All cancers

Cancer is a major cause of death, accounting for around a quarter of deaths in England. More than 1 in 3 people will develop cancer at some point in their life. In 2009, around 265,000 cancers were diagnosed, with lung, bowel, breast and prostate cancer accounting for over half. More than three in five cancers occur in people aged 65 and over.

The 'all cancer' incidence rate rose by 17% between 1985 and 2009. Over the last decade, there have been significant rises in the incidence of lung cancer and uterine cancer in women, prostate cancer in men, and melanoma, cancers of the liver, kidney, mouth and oropharynx in both sexes.

Over the same period stomach cancer rates fell in both sexes but around a third and lung cancer rates in men fell by 19%. The 30% fall seen in bladder cancer rates is partly due to changes in coding but a reduction in smoking and in exposure to chemicals in the workplace may also have contributed.

Mortality rates have fallen by 25% between 1985 and 2010, partly due to a fall in the number of cancers with a poor outcome (e.g. lung cancer in men), but improvements in diagnostic speed and treatment services have also undoubtedly contributed.

Mortality, morbidity and wellbeing

Key facts

- Around 727,700 potential years of life lost (to age 75) in 2010 (32% of all PYLL)
- Around 3,027,000 hospital bed days in 2010/11 (7% of all bed days)
- Main causes - PYLL: trachea/bronchus/lung cancer (20%); breast cancer (11%)
- Main causes - bed days: colorectal cancer (14%); trachea/bronchus/lung cancer (10%)

All cancer incidence by sex and major cancer type, England, 2009

Average annual incidence of all cancers combined by age and sex, England, 2007-09

Mortality due to cancer by upper tier local authority, England, 2010

Trend in incidence and mortality of all cancers combined, England, 1985 to 2009

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Mortality rates have fallen by 25% between 1985 and 2010, partly due to a fall in the number of cancers with a poor outcome (e.g. lung cancer in men), but improvements in diagnostic speed and treatment services have also undoubtedly contributed.
Cancers of the mouth, pharynx and salivary glands account for almost 3% of new cancers in males and around 1.5% in females. The two most common types are cancer of the oral cavity with over 2,200 new cases in 2009 and cancer of the oropharynx with over 1,500 cases.

The incidence of oral cavity cancer has been rising over the last two decades, with a 76% rise in the age-standardised rate between 1985 and 2009. The principal risk factors are smoking and alcohol. The chewing of betel quid is also a risk factor; this is predominantly an issue in immigrants from the Indian subcontinent.

The steepest rise has been in the age-standardised incidence rate of cancer of the oropharynx which has more than doubled over the last two decades. In the past, smoking and alcohol have been the main risk factors but more recently infection with human papillomavirus (HPV) has been identified as an important risk factor. Patients with HPV-related cancers are on average younger than other patients with oral cancer. Research in the USA has shown an association between having a higher number of sexual partners, and increased oral sexual behaviour, with HPV-related cancers.

**Cancers of the mouth, pharynx and salivary glands**

**Average annual incidence of mouth, pharynx and salivary glands cancers by age and sex, England, 2007-09**

**Average annual mouth, pharynx and salivary glands cancer incidence by cancer network, England, 2007-09**

**Key facts**
- Around 16,900 potential years of life lost (to age 75) in 2010 (<1% of all PYLL)
- Around 82,000 hospital bed days in 2010/11 (<1% of all bed days)
In 2009, there were almost 6,700 new cases of oesophageal cancer in England and around 6,200 deaths in 2010. Oesophageal cancer is related to age, with over 95% of cases occurring in people aged over 50. Around two thirds of oesophageal cancer cases are in men.

The incidence of oesophageal cancer in men has been steadily increasing since 1985. This is largely explained by an increase in the incidence of lower oesophageal cancer, which is more common in men than women. Incidence of upper and middle oesophageal cancer has remained relatively stable over the last ten years.

Mortality rates are higher in more deprived areas. Some of the known risk factors, including obesity, tobacco smoking and alcohol consumption, are associated with socioeconomic deprivation and therefore may partly explain this variation.

A higher risk of developing lower oesophageal cancer has been associated with increasing body mass index, gastro-oesophageal reflux disease and Barrett’s oesophagus.

Survival remains poor reflecting the advanced stage of disease at diagnosis and health professionals should prioritise strategies focusing on raising public awareness of risk factors and earlier diagnosis.

Erratum: Haringey is also significantly above the national average.

**Oesophageal cancer**

**Key facts**
- Around 35,100 potential years of life lost (to age 75) in 2010 (2% of all PYLL)
- Around 106,000 hospital bed days in 2010/11 (<1% of all bed days)

**Mortality, morbidity and wellbeing**

**Average annual incidence of oesophageal cancer by age and sex, England, 2007-09**

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**Average annual oesophageal cancer incidence by upper tier local authority, England, 2007-09**

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<td>Manchester</td>
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</tbody>
</table>

**Erratum:**

Haringey is also significantly above the national average.
In 2009, there were around 6,000 new cases and 4,000 deaths from stomach cancer. Stomach cancer is related to age, with risk rapidly increasing in men aged over 60. Around two thirds of cases are diagnosed in men.

Incidence rates have declined significantly between 1985 and 2009. Similar changes have been observed in other Western populations reflecting the declining prevalence of Helicobacter pylori infection due to antibiotic treatment and an increase of fresh food in the diet, as opposed to salt preserved foods.

Mortality rates are higher in more deprived areas. Risk factors include Helicobacter pylori infection, smoking and diet. There is an association between these risk factors and socioeconomic deprivation, which may explain the geographic variation.

Survival is still poor reflecting the advanced stage of disease at diagnosis for many patients. Health professionals should prioritise improving early diagnosis.

Key facts
- Around 18,700 potential years of life lost (to age 75) in 2010 (<1% of all PYLL)
- Around 82,000 hospital bed days in 2010/11 (<1% of all bed days)
Colorectal cancer (also known as colorectal cancer or bowel cancer) is the fourth most common cancer in England, after breast, prostate, and lung cancer, and is the second most common reason for death due to cancer, after lung cancer. There were nearly 33,000 new cases and nearly 13,000 deaths in 2009.

Colorectal cancer risk is strongly related to age, with 95% of cases occurring in people aged 50 or over. Colorectal cancer is more common in men than women, with 55% of cases in men.

The incidence of colorectal cancer in England has been rising over the last two decades. This is partly due to the aging population, but age-standardised incidence rates have also seen an increase of 6% between 2001 and 2009. Mortality rates have shown a steady fall of 13% between 2001 and 2010. Mortality rates are greatest in the most deprived, the difference between the most and least deprived is greater in men than women (33% versus 21%).

Many risk factors for colorectal cancer are now understood. These include diet, obesity, smoking, and alcohol consumption. Regular bowel cancer screening can reduce the risk of dying through earlier detection. A screening programme is now fully rolled out across England for 60-69 year olds and high uptake is key to reducing mortality rates.

**Key facts**
- Around 61,300 potential years of life lost (to age 75) in 2010 (3% of all PYLL)
- Around 428,000 hospital bed days in 2010/11 (1% of all bed days)
Liver cancer

Primary liver cancer, excluding cancers that have spread to the liver from other parts of the body, only makes up around 1% of all cancers. However, the incidence and mortality rates have been increasing.

In 2009, there were over 3,000 new cases and nearly 3,000 deaths due to liver cancer. Incidence is related to age, with 93% of cases occurring in people aged 50 or over. It is more common in men than women, with 62% of all cases diagnosed in men.

The main preventable risk factors are hepatitis B and hepatitis C infection and harmful alcohol use. Individuals who smoke and have hepatitis B or C infection are at a higher risk. Prevention, early detection and treatment of both liver disease and liver cancer will help to reduce mortality due to liver cancer. Raising public awareness of risk factors associated with liver cancer will also assist. Incidence rates of liver cancer tend to be highest in the North West.

Average annual incidence of liver cancer by age and sex, England, 2007-09

Trend in incidence and mortality of liver cancers, England, 2001 to 2010

Mortality, morbidity and wellbeing

Key facts

- Around 19,500 potential years of life lost (to age 75) in 2010 (<1% of all PYLL)
- Around 54,000 hospital bed days in 2010/11 (<1% of all bed days)
In 2009, there were nearly 7,000 new cases and over 6,500 deaths due to pancreatic cancer. Pancreatic cancer risk increases with age and around 96% of cases occur in people aged 50 or over. There are a similar number of cases diagnosed in men and women.

Incidence remained unchanged between 1985 and 2009. Mortality is high and has remained stable despite improvements in treatment. This is likely to reflect the advanced stage of disease at presentation in most patients. Therefore, health professionals should prioritise initiatives aimed at ensuring patients are diagnosed at an earlier stage.

Risk factors for pancreatic cancer include smoking (approximately 20-30% of cases are associated with tobacco), a history of diabetes, and both chronic and hereditary pancreatitis. A relatively weaker association has been found with obesity.

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Lung cancer is the second most common cancer after breast cancer and kills more people than any other cancer. More than 33,000 people were diagnosed with lung cancer in England in 2009, and just over 28,000 people died of the disease in 2010.

Tobacco smoking is the main cause of lung cancer and about 90% of lung cancers can be attributed to it. Lung cancer incidence increases sharply after middle age. More than 75% of lung cancers are diagnosed in people over the age of 65.

The decline in smoking prevalence among men is reflected in the sharp decrease in the incidence of lung cancer over the past two decades. However, due to the rise in women who took up smoking after World War II, the incidence among women continues to increase. The difference in smoking prevalence between men and women has given rise to a dramatic change in the male to female lung cancer incidence ratio from 10:3 in 1985 to 3:2 in 2009.

Smoking is more prevalent in deprived areas and lung cancer mortality is approximately 2.5 times higher in the most deprived areas compared to the least deprived areas. With over 17,000 emergency admissions in 2010, there are more emergency admissions due to lung cancer than any other cancer.

Trachea, bronchus, and lung cancers

Mortality, morbidity and wellbeing

Key facts
- Around 146,500 potential years of life lost (to age 75) in 2010 (6% of all PYLL)
- Around 305,000 hospital bed days in 2010/11 (<1% of all bed days)
Melanoma and other skin cancers

Malignant melanoma, a skin cancer, is the sixth most common cancer in England with almost 9,800 cases recorded in 2009. Mortality rates are low with around 1,800 deaths in 2010. Around 95% of deaths occur in the over 40s.

Non-melanoma skin cancers (NMSC) are about 10 times as common as malignant melanomas but their true number is significantly under reported. Although NMSC mortality rates are very low, around 25% require complex surgery, and their high incidence therefore means that their treatment is costly.

Between 1999 and 2009 the incidence rate for malignant melanoma has increased faster than any other cancer, most markedly by 85% in those aged 60-79. Of those diagnosed in 2007-2009, just over 50% of female cases were in those aged 40-69, and almost 50% of all male cases were in those aged 60-79.

Malignant melanoma is more common in the south of England. Some local authorities in the south have a rate more than double that found in some local authorities in the north. It is also more common in least deprived areas. Lifestyle factors including sun exposure, foreign travel and outdoor pursuits are likely to increase risk.

Raising awareness of risk factors and minimising ultraviolet exposure will help reduce incidence.
Invasive breast cancer is the most common cancer in women and the second most common cause of death from cancer in women; in 2009 there were over 40,000 new cases and over 9,000 deaths. Nearly a third of all new cancers in women are invasive breast cancers.

Breast cancer risk is strongly related to age, with 80% of cases of invasive breast cancer occurring in women aged 50 or over. Although more than 99% of cases are in women, there were 325 new cases in men in 2009. The incidence of invasive breast cancer has risen over the last two decades, with a 45% rise in age-standardised rates between 1985 and 2009. Mortality rates have shown a steady (42%) fall over the same time period, reflecting improvements in treatment and the impact of the NHS Breast Screening Programme. In 2007, 32% of invasive breast cancers in all women and 56% diagnosed in women aged 50 to 69, were screen-detected. Ensuring high uptake remains key to reducing mortality.

Breast cancer is one of the few cancers which is more common in least deprived areas. The main risk factors for breast cancer include later age at first pregnancy and fewer full term pregnancies; these risk factors are more prevalent in least deprived areas.

Breast cancer

Invasive breast cancer by age group and route of diagnosis, England, 2007

Average annual incidence of invasive breast cancer by age, England, 2007-09

Average annual incidence of invasive breast cancer by upper tier local authority, England, 2007-09

Mortality, morbidity and wellbeing

Key facts

- Around 77,900 potential years of life lost (to age 75) in 2010 (3% of all PYLL)
- Around 142,000 hospital bed days in 2010/11 (<1% of all bed days)
Cervical cancer is the tenth most common cancer in women, with over 2,700 new cases in 2009. There were around 750 deaths from cervical cancer in 2010. Following the establishment of the Cervical Screening Programme in 1988, incidence rates have decreased by a third whilst mortality has more than halved. Incidence and mortality rates tend to be highest in the north and the Midlands, and lowest in the East and in and around London.

Between 2008 and 2009 there was a 14% increase in the overall incidence of cervical cancer, most notable in women aged 25-39. This is likely to be due to earlier detection of cancers, linked to increased screening coverage following the media attention around the diagnosis and subsequent death of the celebrity Jade Goody.

As a result of the screening programme many cervical cancers are detected in younger women, with around 60% of cases occurring in women aged 25-49. Since 2008, girls aged 12-13 have been vaccinated against human papillomavirus (HPV) types 16 and 18, which cause around 75% of cervical cancers. In the future, the incidence is expected to fall and the pattern of disease to change as a result of vaccination, but ensuring high vaccine uptake will be key to this.
Chief Medical Officer's Report

Mortality, morbidity and wellbeing

Key facts

- Uterine - around 8,400 potential years of life lost (to age 75) in 2010 (<1% of all PYLL)
- Uterine - around 44,000 hospital bed days in 2010/11 (<1% of all bed days)
- Ovarian - around 23,300 potential years of life lost (to age 75) in 2010 (1% of all PYLL)
- Ovarian - around 69,000 hospital bed days in 2010/11 (<1% of all bed days)

Uterine and ovarian cancer

Uterine cancer is the fourth most common cancer in women, with over 6,200 new cases in 2009 and 1,500 deaths in 2010. Ovarian cancer is the fifth most common cancer and cause of death from cancer in women, with over 5,700 new cases in 2009 and over 3,400 deaths in 2010.

Uterine and ovarian cancer risk are both strongly related to age. Over 70% of women diagnosed with uterine cancer are aged 55-79, and almost 90% of deaths are in those aged 60 or over. For ovarian cancer, almost half of women diagnosed are aged 60-79, and over 80% of deaths are in those aged 60 or over.

Between 1997 and 2009, uterine cancer incidence increased by almost a third. Between 1997 and 2010, uterine cancer mortality increased by 16%. The increase in uterine cancer incidence is linked to the rise in population obesity and as such, action on this will be key to reversing the upward trend.

Between 1995 and 2009, ovarian cancer incidence remained stable, dropping slightly over the last few years. Between 1989 and 2010, mortality rates were stable until 2002 but have fallen by over 20% since. Improved detection and management of the disease are likely to be factors in the recent fall in mortality rates and need to be built upon to ensure continued success.
Prostate cancer

Prostate cancer is the most common cancer in men and the second most common cause of death from cancer in men. In 2009 there were over 34,500 new cases and in 2010 over 9,000 deaths. Around a quarter of all new cancers in men are prostate cancers.

Prostate cancer risk is strongly related to age. Between 2007 and 2009, almost 90% of new cases occurred in men aged 60 or over.

Between 1990 and 2009 the incidence rate of prostate cancer more than doubled, with the majority of the increase seen in those aged 55-74. Much of the increase in diagnosis is thought to be linked to greater clinical use of PSA (prostate specific antigen) testing which started in the UK around 1989. To date, the evidence demonstrates that a national screening programme based on PSA would not be cost effective.

Prostate cancer mortality rates in England in 2010 were a fifth lower than their peak in 1992.
Bladder cancer is the seventh most common cancer and the eighth most common cause of death from cancer, with almost 9,000 new cases in 2009 and over 4,100 deaths in 2010. Almost three quarters of cases occur in men, with bladder cancer being the fourth most common cancer in men.

Bladder cancer risk is strongly related to age and, between 2007 and 2009, 90% of cases occurred in those aged 60 or over.

The rate of bladder cancer deaths reduced by 17% between 2000 and 2010. The incidence rate of bladder cancer has reduced by 15% since 2000. Incidence trends in England using data prior to 2000 are difficult to interpret following a change in the coding of bladder cancers.

The major risk factor for bladder cancer is smoking. Over 50% of cases are smoking related, and the declining incidence is consequently related to success in reducing smoking prevalence.

Key facts
- Around 11,400 potential years of life lost (to age 75) in 2010 (<1% of all PYLL)
- Around 143,000 hospital bed days in 2010/11 (<1% of all bed days)

Average annual incidence of bladder cancer by age and sex, England, 2007-09

Average annual incidence of bladder cancer by upper tier local authority, England, 2007-09

Directly age standardised rate, per 100,000 population

Bladder cancer
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Bladder cancer risk is strongly related to age and, between 2007 and 2009, 90% of cases occurred in those aged 60 or over.

The rate of bladder cancer deaths reduced by 17% between 2000 and 2010. The incidence rate of bladder cancer has reduced by 15% since 2000. Incidence trends in England using data prior to 2000 are difficult to interpret following a change in the coding of bladder cancers.

The major risk factor for bladder cancer is smoking. Over 50% of cases are smoking related, and the declining incidence is consequently related to success in reducing smoking prevalence.

Key facts
- Around 11,400 potential years of life lost (to age 75) in 2010 (<1% of all PYLL)
- Around 143,000 hospital bed days in 2010/11 (<1% of all bed days)
Acute Myeloid Leukaemia

Acute Myeloid Leukaemia (AML) is one of the most common types of leukaemia, with over 2,000 new cases in 2009. It is chiefly a disease of older people, with over 80% of cases in people aged over 50.

After adjusting for the ageing population, registrations of AML in England have largely been constant over the last decade, as has the mortality rate. There is very little variation between different parts of the country in leukaemia incidence.

Management of AML requires patients to spend many days as a hospital inpatient, or day case, meaning that the overall costs of treatment are high compared to many cancers.
Non-Hodgkin lymphoma

Considered as a group, non-Hodgkin lymphoma (NHL) is the fifth most common cancer, with over 10,000 new cases and nearly 4,000 deaths in 2009. NHL risk is strongly related to age, with over 85% of cases occurring in people aged 50 or over.

Registrations of NHL in England have been rising over the last decade. Even adjusting for the aging population the age standardised rates have risen. Mortality rates have fallen over this time period. Trends need to be interpreted carefully as there have been changes in diagnosis, classification and registration rates over the same time period, which may explain much of this apparent rise in incidence.

There are many sub-types of NHL, with significant heterogeneity in incidence, mortality, prognosis and treatment. Care must be taken not to generalise outcomes from the grouped data for specific sub-groups of NHL.

Average annual incidence of non-Hodgkin lymphoma by age and sex, England, 2007-09

Average annual incidence and mortality of non-Hodgkin lymphoma, England, 1995 to 2010

Mortality, morbidity and wellbeing

Key facts
- Around 21,000 potential years of life lost (to age 75) in 2010 (<1% of all PYLL)
- Around 164,000 hospital bed days in 2010/11 (<1% of all bed days)

Average annual incidence of non-Hodgkin lymphoma by upper tier local authority, England, 2007-09

Directly age standardised rate, per 100,000 population

Source: Cancer statistics, ONS. (Provided by NCIN & UKACR)