

Cancer in Scotland

October 2012

First published in June 2004,
revised with each National Statistics publication

Next due for revision April 2013

Information Services Division
NHS National Services Scotland

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Cancer incidence

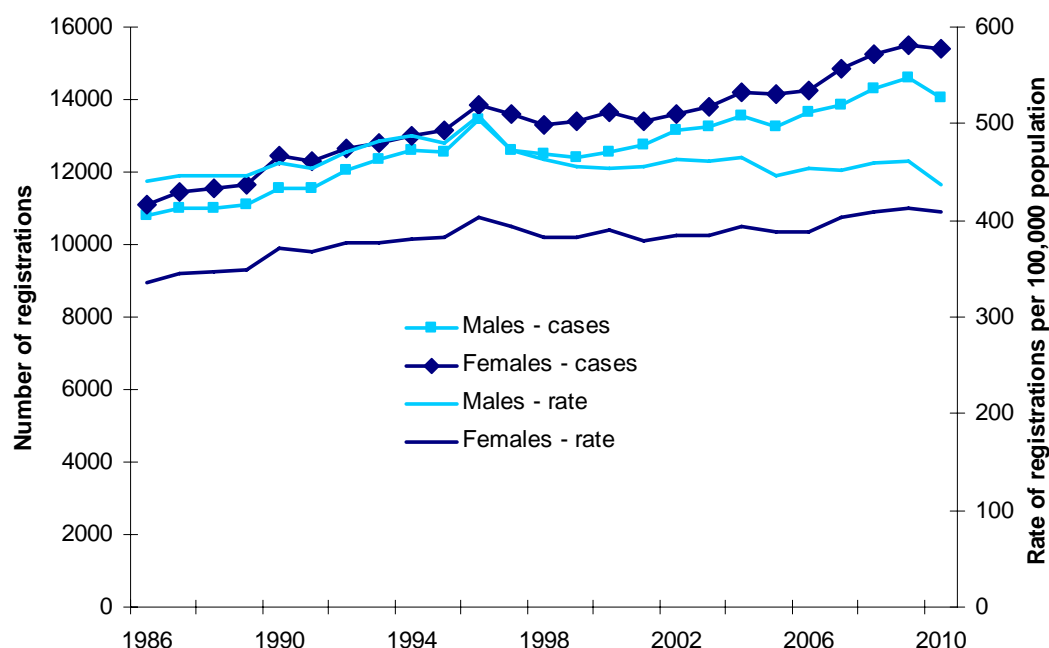
This section is updated annually, alongside the Cancer Incidence National Statistics publication.

Approximately 14,000 males and 15,400 females were diagnosed with cancer in 2010. Non-melanoma skin cancers (of which there were 10,100 registered in 2010) are excluded from this analysis because the registration of this tumour is believed to be incomplete. The number of cancers diagnosed in Scotland has increased over the last 10 years from 26,169 cases in 2000 to 29,449 in 2010.

For males, the most common cancers are prostate, lung and colorectal cancers, cumulatively accounting for 52% of cancers in men (Table 1). For females, the most common cancers are breast, lung and colorectal cancers, accounting for 56% of cancer in women (Table 1).

Over the decade up to 2010, the age-standardised incidence rate of cancer has fallen for males (a 3% decrease) and shows a significant, increasing trend for females (8% increase) (Figure 1).

**Figure 1. New cancer¹ registrations in Scotland, 1986-2010:
number of cases and standardised rate²**



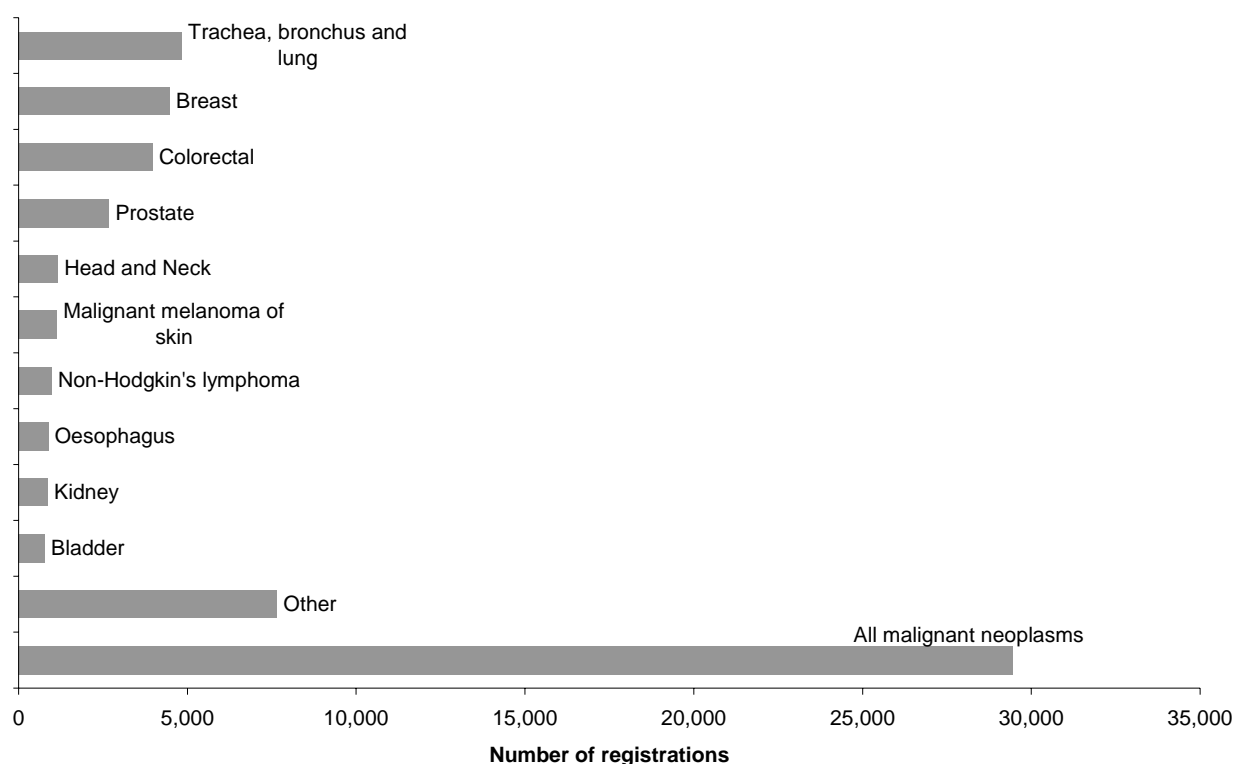
1 All cancers excluding non-melanoma skin cancers (ICD-10 C00-C97 excl C44)

2 European Age Standardised Rate

Source: Scottish Cancer Registry

For both males and females in Scotland combined, lung cancer is still the most common cancer overall (Figure 2), with 4,800 cases diagnosed in 2010 (16% of all cancers), compared to about 4,500 cases (15%) of female breast cancer and just under 4,000 cases of colorectal cancer (14%). The ranks and percentages of the three most common cancers are largely unchanged from 2009.

Figure 2. Top 10 Cancers in Scotland, 2010; all persons



All cancers excluding non-melanoma skin cancers (ICD-10 C00-C97 excl C44)
Source: Scottish Cancer Registry

Table 1 shows the numbers of cases in 2010, percentage frequency and percentage change over ten years for the most common cancers. A p-value of less than 0.05 for the 10 year change indicate that this is statistically significant. While many cancers are decreasing in incidence (Table 1), the incidence rate of malignant melanoma of the skin has increased considerably over the last decade, by approximately 66% in males and 60% in females. The apparent fall in bladder cancer incidence is an artefact due to a change in classification and coding practice across all cancer registries in Europe; around a quarter of bladder tumours are no longer coded as invasive bladder cancers. The long-term decline seen in the incidence rate of lung cancer in males has continued, with a significant fall in the incidence rate of 15% over the last ten years. Lung cancer incidence rates in females continue to increase, with a 17% increase over the last ten years. To a large extent, these trends reflect historic trends in the prevalence of smoking, which have differed between men and women.

The long-term decline seen in the incidence rate of lung cancer in males has continued, with a significant fall in the incidence rate of 15% over the last ten years. Lung cancer incidence rates in females continue to increase, with a 17% increase over the last ten years. To a large extent, these trends reflect historic trends in the prevalence of smoking, which have differed between men and women.

Table 1. Most common cancers in Scotland in 2010**Males**

Rank	ICD-10 site grouping	Number	Frequency	10 year % change ¹	p-value
1	Prostate (C61)	2,679	19.1%	+7.4	0.1949
2	Trachea, bronchus and lung (C33-C34)	2,490	17.7%	-15.0	<0.0001
3	Colorectal (C18-C20)	2,177	15.5%	+1.0	0.6912
4	Head and Neck (C00-C14, C30-C32)	828	5.9%	+2.2	0.5128
5	Oesophagus (C15)	550	3.9%	-1.4	0.7003
6	Bladder (C67)	542	3.9%	-19.6	<0.0001
7	Malignant melanoma of skin (C43)	524	3.7%	+66.2	<0.0001
8	Kidney (C64-C65)	502	3.6%	+31.2	<0.0001
9	Non-Hodgkin's lymphoma (C82-C85)	496	3.5%	+5.4	0.1924
10	Stomach (C16)	439	3.1%	-31.5	<0.0001
	Other malignant neoplasms	2,809	20.0%	x	x
	All malignant neoplasms excluding non-melanoma skin cancer	14,036	100.0%	-2.8	0.0354

Females

Rank	ICD-10 site grouping	Number	Frequency	10 year % change ¹	p-value
1	Breast (C50)	4,457	28.9%	+12.0	<0.0001
2	Trachea, bronchus and lung (C33-C34)	2,349	15.2%	+16.5	<0.0001
3	Colorectal (C18-C20)	1,790	11.6%	+1.4	0.5808
4	Corpus uteri (C54)	649	4.2%	+30.5	<0.0001
5	Malignant melanoma of skin (C43)	617	4.0%	+59.8	<0.0001
6	Ovary (C56)	613	4.0%	-10.1	0.0041
7	Non-Hodgkin's lymphoma (C82-C85)	490	3.2%	+11.9	0.0283
8	Kidney (C64-C65)	361	2.3%	+47.5	<0.0001
9	Pancreas (C25)	353	2.3%	+5.3	0.3333
10	Head and Neck (C00-C14, C30-C32)	345	2.2%	+5.5	0.4181
	Other malignant neoplasms	3,389	22.0%	x	x
	All malignant neoplasms excluding non-melanoma skin cancer	15,413	100.0%	+7.6	<0.0001

All persons

Rank	ICD-10 site grouping	Number	Frequency	10 year % change ¹	p-value
1	Trachea, bronchus and lung (C33-C34)	4,839	16.4%	-3.7	0.8646
2	Breast (C50)	4,480	15.2%	x	x
3	Colorectal (C18-C20)	3,967	13.5%	+1.2	0.2594
4	Prostate (C61)	2,679	9.1%	x	x
5	Head and Neck (C00-C14, C30-C32)	1,173	4.0%	+3.1	0.1564
6	Malignant melanoma of skin (C43)	1,141	3.9%	+62.8	<0.0001
7	Non-Hodgkin's lymphoma (C82-C85)	986	3.3%	+8.2	0.0048
8	Oesophagus (C15)	885	3.0%	-2.7	0.6210
9	Kidney (C64-C65)	863	2.9%	+36.8	<0.0001
10	Bladder (C67)	778	2.6%	-17.3	<0.0001
	Other malignant neoplasms	7,658	26.0%	x	x
	All malignant neoplasms excluding non-melanoma skin cancer	29,449	100.0%	+1.9	0.0007

'x' = not applicable.

¹ Calculated using Poisson regression analyses.

² Percentage change in incidence is not shown here for cancers occurring mainly or in only one sex.

Source: Scottish Cancer Registry, ISD Date extracted: March 2012

Cancers for which incidence rates have fallen significantly over the past ten years include [stomach](#) (32% in males and 37% in females), cancer of the [larynx](#) in males (19% decrease); cancer of the ovary in females (10% decrease) (Table 1), and [leukaemias](#) in both sexes (26% decrease in males, 28% decrease in females).

Further information

A summary table showing numbers of cases and age-standardised incidence rates for each cancer, sex and year (1999-2008) can be found at http://www.isdscotland.scot.nhs.uk/Health-Topics/Cancer/Cancer-Statistics/cancer_incandmort_summary.xls

Detailed numbers and rates by age band, sex and health board for approximately 50 cancer sites and for all cancers combined over the period 1985-2008 can be found within the cancer-specific categories listed on <http://www.isdscotland.scot.nhs.uk/Health-Topics/Cancer/>.

IA summary of the most recent Cancer Incidence Projections (2008) can be found at <http://www.scotland.gov.uk/Topics/Health/health/cancer/CancerScenariosS>. A more comprehensive report from 2001 is available at <http://www.scotland.gov.uk/Publications/2001/05/9056/File-1>

Cancer incidence statistics for England can be found on the National Statistics hub at <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=8843>. Comparative data on incidence and mortality for the UK and Ireland can be found in the Cancer Atlas produced by Office of National Statistics: <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=14059&Pos=&ColRank=1&Rank=272>.

Lifetime risk of cancer

This section will next be updated in 2013.

It is estimated that more than 1 in 3 people in Scotland will develop some form of cancer during their lifetime, and that around 1 in 9 males and 1 in 7 females will develop some form of cancer before the age of 65 (Table 2). Having survived to age 65 without cancer, the risk of getting cancer subsequently is 1 in 3 for males and 1 in 4 for females.

Table 2: Risk of being diagnosed with cancer over a lifetime (up to the age of 90), 2005-2009

Cancer site / type (ICD-10)	Males			Females		
	% of cohort that develop cancer up to age 64	over lifetime	Lifetime risk 1 in ...	% of cohort that develop cancer up to age 64	over lifetime	Lifetime risk 1 in ...
All malignant neoplasms excl non-melanoma skin cancer ¹	11.8	37.4	3	14.0	35.9	3
Head and Neck (C00-C14, C30-C32)	1.0	2.1	48	0.4	0.9	118
Oral cavity (C01-C06)	0.4	0.7	142	0.2	0.4	248
Oesophagus (C15)	0.5	1.6	62	0.1	0.9	117
Stomach (C16)	0.3	1.5	66	0.2	0.8	119
Colorectal (C18-C20)	1.6	6.0	17	1.1	4.7	21
Colon (C18)	0.9	3.8	26	0.7	3.3	30
Rectum and rectosigmoid junction (C19-C20)	0.7	2.2	45	0.4	1.4	73
Liver and intrahepatic bile ducts (C22)	0.2	0.8	131	0.1	0.3	289
Pancreas (C25)	0.3	1.0	101	0.2	1.0	100
Larynx (C32)	0.3	0.7	150	0.1	0.2	595
Trachea, bronchus and lung (C33-C34)	1.7	7.8	13	1.4	6.4	16
Bone and connective tissue (C40-C41, C47, C49)	0.2	0.3	352	0.1	0.2	490
Malignant melanoma of the skin (C43)	0.6	1.3	78	0.9	1.5	65
Female breast (C50, females)	x	x	x	5.5	10.6	9
Cervix uteri (C53)	x	x	x	0.6	0.8	119
Corpus uteri (C54)	x	x	x	0.7	1.5	66
Ovary (C56)	x	x	x	0.7	1.7	60
Prostate (C61)	1.9	8.4	12	x	x	x
Testis (C62)	0.5	0.6	178	x	x	x
Kidney (C64-C65)	0.5	1.3	80	0.3	0.9	118
Bladder (C67)	0.2	1.5	65	0.1	0.7	140
Brain and other CNS (C70-C72, C75.1, C75.3)	0.4	0.7	148	0.3	0.5	202
Thyroid (C73)	0.1	0.1	726	0.2	0.3	313
Hodgkin's disease (C81)	0.2	0.2	411	0.1	0.2	541
Non-Hodgkin's lymphoma (C82-C85)	0.6	1.4	70	0.5	1.3	77
Multiple myeloma and malignant plasma cell neoplasms (C90)	0.2	0.6	154	0.1	0.5	191
Leukaemias (C91-C95)	0.4	1.1	88	0.3	0.8	133

¹ C00-C96 excl C44 (C97 is not used by the Scottish Cancer Registry).
Source: Scottish Cancer Registry, ISD

^x = not applicable.
Data extracted: July 2011

For the most common cancers, for males, the lifetime risk of developing lung cancer is estimated as 1 in 13, of prostate cancer 1 in 12, and 1 in 17 men are estimated to develop colorectal cancer in their lifetime. For females, the estimated lifetime risk is 1 in 9 for breast cancer, 1 in 16 for lung cancer, and 1 in 21 for colorectal cancer.

Prevalence of cancer

This section will next be updated in 2013.

Overall, 2.5% of men and 3.4% of women in Scotland are living with cancer (2,540 and 3,361 per 100,000 population, Table 3 and [All Cancer Types prevalence](#)).

Table 3: Cancer survivors (prevalence) at 31 December 2009, by time since diagnosis

Males	Prevalence: rate per 100,000 in population				
Cancer site / type (ICD-10)	Up to 1 year	> 1 to 5 years	> 5 to 10 years	> 10 to 20 years	Total up to 20 years
All malignant neoplasms excl non-melanoma skin cancer ¹	409.2	927.8	646.2	556.7	2,539.9
Prostate (C61)	105.3	318.5	227.4	100.8	751.9
Colorectal (C18-C20)	68.5	166.7	120.4	101.0	456.6
Colon (C18)	43.5	103.6	74.0	63.8	284.9
Head and Neck (C00-C14, C30-C32)	26.5	65.8	49.6	44.2	186.2
Rectum and rectosigmoid junction (C19-C20)	25.4	64.9	48.2	38.5	177.1
Malignant melanoma of the skin (C43)	20.0	58.1	41.4	44.5	164.0
Bladder (C67)	15.3	36.1	31.8	65.6	148.6
Testis (C62)	8.0	31.0	37.7	60.6	137.3
Trachea, bronchus and lung (C33-C34)	50.1	48.2	18.5	18.9	135.7
Non-Hodgkin's lymphoma (C82-C85)	16.1	45.5	33.7	33.6	128.9
Leukaemias (C91-C95)	10.7	31.3	27.3	26.8	96.0
Kidney (C64-C65)	14.3	36.2	23.0	19.7	93.1
Larynx (C32)	7.6	23.7	19.9	19.6	70.8
Oral cavity (C01-C06)	8.8	21.9	14.5	11.4	56.6
Stomach (C16)	11.9	14.5	9.0	8.3	43.7
Hodgkin's disease (C81)	3.3	11.2	10.9	18.4	43.7
Oesophagus (C15)	14.0	13.5	6.7	4.8	39.0
Bone and connective tissue (C40-C41, C47, C49)	3.7	9.6	8.6	11.1	32.9
Multiple myeloma and malignant plasma cell neoplasms (C90)	7.6	15.1	6.1	2.3	31.0
Brain and other CNS (C70-C72, C75.1, C75.3)	5.4	7.9	6.4	10.0	29.7
Thyroid (C73)	2.2	5.8	4.6	6.5	19.1
Liver and intrahepatic bile ducts (C22)	5.1	5.2	1.5	1.1	12.8
Pancreas (C25)	5.9	2.9	1.0	1.0	10.9

¹ C00-C96 excl C44 (C97 is not used by the Scottish Cancer Registry).

Data extracted: July 2011

Source: Scottish Cancer Registry, ISD

Females	Prevalence: rate per 100,000 in population				
Cancer site / type (ICD-10)	Up to 1 year	> 1 to 5 years	> 5 to 10 years	> 10 to 20 years	Total up to 20 years
All malignant neoplasms excl non-melanoma skin cancer ¹	426.5	1,090.4	874.2	970.2	3,361.3
Female breast (C50, females)	150.8	493.0	423.6	461.3	1,528.7
Colorectal (C18-C20)	52.9	129.9	102.3	104.4	389.5
Colon (C18)	37.5	90.9	70.8	74.4	273.6
Malignant melanoma of the skin (C43)	23.2	74.6	62.2	79.7	239.7
Corpus uteri (C54)	21.7	64.2	55.5	61.3	202.7
Ovary (C56)	17.3	43.4	34.4	45.5	140.6
Cervix uteri (C53)	11.3	31.4	32.4	65.3	140.4
Trachea, bronchus and lung (C33-C34)	44.5	47.7	19.0	14.8	125.9
Non-Hodgkin's lymphoma (C82-C85)	15.3	43.6	31.9	30.4	121.2
Rectum and rectosigmoid junction (C19-C20)	15.7	39.7	32.3	31.3	118.9
Head and Neck (C00-C14, C30-C32)	11.4	26.7	22.2	20.0	80.3
Leukaemias (C91-C95)	7.1	19.1	20.3	19.2	65.7
Kidney (C64-C65)	9.6	22.4	14.2	15.4	61.6
Bladder (C67)	7.4	12.6	11.5	29.0	60.4
Thyroid (C73)	4.5	16.1	15.5	19.4	55.4
Oral cavity (C01-C06)	5.6	12.3	9.7	7.3	34.9
Hodgkin's disease (C81)	2.7	7.1	9.3	12.2	31.4
Stomach (C16)	5.2	7.8	6.9	6.8	26.7
Multiple myeloma and malignant plasma cell neoplasms (C90)	4.8	12.1	4.5	2.2	23.6
Bone and connective tissue (C40-C41, C47, C49)	2.0	7.2	5.8	8.2	23.2
Brain and other CNS (C70-C72, C75.1, C75.3)	4.4	6.4	4.0	7.7	22.4
Oesophagus (C15)	6.7	6.5	3.1	3.7	20.1
Larynx (C32)	2.2	5.8	4.5	5.1	17.6
Pancreas (C25)	4.5	2.3	1.0	1.0	8.9
Liver and intrahepatic bile ducts (C22)	1.8	2.0	0.8	0.7	5.3

¹ C00-C96 excl C44 (C97 is not used by the Scottish Cancer Registry).

Data extracted: July 2011

Source: Scottish Cancer Registry, ISD

Cancers with high incidence along with favourable survival have the highest prevalence, in particular breast cancer; for example, 1.5% of women in Scotland are living with breast cancer. Prevalence is increasing for many cancers due to a combination of improvements in prognosis and screening techniques, as well as increasing incidence.

The prevalence of cancer in the Scottish population increases with age (Table 4), with 11.1% of men and 9.8% of women (11,083 and 9,846 cases per 100,000 population, respectively) of people aged 65 and over living with cancer, compared to 2.5% of men and 4.5% of women aged 45-64, and 0.4% of men and 0.6% of women aged under 45. The prevalence figures by age group include all cancer diagnoses from 20 years previously, up to those diagnosed very recently.

The most prevalent cancer (4.3%) in men aged 65 and over is prostate cancer; in females 65 and over the most prevalent cancer is breast cancer (4.4%). Overall, 64% of males and 55% of females who are living with a diagnosis of cancer are aged 65 and over.

Table 4: Cancer survivors (prevalence) at 31 December 2009, current ages of those surviving up to 20 years following diagnosis

Males				
Prevalence: rate per 100,000 in population				
Cancer site / type (ICD-10)	Under 45	45-64	65+	All Ages
All malignant neoplasms excl non-melanoma skin cancer ¹	380.8	2,528.1	11,083.3	2,539.9
Prostate (C61)	0.6	430.5	4,308.5	751.9
Colorectal (C18-C20)	9.4	380.7	2,360.8	456.6
Colon (C18)	5.4	214.1	1,518.4	284.9
Head and Neck (C00-C14, C30-C32)	12.3	273.1	712.8	186.2
Rectum and rectosigmoid junction (C19-C20)	4.1	169.2	874.2	177.1
Malignant melanoma of the skin (C43)	42.7	227.2	526.4	164.0
Bladder (C67)	2.5	89.4	834.4	148.6
Testis (C62)	116.5	230.1	49.0	137.3
Trachea, bronchus and lung (C33-C34)	3.2	120.2	687.0	135.7
Non-Hodgkin's lymphoma (C82-C85)	29.9	175.5	433.6	128.9
Leukaemias (C91-C95)	39.0	92.4	327.6	96.0
Kidney (C64-C65)	9.4	121.7	370.7	93.1
Larynx (C32)	1.4	82.9	322.5	70.8
Oral cavity (C01-C06)	4.7	97.0	187.5	56.6
Stomach (C16)	1.2	33.8	229.7	43.7
Hodgkin's disease (C81)	40.2	54.4	37.7	43.7
Oesophagus (C15)	0.8	52.5	164.9	39.0
Bone and connective tissue (C40-C41, C47, C49)	19.1	38.6	76.9	32.9
Multiple myeloma and malignant plasma cell neoplasms (C90)	1.4	39.5	132.3	31.0
Brain and other CNS (C70-C72, C75.1, C75.3)	26.8	38.6	24.7	29.7
Thyroid (C73)	8.9	30.3	39.0	19.1
Liver and intrahepatic bile ducts (C22)	1.7	15.2	52.5	12.8
Pancreas (C25)	0.7	14.8	43.6	10.9

Females				
Prevalence: rate per 100,000 in population				
Cancer site / type (ICD-10)	Under 45	45-64	65+	All Ages
All malignant neoplasms excl non-melanoma skin cancer ¹	558.7	4,501.2	9,845.8	3,361.3
Female breast (C50, females)	127.2	2,378.4	4,367.2	1,528.7
Colorectal (C18-C20)	12.6	285.3	1,633.7	389.5
Colon (C18)	8.4	179.7	1,179.2	273.6
Malignant melanoma of the skin (C43)	97.2	346.4	499.2	239.7
Corpus uteri (C54)	4.3	233.2	734.1	202.7
Ovary (C56)	33.6	223.2	331.7	140.6
Cervix uteri (C53)	85.7	253.6	135.4	140.4
Trachea, bronchus and lung (C33-C34)	4.0	120.4	487.4	125.9
Non-Hodgkin's lymphoma (C82-C85)	17.9	140.0	393.8	121.2
Rectum and rectosigmoid junction (C19-C20)	4.3	107.5	467.9	118.9
Head and Neck (C00-C14, C30-C32)	9.2	99.3	258.8	80.3
Leukaemias (C91-C95)	33.0	52.9	179.0	65.7
Kidney (C64-C65)	7.5	64.3	214.4	61.6
Bladder (C67)	1.7	30.2	274.6	60.4
Thyroid (C73)	33.6	87.5	72.3	55.4
Oral cavity (C01-C06)	3.1	45.7	111.5	34.9
Hodgkin's disease (C81)	32.9	32.1	25.9	31.4
Stomach (C16)	1.3	19.0	111.5	26.7
Multiple myeloma and malignant plasma cell neoplasms (C90)	0.4	24.0	90.4	23.6
Bone and connective tissue (C40-C41, C47, C49)	15.7	22.5	46.2	23.2
Brain and other CNS (C70-C72, C75.1, C75.3)	21.8	25.5	19.9	22.4
Oesophagus (C15)	0.3	16.9	81.8	20.1
Larynx (C32)	0.8	20.0	62.9	17.6
Pancreas (C25)	0.9	9.0	32.1	8.9
Liver and intrahepatic bile ducts (C22)	0.9	5.6	17.5	5.3

¹ C00-C96 excl C44 (C97 is not used by the Scottish Cancer Registry).
Source: Scottish Cancer Registry, ISD

Data extracted: July 2011

Cancer mortality

This section is updated annually, alongside the Cancer Mortality National Statistics publication.

Over 15,300 people died of cancer in Scotland in 2011. Lung cancer accounted for the largest number of deaths in both sexes, at approximately 28% of cancer deaths in males, and 27% of cancer deaths in females. The absolute numbers of lung cancer deaths in males and females have almost converged to around 2000 deaths per year in each sex, after long term trends of increasing female and decreasing male deaths from lung cancer. Colorectal, breast and prostate cancer were the other major causes of cancer deaths (Table 5).

Overall cancer mortality rates have decreased by 15% in males and 7% in females in the last 10 years. In men, the largest falls in mortality among the top 10 causes of death from cancer have been in stomach, colorectal and lung cancer (36%, 21% and 20% respectively). Death rates from prostate cancer, the most frequently diagnosed cancer in males (Table 1), have decreased by 12% over the 10 years to 2011. The death rate from cancer of the liver has increased by 45% in men over the last 10 years, a statistically significant trend.

For women, the largest falls in mortality rates among the top 10 causes of death from cancer were observed in stomach cancer and Non-Hodgkins lymphoma (38% and 20% respectively) (Table 5). Death rates from breast cancer, the most frequently diagnosed cancer in females, have decreased by over 19% over the last 10 years, in spite of the increase in incidence of female breast cancer (Table 1). Cervical cancer deaths have decreased by 14% over the same time period, in keeping with a longer term trend (data not shown in Table 5 as cervical cancer lies outside the top 10 causes of death from cancer).

Table 5: Most common causes of death from cancer in Scotland in 2011: Rank, number, frequency and change in mortality rate since 2001

Males					
Rank	ICD-10 site grouping	Number	Frequency	10 year % change ¹	p-value
1	Trachea, bronchus and lung (C33-C34)	2,200	27.7%	-20.4	<0.001
2	Prostate (C61)	900	11.3%	-12.4	<0.001
3	Colorectal (C18-C20)	824	10.4%	-20.9	<0.001
4	Oesophagus (C15)	541	6.8%	-5.4	0.102
5	Pancreas (C25)	358	4.5%	+5.5	0.265
6	Bladder (C67)	294	3.7%	-19.4	0.000
7	Head and Neck (C00-C14, C30-C32)	293	3.7%	-7.6	0.127
8	Stomach (C16)	279	3.5%	-35.5	<0.001
9	Liver and intrahepatic bile ducts (C22)	263	3.3%	+44.6	<0.001
10	Leukaemias (C91-C95)	235	3.0%	+6.7	0.282
	Other malignant neoplasms	1,765	22.2%	x	x
	All malignant neoplasms excluding non-melanoma skin cancer	7,952	100.0%	-15.4	<0.001
Females					
Rank	ICD-10 site grouping	Number	Frequency	10 year % change ¹	p-value
1	Trachea, bronchus and lung (C33-C34)	1,978	26.6%	+11.1	0.000
2	Breast (C50)	1,036	14.0%	-19.3	<0.001
3	Colorectal (C18-C20)	702	9.5%	-12.7	<0.001
4	Ovary (C56)	363	4.9%	-13.6	0.007
5	Pancreas (C25)	344	4.6%	+5.3	0.306
6	Oesophagus (C15)	283	3.8%	-12.5	0.019
7	Non-Hodgkin's lymphoma (C82-C85)	206	2.8%	-19.8	0.001
8	Stomach (C16)	193	2.6%	-38.1	<0.001
9	Bladder (C67)	178	2.4%	-4.7	0.477
10	Leukaemias (C91-C95)	164	2.2%	-5.1	0.480
	Other malignant neoplasms	1,976	26.6%	x	x
	All malignant neoplasms excluding non-melanoma skin cancer	7,423	100.0%	-6.9	<0.001
All persons					
Rank	ICD-10 site grouping	Number	Frequency	10 year % change ¹	p-value
1	Trachea, bronchus and lung (C33-C34)	4,178	27.2%	-9.4	0.017
2	Colorectal (C18-C20)	1,526	9.9%	-17.9	<0.001
3	Breast (C50) ²	1,041	6.8%	x	x
4	Prostate (C61) ²	900	5.9%	x	x
5	Oesophagus (C15)	824	5.4%	-7.4	0.036
6	Pancreas (C25)	702	4.6%	+5.4	0.104
7	Stomach (C16)	472	3.1%	-36.3	<0.001
8	Bladder (C67)	472	3.1%	-15.5	0.021
9	Head and Neck (C00-C14, C30-C32)	426	2.8%	-3.2	0.951
10	Liver and intrahepatic bile ducts (C22)	420	2.7%	+33.4	<0.001
	Other malignant neoplasms	4,414	28.7%	x	x
	All malignant neoplasms excluding non-melanoma skin cancer	15,375	100.0%	-12.0	<0.001

'x' = not applicable.

¹ Calculated using Poisson regression analyses.

² Percentage change in mortality is not shown here for cancers occurring mainly or only in one sex.

Source: National Records of Scotland (NRS)

Date extracted: September 2012

Figure 6: Trends in mortality from ten most common cancer causes of death, males

EASR: Age-standardised rate, standardised to the European Standard Population

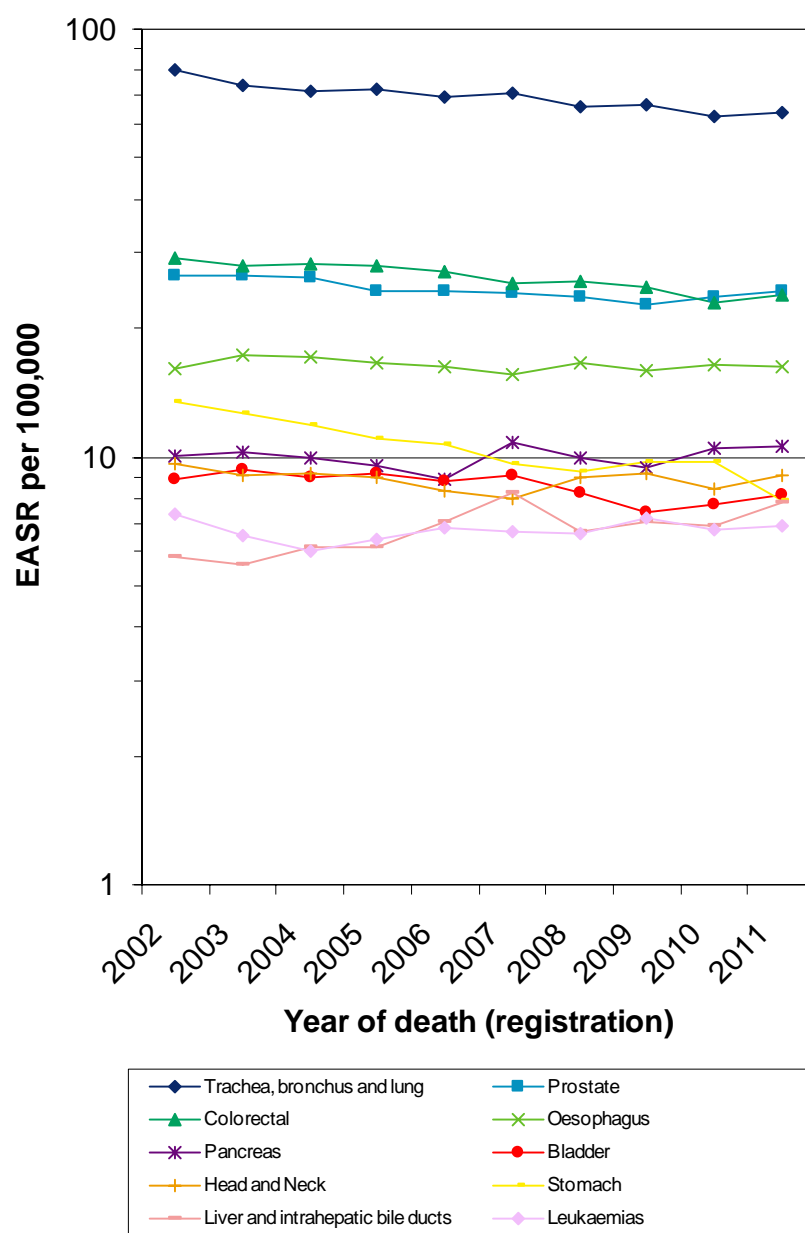
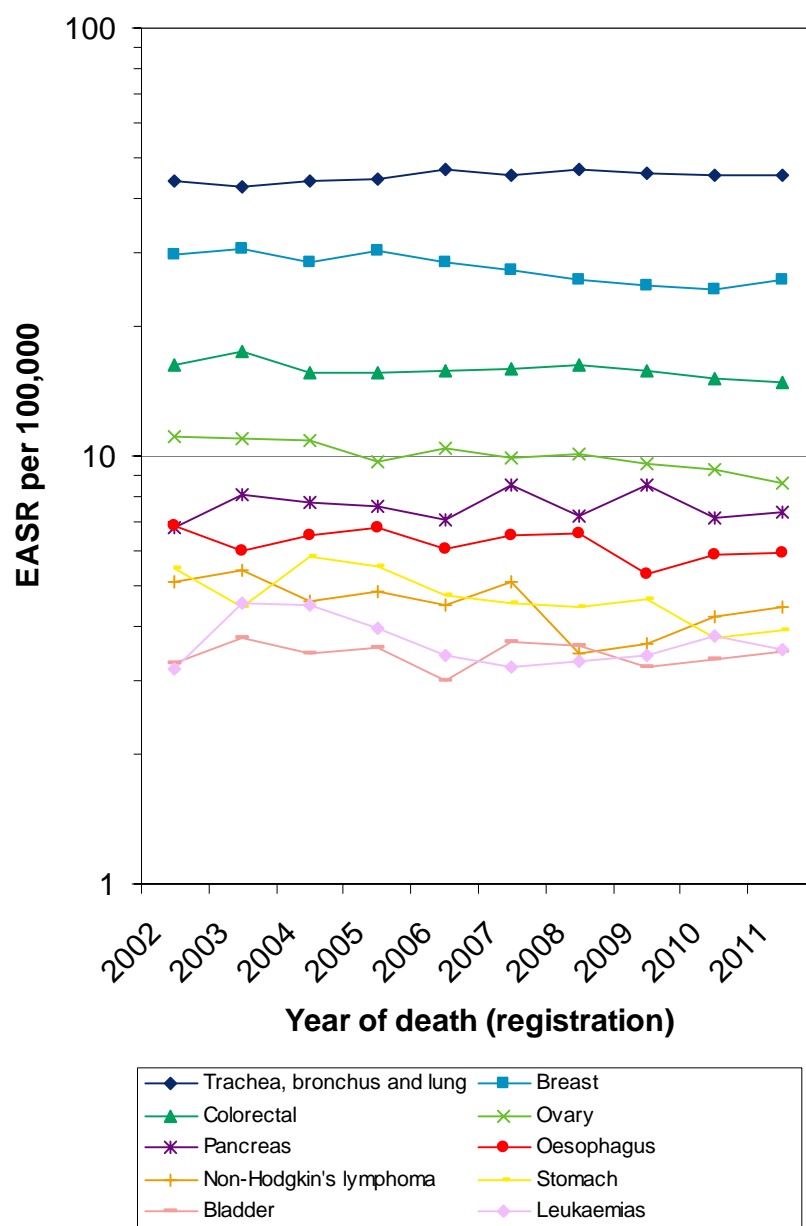


Figure 7: Trends in mortality from ten most common cancer causes of death, females

EASR: Age-standardised rate, standardised to the European Standard Population



Cancer survival

This section is updated with the biennial National Statistics publication of Cancer in Scotland; please also see the summary document *Trends in Cancer Survival in Scotland*, available on www.isdscotland.org/cancer. The next update of survival estimates will be in 2013.

For patients aged 15-99 years that were diagnosed with any type of cancer during the period 2003-2007, 59% of male and 66% of female patients survived to one year after diagnosis and 36% of male and 45% of female patients survived to five years after diagnosis.

Survival is worst in patients with cancers that often present at an advanced stage and are less amenable to treatment (for example, cancers of the lung and pancreas). Survival tends to be better for cancers for which patients present at an early stage (for example, malignant melanoma of the skin), cancers which can be detected early by screening (for example, breast cancer), and for cancers for which there have been major advances in treatment (for example, testicular cancer and leukaemias).

Age standardised five-year survival for cancer patients, relative to the life expectancy of the population in general, increased from 26% for males diagnosed in 1983-1987 to 44% for males diagnosed 2003-2007, and from 36% to 51% for females¹. This represents a substantial and significant improvement in the probability of surviving cancer in the long term.

Survival from **prostate** cancer has improved substantially in that time period, from (56% to 85%)¹. Much of this is likely to be due to increasingly widespread use of prostate-specific antigen (PSA) testing in Scotland since the 1990s. The PSA test enables some invasive prostate cancers to be identified earlier than in the past, leading to an increase in survival time (between diagnosis and death) even for men whose death is not necessarily postponed. The PSA test also identifies some latent, non-lethal tumours that may never cause symptoms and may never be diagnosed during life. A number of studies are underway in Europe and the USA to determine whether population screening programmes based on the PSA test are an effective way to reduce mortality from prostate cancer.

Survival for female **breast** cancer patients has also increased substantially, from 61% for those diagnosed in 1983-1987 to 81% in 2003-2007¹. This improvement is likely to be due to a combination of new treatments, particularly hormonal therapy, earlier diagnosis of cancers in women participating in the Scottish Breast Screening Programme, and better organisation and delivery of care for patients.

¹ Relative survival is an estimate of the observed survival divided by the expected probability of survival in the general population. This can be thought of as a measure of the survival expectation after contracting cancer, or the probability of survival from cancer in the **absence** of other causes of death.

Large improvements in survival are seen for cancers of the **colon and rectum** with around 55% of patients now surviving at least five years after diagnosis, compared to around 38% of those diagnosed between 1983-1987. Improvements in peri-operative care may have contributed to the increase in survival. Early diagnosis of these cancers is very important in determining options for treatment and increasing the probability of cure for the patient. The continuing rollout of the Scottish Bowel Screening Programme will increase early detection.

Substantial improvements in survival are also observed for females with cancer of the **corpus uteri** (increase from 65% to 77%), for patients with **Non-Hodgkin's lymphoma** (males: 33% to 58%; females 40% to 61%), **Hodgkin's disease** (males: 63% to 79%; females: 66% to 79%) and **leukaemia** (males: 29% to 50%; females: 27% to 49%).

Increases in the five year survival for **malignant melanoma of the skin** (64% to 85% in males, and 82% to 92% in females). These positive changes are likely to reflect an increase in diagnosis of early stage disease following health education programmes that encourage earlier presentation and referral.

The lack of improvement for patients with **head and neck** cancers is largely an artefact of the large decrease in the proportion of **lip** tumours, which usually have an excellent prognosis. Survival at specific sites within the head and neck has generally improved.

Survival remains poor with little improvement over time for patients with **lung** cancer, and **pancreatic** cancer. These internal tumours frequently present at an advanced stage and are less amenable to treatment, and, particularly with pancreatic cancer, scanning technology has improved diagnosis rates; this may have translated into decreased survival rates in the most recent time period. However, survival has increased greatly for patients with **stomach** cancer (males: 9% to 15%; females: 11% to 18%) and **oesophageal** cancer in males: 5% to 10%.

A report on trends in cancer survival in Scotland from 1971-1995 for 25 cancer types can be found at http://www.isdscotland.org/isd/files/trends_1971-95.pdf, which contains detailed data and methods sections. An up-date of this publication for the period 1983-2007 can be found on our web site at <http://www.isdscotland.org/cancer>.

Children, adolescents and young adults

Incidence and survival information for adolescents and young adults can be found at http://www.isdscotland.org/cancer_information. In brief, the incidence of cancer in adolescents and young adults (aged 15-24) account for approximately 0.7% of all cancers per year (approximately 160 cases per year) in Scotland. Incidence rates of all cancers in adolescents and young adults have increased over time, rising from 178.3 to 237.4 per million

population between the periods 1976-1980 and 1996-2000. Five-year (observed) survival from all cancers in adolescents and young adults has increased by 19% (from 60% to 79%) between the periods 1976-1980 and 1996-2000.

A report on childhood cancer in Scotland including incidence, mortality and survival for 1975-1999 is also available at

http://www.isdscotland.org/isd/files/SHS_Childhood_Cancer_in_Scotland.pdf.

It shows that the incidence of childhood cancer in Scotland has increased, mortality has decreased, and survival has improved, over the period 1975-1979 to 1995-1999. In summary, around 120 children are diagnosed with cancer in Scotland each year, accounting for less than 1% of all malignant neoplasms diagnosed at all ages. The youngest age group (0-4 years) accounts for 46% of all childhood cancers. Overall, the incidence of, and mortality from, childhood cancer are higher in boys than in girls. The two most commonly occurring cancers in childhood are leukaemia, and Central Nervous System (mostly brain) tumours. Between 1975-79 and 1995-99, the average annual age- and sex-standardised incidence rate of all childhood cancer increased significantly, from 108 to 132 per million children per year. Similar incidence trends have been seen in other European countries. During the same period, the average annual age- and sex-standardised mortality rate of all childhood cancer decreased from 53 to 28 per million children per year. Five-year survival for all childhood cancers combined has increased from 50% for those diagnosed during 1975-79 to 76% for those diagnosed during 1995-99, and for some specific types of childhood cancer, survival prospects are now excellent.

Since the early 1990s, the UK Childhood Cancer Study Investigators have been collating and analysing data, with a view to investigating the possible causes of childhood cancer.

UK statistics

Summary information on cancer in the UK can be found at

<http://info.cancerresearchuk.org/cancerstats/> and information for England can be found at <http://www.statistics.gov.uk/>.

Information on geographical patterns in cancer incidence and mortality across the UK and Ireland is available in 'Cancer Atlas of the United Kingdom and Ireland 1991-2000' at

<http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14059&More=n>.