

Publication Report



Cancer Incidence in Scotland (2011)

Publication date – 30 April 2013



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Introduction

The [Scottish Cancer Registry](#) has been collecting information on cancer since 1958. Data collected by the Registry are published by ISD and are used for a wide variety of purposes including: public health surveillance; health needs assessment, planning and commissioning of cancer services; evaluation of the impact of interventions on incidence and survival; clinical audit and health services research; epidemiological studies; and providing information to support genetic counselling and health promotion.

The updated figures show cancer incidence (1987-2011) for many types of cancer, and replace information previously available on the ISD Scotland website. Cancer registrations are believed to be essentially complete for the year 2011, but it is important to note that the cancer registration database is dynamic. In common with cancer registries in other countries, cancer incidence rates in Scotland can take up to five years after the end of a given calendar year to reach 100% completeness and stability, due to the continuing accrual of late registrations coming to light through death certification, for example.

It may be misleading to focus too much attention on any apparent changes in incidence between 2010 and 2011; it is more informative to examine trends in incidence observed over a number of years. Striking changes from one year to the next may occur in the case of rare cancers, but these are likely to reflect random fluctuation caused by small numbers of cases. In such cases it is even more important to examine incidence rates for a number of years aggregated together, rather than focussing on a single year of incidence.

Key points

- Over the last ten years, age-standardised incidence rates of cancer in Scotland have fallen by 3% in males but increased by 9% in females.
- Cancer incidence rates and trends in incidence rates show considerable variation between different types of cancer.
- Actual numbers of cases of cancer have risen over the last decade. This is likely to be largely due to an ageing population.
- Two in five people in Scotland will be diagnosed with some form of cancer during their lifetime. This includes cancers that will have no detrimental impact on life expectancy, such as indolent prostate tumours.
- It is estimated that there are 165,000 individuals who have been diagnosed with cancer over the last 20 years in Scotland and who are still alive. This is approximately 3% of the population of Scotland.

Results and Commentary

Please note that details of these statistics can be found by cancer site on the [Cancer website](#). A summary is included alongside cancer mortality, risk, prevalence and survival in the [Cancer in Scotland Summary report](#).

Cancer Incidence

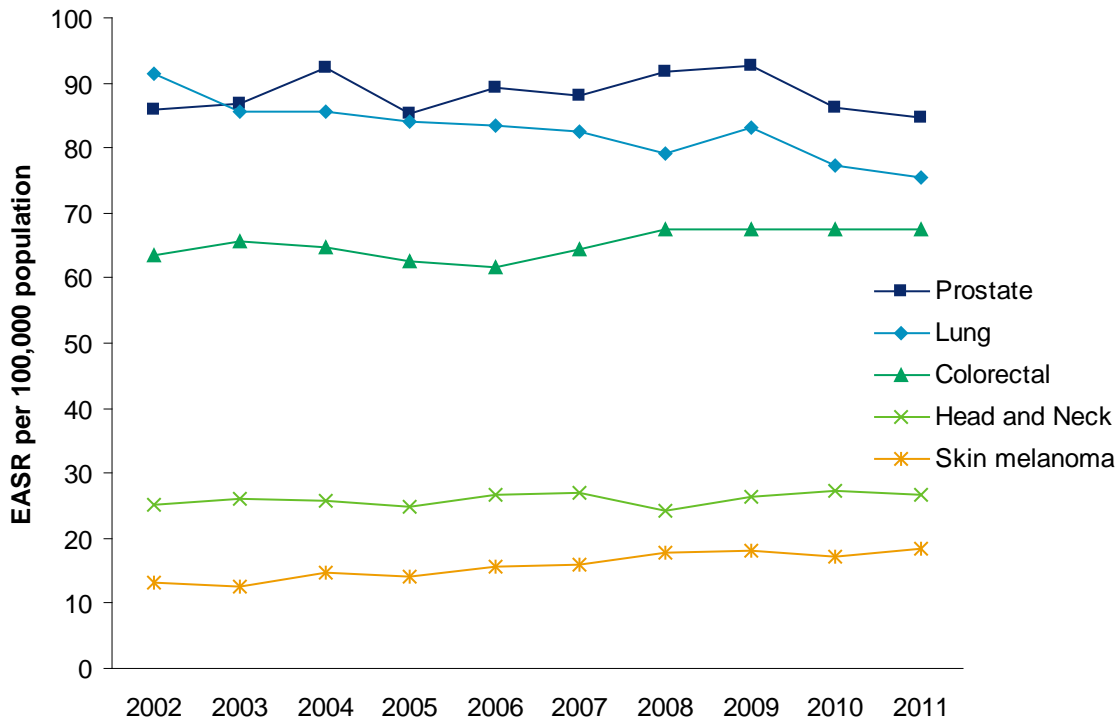
Approximately 14,500 males and 15,600 females were diagnosed with cancer in 2011. Non-melanoma skin cancers (NMSC), of which there were 10,661 registered in 2011, are excluded from the analysis of all cancers combined for three main reasons:

- In the interests of external comparison, because not all cancer registries collect data on NMSC;
- Because they are so common, only the first occurrence of a basal cell carcinoma (the most common type of NMSC) is collected in Scotland;
- Although numerically important in terms of NHS workload, NMSC is rarely fatal.

Excluding NMSC, the number of cancers diagnosed in Scotland has increased over the last 10 years from 26,150 cases in 2001 to 30,125 in 2011.

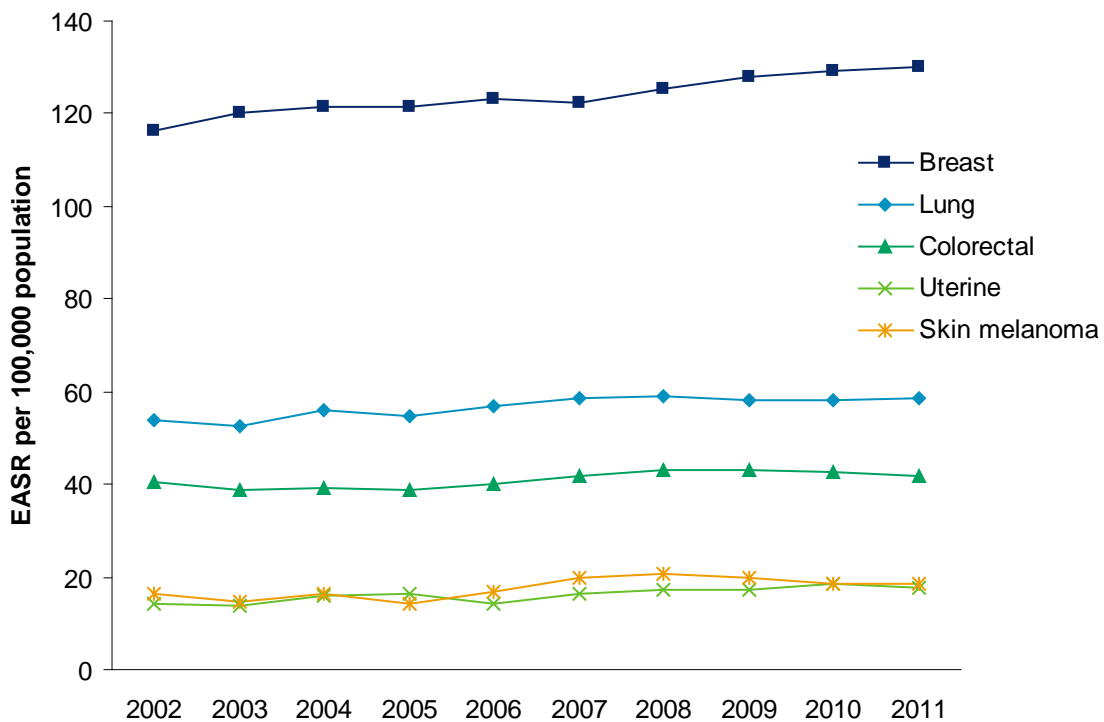
For males, the most common cancers are prostate, lung and colorectal cancers, collectively accounting for 53% of cancers in men (Figure 1). For females, the most common cancers are breast, lung and colorectal cancers, accounting for 57% of cancer in women (Figure 2).

Figure 1. Recent trends (2002-2011) in age-standardised incidence rates of the five most common cancers in males in 2011 (Scotland). (EASR: European Age Standardised Rate)



Source: Scottish Cancer Registry

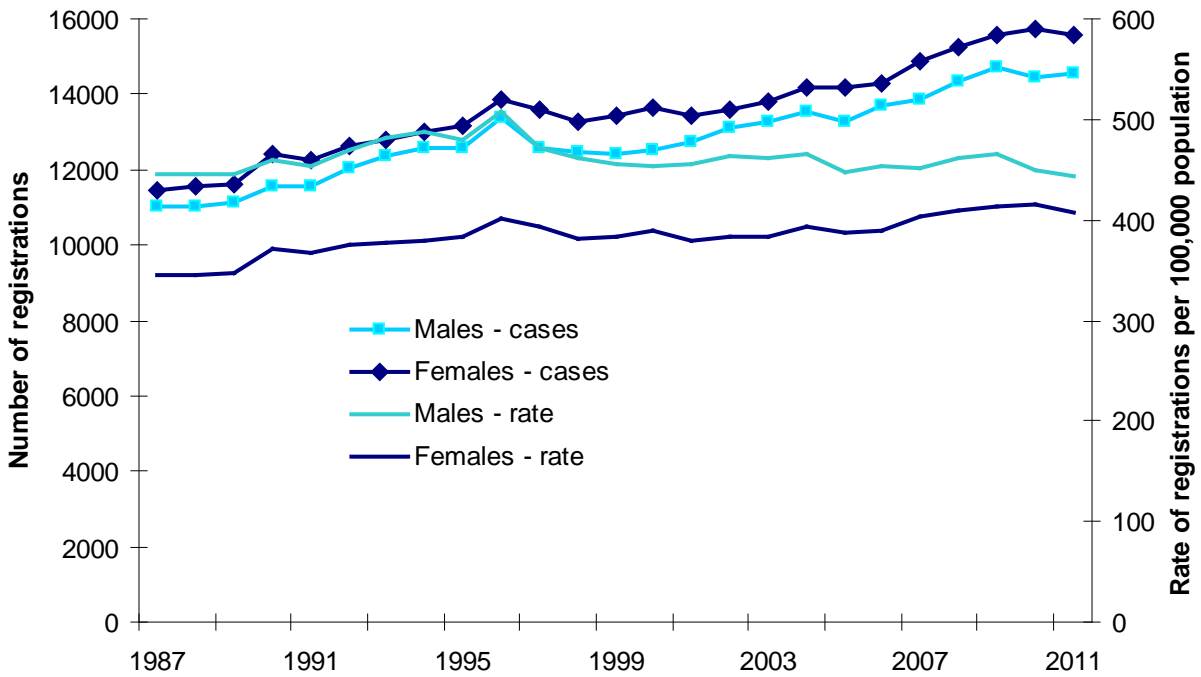
Figure 2. Recent trends (2002-2011) in age-standardised incidence rates of the five most common cancers in females in 2011 (Scotland). (EASR: European Age Standardised Rate)



Source: Scottish Cancer Registry

Over the decade up to 2011, the age-standardised incidence rate of cancer has fallen for males (a 3% decrease) and shows a significant, increasing trend for females (9% increase) (Figure 3).

Figure 3. New cancer¹ registrations in Scotland, 1987-2011: number of cases and age standardised rate²



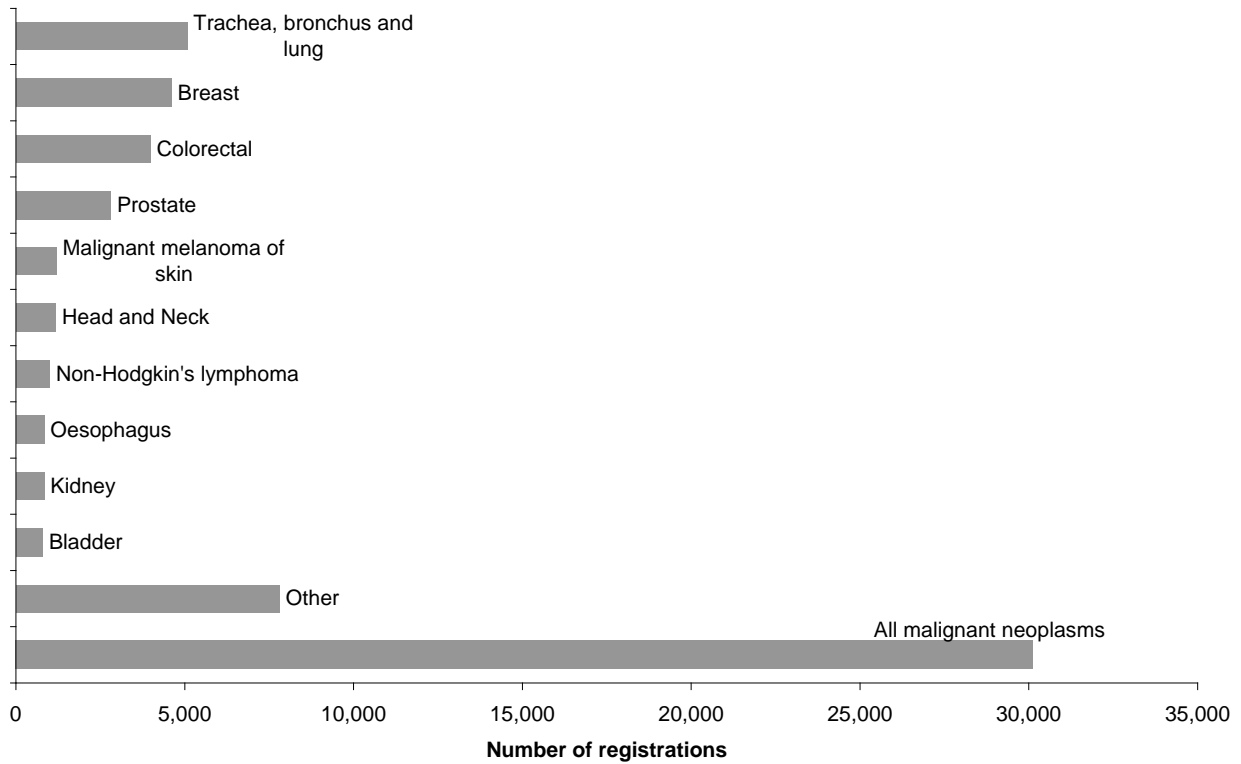
1 All cancers excluding non-melanoma skin cancers (ICD-10 C00-C97 excl C44)

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 4), with 5,069 cases diagnosed in 2011 (17% of all cancers), compared to 4,604 cases (15%) of breast cancer and just under 4,000 cases of colorectal cancer (13%). The ranks and percentages of the three most common cancers are largely unchanged from 2010.

Figure 4. Most common cancers in Scotland, 2011; 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 2011, 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 indicates that this is statistically significant.

Table 1. Most common cancers in Scotland in 2011

Males

| Rank | ICD-10 site grouping | Number | Frequency | 10 year % change ¹ | p-value |
|------|--|--------|-----------|-------------------------------|---------|
| 1 | Prostate (C61) | 2,806 | 19.3% | +2.0 | 0.6712 |
| 2 | Trachea, bronchus and lung (C33-C34) | 2,591 | 17.8% | -14.3 | <0.0001 |
| 3 | Colorectal (C18-C20) | 2,236 | 15.4% | +5.2 | 0.0244 |
| 4 | Head and Neck (C00-C14, C30-C32) | 821 | 5.6% | +4.3 | 0.2310 |
| 5 | Malignant melanoma of skin (C43) | 573 | 3.9% | +57.8 | <0.0001 |
| 6 | Bladder (C67) | 544 | 3.7% | -16.8 | <0.0001 |
| 7 | Oesophagus (C15) | 542 | 3.7% | -6.4 | 0.0425 |
| 8 | Non-Hodgkin's lymphoma (C82-C85) | 517 | 3.6% | +2.6 | 0.5132 |
| 9 | Kidney (C64-C65) | 483 | 3.3% | +28.3 | <0.0001 |
| 10 | Stomach (C16) | 423 | 2.9% | -31.2 | <0.0001 |
| | Other malignant neoplasms | 3,006 | 20.7% | x | x |
| | All malignant neoplasms excluding non-melanoma skin cancer | 14,542 | 100.0% | -2.6 | 0.0156 |

Females

| Rank | ICD-10 site grouping | Number | Frequency | 10 year % change ¹ | p-value |
|------|--|--------|-----------|-------------------------------|---------|
| 1 | Breast (C50) | 4,574 | 29.4% | +13.7 | <0.0001 |
| 2 | Trachea, bronchus and lung (C33-C34) | 2,478 | 15.9% | +19.9 | <0.0001 |
| 3 | Colorectal (C18-C20) | 1,750 | 11.2% | +4.1 | 0.1581 |
| 4 | Corpus uteri (C54) | 639 | 4.1% | +28.5 | <0.0001 |
| 5 | Malignant melanoma of skin (C43) | 629 | 4.0% | +45.8 | <0.0001 |
| 6 | Ovary (C56) | 583 | 3.7% | -10.1 | 0.0009 |
| 7 | Non-Hodgkin's lymphoma (C82-C85) | 484 | 3.1% | +15.7 | 0.0007 |
| 8 | Pancreas (C25) | 397 | 2.5% | +12.6 | 0.0125 |
| 9 | Head and Neck (C00-C14, C30-C32) | 365 | 2.3% | +3.8 | 0.5128 |
| 10 | Kidney (C64-C65) | 352 | 2.3% | +51.2 | <0.0001 |
| | Other malignant neoplasms | 3,332 | 21.4% | x | x |
| | All malignant neoplasms excluding non-melanoma skin cancer | 15,583 | 100.0% | +9.1 | <0.0001 |

All persons

| Rank | ICD-10 site grouping | Number | Frequency | 10 year % change ¹ | p-value |
|------|--|--------|-----------|-------------------------------|---------|
| 1 | Trachea, bronchus and lung (C33-C34) | 5,069 | 16.8% | -1.9 | 0.5429 |
| 2 | Breast (C50) | 4,604 | 15.3% | x | x |
| 3 | Colorectal (C18-C20) | 3,986 | 13.2% | +4.8 | 0.0048 |
| 4 | Prostate (C61) | 2,806 | 9.3% | x | x |
| 5 | Malignant melanoma of skin (C43) | 1,202 | 4.0% | +51.4 | <0.0001 |
| 6 | Head and Neck (C00-C14, C30-C32) | 1,186 | 3.9% | +4.2 | 0.0667 |
| 7 | Non-Hodgkin's lymphoma (C82-C85) | 1,001 | 3.3% | +8.1 | 0.0031 |
| 8 | Oesophagus (C15) | 836 | 2.8% | -7.3 | 0.0254 |
| 9 | Kidney (C64-C65) | 835 | 2.8% | +36.0 | <0.0001 |
| 10 | Bladder (C67) | 791 | 2.6% | -16.2 | 0.0001 |
| | Other malignant neoplasms | 7,809 | 25.9% | x | x |
| | All malignant neoplasms excluding non-melanoma skin cancer | 30,125 | 100.0% | +2.7 | <0.0001 |

'x' = not applicable.

1 Calculated using Poisson regression analyses.

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

Source: Scottish Cancer Registry, ISD

When attempting to interpret trends in cancer incidence, it is important to remember that recent patterns of cancer are, for the most part, likely to reflect trends in the prevalence of risk (and protective) factors going back several decades.

Breast cancer is the most common cancer in women, with the incidence rate continuing to rise. Over the last decade the incidence rate has increased by 14%; this is partly due to increased detection by the Scottish Breast Screening Programme, which has seen a rise in attendance over the same time period, and an extension in the age range invited for screening to include women up to the age of 70 years, phased in over the 3-year period beginning 1st April 2003. However, increases in the incidence of breast cancer might also be anticipated with higher prevalence of known risk factors among the female population, such as increases in the mother's age at the birth of her first child, decreases in family size, increases in post-menopausal obesity, and increases in alcohol consumption.

Prostate and lung cancers are the most common cancers in men with relative frequencies of 19% and 18% respectively. The incidence rate of lung cancer has been generally decreasing while the incidence rate of prostate cancer has risen approximately 2% over the last decade. The increased prostate cancer incidence rate is due, at least in part, to increased detection through use of the prostate specific antigen (PSA) test, and is not necessarily due to a genuine increase in the risk of developing the cancer.

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 14% over the last ten years. Lung cancer incidence rates in females continue to increase, with a 20% increase over the last ten years. To a large extent, this trend reflects historic trends in the prevalence of smoking, which have differed between men and women.

Colorectal cancer has increased significantly in men (by just over 5%) with a lesser, non-significant increase in women (around 4%). Modifiable risk factors for colorectal cancer are thought to include diet, lack of physical exercise and long-term smoking. However, some of the recent observed increase in incidence may be associated with the introduction of the nationwide bowel screening programme.

The incidence of cancer of the body of the uterus (corpus uteri) has increased significantly (by 28%) over the 10-year period 2001-2011. The majority of cancers at this anatomical site affect the endometrium or lining of the womb. The increase in incidence may be due, at least in part, to longstanding changes in fertility (since childbearing appears to protect against endometrial cancer) and increases in levels of obesity (which increase risk). A further contributing factor may be a decrease in rates of hysterectomy, which leaves a larger population at risk of developing uterine cancer.

Malignant melanoma of the skin is the fifth most common cancer in both men and women. Incidence rates continue to rise significantly, with a steep increase of 58% in males and 46% in females over the last decade. The primary recognised risk factor for melanoma of the skin is exposure to natural and artificial sunlight, especially but not exclusively at a young age.

The decline in bladder cancer incidence since 1998 is, at least in part, an artefact due to a change in coding practice across cancer registries in the UK. Around a quarter of bladder tumours are no longer coded as invasive bladder cancers. This decrease is large enough to have an impact on the figures for all cancers combined.

The 10% decrease observed in ovarian cancer incidence may be partly due to increased use of the oral contraceptive pill from the 1960s onwards, since this appears to protect against the development of ovarian cancer.

After a prolonged period of increasing incidence, oesophageal cancer now seems to be decreasing in incidence in both sexes. Established risk factors for oesophageal cancer include smoking, alcohol misuse, obesity, and chronic gastro-oesophageal reflux disease.

Non-Hodgkin's lymphoma (NHL) has increased significantly in females (by almost 16%), with a lesser, non-significant increase in males (less than 3%). Although immunosuppression has been associated with the development of NHL, much has still to be understood about its aetiology and so the reasons for the observed trends in incidence are unclear.

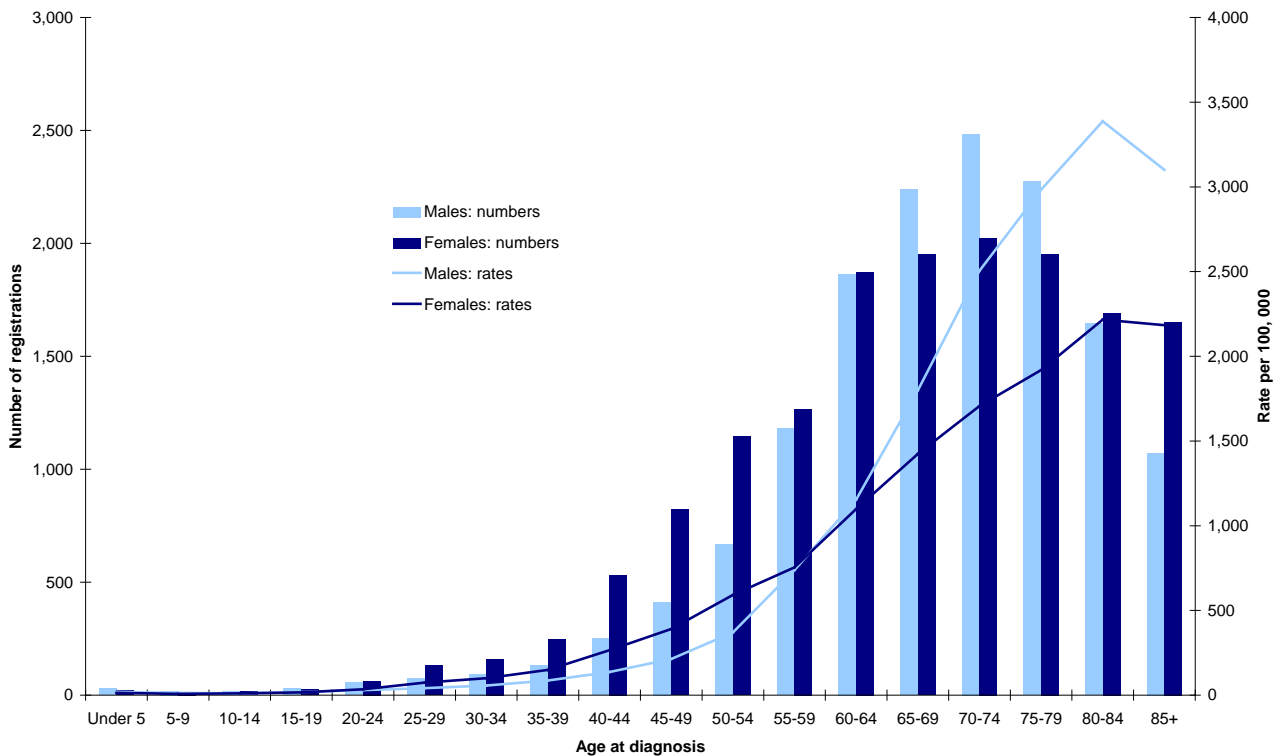
There have been significant increases in incidence of pancreatic cancer in both males (18%) and females (13%). Again, the aetiology of pancreatic cancer is poorly understood, although smoking is one reasonably well-established risk factor.

Cancers of the kidney continue to show significant increases in incidence rates over the last 10 years of 28% and 51% for males and females, respectively. The increase has occurred primarily in cancers of the renal parenchyma (ICD-10 C64) rather than of the renal pelvis (C65). The reason for this increase is not clear. Established risk factors include obesity and smoking, but advances in medical imaging may also have led to an increase in incidental diagnosis of some tumours.

Cancer of the stomach continues to show highly significant decreases in incidence in both males (-31%) and females (-34%). This most probably reflects a decrease in prevalence of infection with the bacterium *Helicobacter pylori* (perhaps as a result of improvements in social conditions and widespread use of antibiotics). People infected with *Helicobacter pylori* have an increased risk of developing stomach cancer. The introduction of refrigeration has also had an effect on incidence as it reduced the need for potentially carcinogenic food preservatives.

The incidence of cancer increases with age in both sexes (Figure 5), to age 70-74, and then declines thereafter as the population diminishes at older ages. The greater increase in the rate of cancer diagnoses in males relative to females in older age groups is partly reflective of the greater number of females in the population at those age groups.

Figure 5: Number of registrations and age-specific rates per 100,000, all malignant neoplasms diagnosed in 2011, by sex



Lifetime risk of developing cancer

Please note that since the last publication of lifetime risk statistics in 2011, the methodology used by ISD to calculate lifetime risk has changed. The ‘current probability’ methodology¹ is now used, which produces a more accurate estimate of lifetime risk. This change brings the Scottish methodology for calculating lifetime risk into line with that used by [Cancer Research UK](#) and other cancer registries in the UK.

Two in five people in Scotland will be diagnosed with some form of cancer, including cancers that have no detrimental impact on life expectancy, such as indolent prostate tumours. Risk estimates are based on existing trends and are group statistics, meaning that individual variation in lifestyle, environmental influences and genetics will have an impact on an individual's likelihood of developing cancer.

Details on the risk estimates for individual types of cancer, broken down by sex and by age bands are available on [Cancer Statistics](#) webpages.

Information on how lifetime risk is calculated can be found on our [FAQs](#) webpage.

¹ Esteve J, Benhamou E and Raymond L (1994). Descriptive Epidemiology (IARC Scientific Publications No. 128), Lyon, International Agency for Research on Cancer, pp67-68.

Prevalence of cancer (cancer survivors)

The number of people in Scotland diagnosed with some form of cancer in the last 20 years who are still alive is estimated to be approximately 165,000 individuals, or approximately 3% of the population. This number is broken down by sex within each of the cancer types on the [Cancer Statistics](#) webpages.

Information on how prevalence is calculated can be found on our [FAQs](#) webpage.

Glossary

| | |
|--------------------------------|--|
| Benign tumour | A tumour that does not invade and destroy local tissue or spread to other sites in the body. |
| Cancer registry | The Scottish Cancer Registry is responsible for the collection of information on all new cases of cancer arising in residents of Scotland. More detailed information is available on the ISD website here . |
| Carcinoma | A cancer of the epithelial tissue that covers all the body's organs. Most cancers are carcinomas. |
| Confidence interval | The interval or range of values that is likely to contain the true value of a parameter. |
| Crude rate | The number of cases divided by the population. The crude rate does not attempt to adjust for differences in age and sex structures between different populations (see European age-standardised rate below). Typically expressed as the number of cases per 100,000 population. |
| Epithelial tissue | Tissue that covers the body's organs and other internal surfaces. |
| European age-standardised rate | Apparent differences in disease rates in populations may be partly or entirely due to the fact that one population is older than the other. Standardised rates adjust for differences in age and sex structures between different populations or in the same population over time and allow fair comparisons to be made. |
| ICD-10 | The 10 th revision of the International Classification of Diseases produced by the World Health Organisation (WHO). It assigns codes to particular diseases and conditions. |
| Incidence | Incidence refers to the number of new cases of a condition in a defined population during a defined period and is typically expressed as the number of new cases per 100,000 population per year (or other suitable units). |
| Indolent tumour | One that grows slowly or is considered to be low risk. |
| Lifetime risk | A person's chance of developing cancer during their life. |
| Malignant tumour | Cancerous growth. |
| Mortality rate | The number of deaths as a rate per 100,000 population. |
| Neoplasm | Abnormal growth |
| NMSC | Non-melanoma skin cancer. A type of cancer that develops slowly in the upper layers of the skin. |
| Percentage | A rate, number or amount in each hundred. |

Prevalence The number of people with a diagnosis of a particular condition who are alive.

List of Tables

| Table No. | Cancer Incidence by year | Time period | File & size |
|-----------|---|-------------|-----------------|
| 0 | Cancer in Scotland Summary | 1987-2011 | PDF [115 kb] |
| 1 | All Cancers | 1987-2011 | Excel [968 kb] |
| 2 | Bladder | 1987-2011 | Excel [940 kb] |
| 3 | Bone and Connective Tissues | 1987-2011 | Excel [2002 kb] |
| 4 | Brain and CNS | 1987-2011 | Excel [2633 kb] |
| 5 | Breast | 1987-2011 | Excel [1437 kb] |
| 6 | Colorectal | 1987-2011 | Excel [2067 kb] |
| 7 | Female Genital Organs | 1987-2011 | Excel [1668 kb] |
| 8 | Head and Neck | 1987-2011 | Excel [4701 kb] |
| 9 | Hodgkins Disease | 1987-2011 | Excel [934 kb] |
| 10 | Kidney | 1987-2011 | Excel [945 kb] |
| 11 | Leukaemias | 1987-2011 | Excel [3080 kb] |
| 12 | Liver | 1987-2011 | Excel [928 kb] |
| 13 | Lung and Mesothelioma | 1987-2011 | Excel [1463 kb] |
| 14 | Male Genital Organs | 1987-2011 | Excel [928 kb] |
| 15 | Multiple Myeloma | 1987-2011 | Excel [928 kb] |
| 16 | Non-Hodgkins Lymphoma | 1987-2011 | Excel [956 kb] |
| 17 | Oesophagus | 1987-2011 | Excel [937 kb] |
| 18 | Pancreas | 1987-2011 | Excel [937 kb] |
| 19 | Skin | 1987-2011 | Excel [2640 kb] |
| 20 | Stomach | 1987-2011 | Excel [940 kb] |

| Table No. | Summarised Cancer Incidence | Time period | File & size |
|-----------|---|-------------|----------------|
| 21 | All Cancers | 2007-2011 | Excel [192 kb] |
| 22 | Bladder | 2007-2011 | Excel [188 kb] |
| 23 | Bone and Connective Tissues | 2007-2011 | Excel [293 kb] |
| 24 | Brain and CNS | 2007-2011 | Excel [354 kb] |
| 25 | Breast | 2007-2011 | Excel [236 kb] |
| 26 | Colorectal | 2007-2011 | Excel [292 kb] |
| 27 | Female Genital Organs | 2007-2011 | Excel [258 kb] |
| 28 | Head and Neck | 2007-2011 | Excel [544 kb] |
| 29 | Hodgkins Disease | 2007-2011 | Excel [189 kb] |
| 30 | Kidney | 2007-2011 | Excel [189 kb] |
| 31 | Leukaemias | 2007-2011 | Excel [393 kb] |
| 32 | Liver | 2007-2011 | Excel [188 kb] |
| 33 | Lung and Mesothelioma | 2007-2011 | Excel [237 kb] |
| 34 | Male Genital Organs | 2007-2011 | Excel [187 kb] |
| 35 | Multiple Myeloma | 2007-2011 | Excel [187 kb] |
| 36 | Non-Hodgkins Lymphoma | 2007-2011 | Excel [190 kb] |
| 37 | Oesophagus | 2007-2011 | Excel [187 kb] |
| 38 | Pancreas | 2007-2011 | Excel [188 kb] |
| 39 | Skin | 2007-2011 | Excel [347 kb] |
| 40 | Stomach | 2007-2011 | Excel [188 kb] |

| Table No. | Lifetime Risk of Cancer | Time period | File & size |
|-----------|---|-------------|---------------|
| 41 | All Cancers | 2007-2011 | Excel [47 kb] |
| 42 | Bladder | 2007-2011 | Excel [48 kb] |
| 43 | Bone and Connective Tissues | 2007-2011 | Excel [47 kb] |
| 44 | Brain and CNS | 2007-2011 | Excel [48 kb] |
| 45 | Breast | 2007-2011 | Excel [42 kb] |
| 46 | Colorectal | 2007-2011 | Excel [54 kb] |
| 47 | Female Genital Organs | 2007-2011 | Excel [45 kb] |
| 48 | Head and Neck | 2007-2011 | Excel [58 kb] |
| 49 | Hodgkins Disease | 2007-2011 | Excel [47 kb] |
| 50 | Kidney | 2007-2011 | Excel [47 kb] |
| 51 | Leukaemias | 2007-2011 | Excel [47 kb] |
| 52 | Liver | 2007-2011 | Excel [47 kb] |
| 53 | Lung and Mesothelioma | 2007-2011 | Excel [47 kb] |
| 54 | Male Genital Organs | 2007-2011 | Excel [43 kb] |
| 55 | Multiple Myeloma | 2007-2011 | Excel [47 kb] |
| 56 | Non-Hodgkins Lymphoma | 2007-2011 | Excel [46 kb] |
| 57 | Oesophagus | 2007-2011 | Excel [47 kb] |
| 58 | Pancreas | 2007-2011 | Excel [47 kb] |
| 59 | Skin | 2007-2011 | Excel [47 kb] |
| 60 | Stomach | 2007-2011 | Excel [47 kb] |

| Table No. | Cancer Prevalence | Time period | File & size |
|-----------|---|-------------------|---------------|
| 61 | All Cancers | Up to 31 Dec 2011 | Excel [50 kb] |
| 62 | Bladder | Up to 31 Dec 2011 | Excel [51 kb] |
| 63 | Bone and Connective Tissues | Up to 31 Dec 2011 | Excel [60 kb] |
| 64 | Brain and CNS | Up to 31 Dec 2011 | Excel [56 kb] |
| 65 | Breast | Up to 31 Dec 2011 | Excel [55 kb] |
| 66 | Colorectal | Up to 31 Dec 2011 | Excel [60 kb] |
| 67 | Female Genital Organs | Up to 31 Dec 2011 | Excel [55 kb] |
| 68 | Head and Neck | Up to 31 Dec 2011 | Excel [84 kb] |
| 69 | Hodgkins Disease | Up to 31 Dec 2011 | Excel [50 kb] |
| 70 | Kidney | Up to 31 Dec 2011 | Excel [50 kb] |
| 71 | Leukaemias | Up to 31 Dec 2011 | Excel [70 kb] |
| 72 | Liver | Up to 31 Dec 2011 | Excel [50 kb] |
| 73 | Lung and Mesothelioma | Up to 31 Dec 2011 | Excel [55 kb] |
| 74 | Male Genital Organs | Up to 31 Dec 2011 | Excel [47 kb] |
| 75 | Multiple Myeloma | Up to 31 Dec 2011 | Excel [50 kb] |
| 76 | Non-Hodgkins Lymphoma | Up to 31 Dec 2011 | Excel [50 kb] |
| 77 | Oesophagus | Up to 31 Dec 2011 | Excel [50 kb] |
| 78 | Pancreas | Up to 31 Dec 2011 | Excel [50 kb] |
| 79 | Skin | Up to 31 Dec 2011 | Excel [66 kb] |
| 80 | Stomach | Up to 31 Dec 2011 | Excel [50 kb] |

| Table No. | Other updated tables | Time period | File & size |
|------------------|--|--------------------|------------------------|
| 81 | Incidence and Mortality by ICD-10 code | 2002-2011 | Excel [257 kb] |
| 82 | Cervical cancer incidence timeline | 1975-2011 | Excel [78 kb] |
| 83 | Cancer Treatment summary | 2007-2011 | Excel [41 kb] |

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Further Information

Further information can be found on the [ISD website](#)

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Appendix

A1 – Background Information

Although cancer registrations are believed to be essentially complete for the year 2011, it is important to note that the cancer registration database is dynamic. In common with other cancer registries, cancer incidence rates in Scotland can take up to five years after the end of a given calendar year to stabilise due to the continuing accrual of late registrations coming to light, for example through death certification. At this stage, it may be misleading to focus too much attention on any apparent changes in incidence between 2010 and 2011; it is more informative to examine trends in incidence observed over a number of years. Striking changes from one year to the next may occur in the case of rare cancers, but these are likely to reflect random fluctuation caused by small numbers of cases - in such cases, it is even more important to examine incidence rates for a number of years aggregated together, rather than focusing on a single year of incidence.

Note that cancer registrations differ from recorded hospital admissions for cancer, the statistics for which can be found on the [Hospital Care](#) pages on the [ISD Website](#). An individual diagnosed with a new primary cancer would have a single registration for that cancer, whereas he/she might have multiple admissions to hospital for the cancer. Moreover, the diagnosis and treatment of cancer does not inevitably lead to hospital admission in every case.

Comparisons of cancer statistics across the UK are regularly produced by the Office for National Statistics (ONS). The most recent [comparison of incidence and mortality statistics](#) can be found on their website.

Comparisons are also produced by Cancer Research UK, and the most recent [incidence report](#) can be found on their [CancerStats page](#). The interactive, web-based [Cancer e-Atlas](#) produced by the National Cancer Intelligence Network is also a good source.

Comparison of Scottish and UK cancer data to that of other countries is a complex process because of the wide variation amongst data collection and coding practices, as well as variation in the quality and completeness of data. The International Agency for Research on Cancer maintain an online database, [Cancer Mondial](#), that is searchable for comparative data.

A2 – Publication Metadata (including revisions details)

| Metadata Indicator | Description |
|--|--|
| Publication title | Cancer Incidence in Scotland (2011) |
| Description | Annual and 5 year summaries of new incidence cases of cancer in Scotland, by Cancer Network Region and Health Board. Within Scotland and Network levels of reporting, the incidence figures are broken down by age group and sex. |
| Theme | Health and Social Care |
| Topic | Conditions and Diseases |
| Format | Excel workbooks |
| Data source(s) | Scottish Cancer Registry (SMR06) |
| Date that data are acquired | 6 th March 2013 |
| Release date | 30 th April 2013 |
| Frequency | Annual |
| Timeframe of data and timeliness | Data up to 31 December 2011. No delays between data availability and processing of data for publication. |
| Continuity of data | Reports include data from 1987 to 2011. Coding of cancer registrations moved from ICD-9 to ICD-10 and from ICD-O to ICD-O2 in incidence year 1997, then to ICD-O3 in incidence year 2006. ICD codes have been back-mapped to 1985 for continuity of reporting. The range of statistics provided does mean that the continuity will vary, and while considered to be very high, any notable discontinuities (eg for specific conditions) will be highlighted within the published data. |
| Revisions statement | As with other population-based cancer registries, the Scottish Cancer Registry is dynamic, with ongoing updating of records. Each year's release includes a refresh of the previous years, and as new registrations from previous years come to light, or changes in the coding are taken into account, the numbers may change. The timing of the release is intended to balance the likelihood of significant revision with timeliness of data. |
| Revisions relevant to this publication | As above |
| Concepts and definitions | See the Cancer Information FAQs |
| Relevance and key uses of the statistics | The number and type of cancer registrations, by sex and geography, allow planning for provision of cancer treatment services and palliative care planning. Permits indirect measure of success of public health measures and interventions over the longer term. |
| Accuracy | Registry data are subject to validation at data entry and quality assurance procedures. See the Cancer Information FAQs . Reported data are compared to previous years' figures and to expected trends. |
| Completeness | At time of extraction, data for the most recent year are estimated to be at least 98% complete. See above note on Revisions. Routine indicators of data quality are compared |

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| | to the rest of the UK and to other countries, and are available at www.ukacr.org . There have been adhoc studies of data completeness in the past. See the Cancer Information FAQs . |
| Comparability | Cancer incidence data are regularly compared with the UK and other countries, for example in the publication Cancer Incidence in Five Continents . |
| Accessibility | It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines . |
| Coherence and clarity | All Cancer tables are accessible via the Cancer pages on the ISD website . Cancer sites are presented within Excel spreadsheets of cancer groupings, where appropriate. This should minimise the number of spreadsheets a user has to go through to find data, as well as ensure that they are selecting the correct data. Geographical hierarchies are also presented using drop down menus. Spreadsheets may require the user to manipulate drop-down menus, to avoid a frequent problem of confounding data on males and females, and geographical designations. |
| Value type and unit of measurement | Number of new cases of cancer as count; rates of cancer as crude, European age standardised, World Age standardised, and as Standardised incidence ratios. Number, eg 1.1 |
| Disclosure | The ISD protocol on Statistical Disclosure Protocol is followed. |
| Official Statistics designation | National Statistics |
| UK Statistics Authority Assessment | May 2010 |
| Last published | April 2012 |
| Next published | April 2014 |
| Date of first publication | |
| Help email | nss.isdcancerstats@nhs.net |
| Date form completed | 27 th March 2013 |

A3 – Early Access details (including Pre-Release Access)

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access and, separately, those receiving extended Pre-Release Access.

Standard Pre-Release Access:

Scottish Government Health Department
NHS Board Chief Executives
NHS Board Communication leads

Extended Pre-Release Access

Extended Pre-Release Access of 8 working days is given to a small number of named individuals in the Scottish Government Health Department (Analytical Services Division). This Pre-Release Access is for the sole purpose of enabling that department to gain an understanding of the statistics prior to briefing others in Scottish Government (during the period of standard Pre-Release Access).

Scottish Government Health Department (Analytical Services Division)

A4 – ISD and Official Statistics

About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

Purpose: To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

Mission: Better Information, Better Decisions, Better Health

Vision: To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of 'Official Statistics'. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD's statistical publications are currently classified as one of the following:

- National Statistics (ie assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (ie legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (ie still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD's statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.