

Statistical bulletin

# Avoidable mortality in the UK: 2017

Deaths from causes that are considered avoidable in the presence of timely and effective healthcare or public health interventions. Data are based on a revised definition of avoidable mortality (introduced in data year 2014) for all persons and a separate indicator for children and young people.

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# 1 . Main points

- In 2017, approximately 23% of all deaths in the UK were considered avoidable (141,313 deaths out of 607,172).
- Avoidable mortality in the UK has statistically significantly decreased since 2016, from 228.7 deaths per 100,000 population to 224.7 deaths per 100,000 population in 2017.
- In 2017, Scotland had the highest avoidable mortality rates for six out of the seven broad causes, whilst Wales had the highest rate for respiratory diseases.
- Since 2014, the largest changes in avoidable mortality rates were for injuries (with a 37% increase in Northern Ireland, 21% increase in Scotland and 19% increase in Wales) and respiratory diseases (6% increase in England and 19% increase in Wales) with all increases being statistically significant.
- 34% of deaths in children and young people were from causes considered avoidable in 2017.
- The disparity in amenable mortality between the Clinical Commissioning Groups (CCGs) in England with the highest and lowest mortality rates has increased between 2014 and 2017 for both sexes.
- In 2015 to 2017, Blackpool had the highest rate of preventable mortality for males with a rate of 415.2 deaths per 100,000; in contrast Surrey Heath had the lowest rate with 130.5 preventable deaths per 100,000 males.
- Manchester had the highest preventable mortality rate for females between 2015 and 2017 with 256.4 deaths per 100,000, compared with South Oxfordshire who had the lowest with 83.0 deaths per 100,000 females.
- Smaller disparities were present between Wales' local authorities than those in England.

## 2 . The national trend in overall avoidable mortality shows a statistically significant improvement since 2016

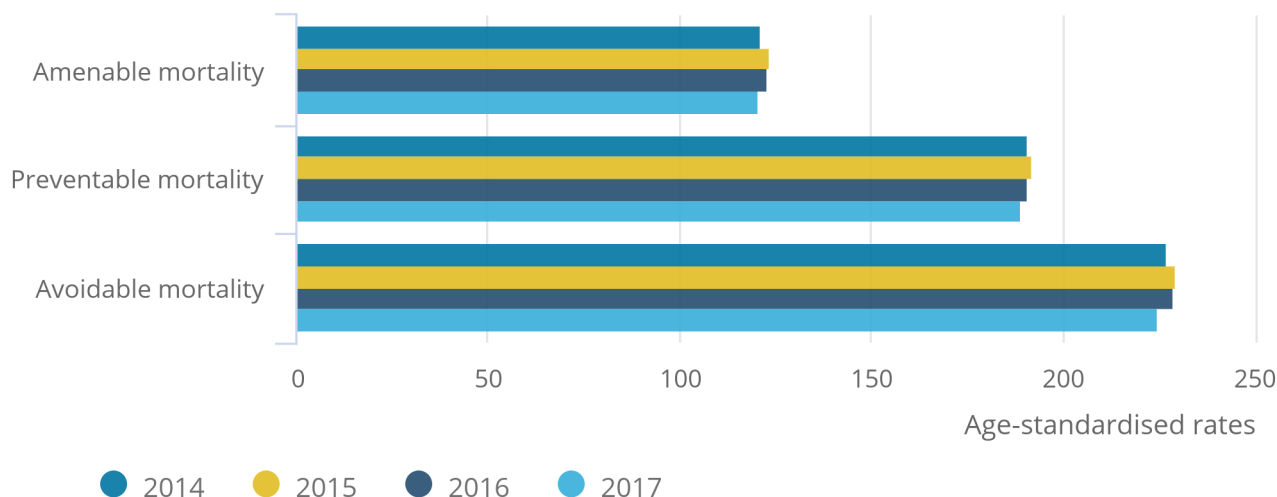
When discussing avoidable deaths, the following terms are used:

- amenable (treatable) mortality - deaths that could be avoided through timely and effective healthcare
- preventable mortality - deaths that could be avoided by public health interventions
- avoidable mortality – deaths that are amenable, preventable or both, where each death is counted only once

In 2017, avoidable, amenable and preventable mortality rates in the UK were the lowest they have been since 2014 (Figure 1) when the new definition of avoidable mortality was introduced; however, rates in 2017 were not statistically significantly lower than in 2014. From 2016 to 2017, avoidable and amenable mortality rates have statistically significantly decreased.

**Figure 1: Age-standardised avoidable, amenable and preventable mortality rates, UK, 2014 to 2017**

Figure 1: Age-standardised avoidable, amenable and preventable mortality rates, UK, 2014 to 2017



Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

**Notes:**

1. Age-standardised mortality rates are expressed per 100,000 population and standardised to the 2013 European Standard Population. Age-standardised mortality rates are used to allow comparison between populations which may contain different proportions of people of different ages.
2. Deaths of non-residents are included in figures for the UK.
3. Figures are for deaths registered in each calendar year.

### 3 . Avoidable mortality by constituent country shows statistically significant improvements in England only

In 2017, approximately 23% of all deaths in the UK were considered avoidable (141,313 deaths out of 607,172) with an age-standardised mortality rate of 224.7 deaths per 100,000 population. This was a statistically significant decrease from 2016. Males accounted for 60% of the avoidable deaths in 2017, resulting in the male mortality rate being statistically significantly higher at 280.0 deaths per 100,000 males compared with 172.9 deaths per 100,000 females.

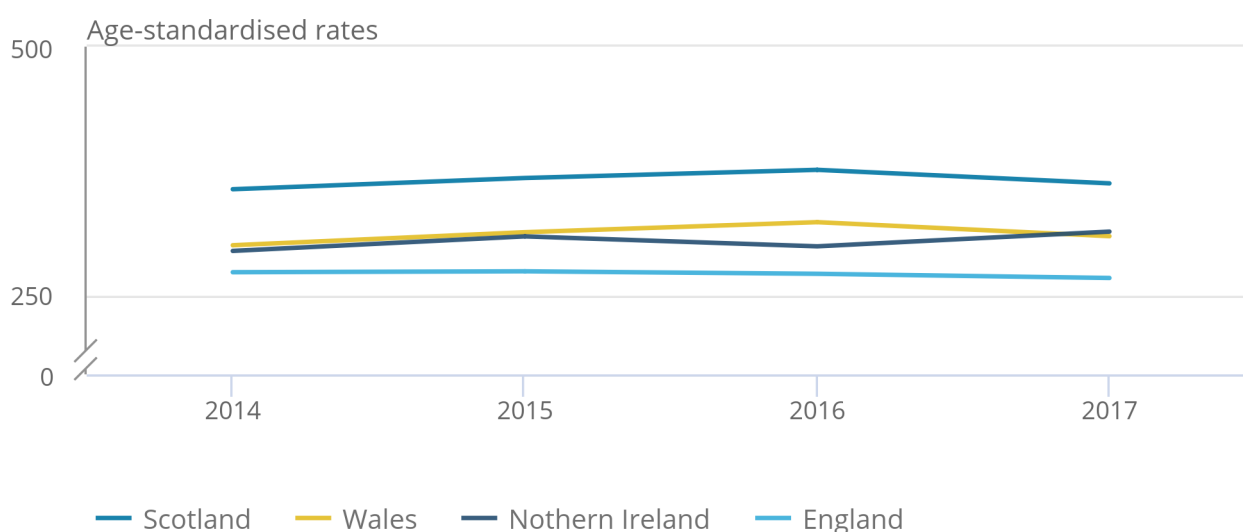
Figures 2 and 3 show avoidable mortality rates for males and females are consistently highest in Scotland and lowest in England between 2014 and 2017. Since 2014, Wales' mortality rate has been the second-highest, however, in 2017 Northern Ireland's rate was higher than Wales.

Between 2016 and 2017, there were decreases in Scotland, Wales and England for both sexes; the only statistically significant difference though was among England's females. For both males and females in Northern Ireland mortality rates increased in 2017, however, these observations were not statistically significant.

In comparison with the baseline year of 2014, avoidable mortality rates in Scotland, Wales and Northern Ireland have increased for both sexes whereas England's rates have decreased. However, the only statistically significant improvement in avoidable mortality since 2014 was amongst England's males.

**Figure 2: Age-standardised avoidable mortality rates of males by UK constituent countries, 2014 to 2017**

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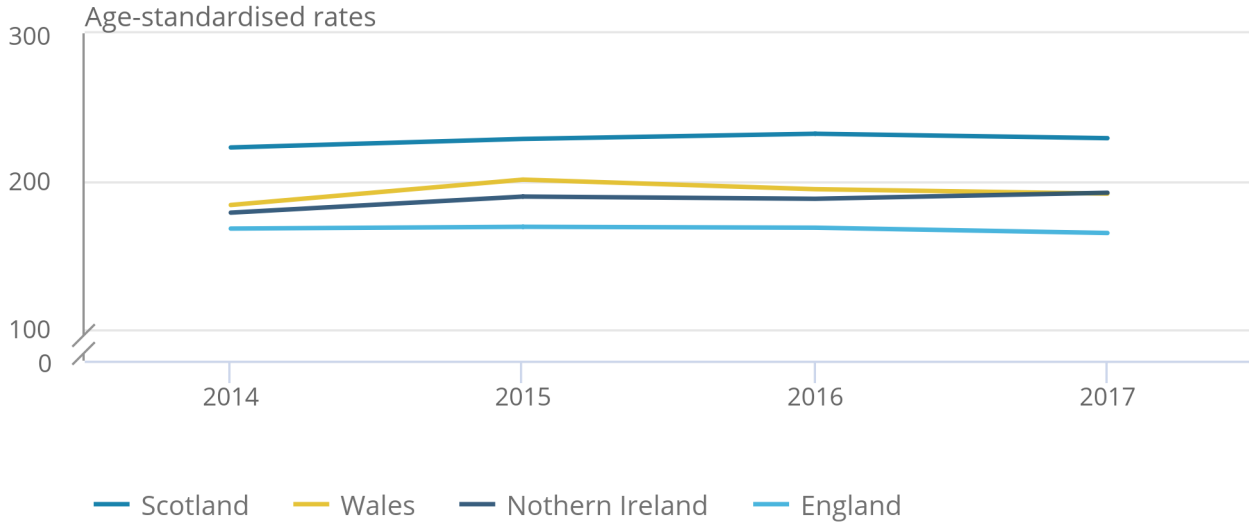
**Source:** Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

**Notes:**

1. Age-standardised mortality rates are expressed per 100,000 population and standardised to the 2013 European Standard Population. Age-standardised mortality rates are used to allow comparison between populations which may contain different proportions of people of different ages.
2. Deaths of non-residents are excluded for England, Wales and Northern Ireland and included for Scotland.
3. Figures are for deaths registered in each calendar year.

**Figure 3: Age-standardised avoidable mortality rates of females by UK constituent countries, 2014 to 2017**

Figure 3: Age-standardised avoidable mortality rates of females by UK constituent countries, 2014 to 2017



**Source:** Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

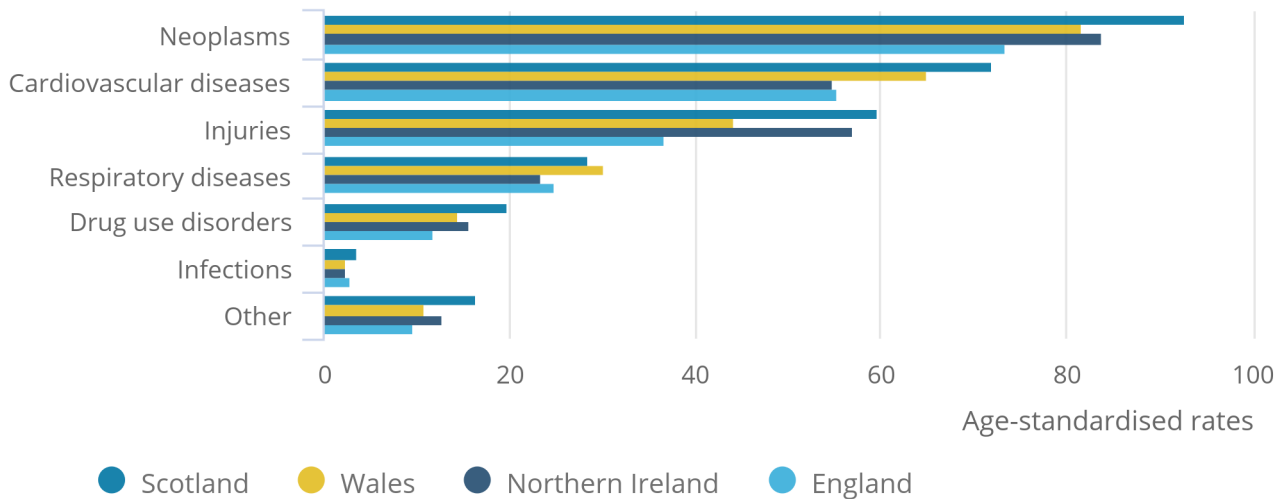
**Notes:**

1. Age-standardised mortality rates are expressed per 100,000 population and standardised to the 2013 European Standard Population. Age-standardised mortality rates are used to allow comparison between populations which may contain different proportions of people of different ages.
2. Deaths of non-residents are excluded for England, Wales and Northern Ireland and included for Scotland.
3. Figures are for deaths registered in each calendar year.

Causes of avoidable mortality can be categorised into seven broad cause groups (Figure 4).

**Figure 4: Avoidable mortality rates by broad cause group, UK constituent countries, 2017**

Figure 4: Avoidable mortality rates by broad cause group, UK constituent countries, 2017



**Source:** Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

**Notes:**

1. Age-standardised mortality rates are expressed per 100,000 population and standardised to the 2013 European Standard Population. Age-standardised mortality rates are used to allow comparison between populations which may contain different proportions of people of different ages.
2. Deaths of non-residents are excluded for England, Wales and Northern Ireland and included for Scotland.
3. Figures are for deaths registered in each calendar year.
4. The "Other" cause group consists of nutritional, endocrine and metabolic disorders, neurological disorders, digestive disorders, genitourinary disorders, and maternal and infant conditions.
5. See accompanying datasets for further details of the underlying causes of death included in the avoidable mortality definition.

Neoplasms (cancers and other non-cancerous tissue growths) continue to be the leading cause of avoidable mortality in the UK in 2017, with mortality rates ranging from 73.4 deaths per 100,000 population in England to 92.7 deaths per 100,000 population in Scotland. Since 2016, rates have decreased in England, Northern Ireland and Scotland, though these decreases were only statistically significant in England.

In 2017, Scotland had the highest avoidable mortality rates for six out of the seven broad causes, with rates statistically significantly higher than all other countries for four causes: neoplasms, cardiovascular diseases, drug use disorders and other. For avoidable injuries, Scotland's mortality rate was only statistically significantly higher than England and Wales and for avoidable infections Scotland's rate was only statistically significantly higher than England.

Wales had the highest avoidable mortality rate for respiratory diseases, with 30.1 deaths per 100,000 population. This was a non-significant decrease from 2016, but a statistically significant increase from 2014. In 2017, Wales had a statistically significantly higher rate of mortality due to avoidable respiratory diseases than both England and Northern Ireland.

Since 2014, the largest changes in avoidable mortality rates were for injuries (with a 37% increase in Northern Ireland, 21% increase in Scotland and 19% increase in Wales) and respiratory diseases (6% increase in England and 19% increase in Wales) with all increases being statistically significant.

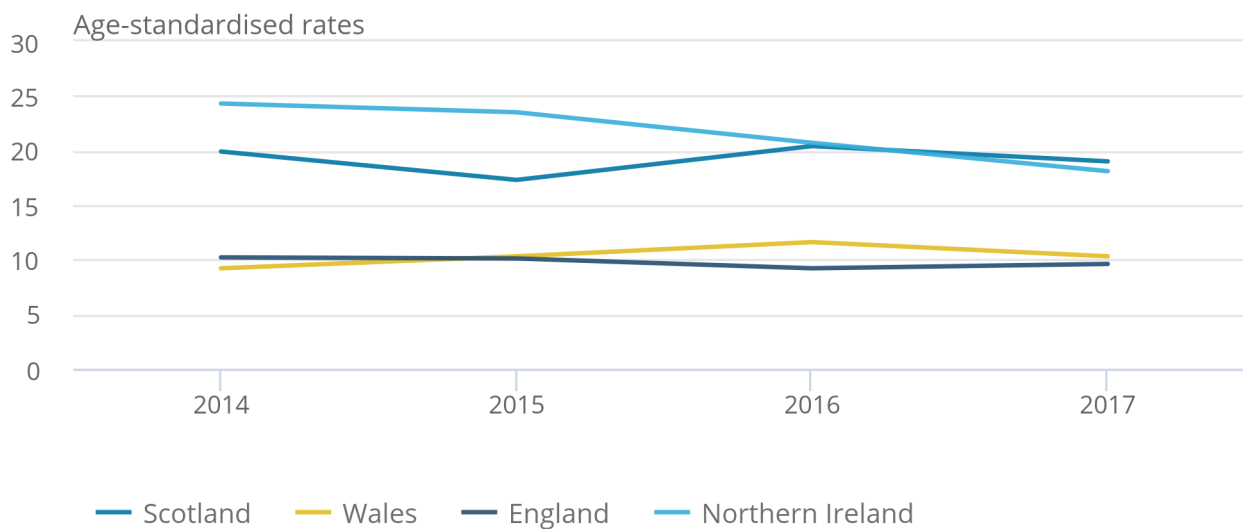
## **4 . Avoidable mortality in children and young people shows no statistically significant improvement since 2014**

In 2017, of all deaths amongst children and young people aged 0 to 19 years in the UK, 34% were considered avoidable (1,653 deaths out of 4,918). Overall, avoidable deaths in children and young people made up 1% of the total number of avoidable deaths.

Between 2014 and 2016, Northern Ireland accounted for the highest avoidable mortality rates within children and young people across the UK constituent countries; however, in 2017 Scotland's mortality rate was highest (Figure 5). Even though the mortality rates in children and young people have fluctuated each year, there have been no statistically significant improvements since 2014.

**Figure 5: Age-standardised avoidable mortality rates for children and young people (aged 0 to 19 years), UK constituent countries, 2014 to 2017**

Figure 5: Age-standardised avoidable mortality rates for children and young people (aged 0 to 19 years), UK constituent countries, 2014 to 2017



**Source:** Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

**Notes:**

1. Age-standardised mortality rates are expressed per 100,000 population and standardised to the 2013 European Standard Population. Age-standardised mortality rates are used to allow comparison between populations which may contain different proportions of people of different ages.
2. Deaths of non-residents are excluded for England, Wales and Northern Ireland and included for Scotland.
3. Figures are for deaths registered in each calendar year.

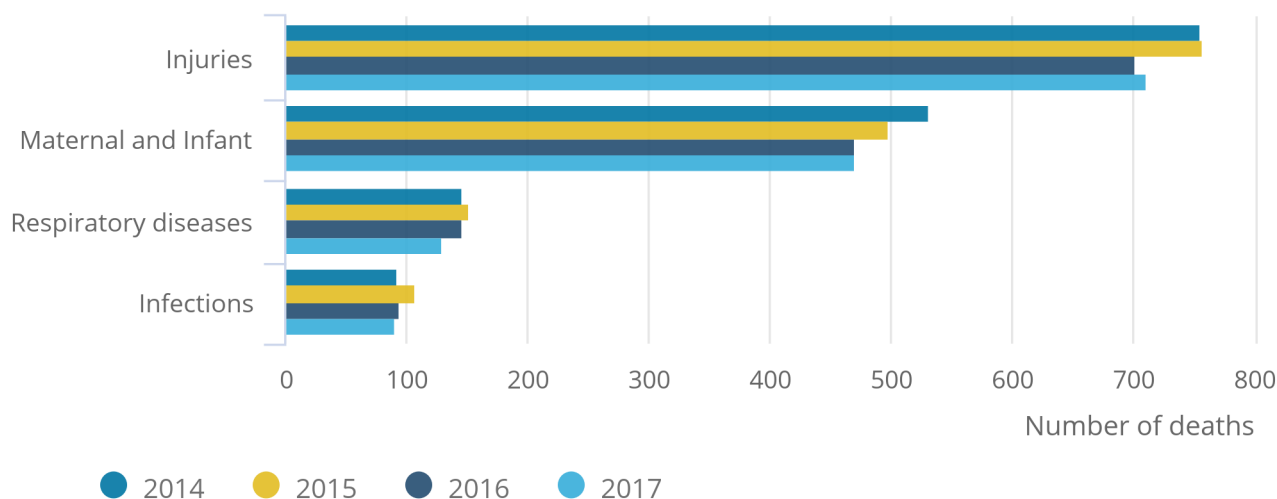
In previous years, intentional and unintentional injuries have been reported as separate causes, however, to be consistent with reporting for all ages, they have been combined into a single injuries category (Figure 6). As a result, since 2014, injuries have been the leading cause of avoidable mortality in children and young people, with 712 deaths reported in 2017, which was a decline of 43 deaths since 2014.

The second-leading cause of death in children and young people were maternal and infant causes (which comprise deaths from complications of the perinatal period, congenital malformations of the circulatory system and spina bifida) with the number of deaths remaining at 470 since 2016.



**Figure 6: Top four broad causes with the highest number of avoidable deaths in children and young people (aged 0 to 19 years), UK, 2014 to 2017**

Figure 6: Top four broad causes with the highest number of avoidable deaths in children and young people (aged 0 to 19 years), UK, 2014 to 2017



**Source:** Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

**Notes:**

1. Deaths of non-residents are included in figures for the UK.
2. Figures are for deaths registered in each calendar year.
3. See accompanying datasets for further details of the underlying causes of death included in the avoidable mortality definition.

## 5 . 54% of deaths in the UK were from causes considered amenable and 84% were from causes considered preventable

Of the avoidable deaths in the UK, 54% were from causes considered amenable (75,751 deaths), with an age-standardised mortality rate of 120.5 deaths per 100,000 population in 2017. This was a statistically significant decrease from 2016 when the mortality rate was 123.2 deaths per 100,000 population.

In 2017, there was a statistically significant decrease in the amenable mortality rate for persons in Scotland and England compared with 2016. Despite this decline, Scotland’s mortality rate remains statistically significantly higher than the other constituent countries of the UK whilst England’s rate remains statistically significantly lower. Since 2016, there has been no statistically significant change in amenable mortality in Northern Ireland and Wales.

Of the avoidable deaths in the UK, 84% were from causes considered preventable (118,683 deaths), with a mortality rate of 188.9 deaths per 100,000 population, which was a non-significant decrease from 2016.

In 2017, England was the only country whose preventable mortality rate saw a statistically significant improvement for persons from 2016. This reduction maintained England's position as having a statistically significant lower preventable mortality rate than the other constituent countries in each year since 2014.

## **6 . Amenable mortality in Clinical Commissioning Groups in England and Health Boards in Wales**

From 2014 to 2017, the absolute gap between the Clinical Commissioning Groups (CCGs) with the highest and lowest amenable mortality rates have widened for both sexes in England. The gap between Health Boards in Wales has also widened since 2014 for males, however, it has decreased for females.

### **Clinical Commissioning Groups (CCGs) in England**

In 2017, of the 195 CCGs in England, NHS Bradford City CCG had the highest rate of amenable mortality for males, with 274.5 deaths per 100,000, which was a statistically significant higher rate than 157 CCGs. Moreover, it has remained the highest CCG for amenable mortality since 2015. In contrast, NHS Surrey Heath CCG had the lowest rate of amenable mortality, with 81.3 deaths per 100,000 males, which was a statistically significant lower rate than 110 CCGs.

From 2014 to 2017 for males, 87 CCGs had an increasing amenable mortality rate and 108 CCGs decreased, however, only three of these observations were statistically significant. NHS Havering CCG saw the largest increase for males, with a statistically significant rise from 97.1 deaths per 100,000 in 2014 to 160.4 deaths per 100,000 in 2017. NHS Corby CCG saw the largest decline for male amenable mortality since 2014 from 228.9 deaths per 100,000 to 145.3 deaths per 100,000 in 2017, however, this decrease was not statistically significant.

Of the 195 CCGs in England, NHS Corby CCG had the highest rate of amenable mortality for females in 2017, with a rate of 193.2 deaths per 100,000, which was statistically significantly higher than 171 CCGs. NHS Corby CCG's amenable mortality rate has fluctuated sizably in previous years and saw the largest increase for female amenable mortality since 2014, unlike that of males. In contrast to NHS Corby, NHS Central London CCG had the lowest rate of amenable mortality, with 50.2 deaths per 100,000 females, which was statistically significantly lower than 124 CCGs.

From 2014 to 2017, there were increases in the female amenable mortality rates in 77 CCGs, whilst 116 decreased and two remained the same. Out of the CCGs that increased, only NHS Sheffield CCG and NHS Great Yarmouth and Waveney CCG were statistically significant.

### **Health Boards in Wales**

Of the seven Health Boards in Wales, Cwm Taf University Health Board had the highest rate of amenable mortality for both sexes in 2017. This mortality rate was statistically significantly higher than three other Health Boards for males, however, for females there were no statistically significant differences.

For males, Powys Teaching Health Board had the lowest mortality rate (128.1 deaths per 100,000) and was statistically significantly lower than two other Health Boards. For females, Hywel Dda University Health Board had the lowest mortality rate (97.2 deaths per 100,000) and was statistically significantly lower than one other Health Board. In comparison with 2014, there were no statistically significant changes for both sexes.

## Figure 7: Age-standardised amenable mortality rates by Clinical Commissioning Groups in England and Health Boards in Wales by sex, 2014 to 2017

Source: Office for National Statistics

### Notes

1. Age-standardised mortality rates are expressed per 100,000 population and standardised to the 2013 European Standard Population. Age-standardised mortality rates are used to allow comparison between populations which may contain different proportions of people of different ages.
2. Figures exclude deaths of non-residents.
3. Figures are for deaths registered in each calendar year.
4. Based on boundaries as of November 2018.

[Data download](#)

## 7 . Preventable mortality in England and Wales local authorities

In 2015 to 2017, of the 324 English local authorities, Blackpool had the highest rate of preventable mortality for males, with 415.2 deaths per 100,000. This was statistically significantly higher than 322 local authorities and an additional 284.7 deaths per 100,000 compared with Surrey Heath who had the lowest mortality rate.

For females, Manchester had the highest rate of preventable mortality in 2015 to 2017, with 256.4 deaths per 100,000. This was a statistically significantly higher rate than 322 local authorities and an additional 173.4 deaths per 100,000 compared with South Oxfordshire who had the lowest mortality rate.

For the 22 local authorities in Wales, Neath Port Talbot accounted for the highest rate of male preventable mortality, with 327.7 deaths per 100,000. This was a statistically significantly higher rate than 13 others. The highest mortality rate for females was in Merthyr Tydfil, with a rate of 196.3 deaths per 100,000, which was a statistically significantly higher rate than nine others.

[Local authority life expectancy at birth](#) for both males and females is correlated with preventable mortality in England and Wales, demonstrating the extent to which deaths, which are mostly occurring below the age of 75 years in this release contribute meaningfully to a local area's longevity. However, the correlation was found to be much stronger in England compared with Wales, and stronger for male life expectancy than female life expectancy.

## Figure 8: Age-standardised preventable mortality rates by local authorities, England and Wales, 2015 to 2017

Source: Office for National Statistics

### Notes:

1. Age-standardised mortality rates are expressed per 100,000 population and standardised to the 2013 European Standard Population. Age-standardised mortality rates are used to allow comparison between populations that may contain different proportions of people of different ages.
2. Figures exclude deaths of non-residents.
3. Figures are for deaths registered in the calendar years 2015 to 2017.
4. Based on boundaries as of November 2018.
5. Due to low death counts the Isles of Scilly has been combined with Cornwall and the City of London combined with Hackney.

[Data download](#)

## 8 . Measuring these data

Figures for the UK are calculated using [death registration data](#) for England and Wales held by the Office for National Statistics (ONS) and death registration data for Scotland and Northern Ireland provided by [National Records of Scotland](#) and the [Northern Ireland Statistics and Research Agency](#) respectively.

### Defining avoidable mortality

With advances in medical technology and wider public health interventions, deaths from conditions previously not avoidable may have since become avoidable. This means the avoidable mortality definition requires review and if appropriate, revisions. In 2015, a [public consultation](#) was conducted to review the definition of avoidable mortality. As a result, a [revised avoidable mortality definition \(PDF, 657KB\)](#) was implemented for data year 2014 onwards. Previously published data before 2014 have not been reproduced using the revised avoidable mortality definition.

Information about avoidable mortality including the full definition can be found in the [Quality and Methodology Information document](#) and the [accompanying datasets](#), which also includes further breakdowns of data such as standardised years of life lost (SYLL) for England and Wales.

We would like to clarify that our definition of avoidable mortality is different to the measure of avoidable deaths in hospital, which NHS trusts in England are required to publish figures on. We use a defined set of underlying causes of death that have been approved through consultation with users and expert guidance:

- those where it is reasonable to expect deaths to be avoided through good quality healthcare, even after the condition has developed (amenable mortality)
- those where it is possible to prevent the condition from occurring in the first place (incidence reduction) through wider public health interventions, such as those targeted at reducing the incidence of smoking (preventable mortality)

The avoidable deaths in hospital measure is based on a record review of a sample of deaths deemed to be due to problems in care. Avoidable deaths in hospital data are not intended to be comparable and are not currently collated centrally.

## Early access for quality assurance purposes

We provide early access for quality assurance to a small number of people working in other government bodies. This is to acknowledge use of mortality data we do not own, in the case of Scotland and Northern Ireland, and for general comment on the plausibility of our findings. However, the ONS itself independently produces these statistics, including determining the focus, content, commentary, illustration and interpretation of these measures presented in bulletins.

## 9 . Strengths and limitations

The strengths of avoidable mortality include:

- information is supplied when a death is registered, which gives complete population coverage and ensures the estimates are of high precision and representative of the underlying population at risk
- coding for cause of death is carried out according to the World Health Organisation (WHO) [ICD-10](#) and internationally agreed rules
- statistics on avoidable mortality are presented based on the year these deaths were registered rather than the year of occurrence; this method is used because there is a requirement for consistent and timely data, despite a potential limitation in data quality caused by registration delays
- estimates are comparable between local administrations and over time at national and subnational level

The limitations of avoidable mortality include:

- data are insufficiently robust to provide local authority estimates for single years and must be aggregated over three years; this means the timeliness of non-overlapping time periods to make judgements on health improvement is limited
- in a very small number of cause of death breakdowns, the number of deaths is either too small to report an age-standardised rate or too small to report a rate with reliability
- it is our practice not to calculate rates based on small numbers (fewer than 10 deaths), as they are imprecise and susceptible to inaccurate interpretation; age-standardised rates based on 10 to 19 deaths are marked with a “u” to warn users that their reliability is low

Further information about the strengths and limitations of avoidable mortality can be found in the [Quality and Methodology Information](#) report.

## 10 . Glossary

### Amenable mortality

A death is amenable (treatable) if, in the light of medical knowledge and technology available at the time of death, all or most deaths from that cause (subject to age limits if appropriate) could be avoided through good quality healthcare.

## Preventable mortality

A death is preventable if, in the light of understanding of the determinants of health at the time of death, all or most deaths from that cause (subject to age limits if appropriate) could be avoided by public health interventions in the broadest sense.

## Avoidable mortality

Avoidable deaths are all those defined as preventable, amenable (treatable) or both, where each death is counted only once; where a cause of death is both preventable and amenable, all deaths from that cause are counted in both categories when they are presented separately.

## Age-standardised mortality rates

Age-standardised mortality rates are used to allow comparisons between populations, which may contain different proportions of people of different ages.

## Statistical significance

The term “significant” refers to statistically significant changes or differences. Significance is determined by the 95% confidence intervals, where non-overlapping confidence intervals between figures demonstrate that the difference is unlikely to be due to random fluctuation.

## 11 . You may also be interested in

[Avoidable mortality by deprivation](#)

[Avoidable mortality in Scotland](#)

[Northern Ireland Statistics and Research Agency deaths data](#)

[Health and Care Statistics Landscape for England](#)

[Welsh Health and Care Statistics Mapping Tool](#)

[Health and Care monthly knowledge update](#)