Cancer in Wales
Trends in deaths from cancer 2001-2017

Welsh Cancer Intelligence and Surveillance Unit
www.wcisu.wales.nhs.uk

Latest available cancer mortality official statistics for Wales for years 2001 to 2017, by cancer type, sex, age at death and area disadvantage

Official statistics
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Key messages

The long-term trend in decreasing age-adjusted all-cancer death rate in Wales has slowed-down since 2010

The slow-down in decreasing age-adjusted cancer death rate is greater in women than in men and started earlier

Decreasing cancer death rates stalled in most age-groups in women, and increased from 2012 to 2017 in women aged 90 years and older

Decreasing cancer death rates in men slowed-down in most age groups from 2010

The long-term decline in all-cause death rate in Wales also slowed-down in the early 2010s. Similar, but not identical, changes in all-cause death rates have been observed in many countries

The decline in cancer death rate slowed down in Wales after 2010, whereas in the same period the decline became more rapid in Scotland and England

Causes of these observed international and national changes are not fully understood, but have, and are, being explored further

Age-adjusted all-cancer death rate increases from the least to the most deprived areas of Wales

The trend in cancer death rate continued to decline steeply, without a slow-down, in the least deprived areas

In the most deprived areas the initial decline was not as steep, and stalled, with very little decline since 2009-2013

The gap in cancer death rate between the least and most deprived areas of Wales increased by over 14% between 2001-2005 and 2013-2017
The slow-down in death rate decline in the early 2010s in Wales was seen in several types of cancer including lung, bowel, breast and prostate cancers.

Lung and bowel cancers have similar patterns to the all-cancer death rate trends, and are contributing the most to the observed slow-down.

The lung cancer death rate is now increasing amongst very old men, as well as in middle-aged to older women, and very old women.

The widest cancer death inequalities are from lung cancer, with a gradient of higher rates in increasingly more deprived areas. This deprivation gap widened by over a fifth between 2001-2005 and 2013-2017.

The highest health board all-cancer death rate is a fifth higher than the lowest rate.

There are wide inequalities in all-cancer death rate between defined small geographic areas (MSOAs) of Wales – the highest rate is five times the lowest.

There is very little variation between health boards for melanoma, as well as for breast and oesophageal cancers, but there is wide variation for liver and lung cancer death rates.
The long-term trend in decreasing age-adjusted cancer death rate in Wales has slowed-down since 2010

From 2010 to 2017, the age-adjusted cancer death rate in Wales fell by 5.4%, but during the same number of years before 2010, the cancer death rate had decreased by 9.2%.

Figure 1: Trends in all-cancer age-adjusted death rates in Wales from 2001 to 2017, EASR per 100,000 population

Source: Office for National Statistics
The slow-down in decreasing age-adjusted cancer death rate is greater in women than in men and started earlier

In women, the decreasing cancer death rate began slowing down earlier, in 2009. From 2009 to 2017, the age-adjusted cancer death rate decreased by only 3.7%, but during the same number of years up to 2009, the rate fell by 8.9% - almost two-and-a-half times faster.

In men, the tipping point seems to be in 2010. Since then to 2017, the cancer death rate decreased by 6.1%. During the same number of years up to 2010, the decrease was almost twice as fast, with a 12.5% fall in death rate.

As expected, the age-adjusted cancer death rate in men remained higher (40%) than women in 2017.

Decreasing cancer death rates stalled in most age-groups in women around 2011, and increased from 2012 to 2017 in women aged 90 years and older

Decreasing cancer death rates in men slowed-down in most age groups from 2010

The trends in all-cancer death rate vary by age. As expected, cancer death rates increase rapidly with age, and are particularly high in the very old.

In women 90 years and older, apart from a spike in 2007, the all-cancer death rate was relatively stable from 2001, before increasing rapidly from 2011 to 2017. In men, there was no clear trend in this age group.

In the 75-89 year old men, there is a decreasing trend from 2001 to 2017, with some small spikes such as in 2011.

Whilst there is a small slow-down in the decrease in the 55-74 year-old men from 2010, in women the decline stalled form 2011.
There were 8,936 deaths from cancer in 2017, up from 8,807 in 2016, compared to 8,445 deaths in 2010 and 8,513 deaths in 2001.

Nearly half of all deaths from cancer occur in people under 75 years old, despite the death rate increasing with age.

The long-term decline in all-cause death rate in Wales also slowed-down in the early 2010s. Similar, but not identical, changes in all-cause death rates have been observed in many countries.

Changes in cancer death rates, as well as deaths from cardiovascular disease, respiratory and several other causes have contributed to the all-cause slow-down.

As the decline in cancer death rate slowed down in Wales after 2010, it began decreasing more rapidly in Scotland and England.
Causes of these observed international and national changes are not fully understood, but have, and are, being explored further

The more recent change in the trends in cancer death rate in Wales need to be considered in the well-documented international context of changes in the trends in death rates from all-causes, including cancer, and other disease-specific death rates, particularly cardiovascular disease.

The long-term decline in all-cause death rate in Wales also slowed-down in the early 2010s. This occurred in men and women, and for older and younger people, with some variations in timing and the change in rates.

Similar, but not identical, changes in all-cause death rates have been observed in many, but not all, high-income countries, including across the UK countries.

The causes of these observed changes are not fully understood and are being explored further.

Changes in the trends in decline of cancer death rates also occurred in other UK countries around 2010. There are differences between the countries.
At the time of writing, publically available cancer death data was only up to 2016 for England, Scotland and Northern Ireland.

By 2016, the cancer death rate was similar in Wales, England and Northern Ireland, but remained considerably higher in Scotland.

During 2006 to 2010, Wales had the highest rate of decline in cancer death rate, followed by Scotland. However, from 2010 to 2016, Wales’ cancer death rate decline slowed to the third highest rate of decline.

In Scotland, the cancer death rate decline increased slightly. This meant that Scotland had the steepest decline in cancer death rate for 2010-2016.
Figure 4: Trends in age-adjusted cancer death rate by UK country for 2006-2016, Persons, EASR per 100,000 population

Source:

England: Office for National Statistics

Northern Ireland: http://www.qub.ac.uk/research-centres/nicr/CancerInformation/official-statistics/BySite/All-Cancers-excl-NMSC/

Scotland: http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Statistics/All-Types-of-Cancer/

Wales: Office for National Statistics

Age-adjusted all-cancer death rate increases from the least to the most deprived areas of Wales

The trend in cancer death rate continued to decline steeply, without a slow-down, in the least deprived areas of Wales
In the most deprived areas the initial decline was not as steep, and stalled, with very little decline since 2009-2013

The gap in cancer death rate between the least and most deprived areas of Wales increased by over 14% between 2001-2005 and 2013-2017

The all-cancer age-adjusted death rate increases from the least to the most deprived areas of Wales. The inequalities are widest between the most deprived, next most deprived, and middle deprived fifth of areas.

The slow-down in the decline of cancer death rates in Wales from around 2010 onwards had different patterns depending on the degree of area deprivation.

The age-adjusted cancer death rate continued to decline steeply, without a slow-down, in the least deprived areas of Wales.

The steep declines in cancer death rate in the next least deprived and middle deprived areas slowed down from 2009 to 2013.

In the most deprived areas the decline was not as steep as less deprived areas, and stalled with very little decline from around 2009-2013.

As a result, the gap in death rate between the least and most deprived areas of Wales increased by 14.1% between 2001-2005 and 2013-2017, from 111.0 to 126.6 cancer deaths per 100,000 people.
The slow-down in death rate decline in the early 2010s in Wales was seen in several types of cancer including lung, bowel, breast and prostate cancers.

Lung and bowel cancers have similar patterns to the all-cancer death rate trends, and are contributing the most to the observed slow-down.

The lung cancer death rate is now increasing amongst very old men, as well as in middle-aged to older women, and very old women.
The widest cancer death inequalities are from lung cancer, with a gradient of higher rates in increasingly more deprived areas. This deprivation gap widened by over a fifth between 2001-2005 and 2013-2017

_Lung cancer_
Lung cancer is the most common cause of cancer death. With 1,891 deaths in 2017, lung cancer accounted for over 2 in 10 cancer deaths, and more deaths than from bowel (colorectal) and breast cancers combined.

**Figure 6: Deaths in 2017 from different types of cancer amongst people in Wales, numbers**

In women, the overall lung cancer death rate had a long-standing steep increasing trend until 2008, after which it decreased until it plateaued in 2011. This stalling was driven by a rapidly increasing trend amongst women 90+ years old, an increase in lung cancer death rate in women.
55-74 years old, and a flattening of previously high but decreasing rate in women aged 75-89 years.

The overall age-adjusted rate of lung cancer deaths was slowly decreasing in men up to around 2008. Since then, the overall trend has been decreasing more rapidly.

However, there are age-specific differences in lung cancer death rates amongst men. The overall pattern is driven by the continuing decreasing trend amongst 75-89 year-old men. In addition, although the death rate is lower in men aged 55-74, the gradually decreasing trend in lung cancer death rate amongst them stalled in 2010.

**Figure 7: Trends in lung cancer age-specific death rates in Wales from 2001-2017, Persons, Rates per 100,000 population**

![Graph showing trends in lung cancer age-specific death rates](image)

*Source: Office for National Statistics*

Of the most common cancers, the widest cancer death inequalities are from lung cancer. It has a steep gradient of increasing death rate moving from the least to the most deprived areas in Wales. This deprivation gap widened by over a fifth (21.4%) between 2001-2005 and 2013-2017.
Bowel (colorectal) cancer

Bowel cancer is the next main cause of cancer death, causing about half the number of deaths as lung cancer in 2017, or more than 1 in 10 of all cancer deaths.

The gradually declining trend in the bowel cancer death rate since 2003 slowed down considerably from 2011, with a flat trend to 2017.

Amongst women, the bowel cancer death rate decline also stalled, with no clear declining trend from 2011 amongst the 55-74 and 75-89 year-olds. There may be an emerging increasing trend in the 90+ year old age groups. In men, the rates are generally higher than in women, but the pattern in the age-specific trends is similar.

There are much smaller inequalities in death rate between areas of most and least deprivation for bowel cancer compared to lung cancer. That said, the bowel cancer death rate in the most deprived areas is markedly higher than the other four levels of area deprivation. The area deprivation gap between the least and most deprived areas increased slightly from 7.2 to 8.5 per 100,000 people between 2001-2005 and 2013-2017.
Breast cancer in women and prostate cancer

A similar number of women died of breast cancer (617) as men died of prostate cancer (605) in 2017. Each of these types of cancer accounted for about two-thirds the number of deaths caused by bowel cancer alone.

In women, the breast cancer death rate decreased by nearly a quarter (24.8%) between 2001 and 2017, although the steady decline slowed-down slightly from around 2012. This slow-down occurred in age groups 35-54, 55-74, 75-89, and the 90+ age group.

The long-term trend in the reduction of the prostate cancer death rate also slowed-down and stalled from around 2011. The slow-down was evident in the 55-74, and 75-89 age groups, but there is now an increasing trend in death rate amongst 90+ year old men.
Other cancers
The age-adjusted liver cancer death rate has doubled since 2001 to 10.0 per 100,000 people by 2017.

Whilst the death rate from stomach cancer halved in women between 2001 and 2017, the rate in men remained well over double that seen in women. The rate in men decreased steeply from 2001 to around 2010, but it has since changed little. The decline in death rate in women also slowed-down from 2010.

The highest health board all-cancer death rate is a fifth higher than the lowest rate

There are wide inequalities in all-cancer death rate between defined small geographic areas (MSOAs) of Wales – the highest rate is five times the lowest

There is very little variation between health boards for melanoma, as well as for breast and oesophageal cancers, but there is wide variation for liver and lung cancer death rates

Residents of Aneurin Bevan had the highest age-adjusted cancer death rate of all health boards in 2017. This was almost a fifth (19.5%) higher than the lowest rate, found in Powys.
There are also wide inequalities in cancer death rates between small geographic areas (MSOAs) in Wales. The highest rate is over five times the lowest.
The degree of inequalities in age-adjusted cancer death rate between health board areas varies by cancer type.

There is very little variation in death rates for melanoma, or for breast and oesophageal cancers, but there is wide variation for liver and lung cancers. The liver cancer death rate is highest among Cardiff and Vale health board residents, which is three times higher than the lowest, in the Hywel Dda area.