74.5, 79.2)	61.5	(58.5, 64.4)	58.5	(55.1, 61.8)	57.9	(53.9, 61.9)
		F	86.1	(84.2, 87.8)	76.4	(73.9, 78.7)	75.6	(72.7, 78.4)	72.7	(69.0, 76.3)
C73	Thyroid gland	M	94.0	(89.6, 96.8)	90.1	(83.5, 95.2)	87.0	(78.2, 94.2)	81.6	(70.2, 91.7)
		F	95.9	(93.8, 97.4)	94.3	(91.2, 96.7)	92.7	(88.3, 96.4)	91.5	(85.7, 96.5)
C81	Hodgkin lymphoma	M	91.2	(86.3, 94.5)	86.8	(80.8, 91.5)	86.0	(79.1, 91.5)	87.4	(79.9, 93.6)
		F	94.6	(89.9, 97.2)	88.7	(81.6, 93.7)	91.0	(82.9, 97.0)	93.8	(84.9, 100.4)
C82-85, C96	Non-Hodgkin lymphoma	M	82.5	(80.3, 84.5)	71.1	(68.0, 74.0)	62.5	(58.5, 66.4)	59.9	(54.9, 64.9)
		F	84.3	(81.9, 86.3)	75.2	(72.0, 78.2)	69.6	(65.3, 73.8)	68.6	(63.1, 74.1)
C91-95	Leukaemia	M	79.6	(77.4, 81.6)	62.6	(59.5, 65.6)	55.7	(51.7, 59.7)	54.4	(49.2, 59.8)
		F	78.3	(75.7, 80.6)	67.1	(63.7, 70.3)	60.5	(56.0, 64.9)	61.2	(55.3, 67.1)

Relative survival (RS) up to 15 years after diagnosis by sex and age (2010-12)

Figure 9A: All sites (ICD10 C00-96, D32-33, D35.2-35.4, D42-43, D44.3-44.5, D45-47)

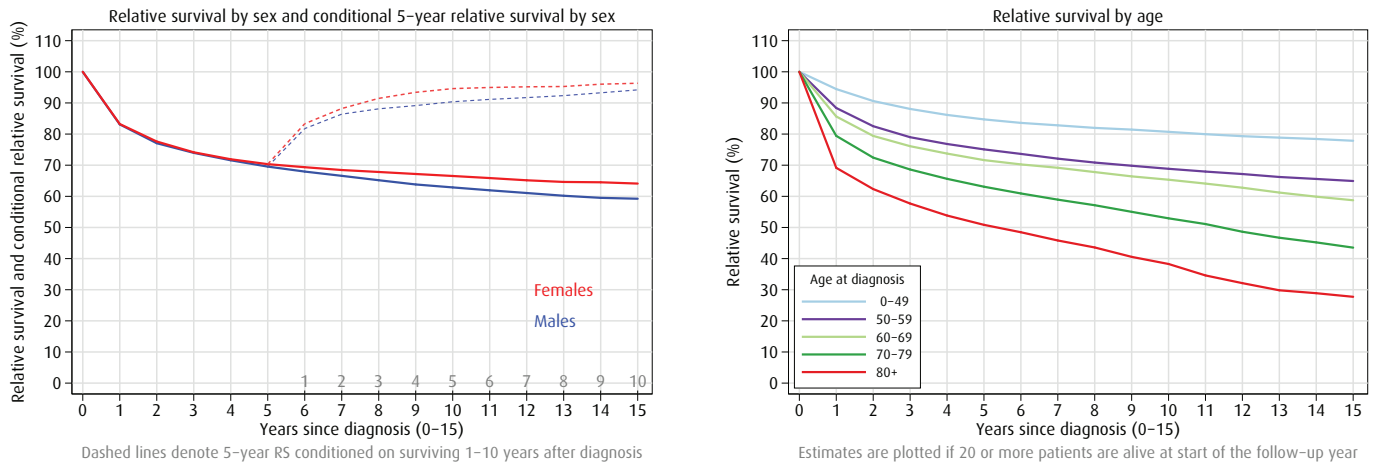


Figure 9B: Mouth, pharynx (ICD-10 C00-14)

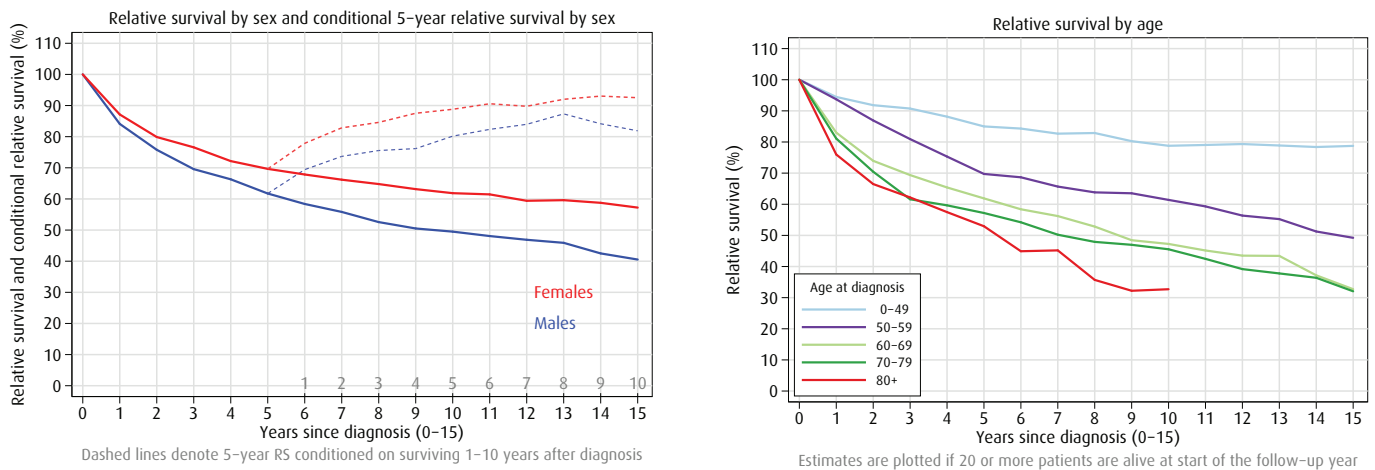
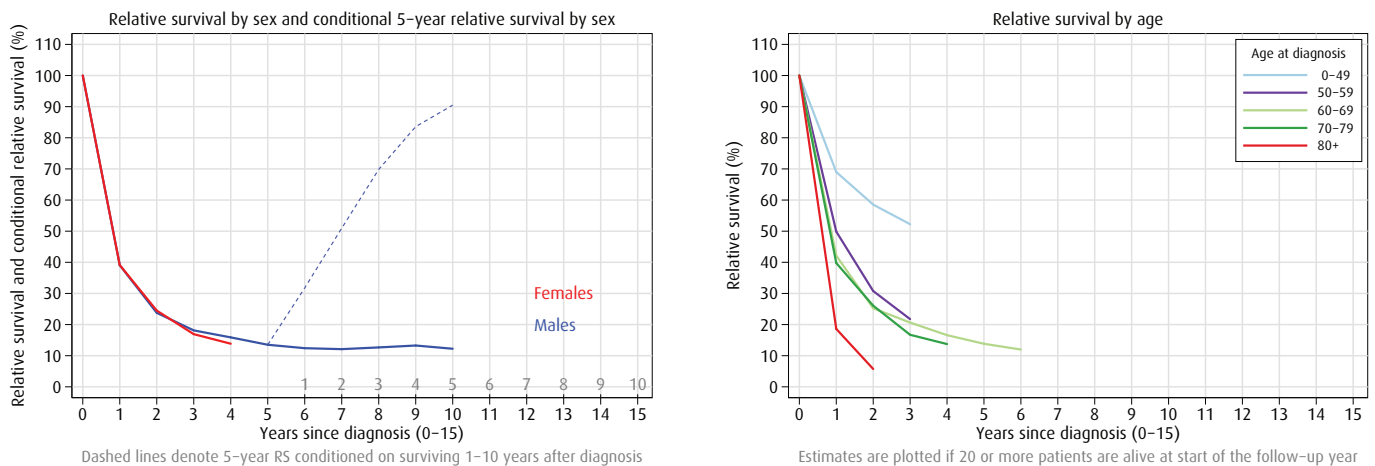


Figure 9C: Oesophagus (ICD-10 C15)



Relative survival (RS) up to 15 years after diagnosis by sex and age (2010-12)

Figure 9D: Stomach (ICD-10 C16)

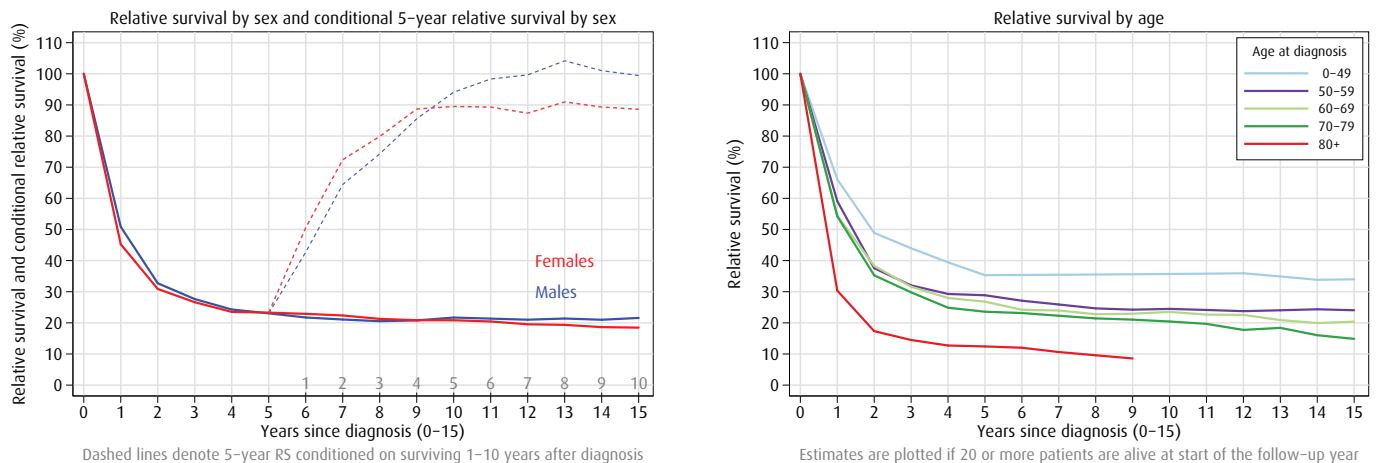


Figure 9E: Colon (ICD-10 C18)

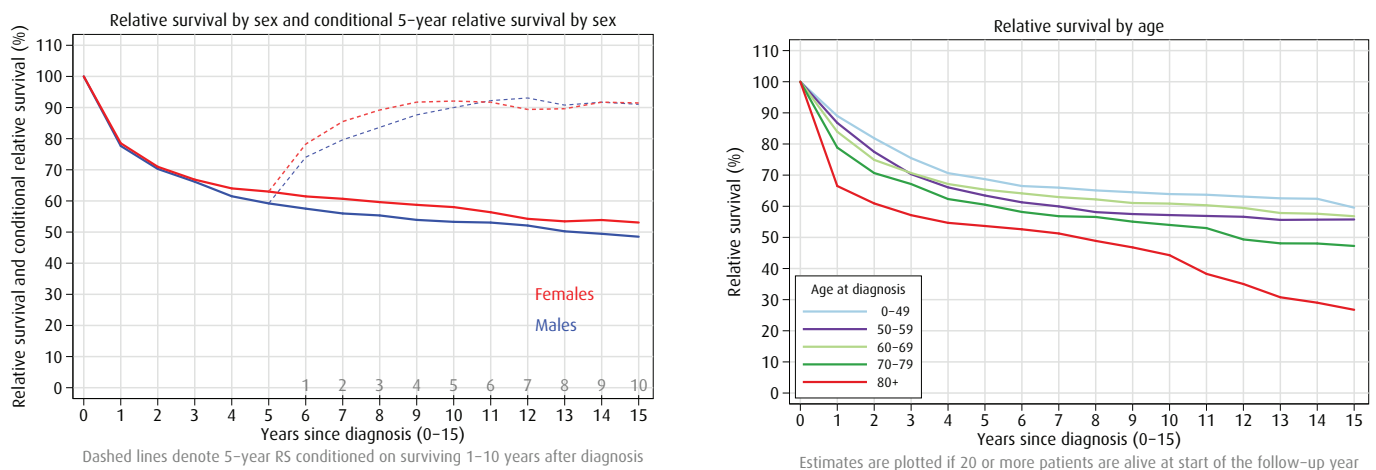
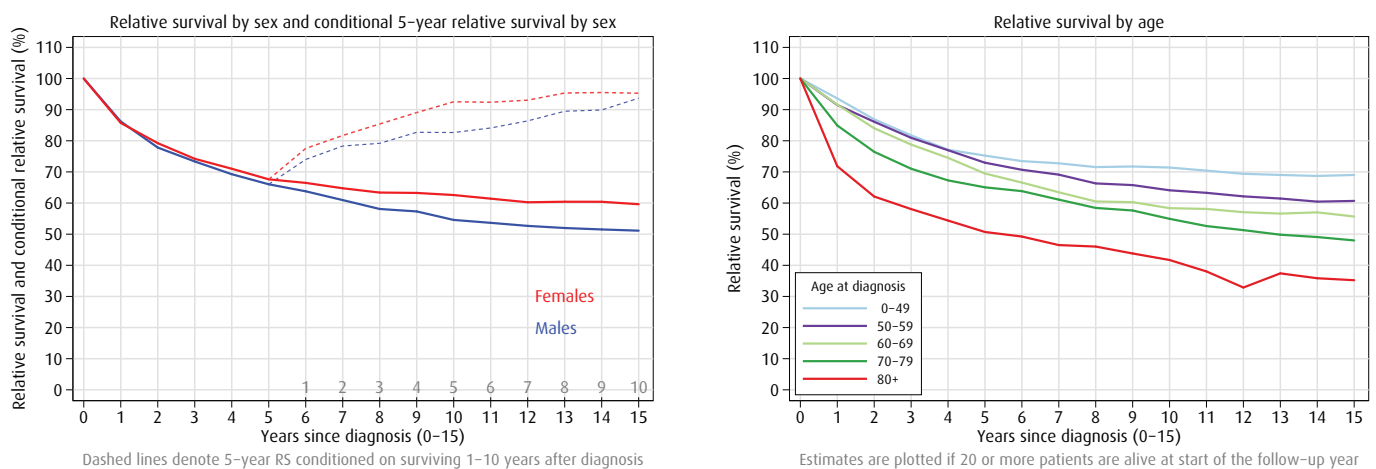


Figure 9F: Rectum, rectosigmoid, anus (ICD-10 C19-21)



Relative survival (RS) up to 15 years after diagnosis by sex and age (2010–12)

Figure 9G: Liver (ICD-10 C22)

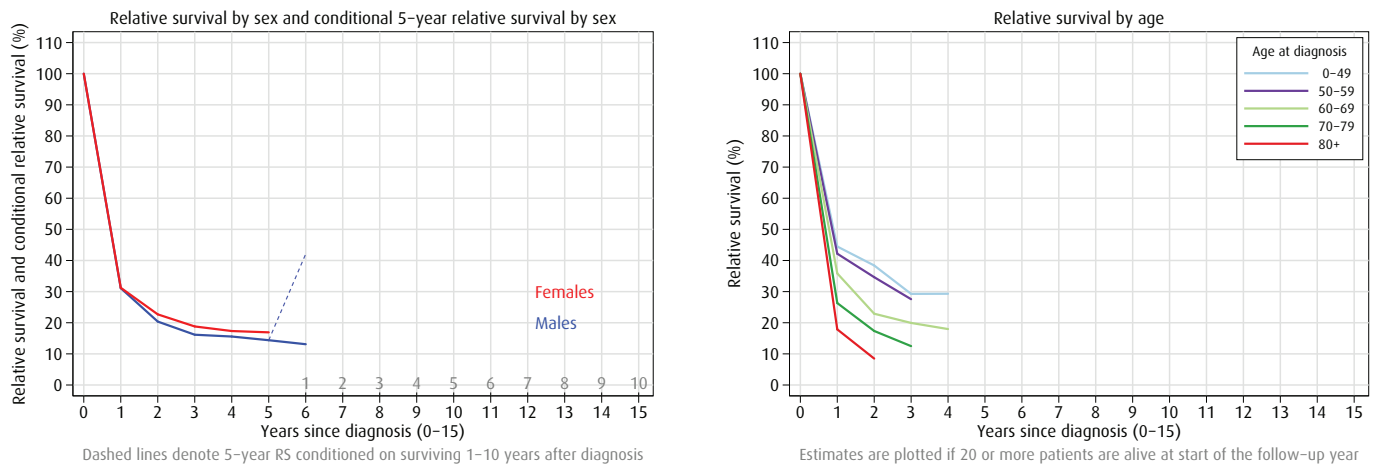


Figure 9H: Gallbladder, bile ducts (ICD-10 C23–24)

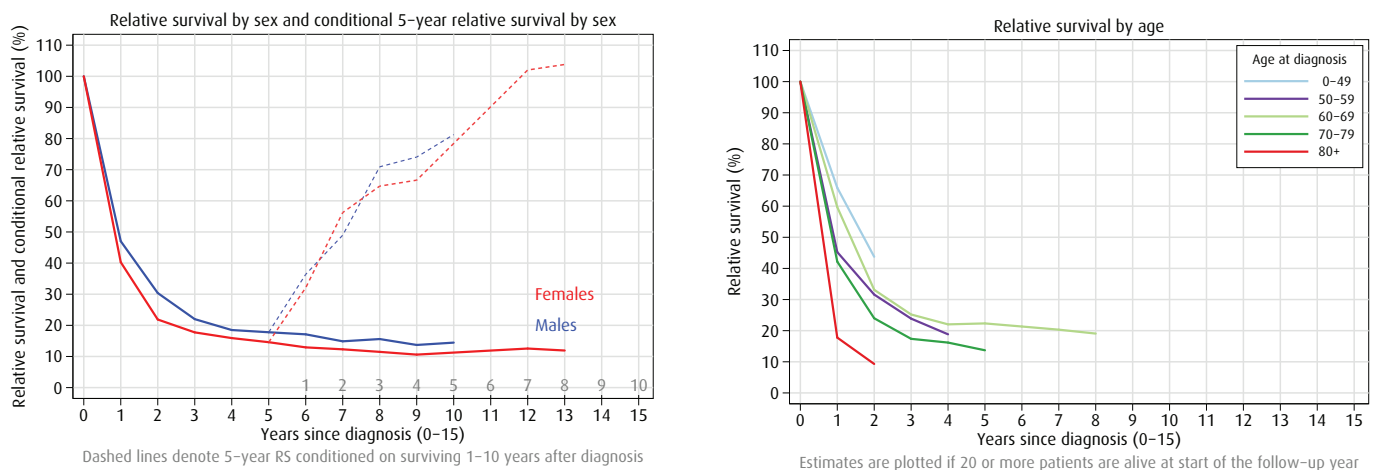
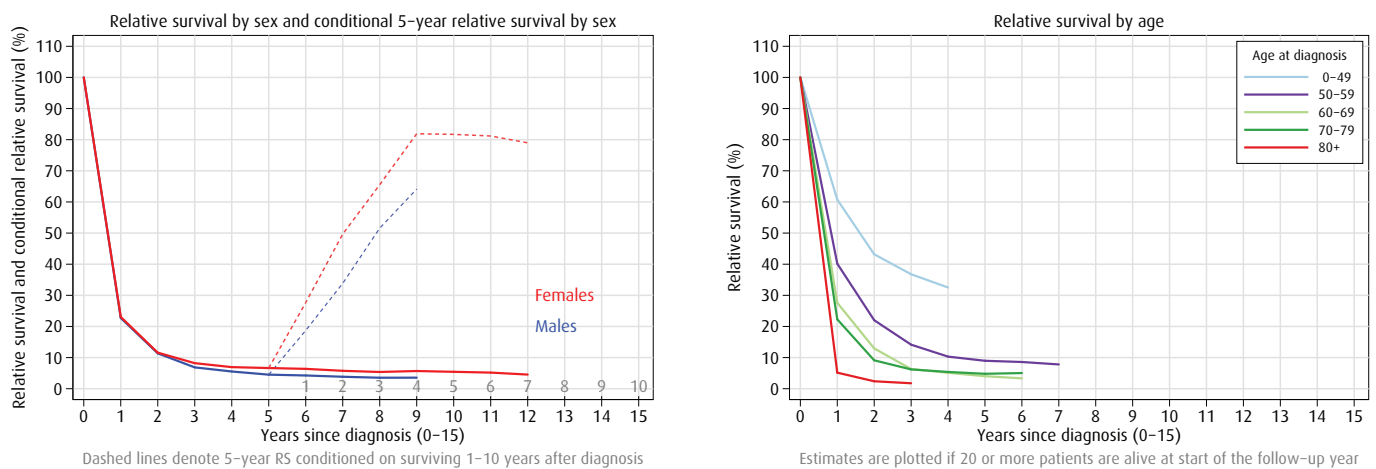


Figure 9I: Pancreas (ICD-10 C25)



Relative survival (RS) up to 15 years after diagnosis by sex and age (2010-12)

Figure 9J: Lung, trachea (ICD-10 C33-34)

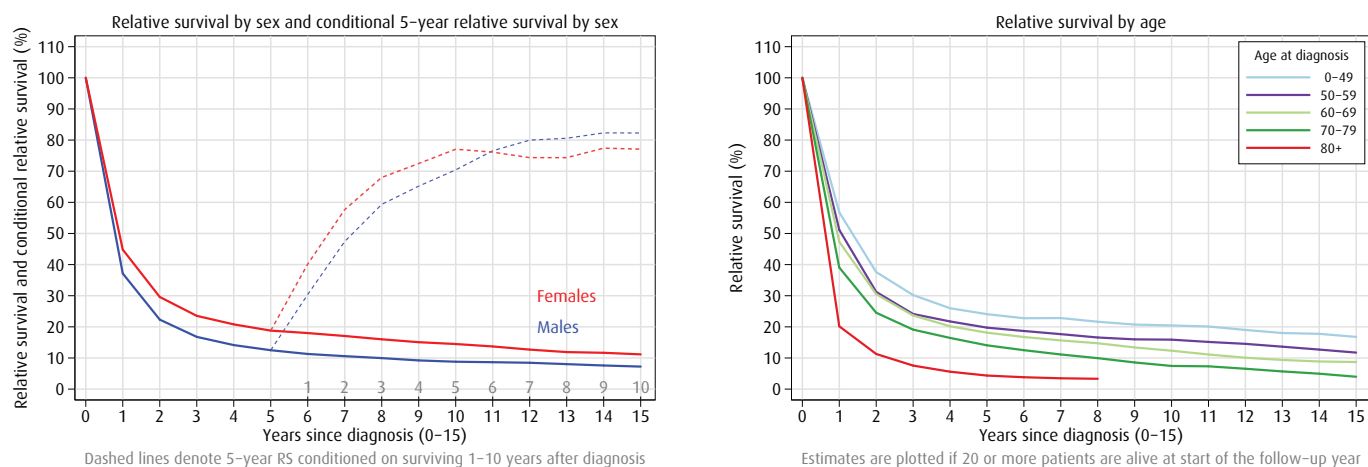


Figure 9K: Melanoma of the skin (ICD-10 C43)

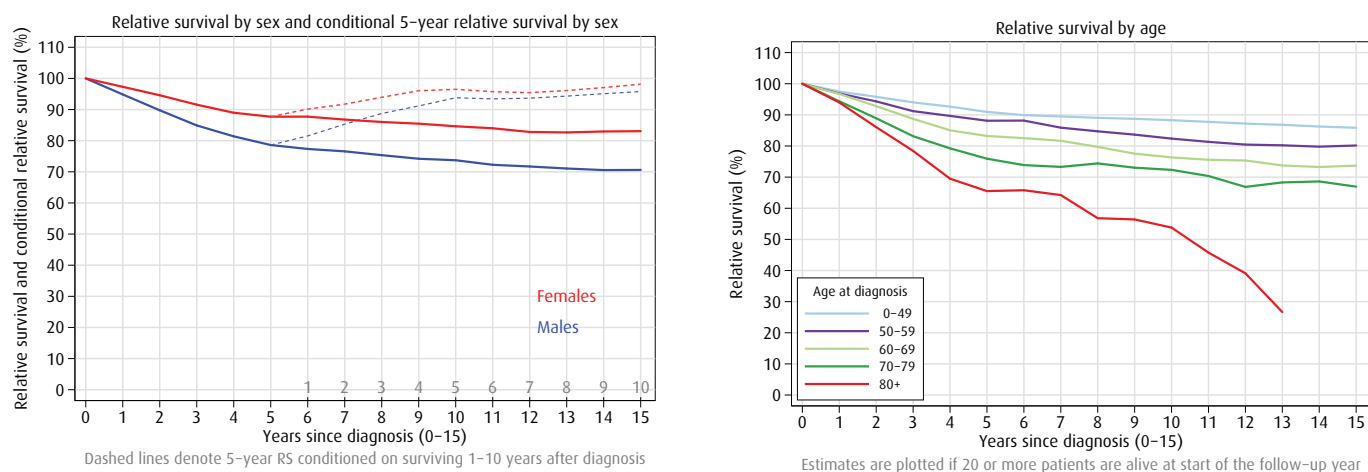
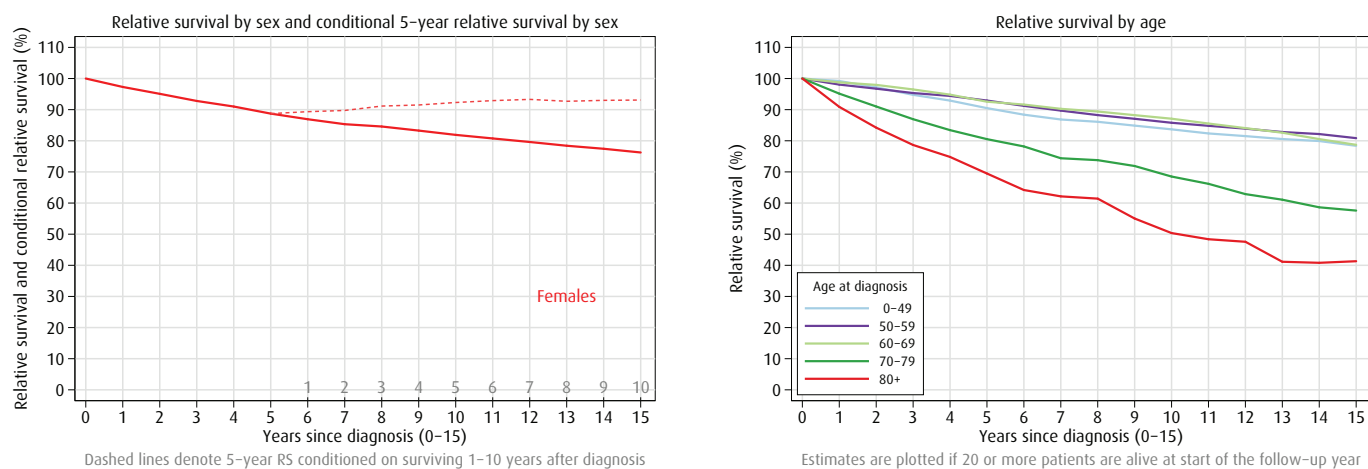


Figure 9L: Breast (ICD-10 C50)



Relative survival (RS) up to 15 years after diagnosis by sex and age (2010–12)

Figure 9M: Cervix uteri (ICD-10 C53)

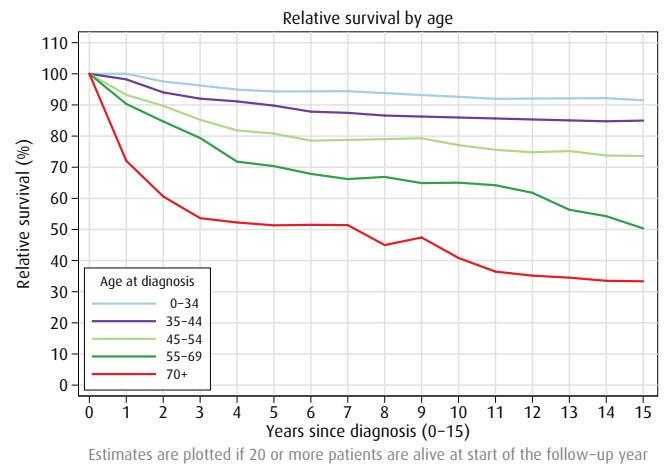
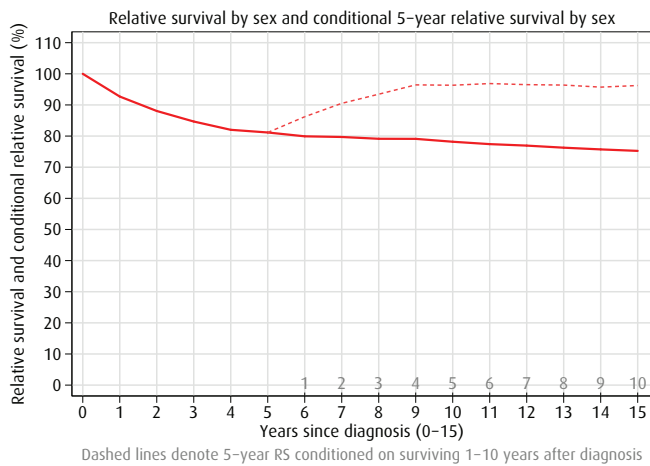


Figure 9N: Corpus uteri (ICD-10 C54)

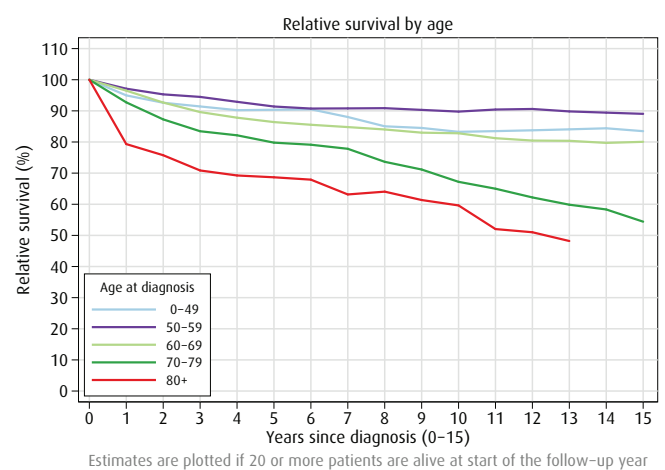
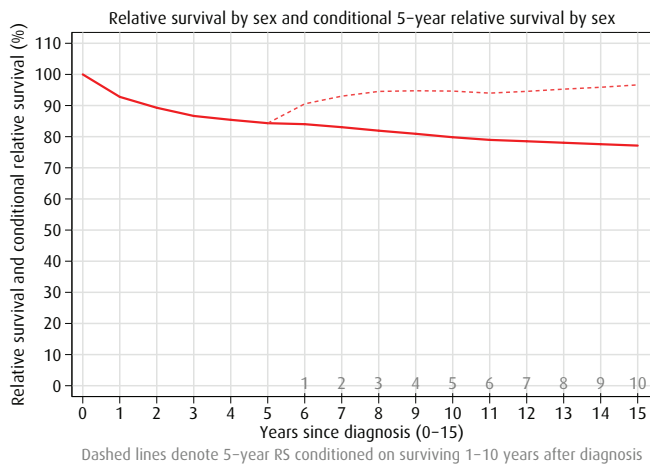
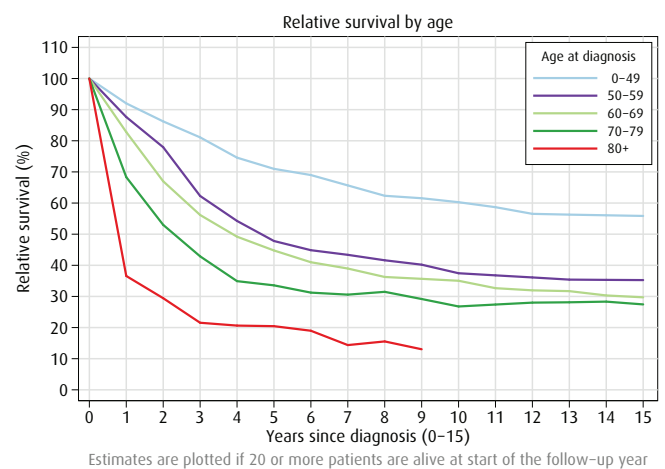
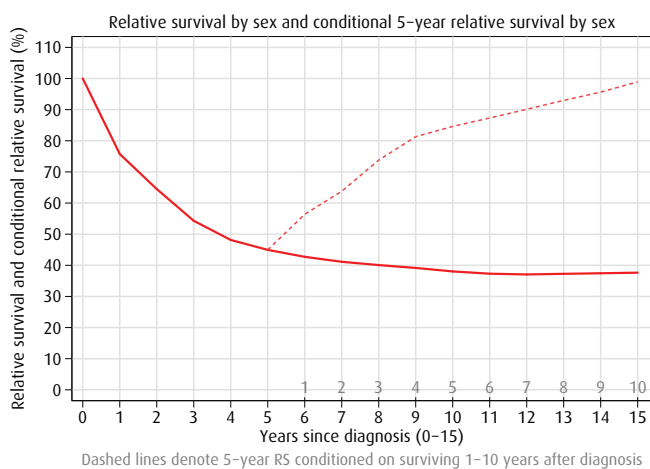


Figure 9O: Ovary (ICD-10 C56)



Relative survival (RS) up to 15 years after diagnosis by sex and age (2010-12)

Figure 9P: Prostate (ICD-10 C61)

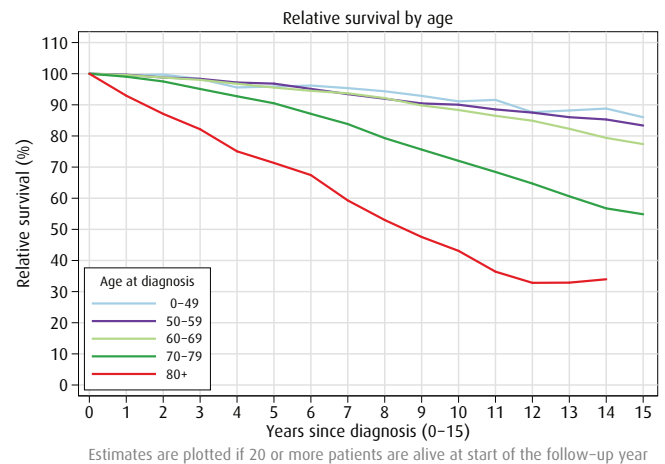
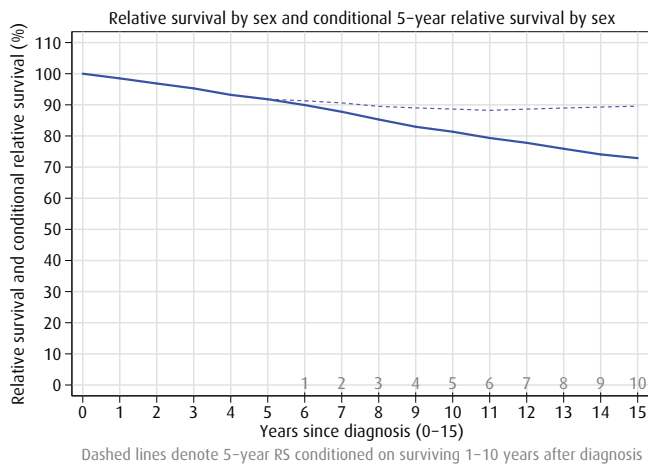


Figure 9Q: Testis (ICD-10 C62)

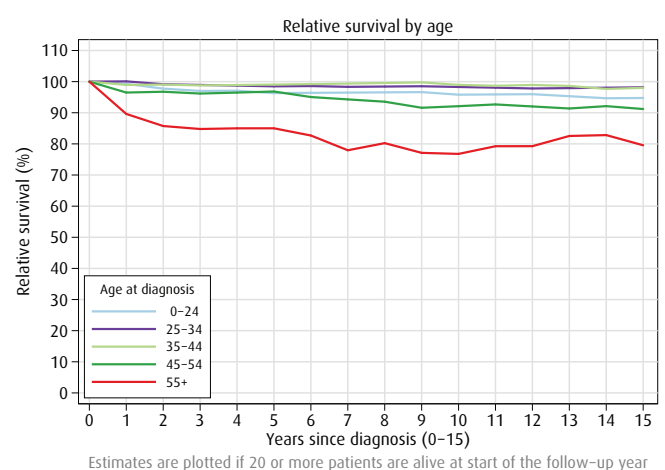
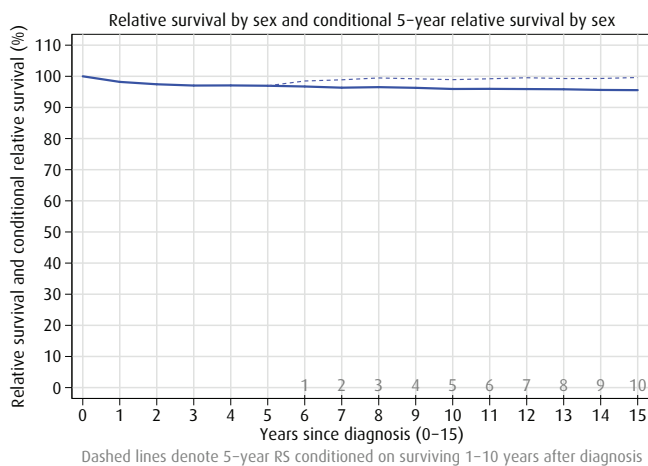
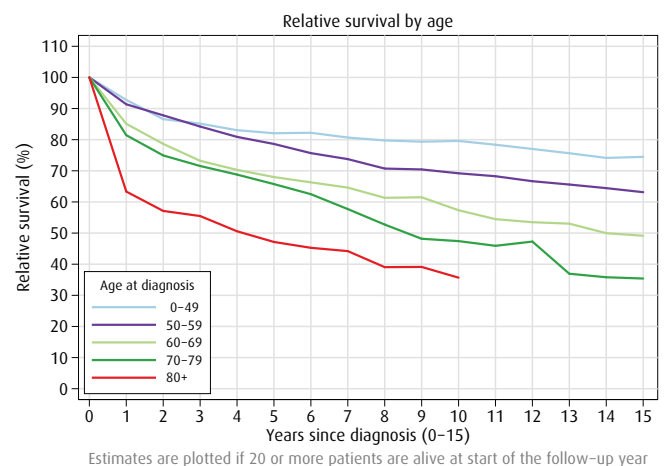
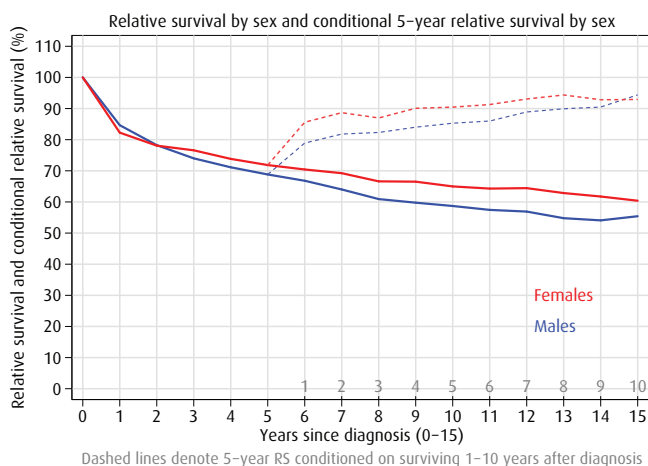


Figure 9R: Kidney excluding renal pelvis (ICD-10 C64)



Relative survival (RS) up to 15 years after diagnosis by sex and age (2010-12)

Figure 9S: Bladder, ureter, urethra (ICD-10 C66-68)

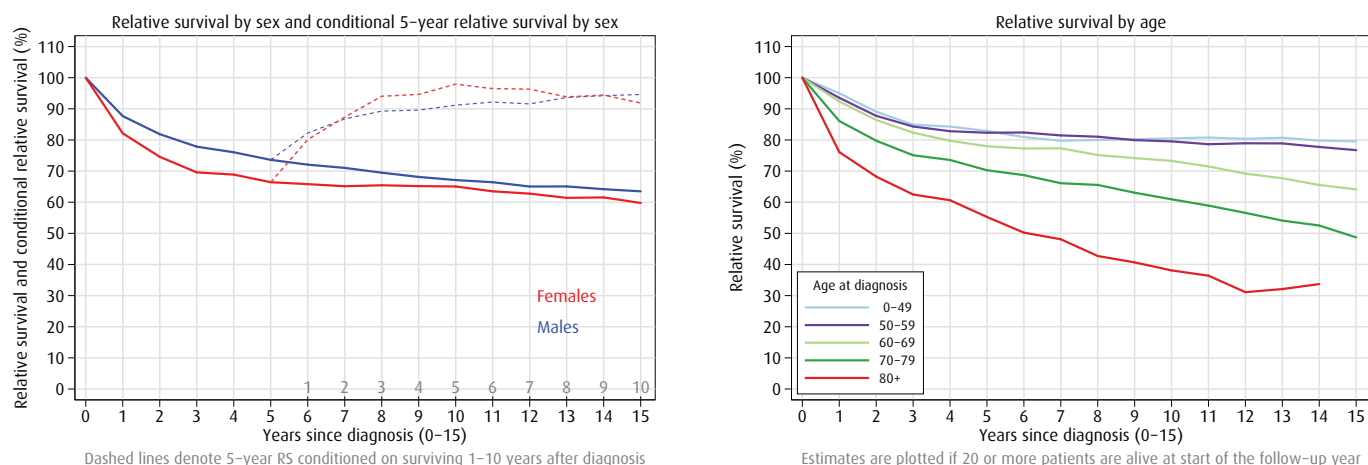


Figure 9T: Central nervous system (ICD-10 C70-72, D32-33, D35.2-35.4, D42-43, D44.3-44.5)

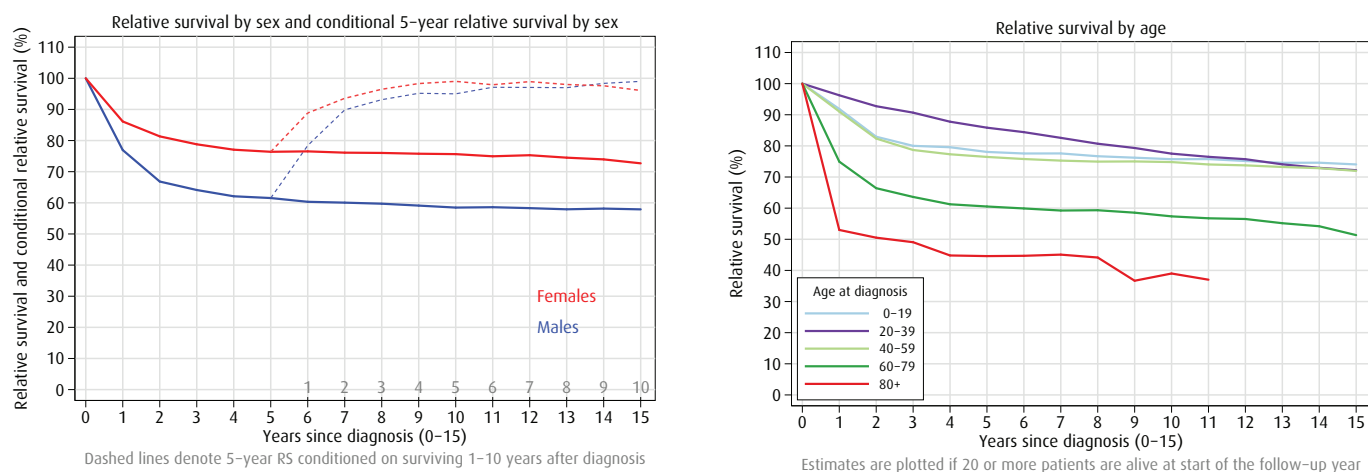
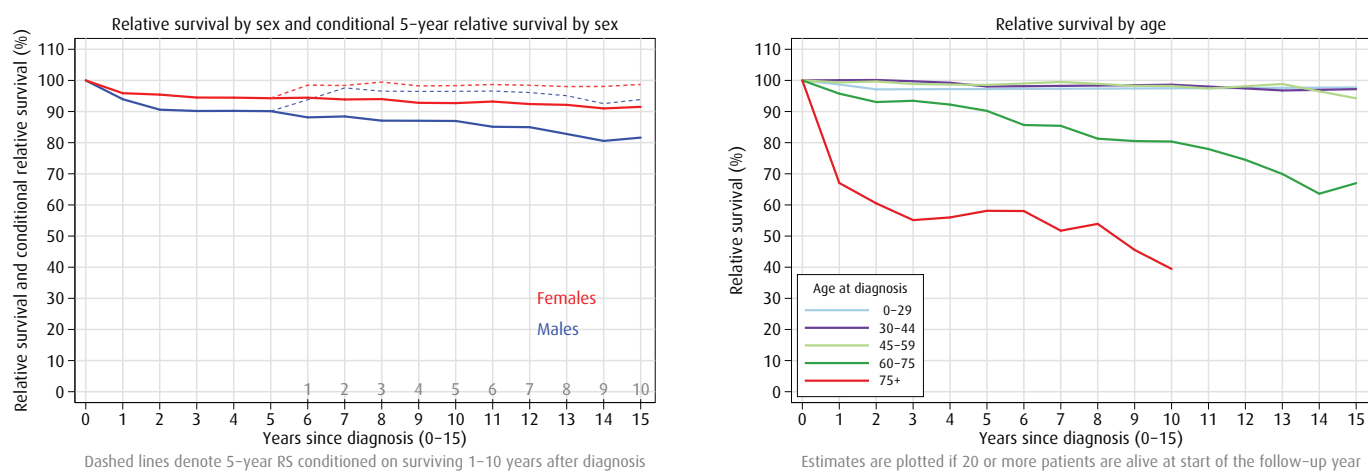


Figure 9U: Thyroid gland (ICD-10 C73)



Relative survival (RS) up to 15 years after diagnosis by sex and age (2010-12)

Figure 9V: Hodgkin lymphoma (ICD-10 C81)

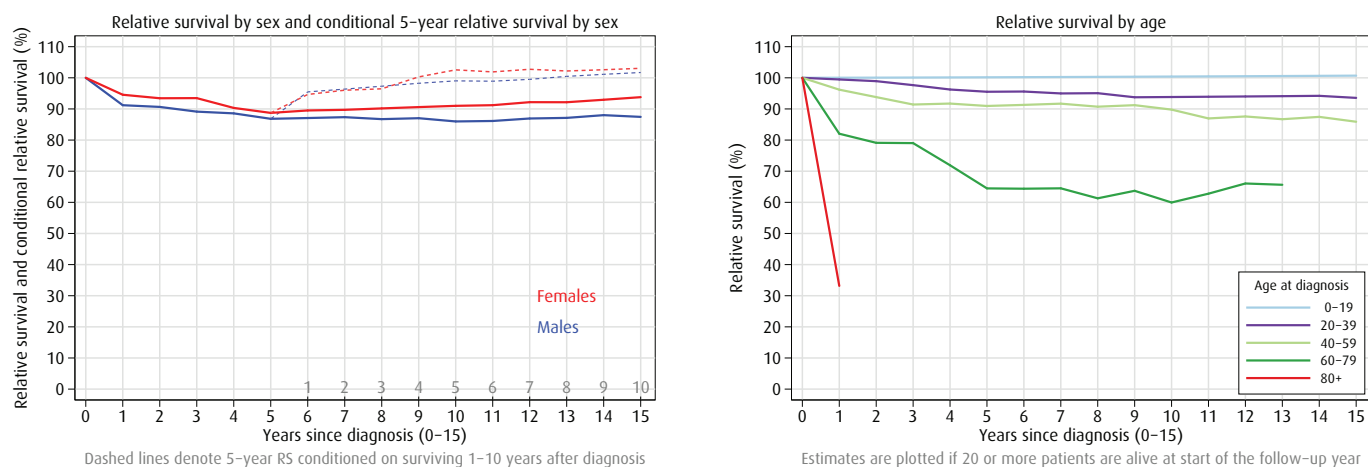


Figure 9W: Non-Hodgkin lymphoma (ICD-10 C82-85, C96)

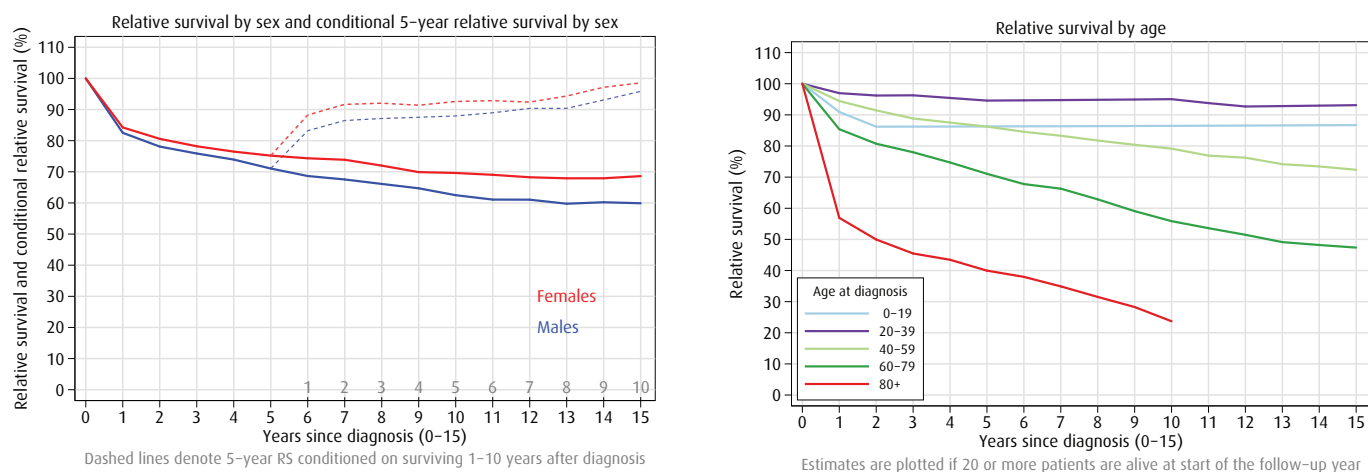
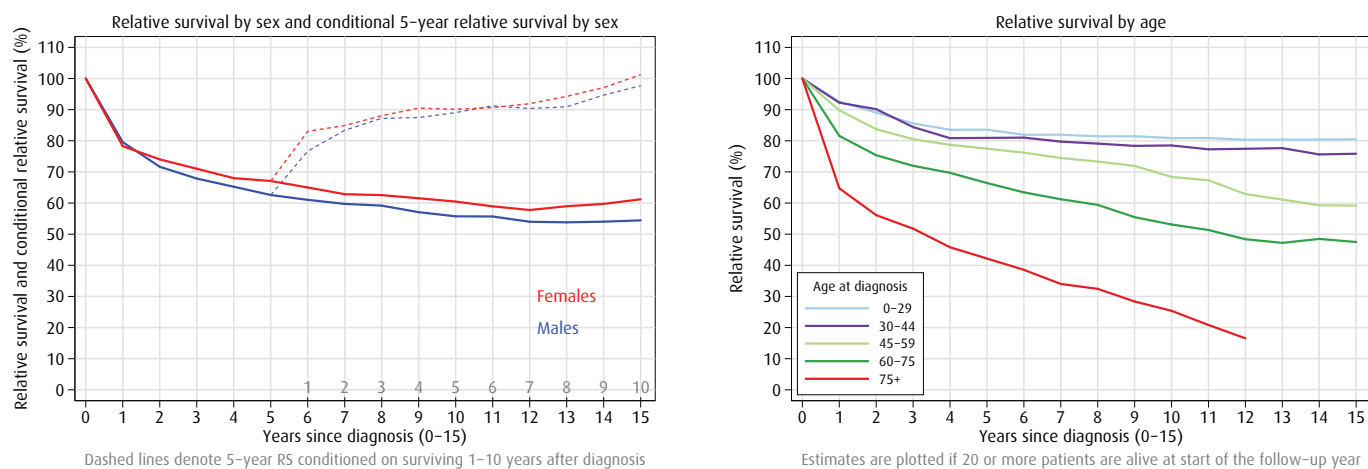


Figure 9X: Leukaemia (ICD-10 C91-95, D45-47)



Prevalence

As of 31st of December 2012, more than 224 000 persons were alive and previously diagnosed with cancer in Norway. The cancer prevalence in Table 22 provides the numbers of cancer survivors a given number of years after 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 10-year prevalence occurs for breast cancer (16 846) followed by melanoma of the skin (9 826), prostate (6 040) and colon cancer (5 796).

In terms of new cases, there are almost twice as many lung cancers as melanoma in Norway, but the prevalence of lung cancer survivors ten years after the diagnosis is less than 10% of the prevalence for melanoma patients. This reflects the vast difference in survival between the two cancers. Differences in prognosis - rather than incidence - may explain much of the site-specific variability in prevalence.

Table 22 Prevalence of cancer 31.12.2002 and 31.12.2012, both sexes

ICD10	Site	Total no. of persons alive		Years after diagnosis			
		31.12.02	31.12.12	<1	1-4	5-9	10+
C00-96	All sites	153044	224315	21659	64706	53688	84262
C00-14	Mouth, pharynx	3143	4172	472	1316	934	1450
C00	Lip	1252	1348	108	384	297	559
C01-02	Tongue	467	728	108	244	154	222
C03-06	Mouth, other	552	676	73	212	165	226
C07-08	Salivary glands	410	512	39	135	105	233
C09-14	Pharynx	499	960	156	363	227	214
C15-26	Digestive organs	24585	33406	4378	10693	7860	10475
C15	Oesophagus	223	445	151	180	68	46
C16	Stomach	2113	1944	314	525	388	717
C17	Small intestine	500	902	126	337	228	211
C18	Colon	13360	18439	2224	5906	4513	5796
C19-21	Rectum, rectosigmoid, anus	8061	10877	1156	3458	2623	3640
C22	Liver	157	348	100	133	44	71
C23-24	Gallbladder, bile ducts	266	372	98	125	63	86
C25	Pancreas	411	722	299	256	92	75
C26	Other digestive organs	86	162	49	42	41	30
C30-34, C38	Respiratory organs	4820	7330	1840	2646	1409	1435
C30-31	Nose, sinuses	272	330	42	89	87	112
C32	Larynx, epiglottis	1074	1109	106	326	261	416
C33-34	Lung, trachea	3453	5896	1712	2229	1063	892
C38	Mediastinum, pleura (non-mesothelioma)	43	44	3	16	3	22
C40-41	Bone	514	725	43	154	121	407
C43	Melanoma of the skin	13884	20283	1706	4949	3802	9826
C44	Skin, non-melanoma	8719	13236	1573	4681	3363	3619
C45	Mesothelioma	65	112	52	46	8	6
C46	Kaposi's sarcoma	88	88	6	23	21	38
C47	Autonomic nervous system	226	255	5	33	35	182
C48-49	Soft tissues	992	1343	133	341	266	603
C50	Breast	28124	39712	2881	10060	9925	16846
C51-58	Female genital organs	18548	21464	1351	4582	4184	11347
C53	Cervix uteri	6751	6896	307	979	1009	4601
C54	Corpus uteri	7064	9331	596	2393	2188	4154
C55	Uterus, other	40	45	8	6	7	24
C56	Ovary	3900	4188	364	938	746	2140
C51-52, C57	Other female genital	960	1209	112	334	296	467
C58	Placenta	131	152	4	10	15	123
C60-63	Male genital organs	22084	43930	5036	16391	12381	10122
C61	Prostate	17300	36973	4692	15190	11051	6040
C62	Testis	4512	6637	318	1135	1254	3930
C60, C63	Other male genital	322	467	40	139	123	165
C64-68	Urinary organs	12457	16969	1861	5322	4139	5647
C64	Kidney excl. renal pelvis	3210	5385	662	1868	1313	1542
C65	Renal pelvis	456	571	69	188	117	197
C66-68	Bladder, ureter, urethra	8981	11310	1173	3386	2784	3967
C69	Eye	806	961	59	205	185	512
C70-72, D32-33	Central nervous system	6456	11199	856	2743	3005	4595
C73	Thyroid gland	3542	4751	279	915	821	2736
C37, C74-75	Other endocrine glands	1748	3284	194	886	839	1365
C39, C76, C80	Other or unspecified	460	524	99	147	110	168
C81-96	Lymphoid and haematopoietic tissue	10905	19040	2166	6263	4628	5983
C81	Hodgkin lymphoma	1668	2397	134	447	489	1327
C82-85, C96	Non-Hodgkin lymphoma	4632	7868	852	2502	1972	2542
C88	Malignant immunoproliferative diseases	275	475	68	183	135	89
C90	Multiple myeloma	1181	1724	294	817	376	237
C91-95, D45-47	Leukaemia	3177	6731	865	2390	1681	1795

Table 23 shows the prevalent number of patients alive at specific timepoints with metastasis or who developed a local recurrence. Only patients with metastasis confirmed histologically are included. Patients with metastatic disease now live longer than before and they more often have diagnostic work-up and surgery for metastatic lesions. They are also given more chemotherapy than before. This patient group represents an increasing demand of personnel and costs in the health care system.

Table 23 Prevalence of patients diagnosed with a metastasis during lifetime, by health region, both sexes

Health region	Alive by 31. Dec 1987	Alive by 31. Dec 1992	Alive by 31. Dec 1997	Alive by 31. Dec 2002	Alive by 31. Dec 2007	Alive by 31. Dec 2012
Total	5996	7863	9316	11785	14977	17870
East	3355	4465	5347	6737	8622	10367
West	1181	1561	1767	2376	2900	3514
Middle	885	1117	1336	1618	2068	2352
North	575	720	867	1057	1388	1640

Trends in incidence, mortality and survival, Norway 1965-2012

There has been considerable discussion as to the relative merits of incidence, mortality and survival in cancer research generally, and in time trend analysis specifically (Boyle, 1989; Coleman, 2000; Doll & Peto, 1981; Peto & al, 2000). Analysing trends in incidence may provide some insight into changes in the incidence and distribution of risk factors to the changes in cancer screening and to the impact of interventions 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, or to the introduction of more effective therapies and better disease management.

The contribution of artefacts to the observed cancer incidence and mortality trends have been comprehensively addressed by Saxen (Saxen, 1982) and Muir et al. (Muir & al, 1994). Others have investigated the accuracy of death certificates (e.g. Percy & al, 1981; Alfsen & al, 2010). 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 are susceptible to changes in diagnostic methods and disease classifications, as well as the extent of cancer screening that detect cases earlier.

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. Figure 10-A to 10-X present time trends during 1965-2012 for age-standardised incidence and mortality rates and five-year relative survival estimates based on a moving three-year observation (period) window. The survival trends are plotted as crude rather than age-adjusted estimates for purposes of consistency; the age-specific numbers were sparse for certain neoplasms for certain years, and thus standardised estimates could not be calculated. 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 10-A is a persistent increase in cancer incidence and survival in Norway over the last four decades, combined with a fairly stable mortality until the early 1990s. The decline in mortality that follows is more evident in men than in women. The interpretation of these aggregated estimates is complex, in that they comprise many different cancer types variable in terms of their capacity to be diagnosed as well as treated. In combination however, prostate, female breast, lung, colon and rectal cancer represent half of the total incidence and mortality burden, specifically, 49.2% of the new cancer cases in Norway in 2012, and 49.9% of the cancer deaths in 2012.

For men, nearly 30% of all cancers diagnosed in 2012 were prostate cancers. General screening for prostate cancer using the PSA test is not recommended in Norway. However, the proportion of cases where PSA testing has led to further examination has been increasing and it is the leading single cause for performing a biopsy. The increase in both incidence and five-year relative survival from 1990 (Figure 10-O) probably reflects the availability of the PSA test and the upsurge in its use and in the detection of disease. However mortality has 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 was a monotonous trend in incidence rates between 1952 and 2005 with a steeper increase in the mid 1990s followed by a notable decline in the incidence rate of breast cancer between 2005 and 2009. The Norwegian Breast Cancer Screening Programme began screening women aged 50-69 in 1996 as a four-year pilot project in four of the 19 Norwegian counties, and gradually expanded to become nationwide by 2005. The implementation of screening may explain much of the increasing incidence trend from the mid-1990s to 2005 with subsequent declining rates.

The upsurge in breast cancer incidence observed in the period between 2009 and 2011 may be linked to increased attention from the media regarding breast cancer and mammographic screening, in particular in women above 70. The increase was likely also due to implementation of a new diagnostic tool for detection of breast cancer, tomosynthesis. This technique was used in a large trial conducted within the screening programme in Oslo in the period of November 2010 to December 2011, and had a significantly higher detection rate compared to digital mammography (Skaane & al, 2013). The five-year relative survival has increased in the last two decades, while mortality began declining around 1996 (Figure 10-M). The recent declines in mortality in Norway most likely reflect improvements in breast cancer treatment from the 1990s, as well as the implementation of the screening programme.

Trends in lung cancer incidence and mortality are quite similar and reflect the poor survival over time, whereas the varying trends by sex reflect the different phases of the smoking epidemic in Norwegian men and women (Figure 10-J). Overall lung cancer incidence and mortality rates among males began to level off in the early 1990s, in contrast to the continuing increases for women. It is worth noting that the steady rise in female age-standardised lung cancer rates conceals a plateau in the rate among women in their fifties, which suggests a coming peak in the trend. While five-year relative survival for lung cancer patients has not changed substantially, the observation of a slight improvement during the last decade, more evident in women, is intriguing. This may be a result of better surgical treatment, earlier stage at presentation, and less co-morbidity.

Both colon and rectal cancer incidence has been increasing for many decades, but the rectal cancer rates have levelled off since the 1980s (Figure 10-E and 10-F). Of particular note is the increasing survival and declining mortality following rectal cancer in Norway in both sexes. Among the likely determinants is the national introduction of total mesorectal excision in the early 1990s, increasing specialisation, and use of preoperative radiation. However, our colon cancer incidence and mortality rates are among the highest in the Nordic countries, and remain a 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 primary prevention following the widespread use of refrigerators and the assumed reduction in *Helicobacter pylori* infections, following changes both in diet and hygiene. The survival of stomach cancer has increased moderately over time (Figure 10-D).

In contrast, the incidence rate of testicular cancer increased gradually during the last decades (Figure 10-Q). This cancer has now the highest five-year relative survival (97.2%). The improved 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.

In summary, the overall trends in cancer survival probably reflect both artefacts, such as screening and improved diagnostics, as well as improvements in treatment. 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.

Trends in incidence and mortality rates and five-year relative survival proportions

Figure 10-A: All sites (ICD10 C00-96, D32-33, D35.2-35.4, D42-43, D44.3-44.5, D45-47)

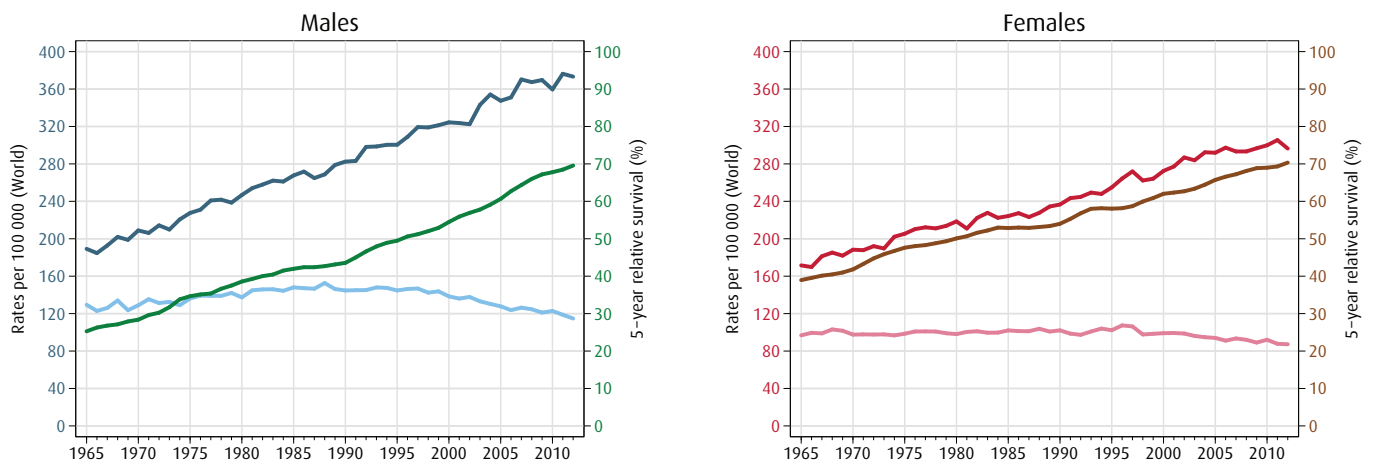


Figure 10-B: Mouth, pharynx (ICD-10 C00-14)

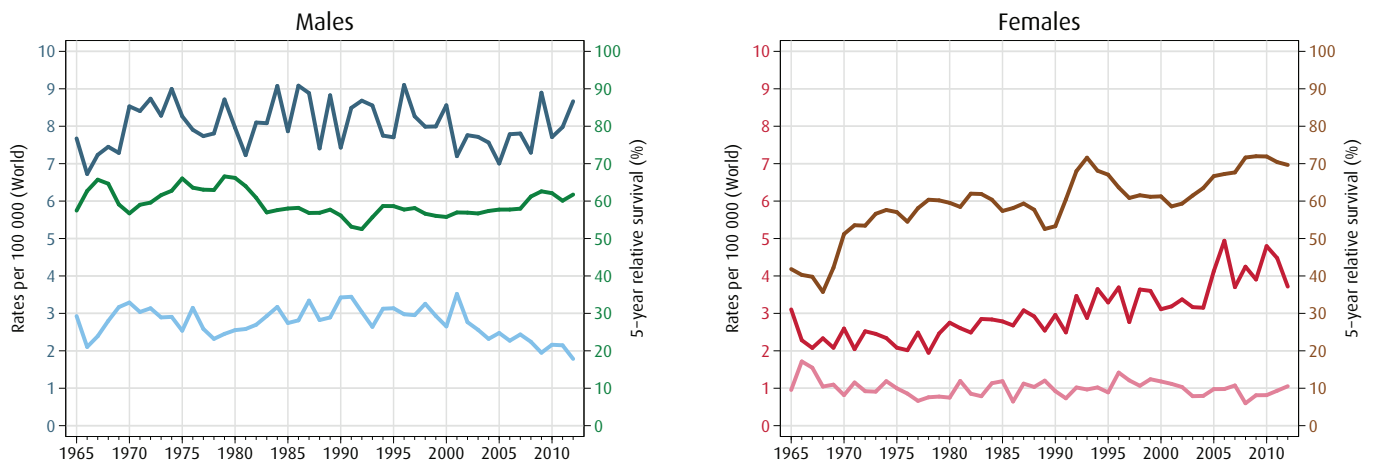
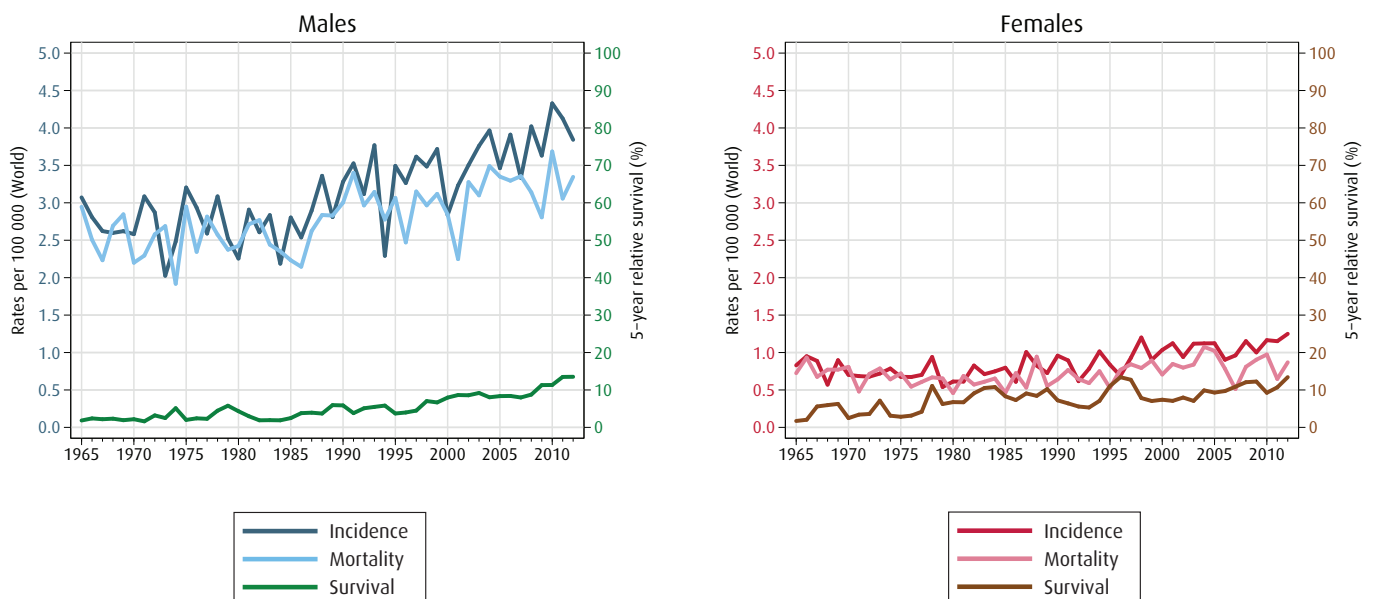


Figure 10-C: Oesophagus (ICD-10 C15)



Trends in incidence and mortality rates and five-year relative survival proportions

Figure 10-D: Stomach (ICD-10 C16)

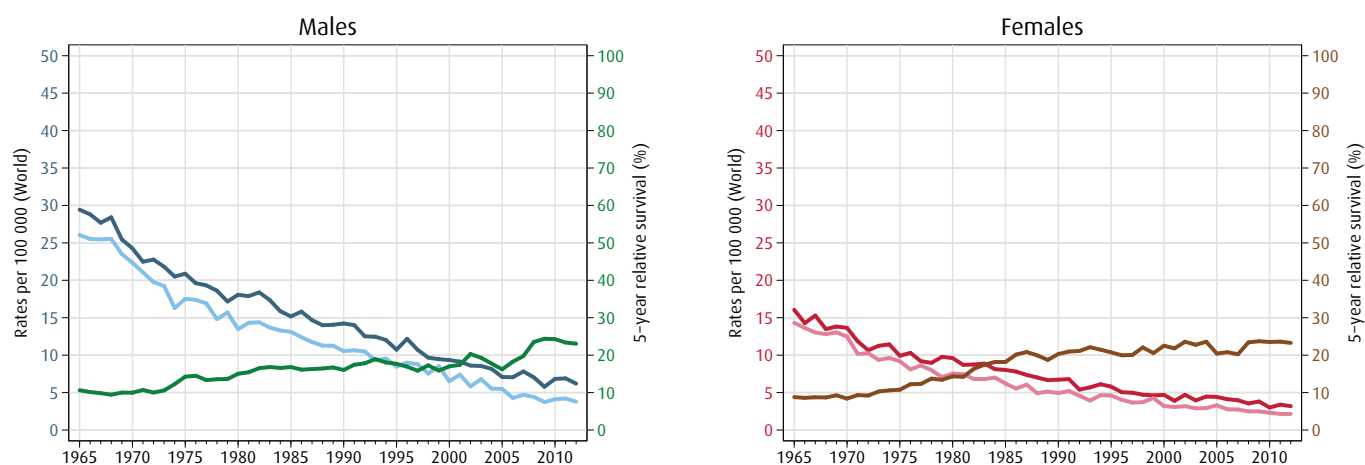


Figure 10-E: Colon (ICD-10 C18)

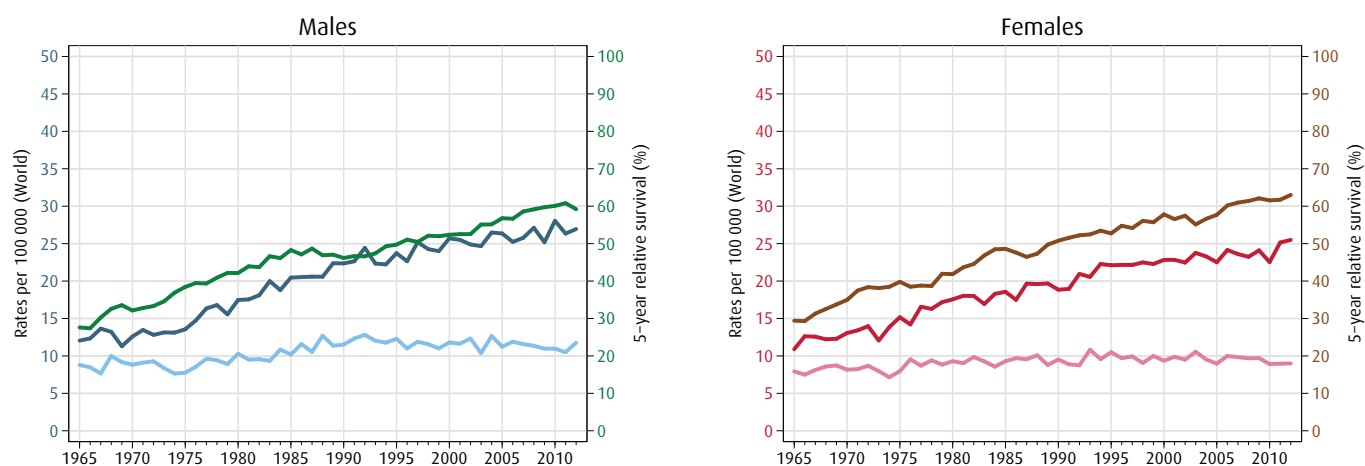
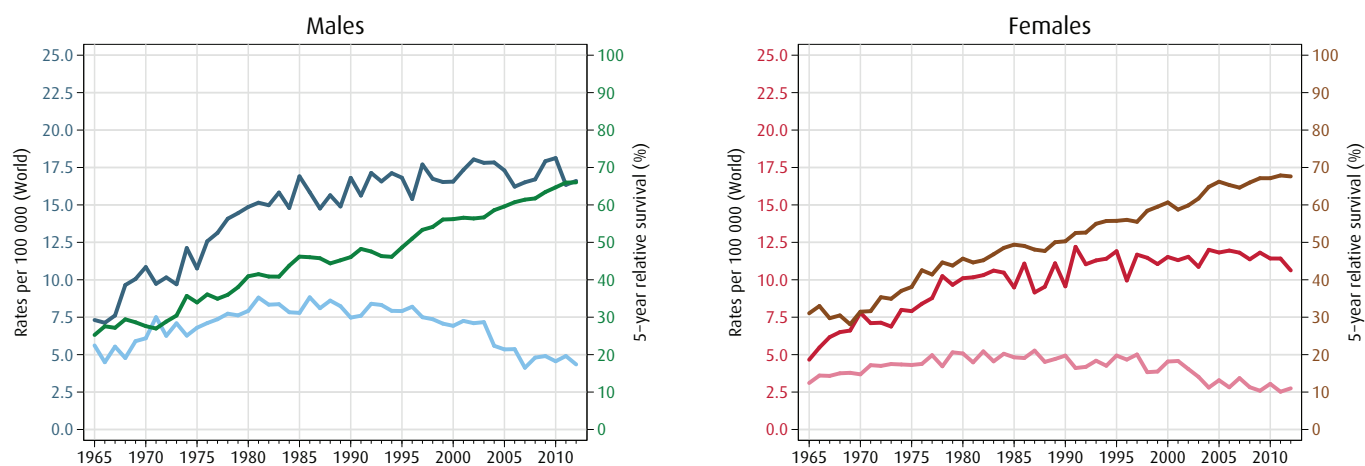


Figure 10-F: Rectum, rectosigmoid, anus (ICD-10 C19-21)



— Incidence
— Mortality
— Survival

— Incidence
— Mortality
— Survival

Trends in incidence and mortality rates and five-year relative survival proportions

Figure 10-G: Liver (ICD-10 C22)

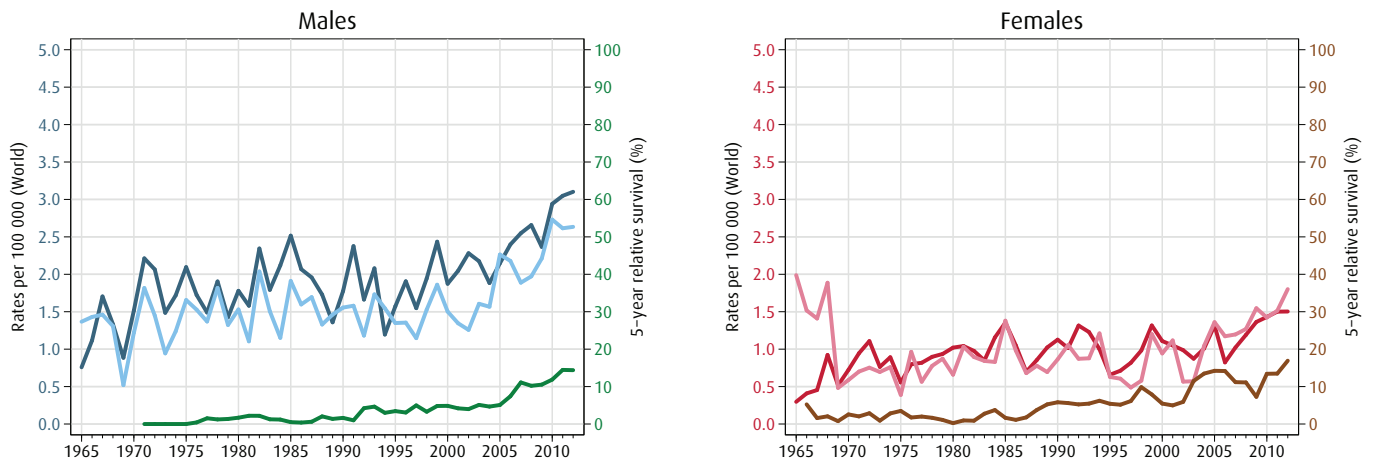


Figure 10-H: Gallbladder, bile ducts (ICD-10 C23-24)

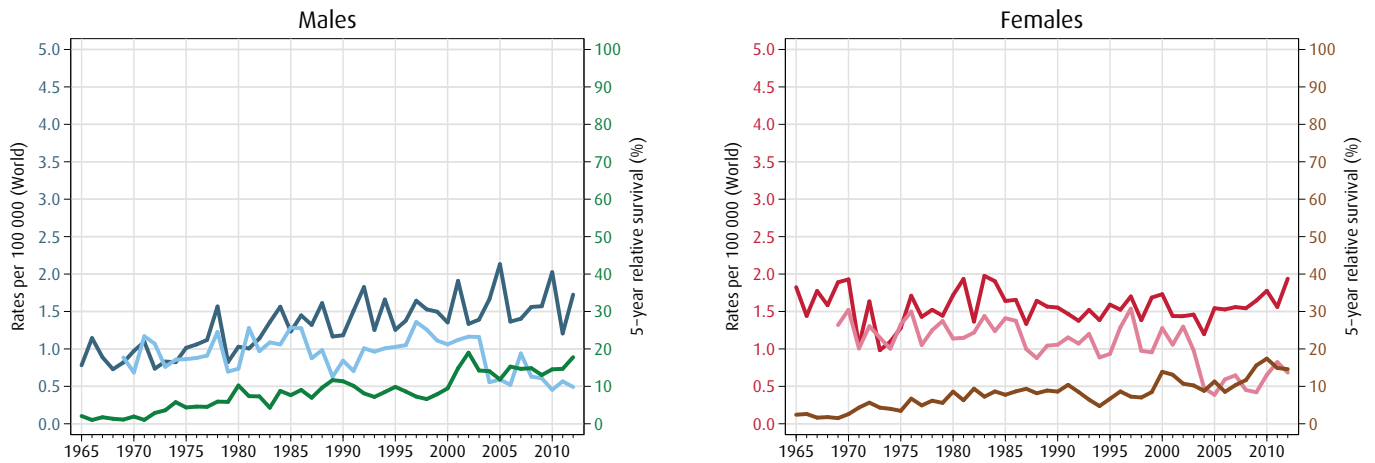
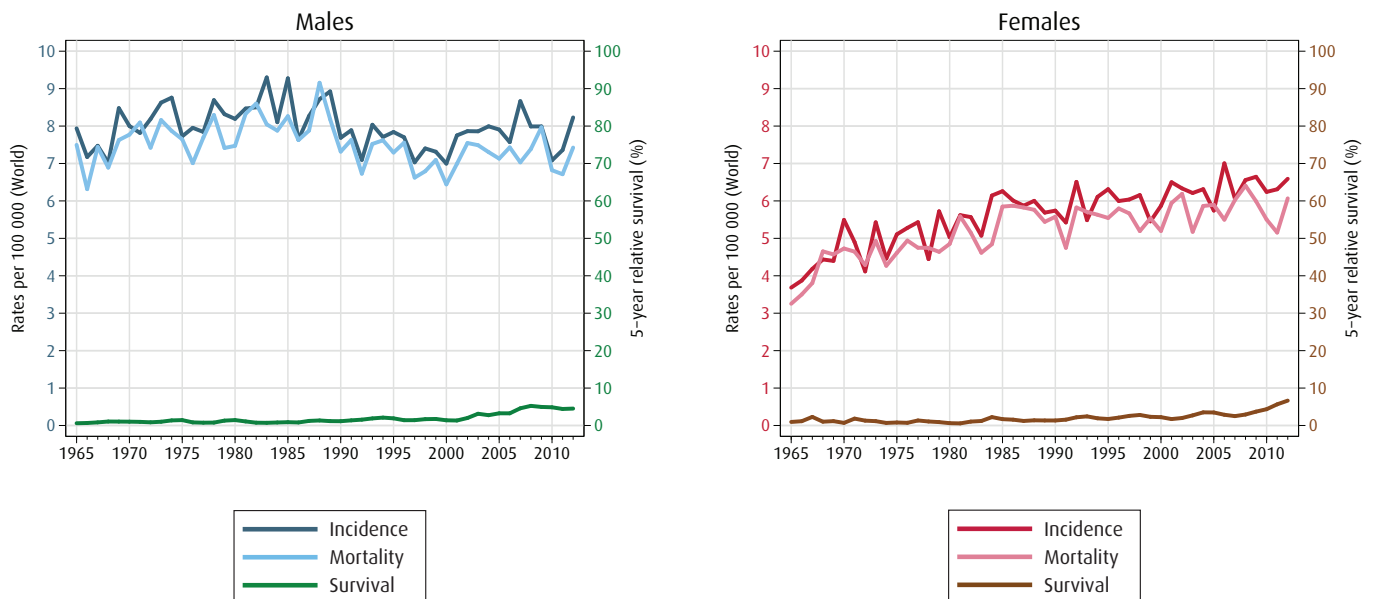


Figure 10-I: Pancreas (ICD-10 C25)



Trends in incidence and mortality rates and five-year relative survival proportions

Figure 10-J: Lung, trachea (ICD-10 C33-34)

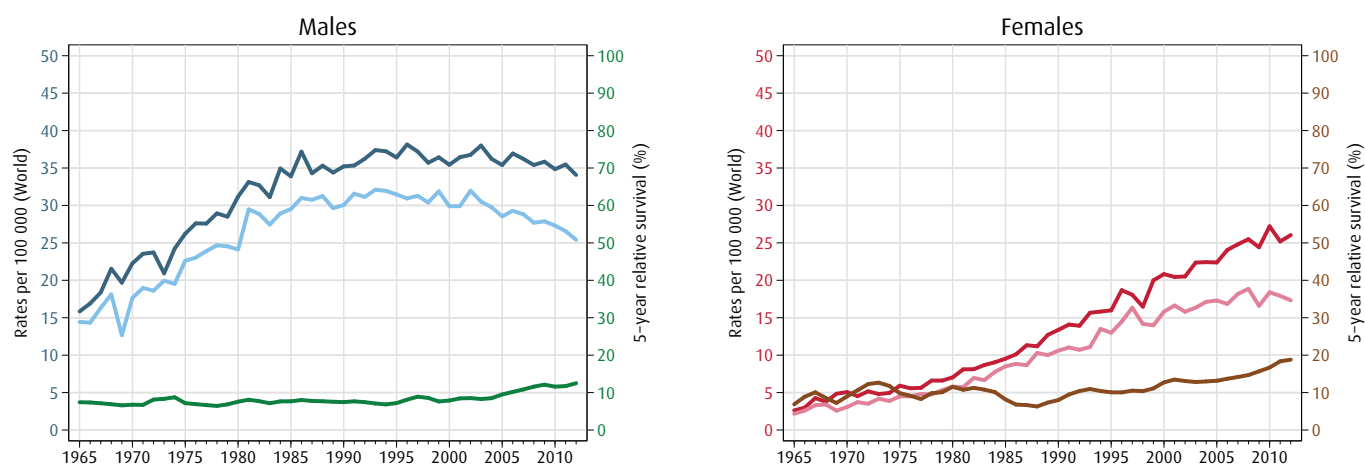


Figure 10-K: Melanoma of the skin (ICD-10 C43)

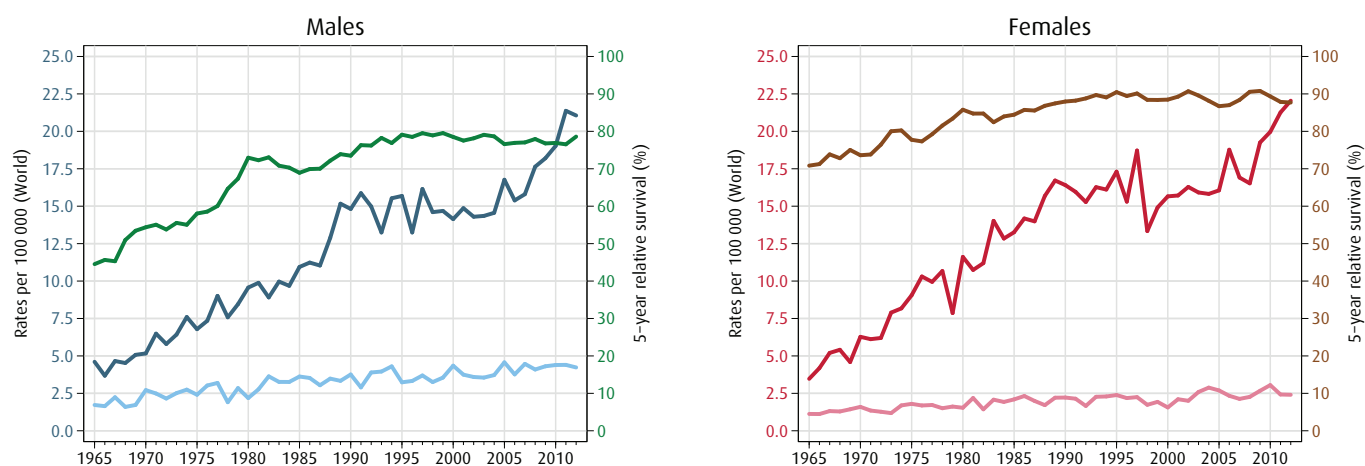
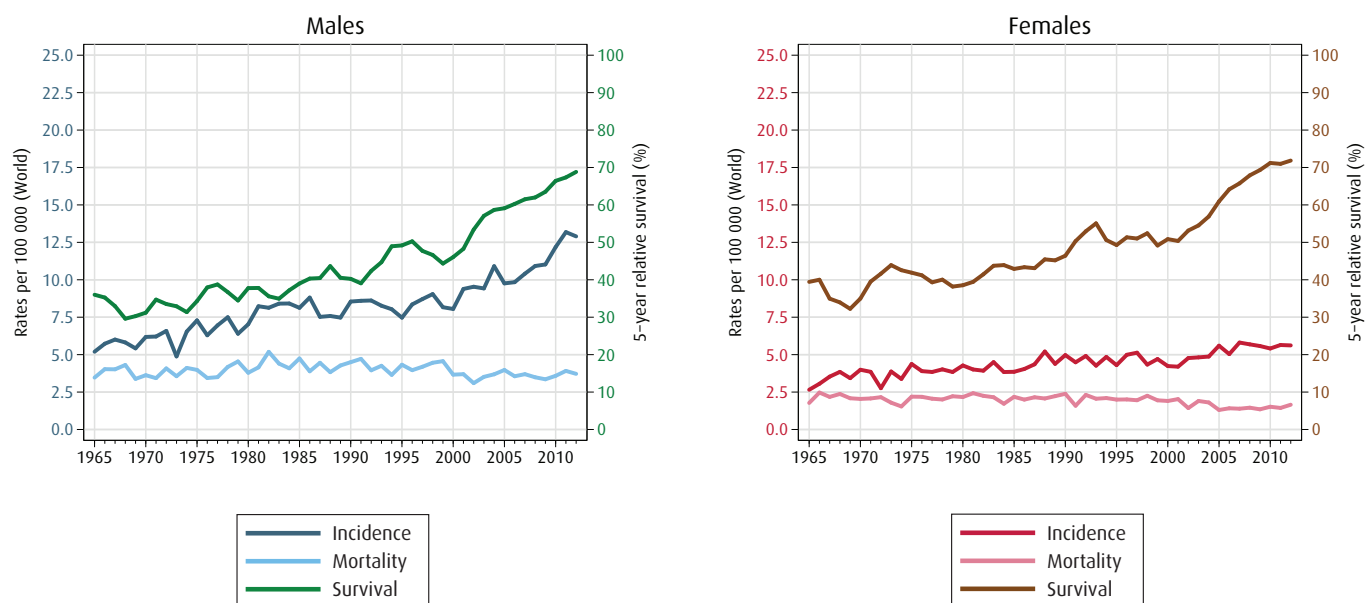


Figure 10-L: Kidney excluding renal pelvis (ICD-10 C64)



— Incidence
— Mortality
— Survival

— Incidence
— Mortality
— Survival

Trends in incidence and mortality rates and five-year relative survival proportions

Figure 10-M: Breast (ICD-10 C50)

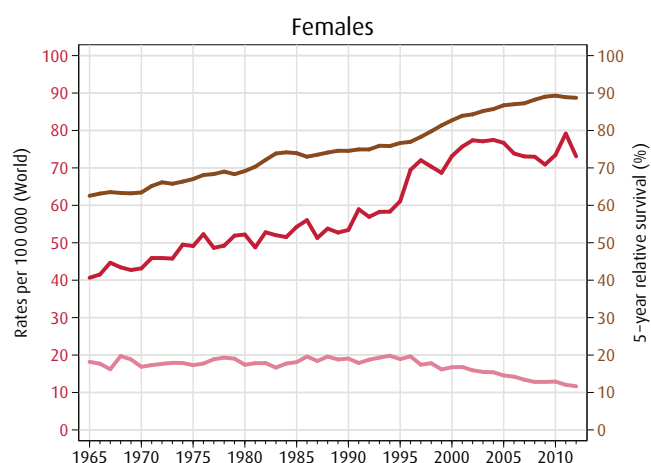


Figure 10-N: Cervix uteri (ICD-10 C53)

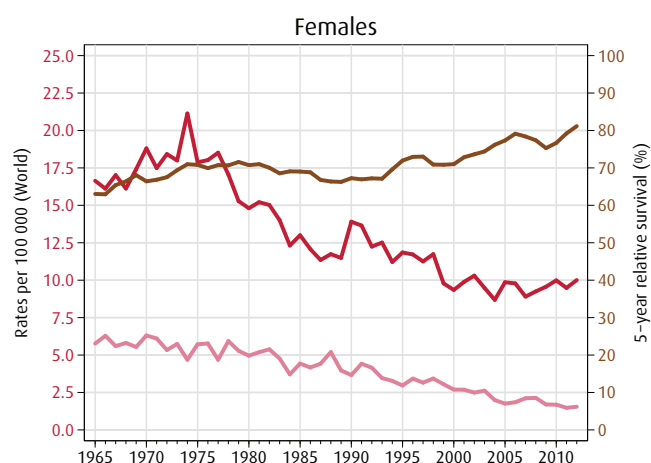


Figure 10-O: Prostate (ICD-10 C61)

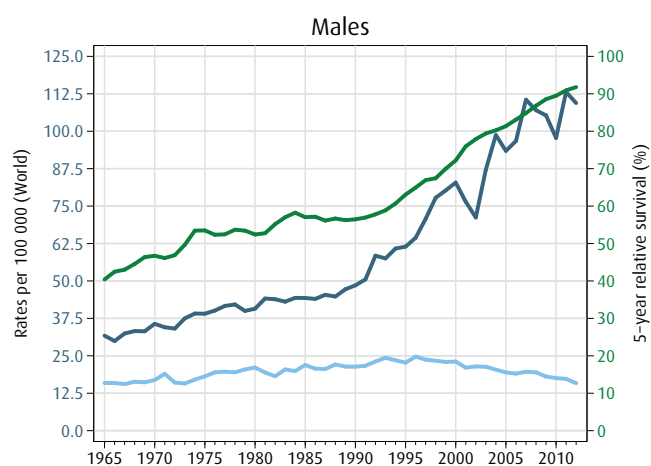


Figure 10-P: Corpus uteri (ICD-10 C54)

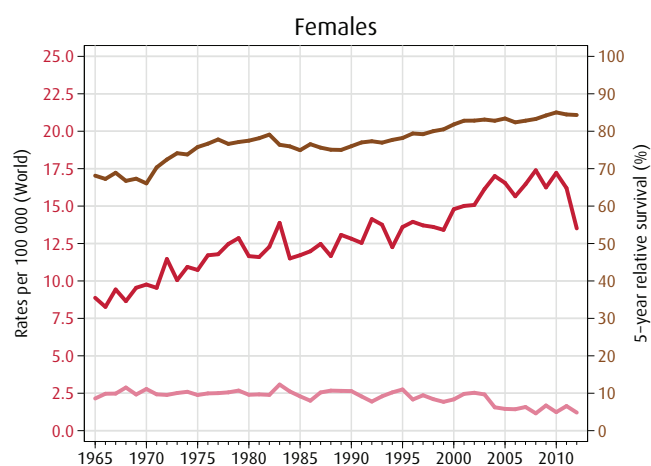


Figure 10-Q: Testis (ICD-10 C62)

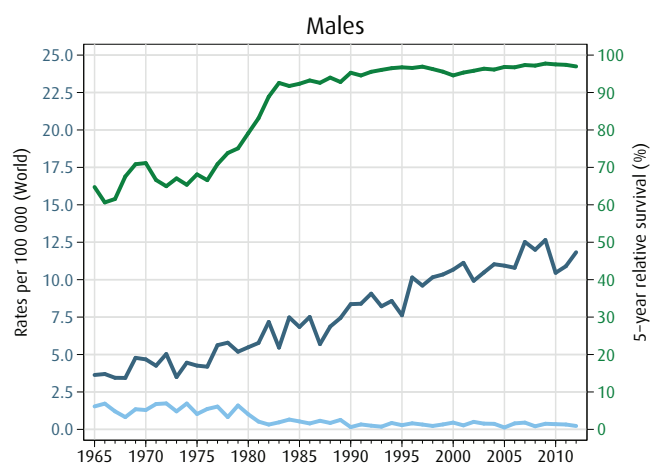
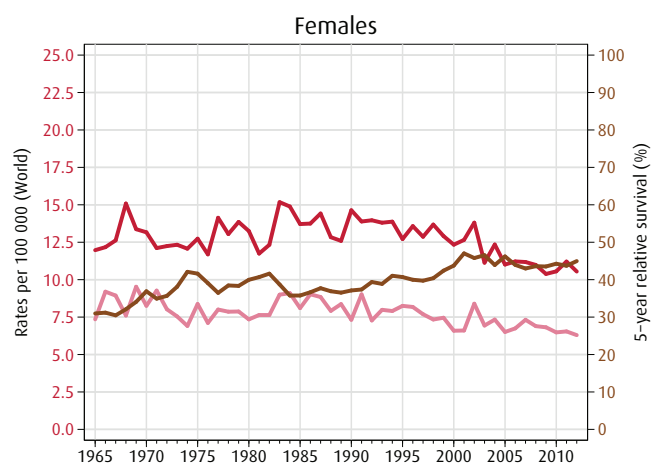


Figure 10-R: Ovary (ICD-10 C56)



— Incidence
— Mortality
— Survival

— Incidence
— Mortality
— Survival

Trends in incidence and mortality rates and five-year relative survival proportions

Figure 10-S: Bladder, ureter, urethra (ICD-10 C66-68)

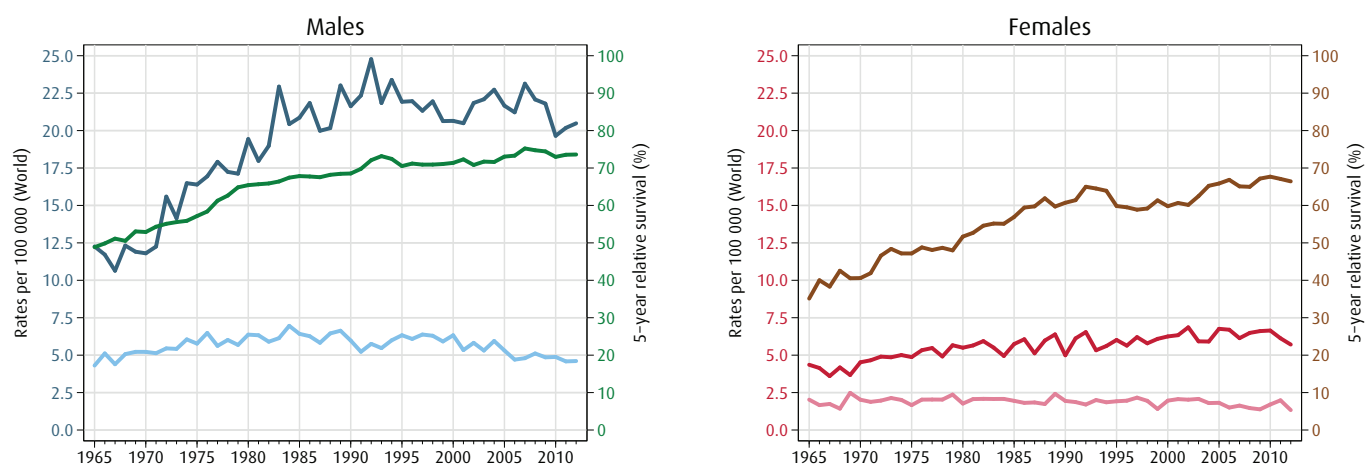


Figure 10-T: Central nervous system (ICD-10 C70-72, D32-33, D35.2-35.4, D42-43, D44.3-44.5)

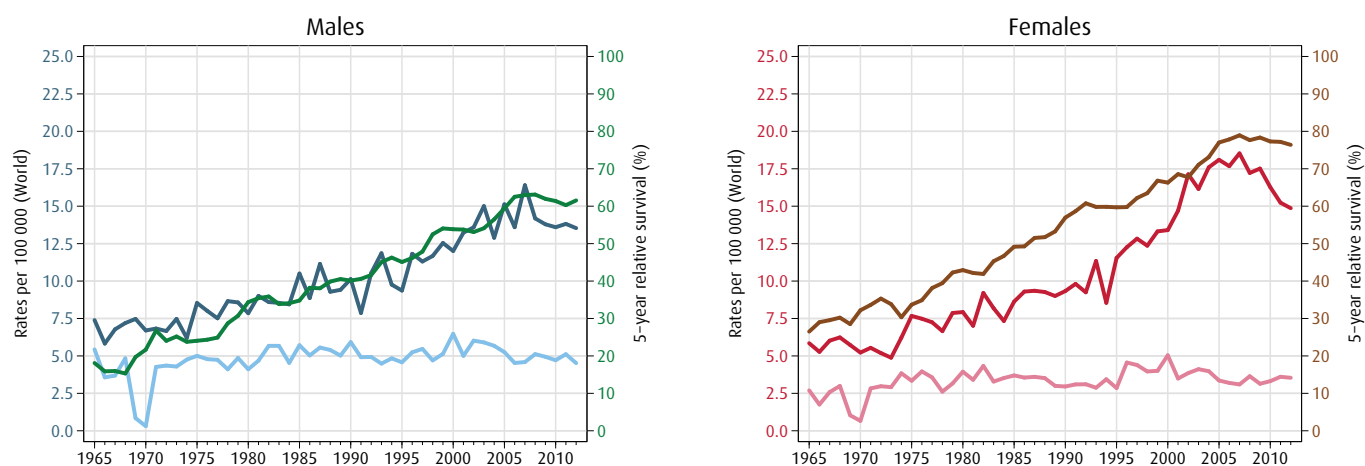
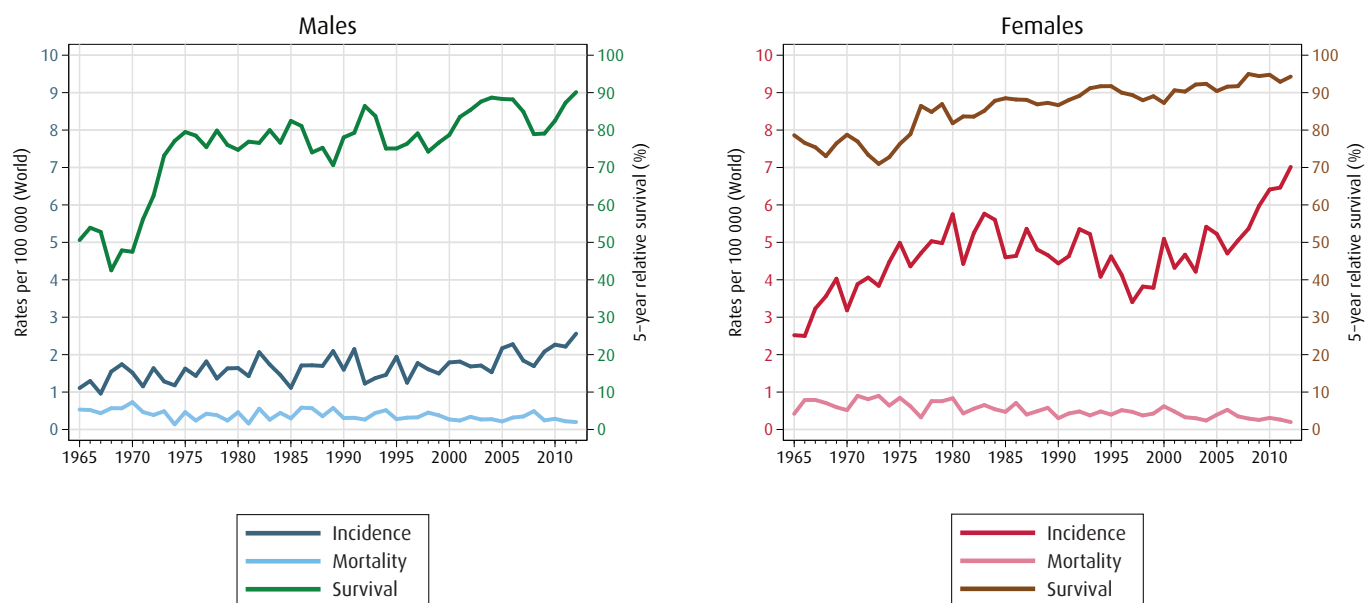


Figure 10-U: Thyroid gland (ICD-10 C73)



— Incidence
— Mortality
— Survival

— Incidence
— Mortality
— Survival

Trends in incidence and mortality rates and five-year relative survival proportions

Figure 10-V: Hodgkin lymphoma (ICD-10 C81)

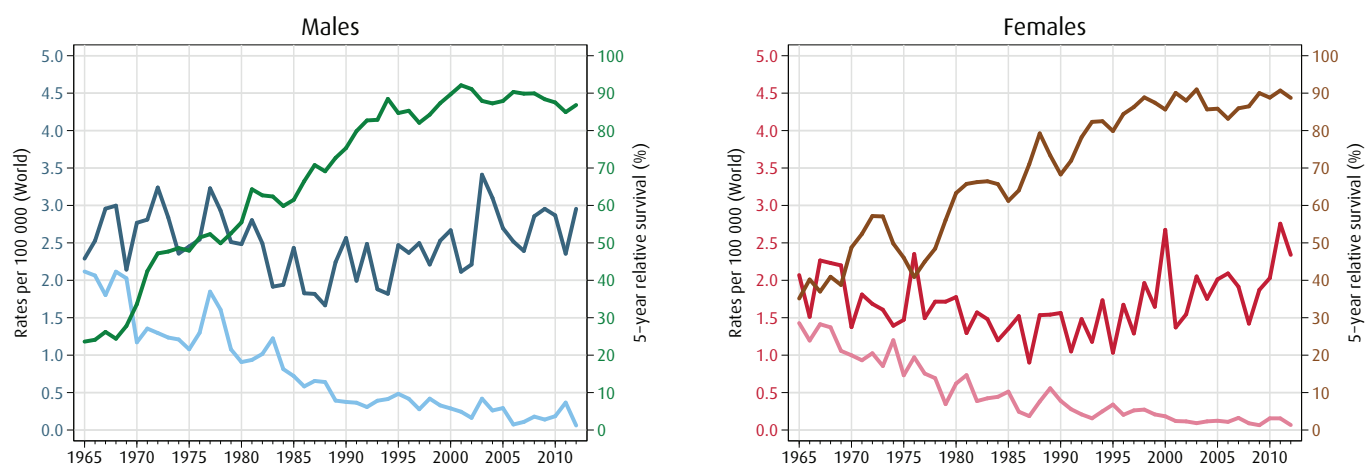


Figure 10-W: Non-Hodgkin lymphoma (ICD-10 C82-85, C96)

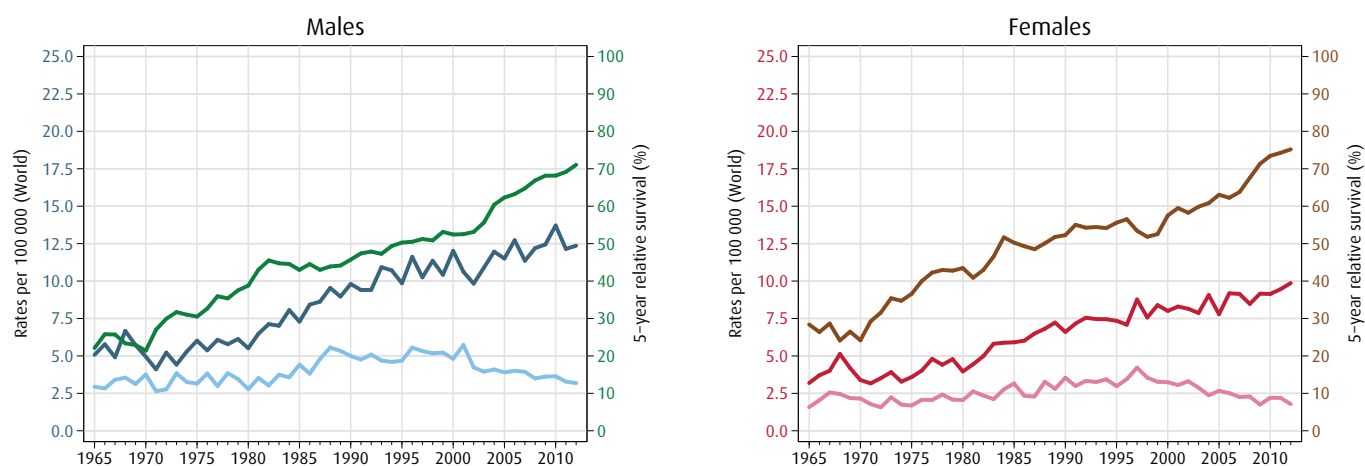
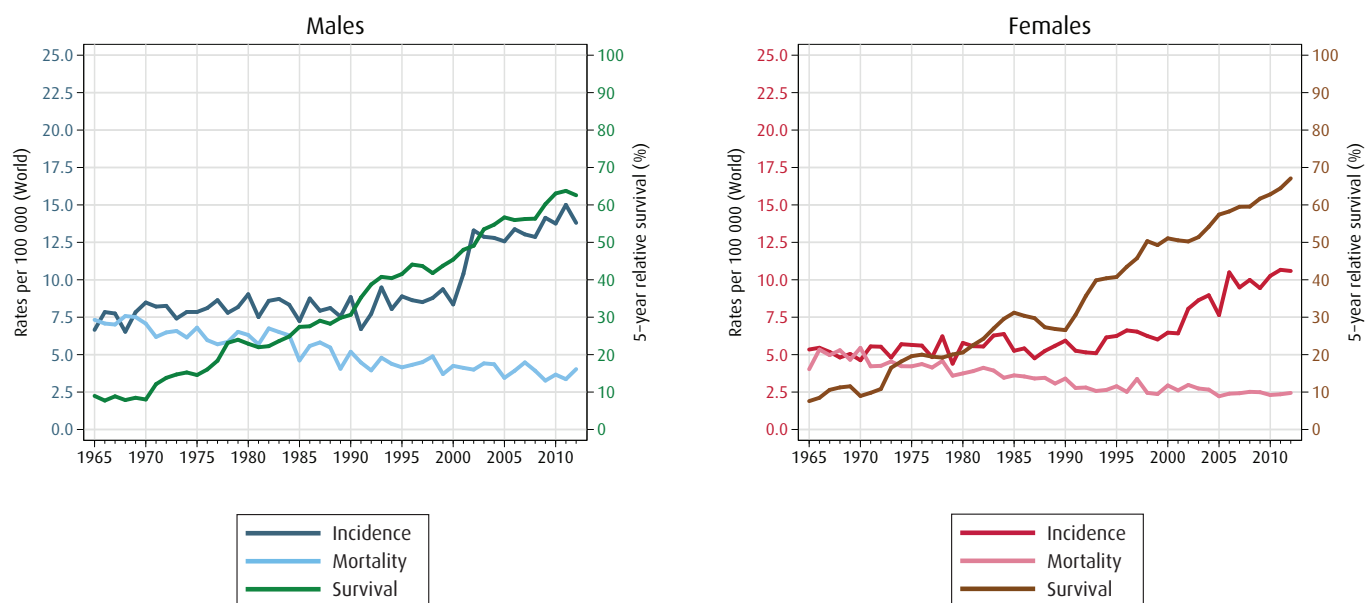


Figure 10-X: Leukaemia (ICD-10 C91-95, D45-47)



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