

Statistical bulletin

Alcohol-specific deaths in the UK: registered in 2018

Deaths caused by diseases known to be a direct consequence of alcohol misuse by sex, age and region.



Contact:
Emyr John
mortality@ons.gov.uk
+44 (0)1633 456501

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1 . Main points

- There were 7,551 deaths registered in the UK in 2018 that related to alcohol-specific causes, lower than the previous year's 7,697 deaths but still the second highest since the time series began in 2001.
- The 2018 alcohol-specific death rate in the UK was 11.9 deaths per 100,000 people, remaining stable with no significant change since last year.
- Rates of alcohol-specific deaths in males have been more than double those in females (16.4 and 7.6 deaths per 100,000 in 2018 respectively) since the beginning of the time series in 2001.
- Alcohol-specific death rates were highest among men aged 55 to 59 years and women aged 60 to 64 years in 2018.
- Scotland had the highest rate of alcohol-specific deaths registered in 2018, followed by Wales and England with 20.8, 13.1 and 10.7 deaths per 100,000 people respectively; figures for Northern Ireland will be published later this year.

2 . Alcohol-specific deaths in the UK

Rates of alcohol-specific deaths have remained stable in recent years

There were 7,551 deaths related to alcohol-specific causes registered in the UK in 2018, equivalent to 11.9 deaths per 100,000 people. That was 146 fewer deaths (a 2% decrease) than the record high of 7,697 deaths in 2017. Despite there being no statistically significant difference between the rate in 2018 and the 2017 rate of 12.2 deaths per 100,000 people, the rate in 2018 was significantly higher than the 2015 rate of 11.3 deaths per 100,000 people.

Overall, rates of alcohol-specific deaths in the UK have remained at a similar level in recent years, with no statistical differences in the year-on year rates since 2011 and 2012. Despite this, the 2018 rate is significantly higher than that observed at the beginning of the time series in 2001, when there were 10.6 deaths per 100,000 population.

Alcohol-specific deaths only include health conditions where each death is a direct consequence of alcohol misuse, such as alcoholic liver disease.

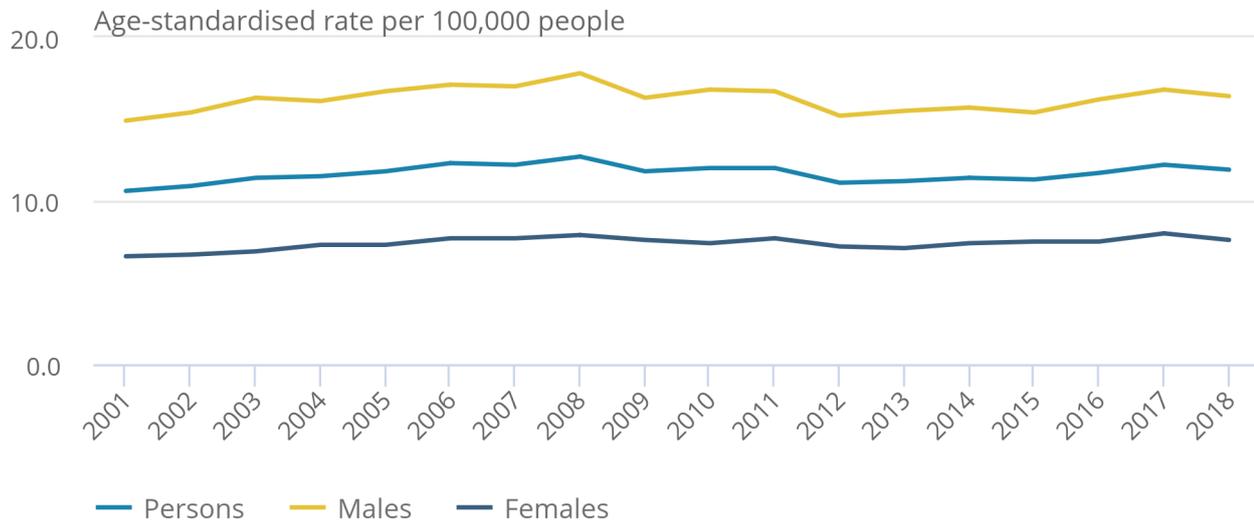
Figure 1 shows the trend in alcohol-specific death rates since 2001 for males, females and all persons in the UK.

Figure 1: Rates of alcohol-specific deaths have increased 13% since 2001

Age-standardised alcohol-specific death rates per 100,000 people, by sex; UK, deaths registered between 2001 to 2018

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Age-standardised alcohol-specific death rates per 100,000 people, by sex; UK, deaths registered between 2001 to 2018



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

Notes:

1. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population.
2. Deaths of non-residents are included in figures for the UK.
3. Figures are for deaths registered in each calendar year.
4. Calculations are based on unrounded figures.

Rates of male alcohol-specific death are twice those of females

Over the course of the time series, males have accounted for between 66% and 69% of all alcohol-specific deaths, and females between 31% and 34% of deaths. Taking population and age distribution into account, the latest rates in the UK were 16.4 and 7.6 deaths per 100,000 people for males and females respectively.

There have been significant increases since 2001 in the rate of alcohol-specific deaths in people aged 55 to 79 years

UK alcohol-specific deaths by age group show that for deaths registered in 2018 the highest alcohol-specific death rate was among those aged 55 to 59 years for males, with a rate of 39.8 deaths per 100,000. For females, the highest death rate was among those aged 60 to 64 years, with a rate of 20.4 per 100,000. For the previous nine years females aged 55 to 59 years had the highest alcohol-specific rate, however, differences between these two age groups were not statistically significant.

Over the course of the time series between 2001 and 2018, there have been statistically significant increases in age-specific death rates for people aged 55 to 79 years. For example, the alcohol-specific death rate for those aged 70 to 74 years has never been higher than in 2018. Changes in alcohol-specific death rates over time by age group in people are shown in Figure 2.

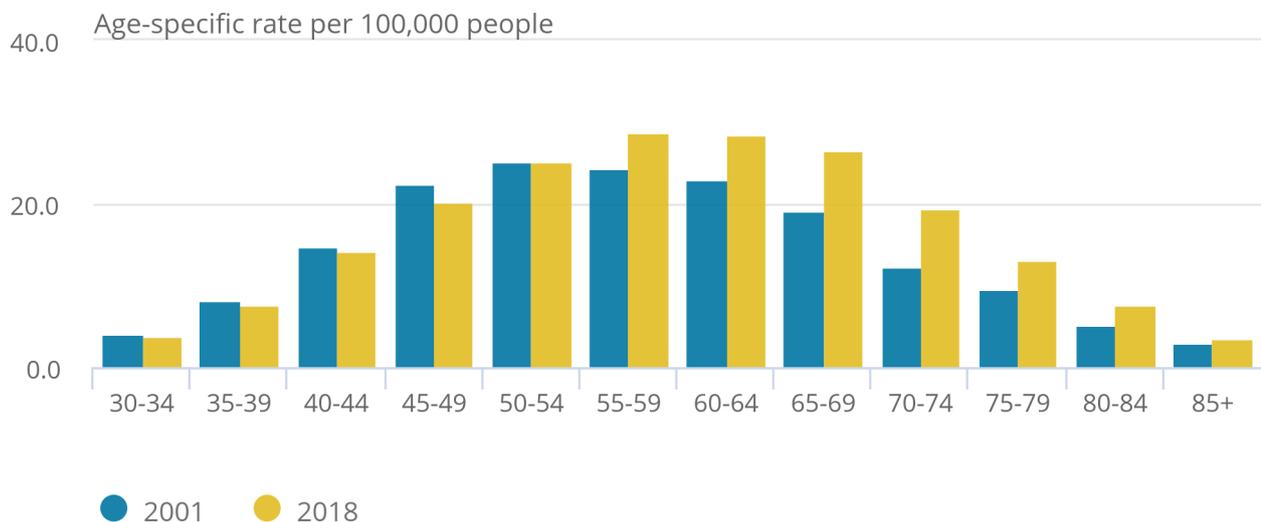
While alcohol-specific deaths only accounted for 1.2% of all-cause deaths in the UK registered in 2018 (7,551 alcohol-specific deaths out of a total of [616,014 UK deaths](#)) they made up 9.6% of all deaths in the age group 40 to 44 years.

Figure 2: Alcohol-specific death rates were highest among people aged 55 to 59 years in 2018

Age-specific alcohol-specific death rates per 100,000 people, by five-year age group; UK, deaths registered in 2018

Figure 2: Alcohol-specific death rates were highest among people aged 55 to 59 years in 2018

Age-specific alcohol-specific death rates per 100,000 people, by five-year age group; UK, deaths registered in 2018



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

Notes:

1. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population.
2. Deaths of non-residents are included in figures for the UK.
3. Figures are for deaths registered in each calendar year.
4. Figures are for those aged 30 years and over as a result of small numbers of deaths in the younger age groups producing more statistical uncertainty.

The highest proportion of alcohol-specific deaths are attributed to alcoholic liver disease

Given that the definition of alcohol-specific deaths includes mostly chronic conditions, such as alcoholic liver disease, the increased rates in the older age groups may be a consequence of misuse of alcohol that began years, or even decades, earlier. There were no deaths caused by alcoholic liver disease in the age group 20 years or under in 2018, while up to 80% of alcohol-specific deaths in those aged those aged 60 to 64 years died from this condition.

The proportion of alcohol-specific deaths resulting from mental and behavioural disorders increased with age. The reverse is true for accidental poisoning by and exposure to alcohol, which accounted for 88% of alcohol-specific death in those aged 20 to 24 years and no more than 2% in those aged 70 years and over.

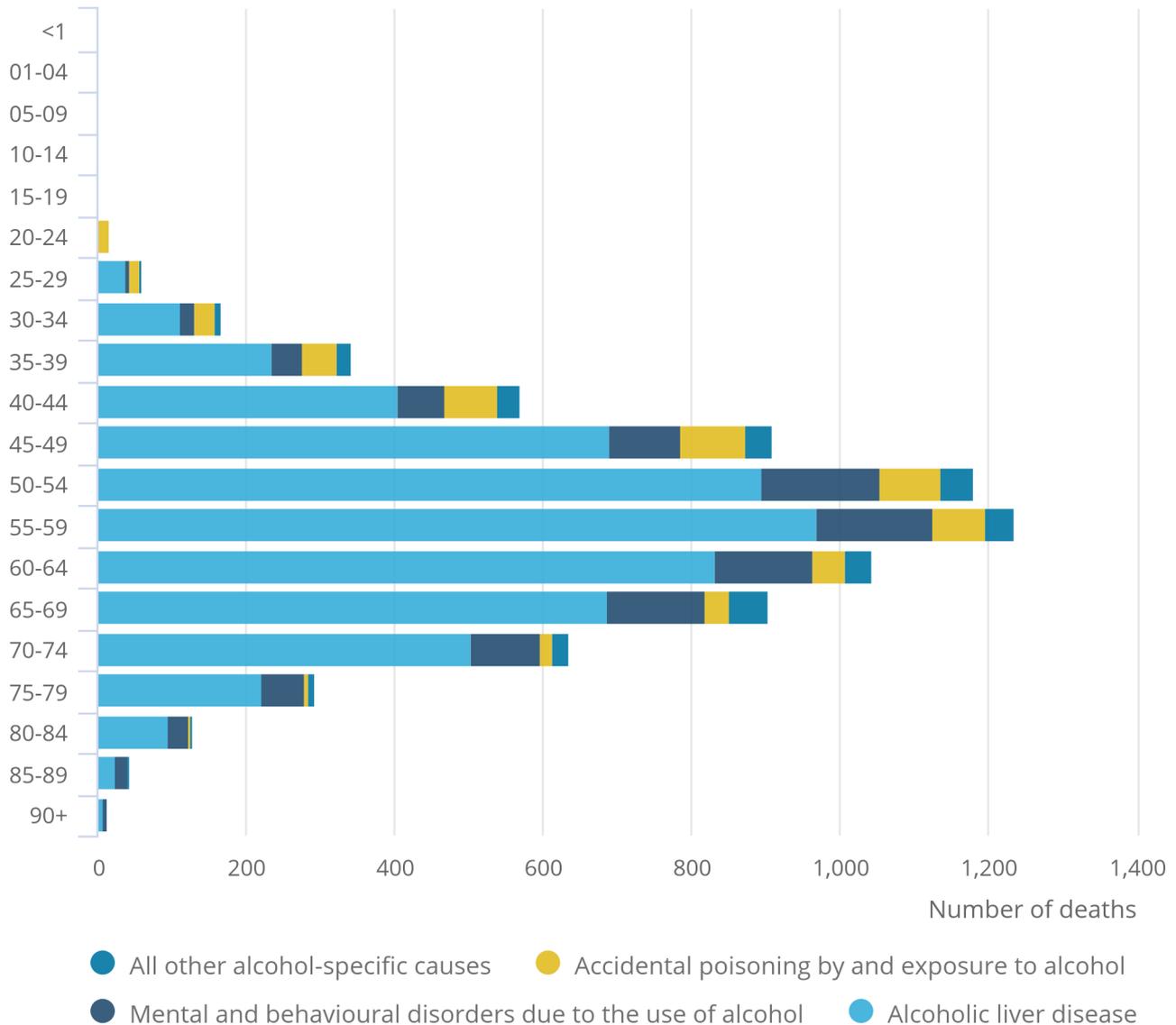
Figure 3 shows the number of alcohol-specific deaths by five-year age group and the following three individual causes: alcoholic liver disease (ICD-10 code K70, 76% of alcohol-specific deaths), mental and behavioural disorders as a result of the use of alcohol (ICD-10 code F10, 13% of deaths) and accidental poisoning by and exposure to alcohol (ICD-10 code X45, 7% of deaths). These contributed over 95% of all alcohol-specific deaths registered in 2018.

Figure 3: Three-quarters of alcohol-specific deaths were caused by alcoholic liver disease

Numbers of alcohol-specific deaths, by five-year age group and individual cause; UK, deaths registered in 2018

Figure 3: Three-quarters of alcohol-specific deaths were caused by alcoholic liver disease

Numbers of alcohol-specific deaths, by five-year age group and individual cause; UK, deaths registered in 2018



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 . Alcohol-specific death by UK constituent country

Scotland experienced the fastest decrease in alcohol-specific death rates over time

Since the beginning of the time series in 2001, age-standardised rates of alcohol-specific deaths in Scotland have tended to be highest of the four UK constituent countries, while rates in England have tended to be lowest, as shown in Figure 4. In line with previous years, there were 20.8 alcohol-specific deaths per 100,000 people in Scotland in 2018, nearly twice the English rate of 10.7 deaths per 100,000. The Welsh rate was 13.1 deaths per 100,000, while figures for Northern Ireland will be published by the Northern Ireland Statistics and Research Agency later this year.

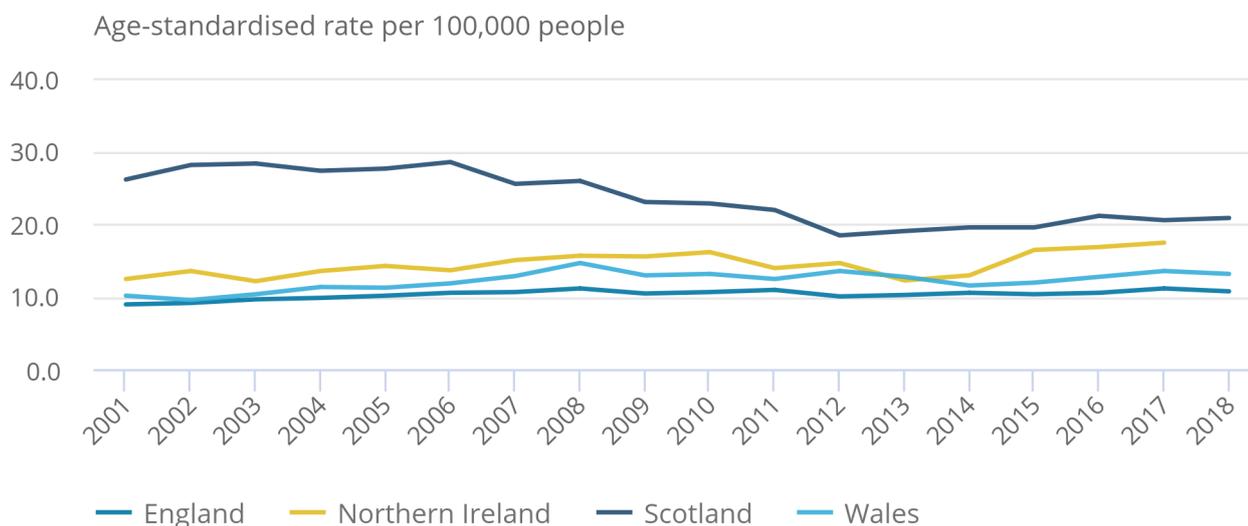
Despite Scotland's higher rate of alcohol-specific deaths, it remains the only UK constituent country to show statistically significant improvement when comparing with 2001 rates. In comparison, both England and Wales had statistically significant increases over the same period.

Figure 4: Rates of alcohol-specific death remain the highest in Scotland

Age-standardised alcohol-specific death rates per 100,000 people; Great Britain constituent countries, deaths registered between 2001 to 2018

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Age-standardised alcohol-specific death rates per 100,000 people; Great Britain constituent countries, deaths registered between 2001 to 2018



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

Notes:

1. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population.
2. Figures for Scotland and Northern Ireland include deaths of non-residents. However, figures for England and Wales (separately) exclude deaths of non-residents and are based on August 2019 boundaries.
3. Figures are for deaths registered in each calendar year.
4. 2018 data for Northern Ireland will be published later this year.

Male rates of alcohol-specific death have declined significantly in Scotland since 2001

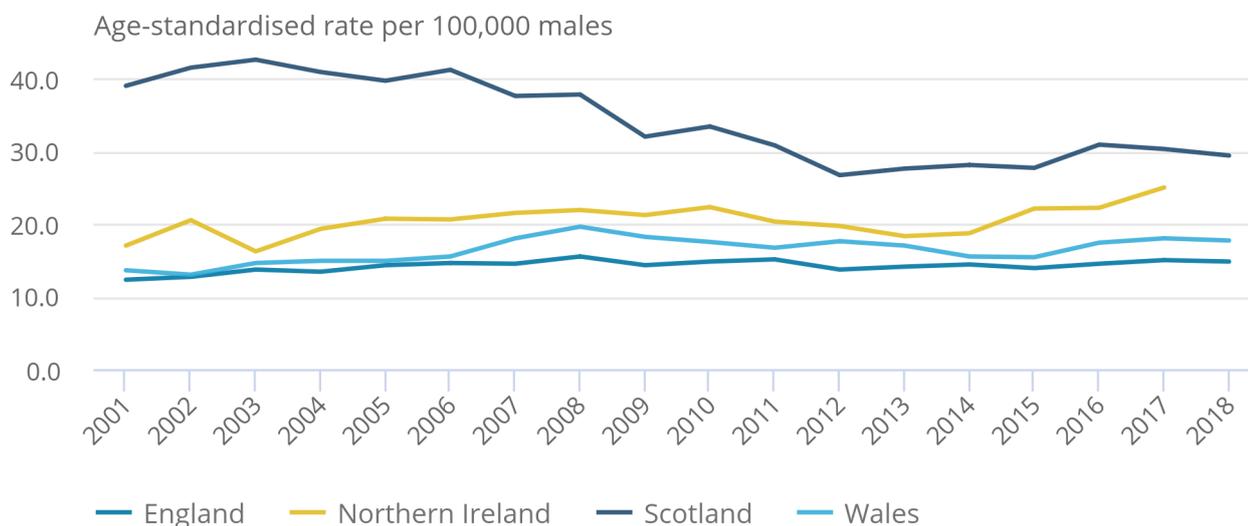
Scotland had the highest alcohol-specific death rate registered in 2018 at 29.4 deaths per 100,000 males, a statistically significant decrease of 25% compared with the rate in 2001 (39.0 deaths per 100,000). Wales and England continued to have the lowest rates in 2018, with 17.7 and 14.8 alcohol-specific deaths per 100,000 males, respectively (Figure 5).

Figure 5: Scotland is the only country to see a decrease over time in male rates of alcohol-specific death

Age-standardised alcohol-specific death rates per 100,000 males; UK constituent countries, deaths registered between 2001 to 2018

Figure 5: Scotland is the only country to see a decrease over time in male rates of alcohol-specific death

Age-standardised alcohol-specific death rates per 100,000 males; UK constituent countries, deaths registered between 2001 to 2018



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

Notes:

1. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population.
2. Figures for Scotland and Northern Ireland include deaths of non-residents. However, figures for England and Wales (separately) exclude deaths of non-residents and are based on August 2019 boundaries.
3. Figures are for deaths registered in each calendar year.
4. 2018 data for Northern Ireland will be published later this year.

Female rates of alcohol-specific death have increased significantly in England since 2001

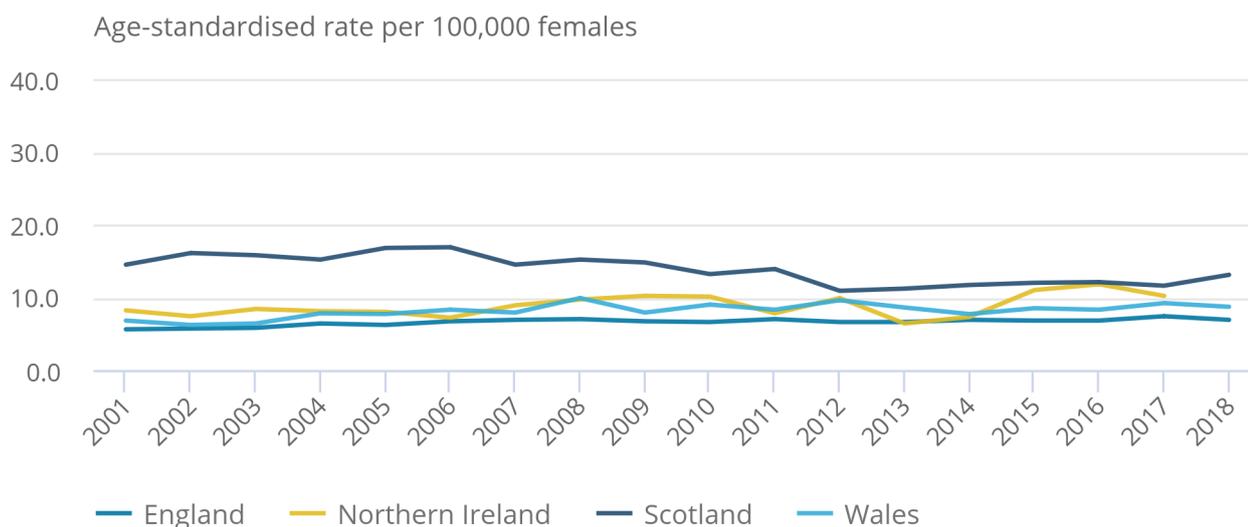
Although the alcohol-specific death rate in England remained the lowest of the four countries at 6.9 deaths per 100,000 females, England saw a significant increase in the female rate since 2001 (an increase of 22% from 5.6 deaths per 100,000). In contrast, the female alcohol-specific death rate in 2018 for Scotland (13.1 deaths per 100,000) was a statistically significant decrease of 10% since 2001 (Figure 6).

Figure 6: Scotland is the only country to see a decrease over time in female rates of alcohol-specific death

Age-standardised alcohol-specific death rates per 100,000 females; UK constituent countries, deaths registered between 2001 to 2018

Figure 6: Scotland is the only country to see a decrease over time in female rates of alcohol-specific death

Age-standardised alcohol-specific death rates per 100,000 females; UK constituent countries, deaths registered between 2001 to 2018



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

Notes:

1. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population.
2. Figures for Scotland and Northern Ireland include deaths of non-residents. However, figures for England and Wales (separately) exclude deaths of non-residents and are based on August 2019 boundaries.
3. Figures are for deaths registered in each calendar year.
4. 2018 data for Northern Ireland will be published later this year.

4 . Alcohol-specific deaths by region

Alcohol-specific death rates remained highest in the North East region in 2018

For deaths registered in 2018, regional age-standardised rates of alcohol-specific deaths range from 7.6 deaths per 100,000 people in the East of England to 15.8 deaths in the North East. For the fifth consecutive year, the North East had the highest rate of any English region; prior to 2014, the North West tended to have the highest rate. Yorkshire and The Humber's rate of alcohol-specific death saw a significant decrease in 2018 when compared with deaths registered in 2017, the only significant regional change in this period.

Alcohol-specific death rates have increased in all regions of England except London since the time series began in 2001 and have tended to be higher in the North of England relative to the South of England. However, the ratio of male to female rates of death was greatest in London, as has been the case for 13 consecutive years. In 2018, the male rate for London was 12.2 deaths per 100,000, over three times the female rate of 3.8 deaths per 100,000.

Data that address the association between alcohol-specific death rates and socio-economic deprivation in England can be found in the accompanying [supplementary datasets](#).

Figure 7: London was the only English region to have lower rates of alcohol-specific deaths in 2018 compared with 2001

Age-standardised alcohol-specific deaths rates per 100,000, by sex; English regions and constituent countries of the UK, deaths registered in 2001 and 2018

[Data download](#)

Notes:

1. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population.
2. Figures for England, its regions and Wales exclude deaths of non-residents and are based on August 2019 boundaries.
3. Figures are for deaths registered in each calendar year.

5 . UK deaths using the previous ONS definition of alcohol-related deaths

The definition that was used in our [previous bulletins](#) to estimate deaths resulting from alcohol misuse (up to 2015 death registrations), included unspecified hepatitis (ICD-10 code K73) and fibrosis and cirrhosis of the liver (ICD-10 code K74, excluding biliary cirrhosis). Following our [consultation](#) in 2017, the [definition](#) was changed to include only alcohol-specific deaths, meaning that those conditions where death is only partially attributable to alcohol are excluded.

The consultation also highlighted support for continued publication of deaths as a result of these two conditions. Therefore, we will continue to provide the number of deaths caused by these conditions in the UK, separately from the number of alcohol-specific deaths. Further breakdowns are available in the accompanying [datasets](#).

Deaths resulting from these two conditions are still counted in separate measures of alcohol-related harm produced by public health agencies across the UK ([Section 9](#)).

Table 1: The rate of unspecified hepatitis, fibrosis and cirrhosis of the liver has increased for females and decreased for males in 2018 compared with 2017
Age-standardised rates per 100,000 people caused by unspecified hepatitis and fibrosis and cirrhosis of the liver, by sex, United Kingdom, registered between 2013 and 2018

Year of registration	2013	2014	2015	2016	2017	2018
Persons	2.9	3.0	3.0	3.2	3.1	3.0
Males	3.7	3.9	4.0	4.3	4.2	3.9
Females	2.1	2.3	2.3	2.4	2.2	2.3

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

Notes

1. Deaths are defined using the International Classification of Diseases Tenth Revision (ICD-10) codes; K73 (chronic hepatitis not elsewhere specified) and K740-K742, K746 (fibrosis and cirrhosis of the liver, excluding biliary cirrhosis). [Back to table](#)
2. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population. [Back to table](#)
3. Deaths of non-residents are included in figures for the UK. [Back to table](#)
4. Figures are for deaths registered in each calendar year. [Back to table](#)

6 . Registration delays

The information used to produce mortality statistics is based on the details collected when deaths are certified and registered. In England and Wales, deaths should be registered within five days of the death occurring, but there are some situations that result in the registration of the death being delayed. Deaths considered unexpected, accidental or suspicious will be referred to a coroner who may order a post-mortem or carry out a full inquest to ascertain the reasons for the death. 33% of alcohol-specific death registered in 2018 were certified by a coroner.

In England and Wales, 88% of 2018 alcohol-specific deaths occurred in the same year of registration, this compares with 94% when looking at deaths from all causes. For alcohol-specific deaths registered in 2018, the average (median) time between death occurrence and registration was six days in England, five days in Wales and four days in Scotland. Within England, the median delays ranged from four days in the North East to eight days in the East of England. Figures for Northern Ireland will be published later this year on the [Northern Ireland Statistics and Research Agency](#) website.

7 . Alcohol-specific deaths in the UK data

[Alcohol-specific deaths in the UK](#)

Dataset | Released 3 December 2019

Annual data on age-standardised and age-specific alcohol-specific death rates in the UK, its constituent countries and regions of England.

[Alcohol-specific deaths by sex, age group and individual cause of death](#)

Dataset | Released 3 December 2019

Annual data on number of alcohol-specific deaths by sex, age group and individual cause of death, UK constituent countries.

[Alcohol-specific deaths in the UK: liver diseases, the impact of deprivation and registration delays](#)

Dataset | Released 3 December 2019

Annual data on deaths caused by unspecified hepatitis, and fibrosis and cirrhosis of the liver in the UK. Age-standardised rates for alcohol-specific deaths by deprivation quintile in England and median registration delays by region.

8 . Glossary

Alcohol-specific death

Deaths resulting from health conditions that are a direct consequence of alcohol misuse, such as alcoholic liver disease. This is the National Statistics definition.

Year of registration

Figures are based on deaths registered in each calendar year, rather than the date of which the death occurs.

Age-specific mortality rate

Age-specific mortality rate is the total number of deaths per 100,000 people of a particular age group, used to allow comparisons between specified age groups.

Age-standardised mortality rate

Age-standardised mortality rate in this bulletin refers to a weighted average of the age-specific mortality rates per 100,000 people and standardised to the 2013 European Standard Population. They allow for differences in the age structure of populations and therefore allow valid comparisons to be made between geographical areas, the sexes and over time.

Statistical significance

The term “significant” refers to statistically significant changes or differences based on unrounded figures. 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

Statistics on mortality are derived from the information provided when deaths are certified and registered. These statistics are assessed fully compliant with the [Code of Practice for Statistics](#) and are therefore designated as National Statistics. Further information about the methods and quality of these statistics can be found in the [Mortality statistics in England and Wales Quality and Methodology Information \(QMI\)](#), [Alcohol-specific deaths in the UK QMI](#) report and the [User guide to mortality statistics](#). The Office for National Statistics (ONS) holds mortality data for England and Wales. Figures for the UK include data kindly provided by [National Records of Scotland](#) and the [Northern Ireland Statistics and Research Agency](#).

National Statistics definition of alcohol-specific deaths

Following our [consultation](#) in 2017, the [definition](#) was changed to include only alcohol-specific death, meaning that those conditions where death is only partially attributable to alcohol are excluded they can include certain forms of cancer.

The National Statistics definition of alcohol-specific deaths includes only those health conditions where each death is a direct consequence of alcohol misuse (that is, wholly-attributable deaths; Table 2). Most of these are chronic (longer-term) conditions associated with continued misuse of alcohol.

The conditions included in the definition use the International Classification of Diseases (Tenth Revision; ICD-10); as such, the time series of this release begins in 2001, when the ONS started coding deaths using ICD-10.

Table 2: National Statistics definition of alcohol-specific deaths

ICD-10 code	Description of condition
E24.4	Alcohol-induced pseudo-Cushing's syndrome
F10	Mental and behavioural disorders due to use of alcohol
G31.2	Degeneration of nervous system due to alcohol
G62.1	Alcoholic polyneuropathy
G72.1	Alcoholic myopathy
I42.6	Alcoholic cardiomyopathy
K29.2	Alcoholic gastritis
K70	Alcoholic liver disease
K85.2	Alcohol-induced acute pancreatitis
K86.0	Alcohol induced chronic pancreatitis
Q86.0	Fetal induced alcohol syndrome (dysmorphic)
R78.0	Excess alcohol blood levels
X45	Accidental poisoning by and exposure to alcohol
X65	Intentional self-poisoning by and exposure to alcohol
Y15	Poisoning by and exposure to alcohol, undetermined intent

Source: International Classification of Diseases, Tenth Revision (ICD-10)

Notes

1. The definition agreed following a 2017 user consultation includes conditions that are wholly attributable to alcohol based on codes from the International Classification of Diseases (10th Revision; ICD-10). [Back to table](#)

Populations

Mortality rates are calculated using the number of deaths and [mid-year population estimates](#) provided by the ONS Population Estimates Unit. Population estimates are based on the decennial UK census estimates and use information on births, deaths and migration to estimate the mid-year population in non-census years.

Comparing with other statistics

Monitoring the harmful use of alcohol consumption is a requirement under the Sustainable Development Goals (SDGs). The statistics in this report will be used to help monitor progress towards that goal. UK data on the SDG indicators can be explored on our [SDGs reporting platform](#).

The devolved countries of the UK each produce their own statistics on the impact of alcohol consumption on mortality. These statistics are compiled by The [Scottish Public Health Observatory](#), [Public Health Wales](#), and the [Northern Ireland Statistics and Research Agency](#).

Public Health England (PHE), via their [Local Alcohol Profiles](#), provide data on a wide range of indicators related to the misuse of alcohol including mortality, hospital admissions, wider impacts (for example, alcohol-related traffic accidents), and patients using alcohol misuse services.

With a focus on England particularly, NHS digital produce an [annual compendium](#), bringing together an array of data related to alcohol consumption, the misuse of alcohol, and the effects of alcohol misuse on health and health service use.

User-requested data

Special extracts and tabulations of alcohol-specific deaths (and other causes of mortality) data for England and Wales are available to order for a charge (subject to legal frameworks, disclosure control, resources and agreement of costs, where appropriate). Such requests or enquiries should be made to the Mortality Analysis Team via email to mortality@ons.gov.uk or by telephone on +44 (0)1633 456501. Our [charging policy](#) is also available.

10 . Strengths and limitations

“Alcohol-specific deaths” as a measure of alcohol mortality

The definition of alcohol-specific deaths is a more conservative estimate of the harms related to alcohol misuse and benefits from a consistent methodology across the UK, making it useful for robust and comparable estimates of trends in alcohol mortality.

However, this definition excludes diseases where there is evidence showing that only a proportion of the deaths are caused by alcohol (that is, partially-attributable deaths), such as cancers of the mouth, oesophagus and liver. Additionally, road accidents, falls, fires, suicide or violence involving people who had been drinking are not included in the alcohol-specific death definition. Further examples are outlined in [The relationship between different dimensions of alcohol use and the burden of disease – an update \(PDF, 1.13MB\)](#).

Other definitions as a measure of alcohol mortality

Public health agencies, such as [Public Health England](#), The [Scottish Public Health Observatory](#), and [Public Health Wales](#) use definitions that aim to capture the wider burden of alcohol consumption on population health and health service use (a separate definition is not available for Northern Ireland).

These definitions work by counting the number of wholly attributable deaths in addition to a proportion of deaths from partially attributable conditions; partially attributable estimates are derived by combining academic research about the impact of alcohol consumption on different conditions with data on alcohol consumption in a given population.

These provide a more realistic estimate of deaths caused by alcohol, however, the estimates tend to be less comparable, particularly across time as a result of changes in drinking behaviour, and between countries resulting from different data sources being used to measure the amount of alcohol consumed.

11 . Related links

[Alcohol-specific deaths, Scotland](#)

Official Statistics | Published 26 June 2019

National Records of Scotland (NRS) statistics on the most recent official death registration data available on alcohol-specific mortality across Scotland.

[Alcohol-specific deaths, Northern Ireland](#)

Official Statistics | Published 16 January 2019

Northern Ireland Statistics and Research Agency (NISRA) statistics on the most recent official death registration data available on alcohol-specific mortality across Northern Ireland.