Office for National Statistics

Statistical bulletin

Avoidable mortality in the UK: 2019

Deaths from causes considered avoidable, treatable or preventable given timely and effective healthcare or public health interventions.

Contact:
Melissa Price
health.data@ons.gov.uk
+44 (0)1633 455501

Release date:
26 February 2021

Next release:
To be announced

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1 . Main points

- In 2019, 22.5% of all deaths in the UK were considered avoidable (136,146 deaths out of 604,707); this remains in line with the five-year average (2014 to 2018).
- Avoidable mortality rates in 2019 were lower than 2018, however, this decrease was only statistically significant for the UK as a whole and England.
- Even though avoidable mortality rates decreased in 2019, the rate of improvement across the UK's constituent countries since 2011 continues to be notably smaller compared with the first decade.
- In 2019, Scotland had a higher avoidable mortality rate than the other constituent countries for six of the seven broad causes, with three of these being statistically significant; Wales had a statistically significant higher rate for diseases of the respiratory system.
- In 2017 to 2019, there were substantial statistically significant differences in preventable mortality across local authorities in England and unitary authorities in Wales; Blackpool had the highest male preventable mortality rate with 349.7 deaths per 100,000 males and Middlesbrough had the highest female rate with 187.1 deaths per 100,000 females.
- In 2019, across all Clinical Commissioning Groups (CCGs) in England and Health Boards in Wales, NHS Blackpool CCG had the highest treatable mortality rate with 169.9 deaths per 100,000 males and 119.7 deaths per 100,000 females.

Please note avoidable mortality data currently goes up to 2019 which means coronavirus (COVID-19) deaths are not included. We are speaking to the Organisation for Economic Co-operation and Development (OECD) regarding whether COVID-19 deaths will be included in the avoidable mortality definition in the future.

2 . Avoidable mortality in the UK

Data in this release have been created using the international avoidable mortality definition and is based on those aged under 75 years. When discussing avoidable deaths, the following terms are used:

- preventable mortality - deaths that can be mainly avoided through effective public health and primary prevention interventions
- treatable mortality - deaths that can be mainly avoided through timely and effective healthcare interventions, including secondary prevention and treatment
- avoidable mortality - deaths defined as either preventable or treatable

As a general rule, causes of death are classified as either preventable or treatable mortality. However, there are some exceptions where specific causes of death are equally proportioned between both.

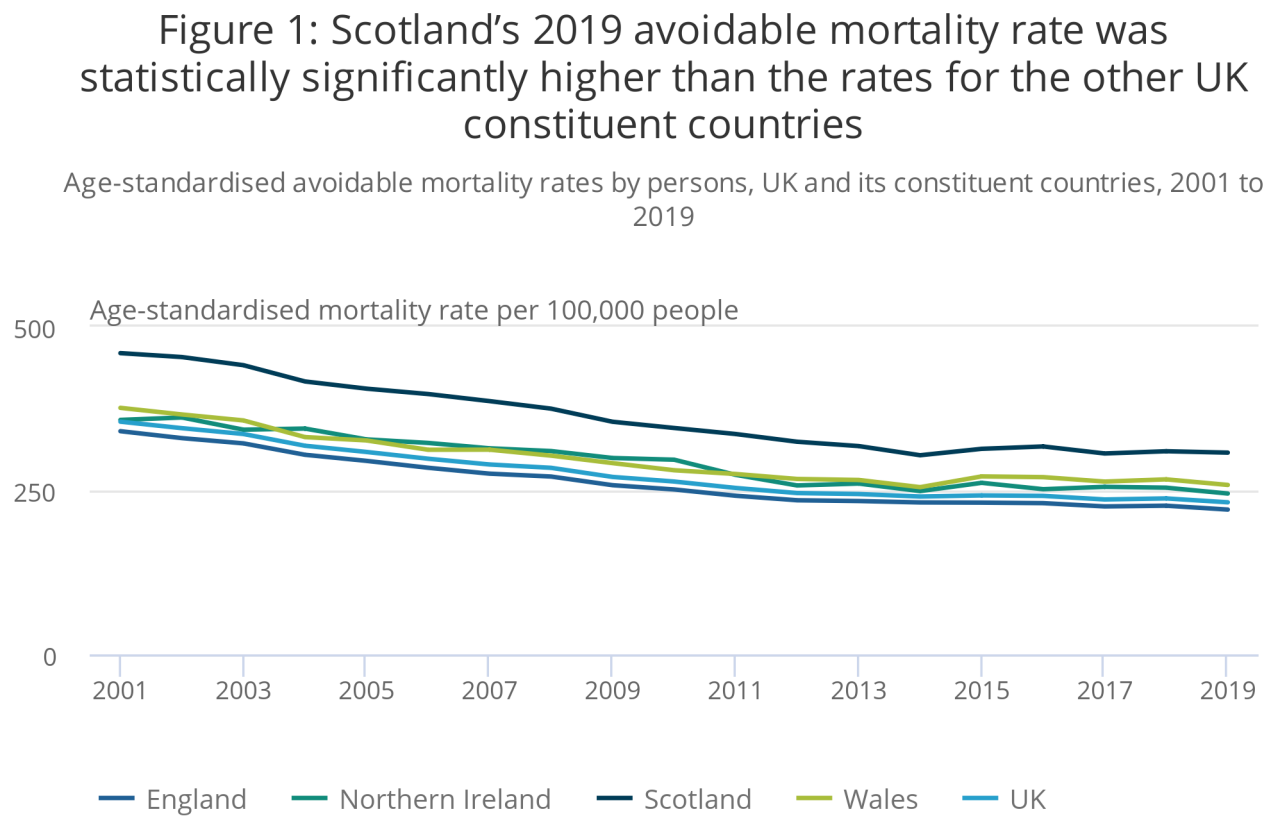
In 2019, 22.5% of all deaths in the UK were considered avoidable (136,146 deaths out of 604,707) giving an age-standardised mortality rate of 232.0 deaths per 100,000 people. This was statistically significantly lower than all years since the data time series began in 2001. Of the avoidable deaths in 2019, 64.2% could be attributed to conditions considered preventable (87,437.5 deaths) and 35.8% to treatable conditions (48,708.5 deaths).

Within the UK, rates varied across constituent countries. Scotland had the highest avoidable mortality rate in 2019 with 307.8 deaths per 100,000 people, which was statistically significantly higher than the rates for the other three countries (Figure 1). England had the lowest avoidable mortality rate in 2019 with 220.9 deaths per 100,000 people, which was statistically significantly lower than the other three countries for all years back to 2001. The gap between Scotland's and England's rates were narrower in 2019 compared with 2001, although the narrowest gap in the data time series occurred in 2014.

Avoidable mortality rates in 2019 for all four constituent countries of the UK were statistically significantly lower than their 2001 rate, with evidence of a slowdown in improvement during the second decade. However, the timings of the slowdown were not uniform across countries.

Figure 1: Scotland’s 2019 avoidable mortality rate was statistically significantly higher than the rates for the other UK constituent countries

Age-standardised avoidable mortality rates by persons, UK and its constituent countries, 2001 to 2019



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

Notes:

1. Age-standardised mortality rates are expressed per 100,000 people 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.

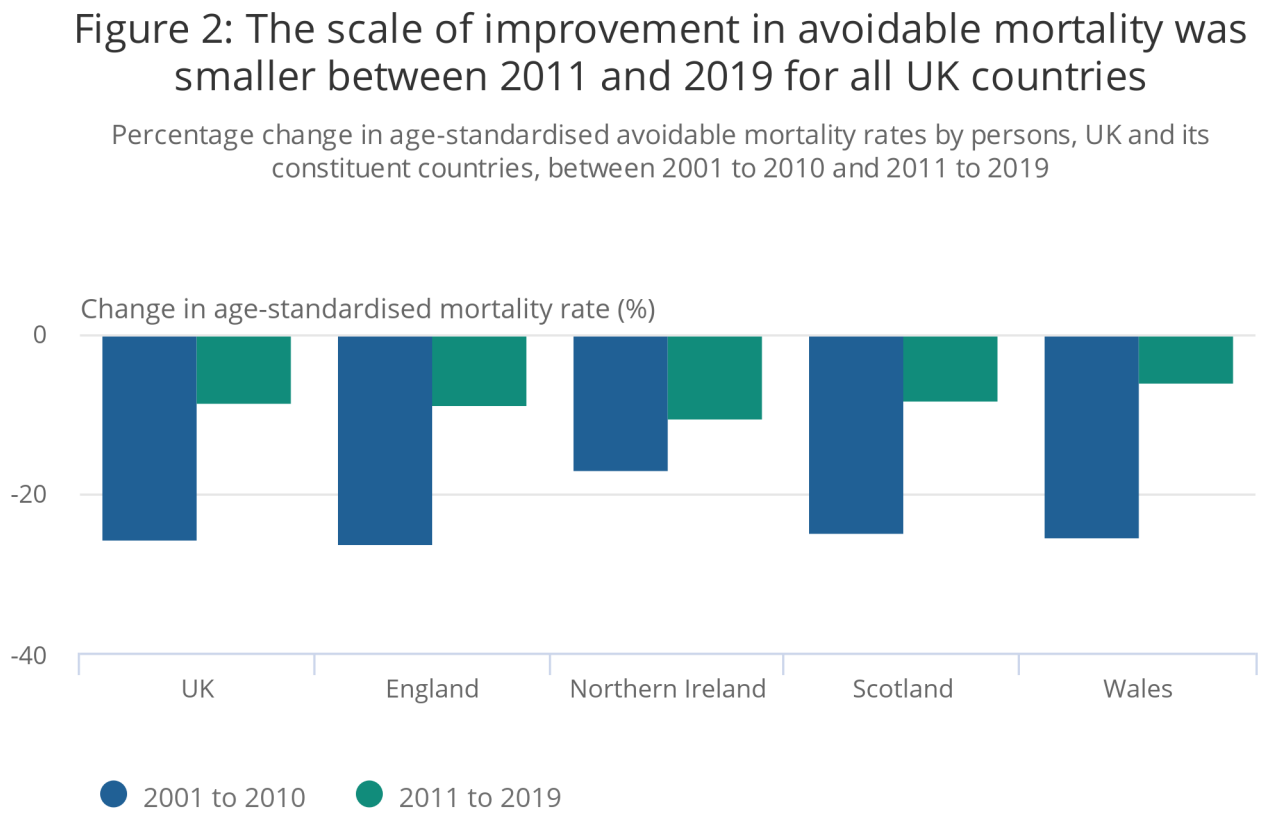
2. Deaths of non-residents are excluded for England, Wales and Northern Ireland and included for the UK and Scotland.

3. Figures are for deaths registered in each calendar year.

Figure 2 shows the differential improvement in avoidable mortality between 2001 to 2010 and 2011 to 2019. Across the UK and its constituent countries, the rate of change between 2011 to 2019 was notably smaller than between 2001 to 2010, highlighting the continued slowdown of improvement in mortality rates in the second decade. These findings are consistent with our changing trends in mortality analysis. Overall, since 2001, avoidable mortality rates have decreased by 34.6% for the UK, which ranges from 31.3% for Wales to 35.1% for England. However, since 2011, rates have decreased between 6.1% and 10.4%.

Figure 2: The scale of improvement in avoidable mortality was smaller between 2011 and 2019 for all UK countries

Percentage change in age-standardised avoidable mortality rates by persons, UK and its constituent countries, between 2001 to 2010 and 2011 to 2019



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

Notes:

1. The percentage change in avoidable mortality is calculated by subtracting the earlier mortality rate from the later mortality rate for each time period, before dividing by the earlier mortality rate. This is expressed as a percentage.

2. Deaths of non-residents are excluded for England, Wales and Northern Ireland and included for the UK and Scotland.

3. Figures are for deaths registered in each calendar year.

3 . Avoidable mortality by cause

Under the avoidable mortality definition, causes of avoidable death can be categorised into seven broad cause groups. This section will focus on neoplasms, diseases of the circulatory system, diseases of the respiratory system, and alcohol-related and drug-related deaths as these four groups account for over 80.0% of all avoidable deaths in 2019 so have the greatest influence on the trend. However, the data for all broad cause groups are available in the accompanying datasets.

Neoplasms

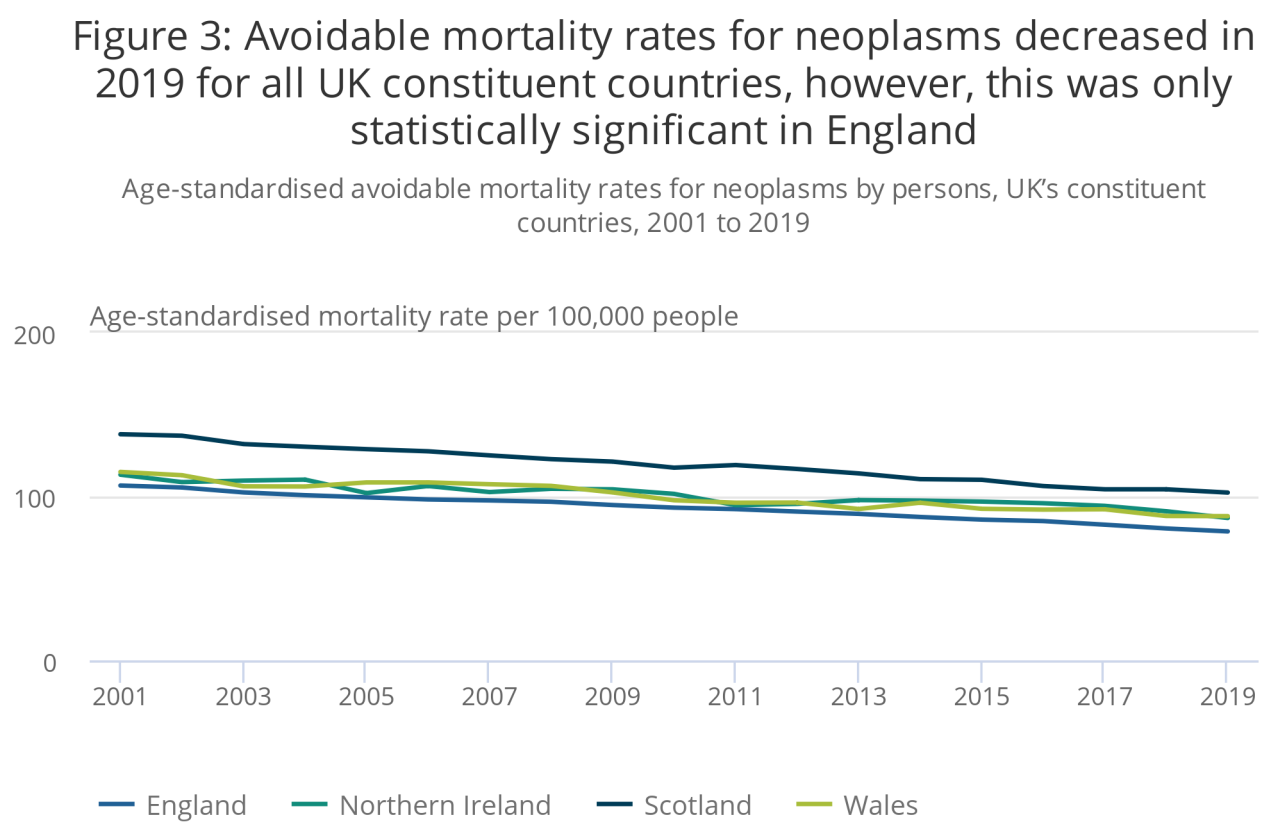
Under the avoidable mortality definition, there are 17 types of neoplasms with eight types classified as preventable, eight types classified as treatable and cervical cancer equally proportioned between both. The proportion of avoidable deaths caused by neoplasms in 2019 is similar across the UK's constituent countries ranging from 33.6% in Scotland to 35.5% in England.

In 2019, Scotland had the highest avoidable mortality rate for neoplasms with 102.4 deaths per 100,000 people, which was statistically significantly higher than the rates for the other three countries (Figure 3). In contrast, England had a statistically significant lower mortality rate (78.7 deaths per 100,000 people) than the other three countries.

Since the beginning of the data time series, avoidable mortality rates for neoplasms have generally declined with rates statistically significantly lower in 2019 compared with 2001 for all four constituent countries. This is most likely because of increased awareness of risk factors and preventive and treatment interventions that improve survival rates. When comparing 2019 neoplasm mortality rates with 2018, we see a decline across all countries, however, this decrease was only statistically significant in England.

Figure 3: Avoidable mortality rates for neoplasms decreased in 2019 for all UK constituent countries, however, this was only statistically significant in England

Age-standardised avoidable mortality rates for neoplasms by persons, UK's constituent countries, 2001 to 2019



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

Notes:

1. Age-standardised mortality rates are expressed per 100,000 people 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. 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.

Diseases of the circulatory system

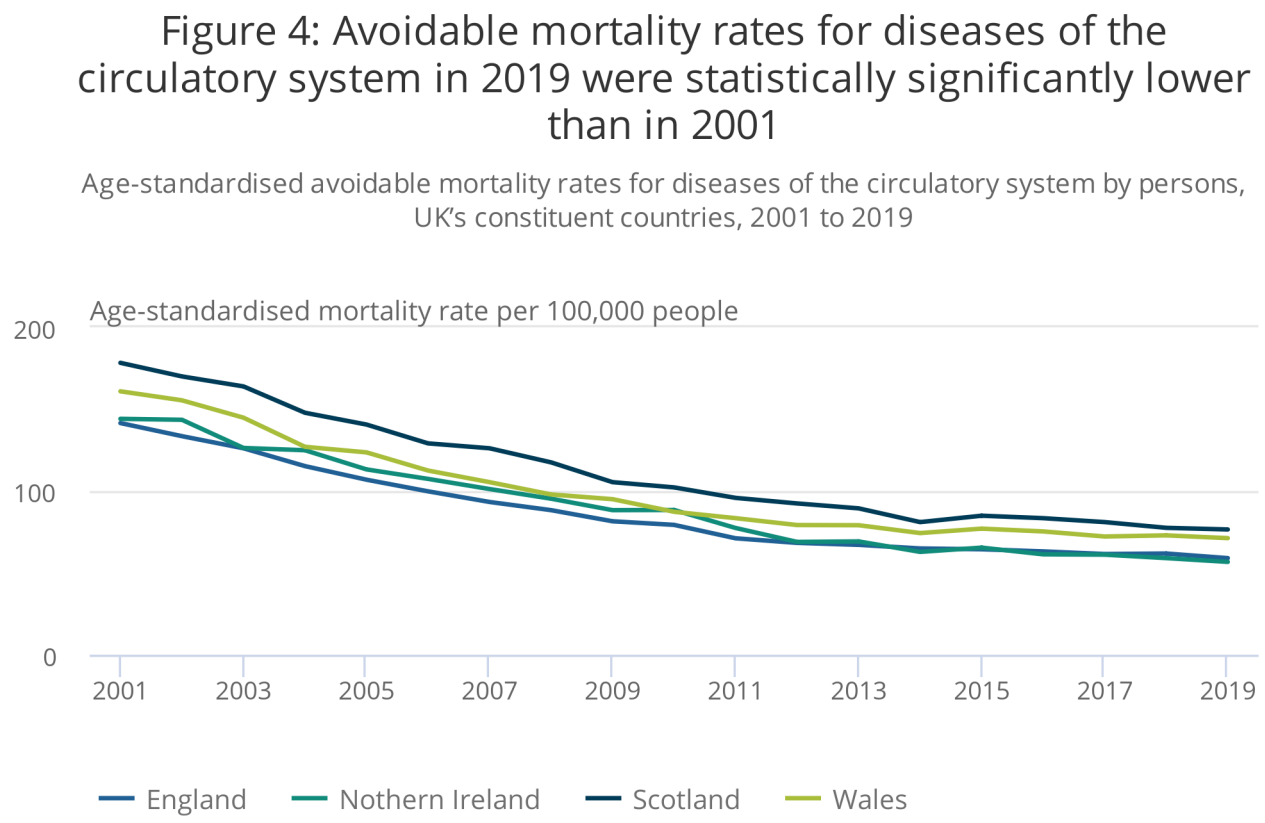
Under the avoidable mortality definition, the majority of diseases of the circulatory system are equally proportioned between preventable and treatable mortality, with two additional causes classified as solely treatable. In 2019, the proportion of avoidable deaths caused by diseases of the circulatory system ranged from 22.7% in Northern Ireland to 27.8% in Wales.

In 2019, Scotland had the highest avoidable mortality rate for diseases of the circulatory system with 76.5 deaths per 100,000 people, which was statistically significantly higher than the rates for England and Northern Ireland. The lowest rate for diseases of the circulatory system was in Northern Ireland with 56.7 deaths per 100,000 people, which was statistically significantly lower than Scotland and Wales.

Like neoplasms, mortality rates for diseases of the circulatory system have generally declined since 2001 with statistically significant lower rates in 2019 compared with 2001 across the UK's constituent countries. However, the substantial declines observed during the first decade were not sustained in the second decade with only small decreases observed in 2019 which were only statistically significant in England (Figure 4).

Figure 4: Avoidable mortality rates for diseases of the circulatory system in 2019 were statistically significantly lower than in 2001

Age-standardised avoidable mortality rates for diseases of the circulatory system by persons, UK's constituent countries, 2001 to 2019



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

Notes:

1. Age-standardised mortality rates are expressed per 100,000 people 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. 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.

Diseases of the respiratory system

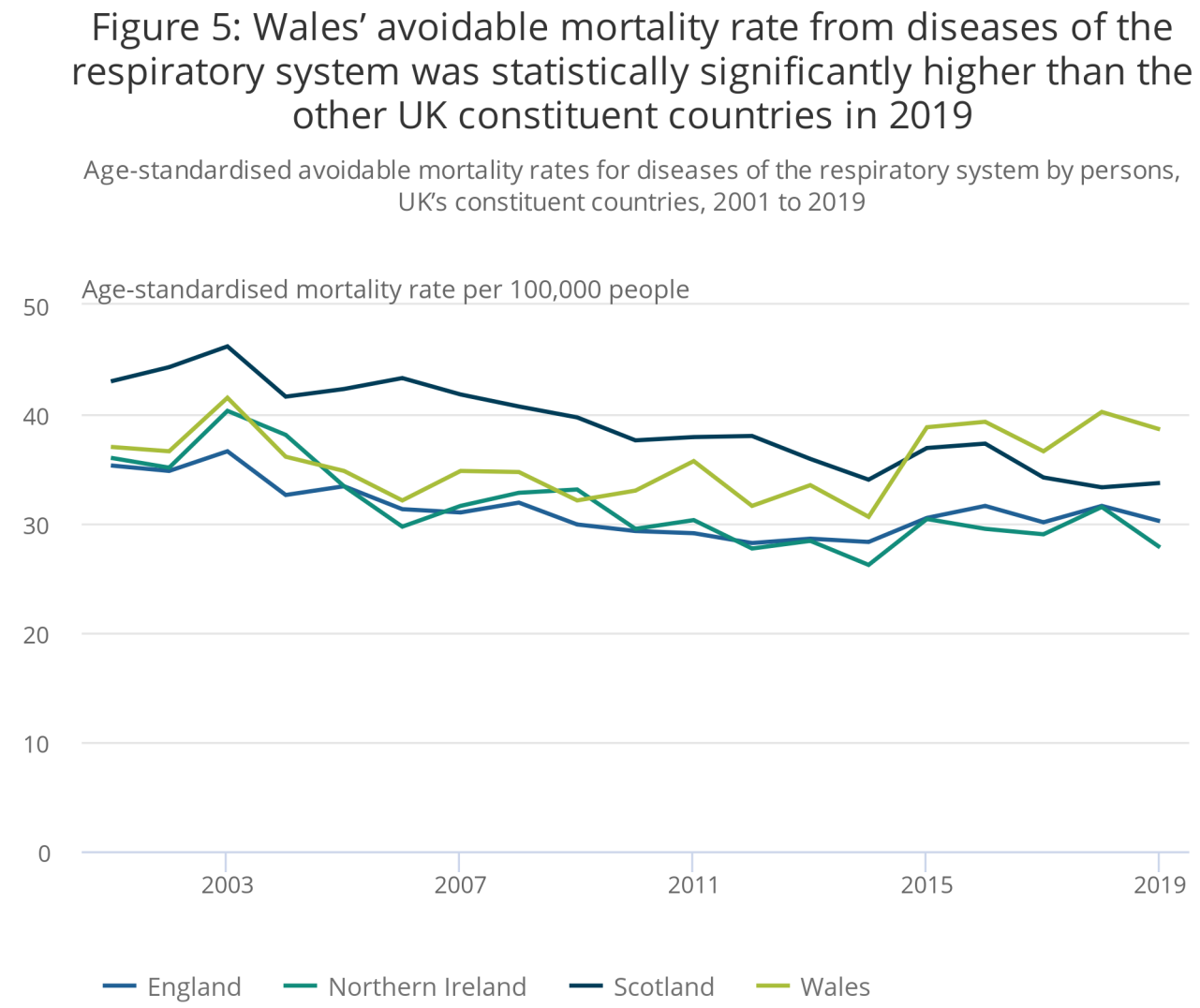
Out of the 12 types of diseases of the respiratory system included in the avoidable mortality definition, eight are classified as treatable and four classified as preventable. However, the majority of these avoidable deaths are considered preventable, ranging from 63.1% preventable in Wales to 77.2% in Scotland in 2019.

In 2019, Wales had the highest avoidable mortality rate for diseases of the respiratory system with 38.6 deaths per 100,000 people, which was statistically significantly higher than the rates for the other three countries. In comparison, Northern Ireland had the lowest rate, with 27.8 deaths per 100,000 people which was statistically significantly lower than Scotland and Wales.

Mortality rates for diseases of the respiratory system have fluctuated across the data time series (Figure 5). Overall, mortality rates in England, Northern Ireland and Scotland have statistically significantly decreased since 2001 with the largest improvement in Northern Ireland amounting to a 22.8% decline. In contrast, mortality rates in Wales have worsened since 2001 with an overall 4.3% non-significant increase. This is mainly driven by increases since 2014 in particular, where Wales' rate showed a statistically significant increase of 26.1%.

Figure 5: Wales' avoidable mortality rate from diseases of the respiratory system was statistically significantly higher than the other UK constituent countries in 2019

Age-standardised avoidable mortality rates for diseases of the respiratory system by persons, UK's constituent countries, 2001 to 2019



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

Notes:

1. Age-standardised mortality rates are expressed per 100,000 people 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. 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.

Alcohol-related and drug-related

Under the avoidable mortality definition, alcohol-related and drug-related deaths are all considered preventable. In 2019, the proportion of avoidable deaths caused by alcohol-related and drug-related disorders ranged from 8.6% in Wales to 15.2% in Scotland.

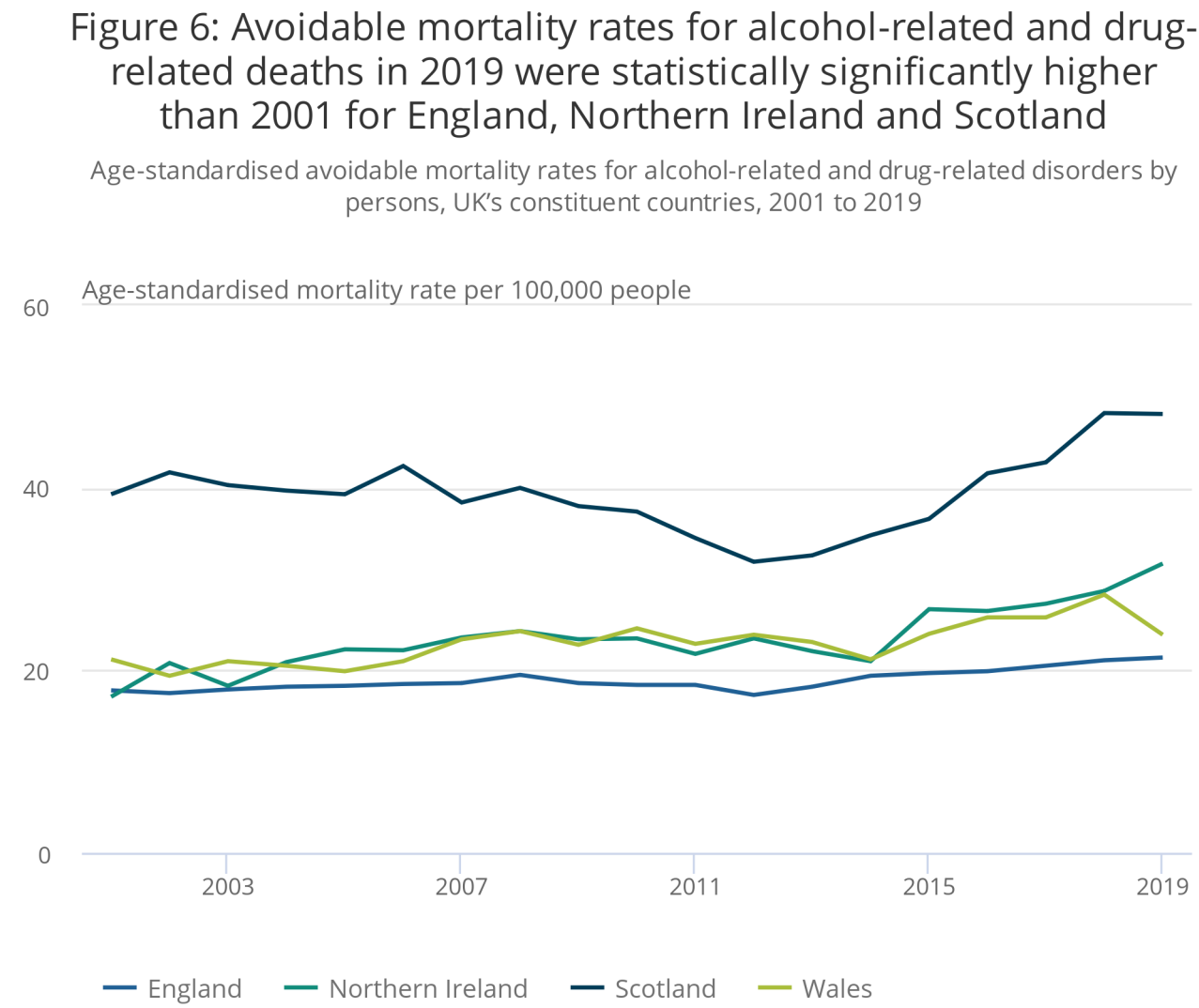
In 2019, Scotland had the highest avoidable mortality rate for alcohol-related and drug-related deaths with 48.1 deaths per 100,000 people, which was statistically significantly higher than the rates for the other three countries. In comparison, England had the lowest rate with 21.4 deaths per 100,000 people, which was statistically significantly lower than the other three countries.

Mortality rates for alcohol-related and drug-related deaths have fluctuated across the data time series with overall higher mortality rates in 2019 compared with 2001, with these increases being statistically significant in England, Northern Ireland and Scotland (Figure 6). In particular, a sharp increase in Scotland's mortality rate is evident from 2012 where the rate statistically significantly increased by 50.8%. This seems to have mainly been driven by year-on-year increases in drug-related deaths with 2019 representing the highest number of deaths since records began in 1996, contrasting with alcohol-specific deaths, which had its first substantial decrease since 2012.

In comparison with 2018, mortality rates in Wales statistically significantly decreased by 15.5% in 2019, while there was a very small non-significant decrease in Scotland; in England and Northern Ireland, non-significant increases were observed.

Figure 6: Avoidable mortality rates for alcohol-related and drug-related deaths in 2019 were statistically significantly higher than 2001 for England, Northern Ireland and Scotland

Age-standardised avoidable mortality rates for alcohol-related and drug-related disorders by persons, UK's constituent countries, 2001 to 2019



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

Notes:

1. Age-standardised mortality rates are expressed per 100,000 people 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. 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.

Further information on alcohol-related and drug-related disorders can be found in our Alcohol-specific deaths in the UK release and Deaths related to drug poisoning in England and Wales release.

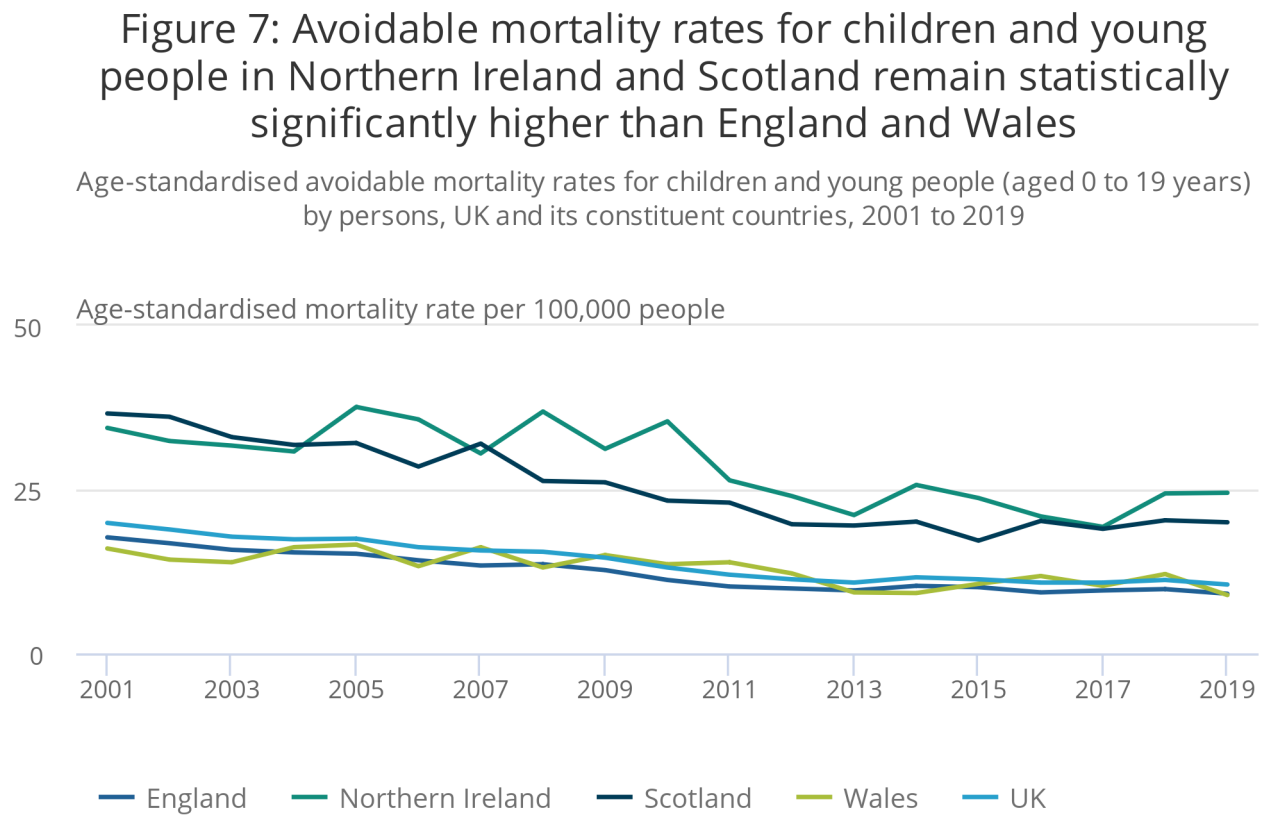
4 . Avoidable mortality in children and young people

In 2019, of all deaths among children and young people aged 0 to 19 years in the UK, 33.7% were considered avoidable (1,590 deaths out of 4,717) with an age-standardised mortality rate of 10.5 deaths per 100,000 people. This was lower than all years back to 2001, however, it was only statistically significantly lower for years 2001 to 2011. Overall, avoidable deaths in children and young people made up 1.2% of the total number of avoidable deaths in the UK.

Between 2001 and 2019, there have been fluctuations in avoidable mortality rates across the UK's constituent countries with overall statistically significant decreases (Figure 7). Since 2001, mortality rates in Northern Ireland and Scotland have remained statistically significantly higher than in England and Wales. England's, Scotland's and Wales' rates were all lower in 2019 compared with 2018, however, these decreases were not statistically significant.

Figure 7: Avoidable mortality rates for children and young people in Northern Ireland and Scotland remain statistically significantly higher than England and Wales

Age-standardised avoidable mortality rates for children and young people (aged 0 to 19 years) by persons, UK and its constituent countries, 2001 to 2019



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

Notes:

1. Age-standardised mortality rates are expressed per 100,000 people 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. Deaths of non-residents are excluded for England, Wales and Northern Ireland and included for the UK and Scotland.

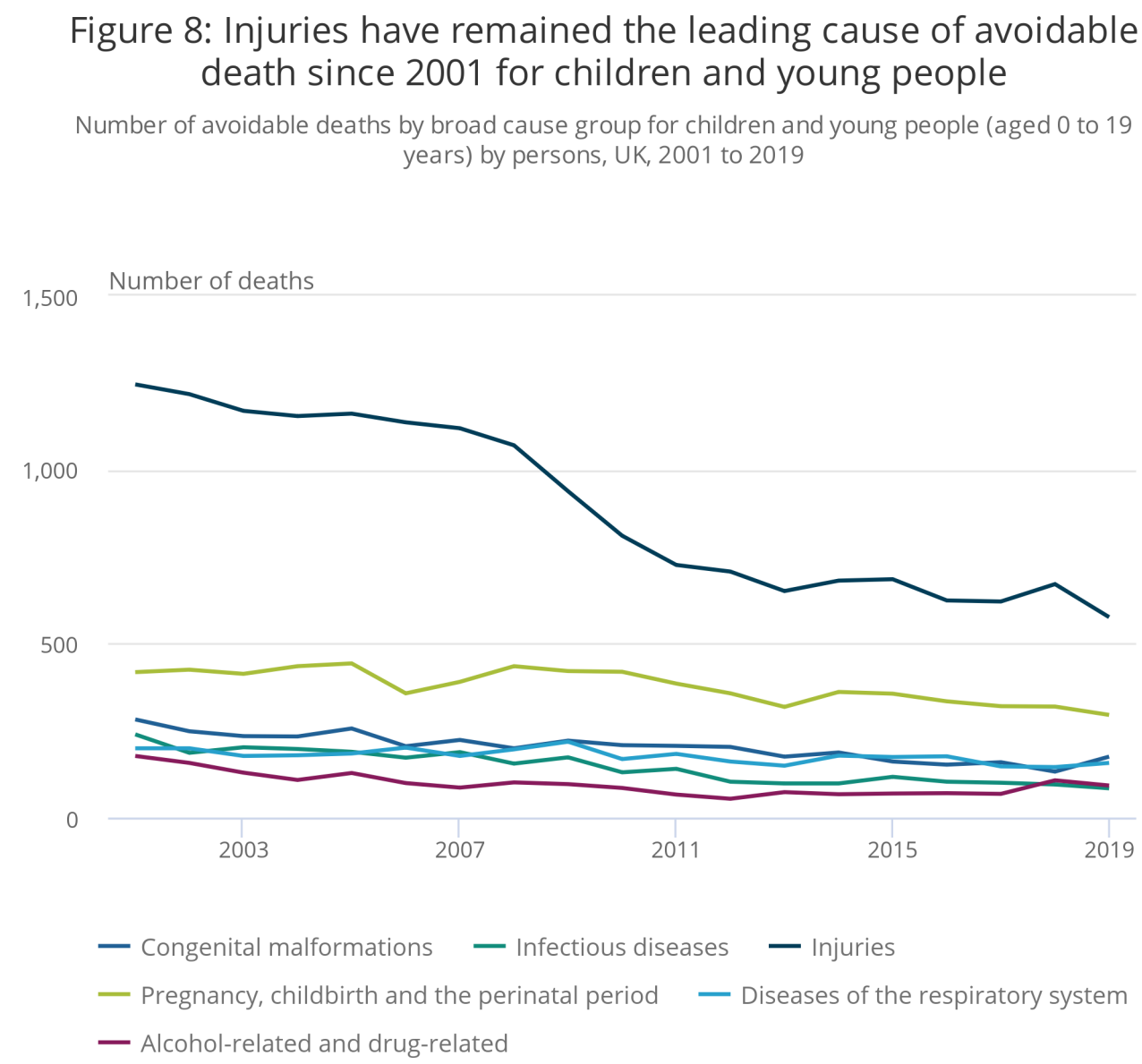
3. Figures are for deaths registered in each calendar year.

Since 2001, injuries have been the leading cause of avoidable deaths in children and young people in the UK despite these deaths more than halving by 2019 (1,245 deaths in 2001 to 576 deaths in 2019) (Figure 8). The second leading cause of avoidable deaths in children and young people were conditions relating to pregnancy, childbirth and the perinatal period, however, these deaths have decreased by 29.4% since 2001 (418 deaths in 2001 to 295 in 2019).

Previously, infectious diseases have been the fifth leading avoidable cause of death in children and young people, however, since 2018, this has been replaced by alcohol-related and drug-related deaths with 92 deaths in 2019. The majority of these deaths are in ages 15 to 19 years.

Figure 8: Injuries have remained the leading cause of avoidable death since 2001 for children and young people

Number of avoidable deaths by broad cause group for children and young people (aged 0 to 19 years) by persons, UK, 2001 to 2019



Source: Office for National Statistics, National Records of Scotland, and 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.

5 . Preventable mortality in local authorities in England and unitary authorities in Wales

This section covers preventable mortality in local areas in England and Wales. Data for avoidable and treatable mortality are also available in the accompanying datasets. As the number of deaths for local areas can be small, the data is aggregated over a three-year period to ensure higher data reliability. For more information on local areas in Scotland, contact National Records of Scotland (NRS) and for Northern Ireland contact Northern Ireland Statistics and Research Agency (NISRA).

Preventable mortality measures the effectiveness of primary preventative public health interventions and wider public health sector actions that are designed to reduce the incidence of disease and injury. In 2019, 63.7% of avoidable deaths were attributed to preventable conditions in England and 62.8% in Wales.

Local authorities in England

In 2017 to 2019, out of the 312 lower-tier local authorities in England, Blackpool had the highest rate of preventable mortality for the fifth period running with 349.7 deaths per 100,000 males. This was statistically significantly higher than 310 local authorities and an additional 246.5 deaths per 100,000 males than Hart, which had the lowest rate.

Improvements in male mortality rates between 2001 to 2003 and 2017 to 2019 were greatest in Tower Hamlets, where the rate more than halved from 436.1 to 195.2 deaths per 100,000 males. In comparison, Oadby and Wigston (Leicestershire) saw the only increase in their rate of 0.2 deaths per 100,000 males; however, this increase was not statistically significant. The highest proportion of male deaths considered preventable in 2017 to 2019 was in Norwich (54.8%).

For females, Middlesbrough had the highest rate of preventable mortality in 2017 to 2019 with 187.1 deaths per 100,000 females. This was statistically significantly higher than 296 local authorities and an additional 136.3 deaths per 100,000 females than Mid Sussex, which had the lowest mortality rate. Middlesbrough also had the highest proportion of female deaths considered preventable (48.7%).

Improvement in female mortality rates between 2001 to 2003 and 2017 to 2019 was greatest in Newham, decreasing from 170.2 to 91.8 deaths per 100,000 females. In comparison, 16 local authorities saw increases in their mortality rates with Norwich having the largest rise of 23.1 deaths per 100,000 females.

Unitary authorities in Wales

In 2017 to 2019, of the 22 Welsh unitary authorities, Neath Port Talbot had the highest rate of preventable mortality with 273.0 deaths per 100,000 males. This was statistically significantly higher than 16 unitary authorities and an additional 129.8 deaths per 100,000 males than the lowest rate observed in Monmouthshire. Neath Port Talbot also had the largest proportion of deaths considered preventable (50.9%) in 2017 to 2019.

Improvement in mortality rates for males between 2001 to 2003 and 2017 to 2019 was greatest in Merthyr Tydfil with a decrease of 120.9 deaths per 100,000 males. In contrast, Ceredigion was the only unitary authority whose rate remained unchanged at 193.5 deaths per 100,000 males.

Merthyr Tydfil had the highest preventable mortality rate for females in 2017 to 2019 with 166.6 deaths per 100,000 females. This was statistically significantly higher than 14 unitary authorities and an additional 87.7 deaths per 100,000 females than the lowest rate in Monmouthshire. Merthyr Tydfil also had the largest proportion of preventable deaths (47.8%) in 2017 to 2019.

Improvement in female mortality rates from 2001 to 2003 and 2017 to 2019 was greatest in Blaenau Gwent with a decrease of 66.4 deaths per 100,000 females, while Bridgend and Isle of Anglesey both saw small increases, however, these were not statistically significant.

Figure 9: Age-standardised preventable mortality rates by local authorities in England and unitary authorities in Wales by sex, between 2001 to 2003 and 2017 to 2019

Notes:

1. Age-standardised mortality rates are expressed per 100,000 people 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 three-year calendar periods.
4. Based on boundaries as of August 2020.
5. Because of low death counts, the Isles of Scilly has been combined with Cornwall and the City of London combined with Hackney.

Download the data

6 . Treatable mortality in Clinical Commissioning Groups (CCGs) in England and Health Boards in Wales

This section covers treatable mortality in health areas in England and Wales. Data for avoidable and preventable mortality are also available in the accompanying datasets. For more information on health areas in Scotland, contact National Records of Scotland (NRS) and for Northern Ireland contact Northern Ireland Statistics and Research Agency (NISRA).

Treatable mortality measures the effectiveness of timely healthcare interventions, including secondary prevention and treatment. In 2019, 36.3% of avoidable deaths could be attributed to treatable conditions in England and 37.2% in Wales.

Clinical Commissioning Groups (CCGs) in England

Of the 135 CCGs in England, NHS Blackpool CCG had the highest rate of treatable mortality for males with 169.9 deaths per 100,000 males. This was statistically significantly higher than 120 CCGs and an additional 113.6 deaths per 100,000 males than the lowest rate in NHS Surrey Heath CCG.

Improvement in mortality rates for males between 2001 and 2019 was greatest in NHS Tower Hamlets CCG with a decrease of 192.2 deaths per 100,000 males. In contrast, NHS Fylde and Wyre CCG had the smallest improvement with a decrease of 17.4 deaths per 100,000 males. The highest proportion of male deaths considered treatable in 2019 was in NHS Harrow CCG (26.4%).

In 2019, NHS Blackpool CCG also had the highest treatable mortality rate for females with 119.7 deaths per 100,000 females. This was statistically significantly higher than 82 CCGs and an additional 81.4 deaths per 100,000 females than the lowest rate in NHS Surrey Heath CCG. NHS Blackpool CCG also had the smallest improvement in their treatable mortality rate between 2001 to 2019 with a decrease of 8.4 deaths per 100,000 females. In contrast, NHS Tower Hamlets CCG had the greatest improvement with a decrease of 104.7 deaths per 100,000 females. The highest proportion of female deaths considered treatable in 2019 was in NHS West London CCG (37.5%).

Health Boards in Wales

In 2019, of the seven Health Boards in Wales, Cwm Taf Morgannwg University Health Board had the highest treatable mortality rate for males with 124.0 deaths per 100,000 males. This was statistically significantly higher than one other Health Board and an additional 38.9 deaths per 100,000 males than the lowest rate in Powys Teaching Health Board.

Improvements in treatable mortality rates for males between 2001 and 2019 were largest in Aneurin Bevan University Health Board with a decrease of 93.0 deaths per 100,000 males, while improvements were smallest in Betsi Cadwaladr University Health Board where the rate decreased by 47.5 deaths per 100,000 males. Aneurin Bevan University Health Board also accounted for the highest proportion of treatable deaths in 2019 (24.6%).

For females in 2019, Cwm Taf Morgannwg University Health Board had the highest mortality rate with 92.5 deaths per 100,000 females, although this was not statistically significantly higher than the other Health Boards. They also accounted for the largest improvement in treatable mortality rates from 2001 to 2019 decreasing by 74.1 deaths per 100,000 females. In contrast, the lowest mortality rate was in Cardiff and Vale University Health Board with 68.5 deaths per 100,000 females, while the smallest improvement was observed in Powys Teaching Health Board with a decrease of 37.2 deaths per 100,000 females. Hywel Dda University Health Board accounted for the highest proportion of deaths considered treatable in 2019 (30.1%).

Figure 10: Age-standardised treatable mortality rates by Clinical Commissioning Groups in England and Health Boards in Wales by sex, 2001 to 2019

Notes:

1. Age-standardised mortality rates are expressed per 100,000 people 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 each calendar year.
4. Based on boundaries as of August 2020.
5. Due to changes in Clinical Commissioning Groups coding, the entire data time series has been revised so data may not match previously published.

Download the data

7 . Avoidable mortality data

Avoidable mortality in the UK
Dataset | Released 26 February 2021
Annual age-standardised mortality rates for causes considered avoidable, treatable and preventable in the UK and the four constituent countries, 2001 to 2019.

Avoidable mortality in the UK - children and young people
Dataset | Released 26 February 2021
Annual age-standardised mortality rates for causes considered avoidable, treatable and preventable in the UK and the four constituent countries for children and young people (aged 0 to 19 years), 2001 to 2019.

Avoidable mortality in England and Wales - supplementary data tables
Dataset | Released 26 February 2021
Supplementary annual data for England and Wales for 2001 to 2019: standardised years of life lost (SYLL) because of causes considered avoidable; age-standardised avoidable, treatable and preventable mortality rates with and without deaths from ischaemic heart disease (IHD); and number of avoidable, treatable and preventable deaths by sex and age.

Avoidable mortality by local authorities in England and unitary authorities in Wales
Dataset | Released 26 February 2021
Age-standardised mortality rates for causes considered avoidable, treatable and preventable by local authorities in England and unitary authorities in Wales from 2001 to 2003 to 2017 to 2019.

Avoidable mortality by Clinical Commissioning Groups in England and Health Boards in Wales
Dataset | Released 26 February 2021
Annual age-standardised mortality rates for causes considered avoidable, treatable and preventable by Clinical Commissioning Groups (CCGs) in England and Health Boards in Wales, 2001 to 2019.

8 . Glossary

Preventable mortality

Preventable mortality refers to causes of death that can be mainly avoided through effective public health and primary prevention interventions (that is, before the onset of diseases or injuries, to reduce incidence).

Treatable mortality

Treatable mortality refers to causes of death that can be mainly avoided through timely and effective health care interventions, including secondary prevention and treatment (that is, after the onset of disease, to reduce case-fatality).

Avoidable mortality

Avoidable mortality refers to deaths that are preventable or treatable.

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 has been determined using the 95% confidence intervals, where instances of non-overlapping confidence intervals between figures indicate the difference is unlikely to have arisen from random fluctuation.

9 . Measuring the 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 the National Records of Scotland (NRS) and the Northern Ireland Statistics and Research Agency (NISRA) 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 2017, an Organisation for Economic Co-operation and Development (OECD) working group was set up to review the definitions of avoidable mortality used internationally with a remit to create a harmonised definition. The group proposed a new definition of avoidable mortality and in 2019, the ONS ran a public consultation to review this definition. As a result of the consultation, it was agreed the ONS would implement the new avoidable mortality definition to ensure out statistics are internationally comparable. The new definition has been implemented from data year 2001 onwards.

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in the Avoidable mortality in the UK QMI. The accompanying datasets also include further breakdowns of data such as standardised years of life lost (SYLL) for England and Wales.

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. It includes conditions where it is reasonable to expect deaths to be avoided through good quality healthcare, even after the condition has developed (treatable mortality), as well as 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 the result of 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.

10 . 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 Organization (WHO) ICD-10 and internationally agreed rules
- the implementation of the new avoidable mortality definition means our statistics are internationally comparable as well as comparable between local administrations and over time at national and sub-national level

The limitations of avoidable mortality include:

- data are insufficiently robust to provide local authority and unitary 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 fewer than 10 deaths and rates based on 10 to 19 deaths are marked with a "u" to warn users that their reliability is low
- cause of death data does not account for coding changes that occurred in 2011 and 2014

11 . Related links

Socioeconomic inequalities in avoidable mortality in England: 2018
Bulletin | Released 10 July 2020
Avoidable mortality in England, using measures of multiple deprivation to measure socioeconomic inequalities.

Socioeconomic inequalities in avoidable mortality in Wales: 2018
Bulletin | Released 10 July 2020
Avoidable mortality in Wales, using measures of multiple deprivation to measure socioeconomic inequalities

Avoidable mortality in Scotland
Report | Released 1 December 2020
Information on the numbers of deaths that were registered in 2019 which are classified as avoidable.

Health inequalities annual report - Department of Health NI
Report | Released 25 March 2020
Annual publication presenting a comprehensive analysis of health inequality gaps between the most and least deprived areas of Northern Ireland, and within health and social care trust and local government district areas.

Deaths registered in England and Wales: 2019
Bulletin | Released 1 July 2020
Registered deaths by age, sex, selected underlying causes of death and the leading causes of death. Contains death rates and death registrations by area of residence and single year of age.