These are the latest available cancer incidence official statistics for Wales

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Key points

- **There is a long-term trend of increasing numbers of new cancer cases in the population of Wales.**
- **When the effects of age are taken into account, the trend in cancer rate is decreasing in men at about the same level as it is increasing in women.**
- **Cancer rates are higher in older age, with older men having higher rates than older women.**
- **Unlike for older men, women in age-groups between 35 to 54 years old continue to have higher cancer rates than men.**
- **Cancer rates markedly decreased amongst older men from 2006 to 2015, but changed little amongst younger men and women of most age groups.**
- **The number of new cancer cases now peaks in 65-69 year olds – 10 years younger than in 2006 – with a third of all cases now occurring in people under 65 years old.**
- **Narrowing inequalities in cancer rates between health board populations overlie widening inequalities between local authorities.**
- **Breast, prostate, lung, bowel cancers and melanoma remain the most common cancers in Wales in terms of numbers of new cases.**
- **The majority of the increase in lung cancer numbers occurred in women.**
Liver cancer and melanoma continue to have the largest percentage increases in age-adjusted rate, breast cancer also increased, whilst stomach cancer decreased.

Although the age-adjusted rate of mesothelioma remains relatively low, it is increasing rapidly.

Inequalities in cancer rates between geographic areas vary for different cancer types – lung cancer has the widest variation of the commonest cancers.

UK men have a low overall cancer incidence rate compared to many European countries, but for women the UK is 7th highest of 22 countries.

The age-adjusted cancer rate for men in Wales is consistently the highest of UK countries, but the trend is decreasing.

Women in Wales consistently have the second highest cancer rate of all UK countries – the long-term rate is increasing in all the countries.

Estimates suggest that in the UK around 4 in 10 of the cancer incidence could be preventable.

The key policy on cancer in Wales is set out in the Cancer Delivery Plan 2016-2020.
There is a long-term trend of increasing numbers of new cancer cases in the population of Wales

A total of 19,088 new cases of cancer were diagnosed and registered amongst the resident population of Wales in 2015. This is a 10% increase of 1,699 more cases in 2015 compared with ten years previously.

The long-term trend of new cases continues to increase despite a fall in the number of new cases registered in 2015 compared to 2014. We believe this fall is temporary, and can be attributed to the current implementation of a new cancer registration IT system and associated changes to data sources. When our next official statistics are released for 2016 data, also with an update on previous years’ data, we anticipate the revised figure for 2015 will be more representative.

As in previous years, more cancers were registered in men (9,837) than women (9,251) in 2015.

When the effects of age are taken into account, the trend in cancer rate is decreasing in men at about the same level as it is increasing in women

Despite the gender differences in trends, the cancer rate remains higher in men than in women in 2015.

Figure 1: Trend in age-adjusted cancer rate by gender, Wales, 2006-2015

Source: Welsh Cancer Intelligence and Surveillance Unit’s National Cancer Registry www.wcisu.wales.nhs.uk
Cancer rates are higher in older age, with older men having higher rates than older women

The rate of new cancer cases is higher with increasing age, especially for men, although in 2015, the rate reduced slightly in women for age 90 years and over, compared to the 85-89 year-old group. In 2015, cancer rates in men were considerably higher than women for five-year age groups 70 years and older.

Unlike for older men, women in age-groups between 35 to 54 years old continue to have higher cancer rates than men

In the five-year age groups between 35 and 54 years, women’s rates were statistically significantly higher than in men. Women in these age groups have a higher proportion of breast cancer compared to women in other age groups. Breast cancer makes up nearly 50% of all the cancers diagnosed in this age range.

Cancer rates markedly decreased amongst older men from 2006 to 2015, but changed little amongst younger men and women of most age groups

Between 2006 and 2015, there were large reductions in cancer rates in men older than 70 years. Rates changed little in young men, and in women there was also little change other than a small increase in women aged 80-89 years, followed by a small fall in rate amongst the oldest age group in women of 90+ years (figure 2).
The number of new cancer cases now peaks in 65-69 year olds – 10 years younger than in 2006 – with a third of all cases now occurring in people under 65 years old

In 2015, around 33 in 100 new cases were in people under 65 year-old, and 64 in 100 were in under 75 year-olds. Eleven in 100 were in people aged 85 years and over, with four in 100 in people aged 90 years and over.

Although the numbers of cases in most five-year age-groups older than 65 years appear to have markedly changed in 2015 compared to 2006, the differences are not statistically significant. The highest number of cases continues to occur in five-year age groups between 65 and 79 years.
Narrowing inequalities in cancer rates between health board populations overlie widening inequalities between local authorities

There are inequalities in cancer incidence between the populations of geographic areas in Wales.

By 2013-2015, inequalities in age-adjusted cancer incidence rates between health board populations were modest. The highest incidence in Cwm Taf of 688.8 per 100,000 people is around 11% more than the lowest in Abertawe Bro Morgannwg. These inequalities were slightly wider in 2003-2005: the highest health board rate was 13% more than the lowest.

Despite narrowing at health board level, cancer rate inequalities widened over time between local authority populations. Most recently, Merthyr Tydfil has the highest age-adjusted incidence of 706.9 per 100,000 - almost 25% higher than the lowest in Ceredigion. Ten years previously, the highest local authority rate was 19% higher than the lowest.

But at a much smaller geographic area (Middle Super Output Area), the current inequalities are wider still, as would be expected due to smaller populations (figure 3). The highest rate (858.7 per 100,000) is almost 89% higher than the lowest (455.1 per 100,000).
Breast, prostate, lung, bowel cancers and melanoma remain the most common cancers in Wales in terms of numbers of new cases

The most common cancers in 2015 were breast, prostate, lung, bowel, melanoma, head and neck, and non-Hodgkin lymphoma.

As in previous years, prostate cancer was by far the most common cancer in men, accounting for just over a quarter of men’s cancer cases. Next most common were lung and bowel cancers each with a similar number of cases, followed by cancers of the head and neck, bladder and then melanoma.
In women, the commonest cancer by far was breast cancer, with numbers approaching a third of all cancers in women. Lung cancer was the next most common in women, making up almost 13% of cases. Cancers of the bowel and the womb (uterus), and melanoma made up a further fifth (20%) of cases in women.

**Figure 4: Most common cancers in men and women in Wales in 2015**

![Cancer Types](image-url)

Source: Welsh Cancer Intelligence and Surveillance Unit’s National Cancer Registry www.wcisu.wales.nhs.uk

**The majority of the increase in lung cancer numbers occurred in women**

As well as being the most common cancers, breast, prostate, bowel cancers, melanoma, and lung cancer had the largest increase in numbers compared to other cancers over 10 years up to 2013-2015 combined. The majority of the increase in the number of lung cancer cases occurred in women (figure 5).
Liver cancer and melanoma continue to have the largest percentage increases in age-adjusted rate, breast cancer also increased, whilst stomach cancer decreased

The most common cancers in terms of age-adjusted rate for the diagnosis period 2013-2015 are prostate, breast, lung and bowel cancers. Next are womb (uterine) cancer, melanoma, ovarian cancer and cancers of the head and neck (figure 6).
Over the 10 years to 2013-2015, the cancers with the largest absolute significant increases in age-adjusted rate were melanoma, breast, head and neck, liver, and urinary tract (excluding bladder).

Most of these cancers also have large percentage increases in rate. Most notably, liver cancer and melanoma continued to have the largest percentage increases of all (figure 7).

On the other hand, stomach (gastric) cancer had a statistically significant 28% reduction from 20.8 per 100,000 to 14.9 per 100,000 over the 10 years.
Figure 7: Statistically significant percentage changes in age-adjusted incidence rate from 2003-2005 to 2013-2015, persons, Wales (EASR per 100,000)

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Percentage Change</th>
<th>Rate 2003-2005</th>
<th>Rate 2013-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liver</td>
<td>+62.0%</td>
<td>10.1 per 100,000</td>
<td>16.3 per 100,000</td>
</tr>
<tr>
<td>Melanoma</td>
<td>+58.3%</td>
<td>26.6 per 100,000</td>
<td>43.6 per 100,000</td>
</tr>
<tr>
<td>Thyroid &amp; endocrine</td>
<td>+36.7%</td>
<td>4.5 per 100,000</td>
<td>6.2 per 100,000</td>
</tr>
<tr>
<td>Head &amp; neck</td>
<td>+34.2%</td>
<td>22.4 per 100,000</td>
<td>31.9 per 100,000</td>
</tr>
<tr>
<td>Mesothelioma</td>
<td>+32.2%</td>
<td>4.3 per 100,000</td>
<td>5.7 per 100,000</td>
</tr>
<tr>
<td>Urinary tract excluding bladder</td>
<td>+23.7%</td>
<td>20.0 per 100,000</td>
<td>24.9 per 100,000</td>
</tr>
<tr>
<td>Leukaemia</td>
<td>+13.0%</td>
<td>11.5 per 100,000</td>
<td>13.0 per 100,000</td>
</tr>
<tr>
<td>Female Breast</td>
<td>+10.9%</td>
<td>87.5 per 100,000</td>
<td>96.3 per 100,000</td>
</tr>
<tr>
<td>Stomach</td>
<td>-28.4%</td>
<td>14.9 per 100,000</td>
<td>10.8 per 100,000</td>
</tr>
</tbody>
</table>

Source: Welsh Cancer Intelligence and Surveillance Unit’s National Cancer Registry www.wcisu.wales.nhs.uk

Although the age-adjusted rate of mesothelioma remains relatively low, it is increasing rapidly

Some less common cancers, with smaller absolute increases in rate - such as thyroid and endocrine, and mesothelioma - nevertheless have large and significant percentage increases. In particular, the mesothelioma rate has increased by almost a third over ten years.

Inequalities in cancer rates between geographic areas vary for different cancer types – lung cancer has the widest variation of the commonest cancers

Cwm Taf has the highest age-adjusted lung cancer rate (figure 8) for people diagnosed in 2013-2015. This is statistically significantly higher than Wales as a whole, and almost 60% higher than the health board population with the lowest rate, Powys. Underlying these inequalities, the lung cancer rate is 86% higher in the highest local authority area, Merthyr Tydfil, compared to the lowest, Monmouthshire.
Prostate cancer has just over a 40% statistically significant difference in rates between the highest (Hywel Dda) and lowest (Abertawe Bro Morgannwg) health boards. Prostate cancer also has the widest absolute difference between the highest and lowest health boards.

The melanoma rate is 32% higher in the Cardiff and Vale population compared to the lowest rate in Hywel Dda.

There is a 20% difference in the bowel cancer rate between the health board population with the highest (Cwm Taf) and lowest (Cardiff and Vale).

In women, health board population breast cancer rate varies by 14% between the highest (Hywel Dda) and lowest (Cwm Taf), although this is not statistically significant.
UK men have a low overall cancer incidence rate compared to many European countries, but for women the UK is 7th highest of 22 countries

The World Health Organization’s International Agency for Research on Cancer collates actual and estimated global cancer statistics (GLOBOCAN). The latest available comparable incidence for most of Europe is 2012.

Using World Age-Standardised Rates in the data available for European countries, the highest 2012 cancer rate in men was in Norway, and lowest was in Cyprus. Men in the UK had the 17th highest rate out of 22 countries with high quality national or regional data (coverage greater than 50%). For women, the highest rate was in Denmark, and the lowest was in Ukraine. Women in the UK had the 7th highest rate out of the 22 European countries.

Underlying these overall age-adjusted cancer rates, within each country there will be regional differences and socio-economic inequalities, and the ranking of countries by cancer rate for different cancer types also varies.

The differences between the countries can be explained, in part, by differences in their historic trends of risk factors in the population, differences in socioeconomic inequalities, as well as differences in the detection, clinical practice, data sources and their cancer registries’ practices, quality and completeness. Differences in the age-structures of the population are accounted for in the calculations.

The age-adjusted cancer rate for men in Wales is consistently the highest of UK countries, but the trend is decreasing

Although the UK as a whole had the 17th highest cancer rate out of the 22 European countries for men, and the 7th highest for women, overall cancer rates vary between UK countries.

Whilst there are year-to-year fluctuations, especially in smaller UK countries, the 10 year trends to 2014 (only Wales has 2015 data currently available), show that the age-adjusted cancer rate for men in Wales is consistently the highest of UK countries. Whilst the long-term trend in the men’s rate has been decreasing in Wales and Scotland, in contrast, and despite having the lowest or second lowest male rate between 2005-2007 and 2012-2014, the longer-term trend in men’s cancer rate is increasing in England (figure 9).

The increasing rate in men in England appears to be due to an increasing rate in prostate cancer with other common cancers having a similar pattern to other countries. Some reasons for the changes in prostate cancer rate in England include, for example, differences in detection in data and registration, possible differences in PSA testing and other clinical practice in England, or possibly, but unlikely, a different real rate of prostate cancer in England.
Figure 9: Trends in age-adjusted cancer incidence in United Kingdom countries, by gender, 2005-2014

Women in Wales consistently have the second highest cancer rate of all UK countries – the long-term rate is increasing in all the countries

For women, as expected, rates are lower than men, but Scotland’s women have by far the highest rate, with women in Wales consistently the second highest. The longer-term trends are increasing in Wales, England and Northern Ireland, but appear to have leveled-off in Scotland.
Estimates suggest that in the UK around 4 in 10 of the cancer incidence could be preventable

Changes to the age and sex structure in the population are the main driver of changes in cancer incidence.

Cancer is much more common in older people. Two-thirds of cancer cases in Wales occurred in the over 65 year-olds in 2015. And the highest cancer rates are seen in older age-groups, especially men.

Although the risk of most types of cancer increases with ageing - such as the most common cancers (breast, prostate, lung and bowel) - some rarer types of cancer are more common in younger people and children, for example some types of lymphoma and bone tumours. However, the higher rate of cancer in younger and middle aged women compared to men is partly contributed to by breast cancer.

As we get older our body’s cells can be more and more damaged. This can lead to some cells starting to multiply uncontrollably which can then lead to cancer. Some of this accumulated damage occurs directly or indirectly due to a combination of potentially preventable risk factors. If cancer does occur, then it can take a long time for it to develop after longer term exposure to often a combination of these risk factors (for example, mesothelioma can take a very long time to develop after continued exposure to asbestos). Specific, or a complex mix of genetic and hereditary factors also play a part in cancer development.

Estimates suggest that in the UK around 4 in 10 of the cancer incidence could be potentially preventable.

The main preventable risk factors are tobacco; obesity; lack of fruit and vegetables; alcohol; occupational risks such as asbestos; UV radiation from the sun (both long-term exposure and sunburn) and sunbeds; processed and red meat; and certain infections, such as HPV. The past trends – especially by gender and socioeconomic disadvantage - in many of these factors are major contributors to the pattern of cancer we see in the population of Wales today.

We still know very little about the causes or risks for some cancers, such as prostate cancer, for example. The trends in prostate cancer incidence are in part to do with the changes in the extent of PSA testing in health care.
The key policy on cancer in Wales is set out in the Cancer Delivery Plan 2016-2020

The key policy on cancer in Wales is set out in the Welsh government’s recently refreshed Cancer Delivery Plan 2016-2020. Cancer incidence is one of the key population outcome indicators in the plan.

Inequalities, the rising number of cases, the increasing age-adjusted rate in women, the effect of the ageing of the population on cancer incidence, and the large proportion of potentially preventable cases of cancer, all have major implications for health and care services. They are relevant to other policy and initiatives aimed at reducing inequalities, tackling factors such as smoking and obesity, and underlying social determinants of health.