Office for National Statistics

Statistical bulletin

Alcohol-specific deaths in the UK: registered in 2017

Deaths in the UK that are known to be direct consequences of alcohol misuse, such as alcoholic liver disease.

Contact:
Laura Pullin
mortality@ons.gov.uk
+44 (0)1633 456626

Release date:
4 December 2018

Next release:
To be announced

Table of contents

1 . Main points

- In 2017, there were 7,697 alcohol-specific deaths in the UK, an age-standardised rate of 12.2 deaths per 100,000 population.
- For the UK, alcohol-specific death rates have increased in recent years to similar rates observed in 2008 where they were at the highest recorded.
- Since the beginning of the time series in 2001, rates of alcohol-specific deaths among males have been more than double those observed among females (16.8 and 8.0 deaths per 100,000 in 2017 respectively).
- In 2017, alcohol-specific death rates were highest among 55- to 59-year-old females and 60- to 64-year-old males.
- Scotland remains the constituent country with the highest rate of alcohol-specific deaths in 2017; yet Scotland was the only country to experience a statistically significant decrease in rates from 2001.

2 . Things you need to know about this release

National Statistics definition of alcohol-specific deaths

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; see Table 1). Most of these are chronic (longer-term) conditions associated with continued misuse of alcohol. The conditions included in the definition are defined using the International Classification of Diseases (Tenth Revision; ICD-10); as such, the time series of this release begins in 2001, when Office for National Statistics (ONS) started coding deaths using ICD-10.

Table 1: 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

The misuse of alcohol is associated with a wide range of diseases, more than those included in the definition of alcohol-specific deaths (see The relationship between different dimensions of alcohol use and the burden of disease – an update (PDF, 1.13MB) for examples). The definition of alcohol-specific deaths does not include diseases where there is evidence showing that only a proportion of the deaths, for a given cause, are caused by alcohol (that is, partially-attributable deaths), such as cancers of the mouth, oesophagus and liver. Public health agencies, such as Public Health England, have developed separate measures that take into account these additional causes and use these in addition to the alcohol-specific deaths measure.

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. Please see Different sources of data to understand the impact of alcohol consumption on mortality for further information on the different approaches to measurement, including uses of each measure.

3 . Alcohol-specific death rates by sex, UK

The rate of alcohol-specific deaths among females in 2017 was the highest rate on record

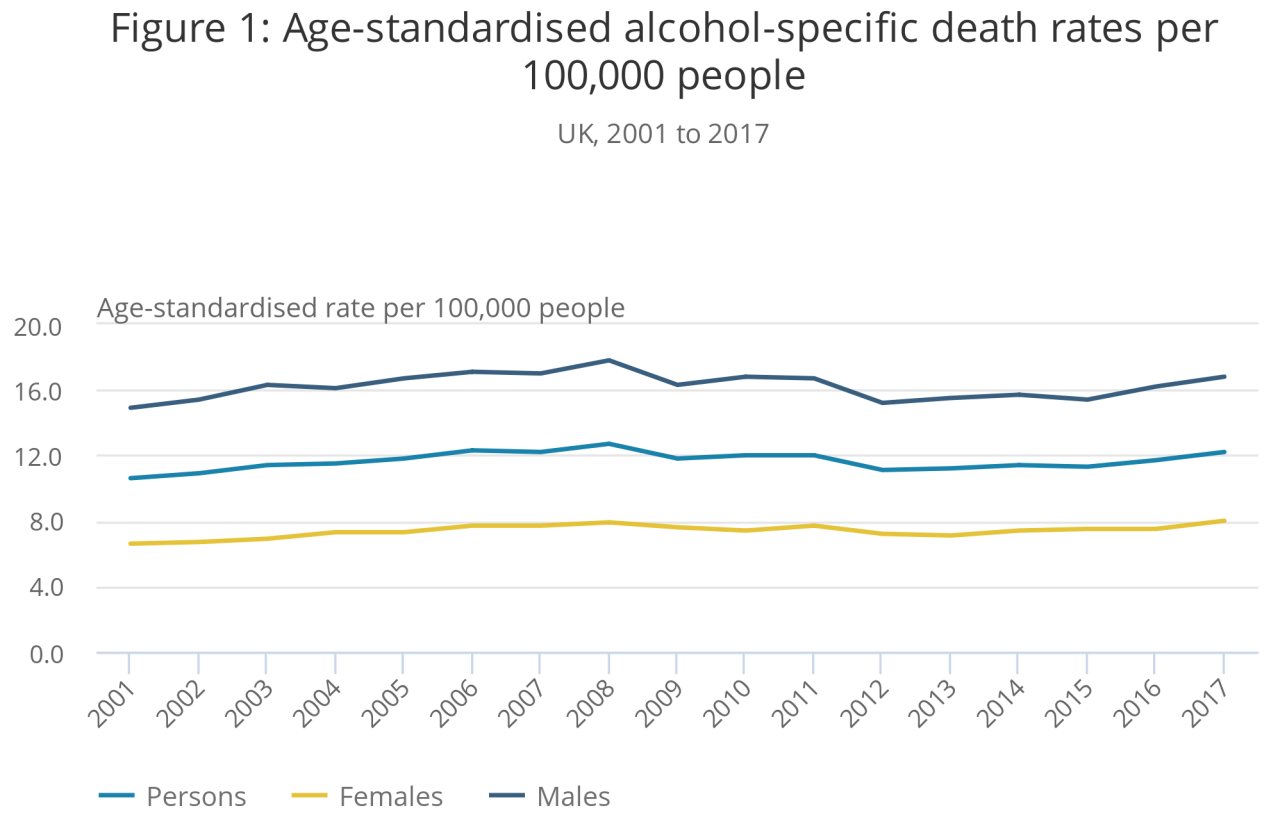
In 2017, a total of 7,697 people died from alcohol-specific causes in the UK, equivalent to 12.2 deaths per 100,000 population. The latest figure is the highest rate since 2008 when the rate was recorded as 12.7 alcohol-specific deaths per 100,000. Following a period of relative stability between 2012 and 2015, alcohol-specific death rates have shown an increasing trend.

Alcohol-specific deaths among females in 2017 reached the highest rate (8.0 deaths per 100,000 females) since the time series began in 2001, comparable with the highest rate last seen in 2008. Alcohol-specific death rates among males continue to be at least double the rates among females, with 16.8 deaths per 100,000 males recorded in 2017 – the highest since 2010, which saw an equivalent rate.

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

Figure 1: Age-standardised alcohol-specific death rates per 100,000 people

UK, 2001 to 2017



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 . Alcohol-specific death rates by age, UK

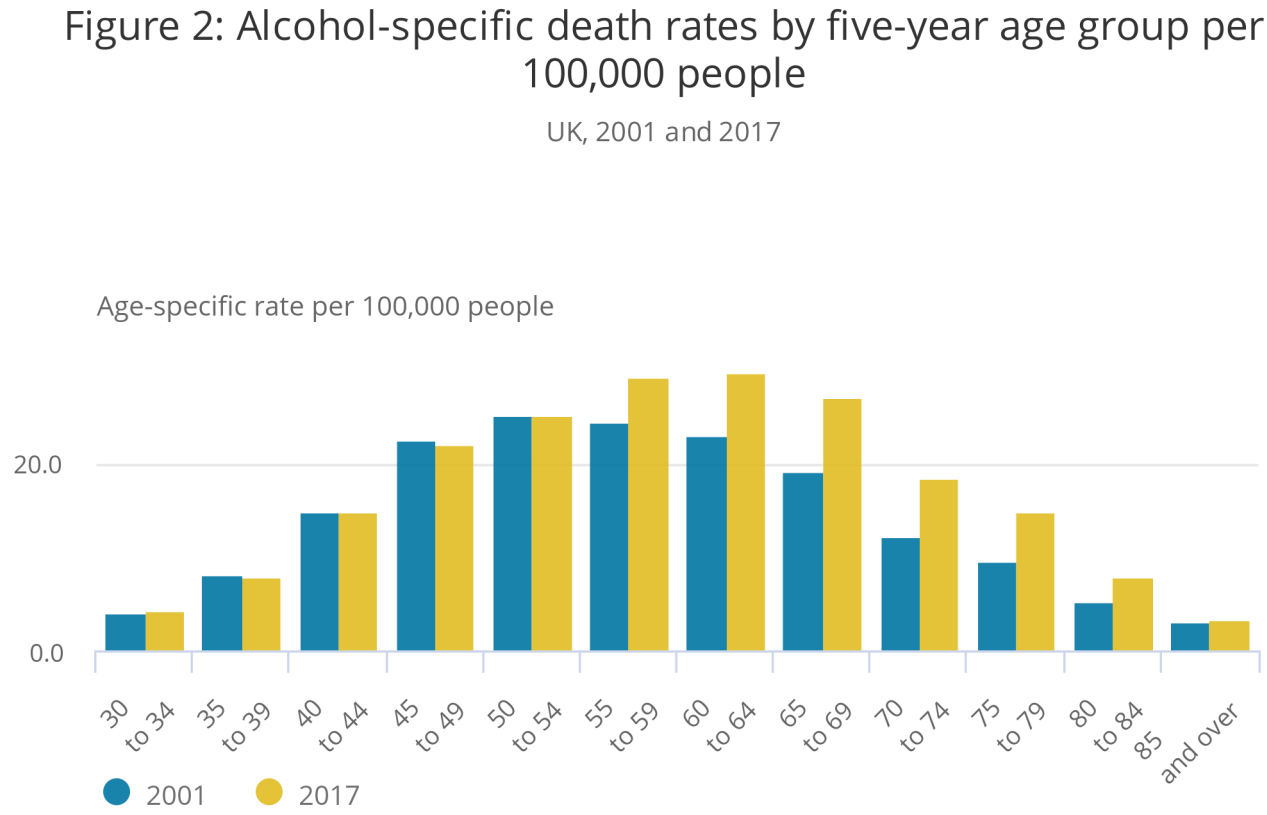
Alcohol-specific death rates in 2017 were highest among 60- to 64-year-olds

There have been statistically significant increases in age-specific death rates for 55- to 79-year-olds from 2001 to 2017. The rate among 60- to 64-year-olds has increased to become the highest in the UK (29.7 deaths per 100,000 people in 2017), overtaking that among 50- to 54-year-olds, the group which had the highest rate in 2001 (25.1 deaths per 100,000 people).

For other age groups, age-specific death rates have remained relatively stable since our time series began in 2001. Changes in alcohol-specific death rates over time by age group in people are shown in Figure 2.

Figure 2: Alcohol-specific death rates by five-year age group per 100,000 people

UK, 2001 and 2017



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, due to small numbers of deaths in the younger age groups producing more statistical uncertainty.

The highest age-specific death rate among males, in 2017, was in those aged 60 to 64 years, with 40.6 deaths per 100,000 males. Among females, the highest age-specific death rate in 2017 was in those aged 55 to 59 years, with 19.6 deaths per 100,000 females.

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.

5 . Comparisons between the four countries of the UK

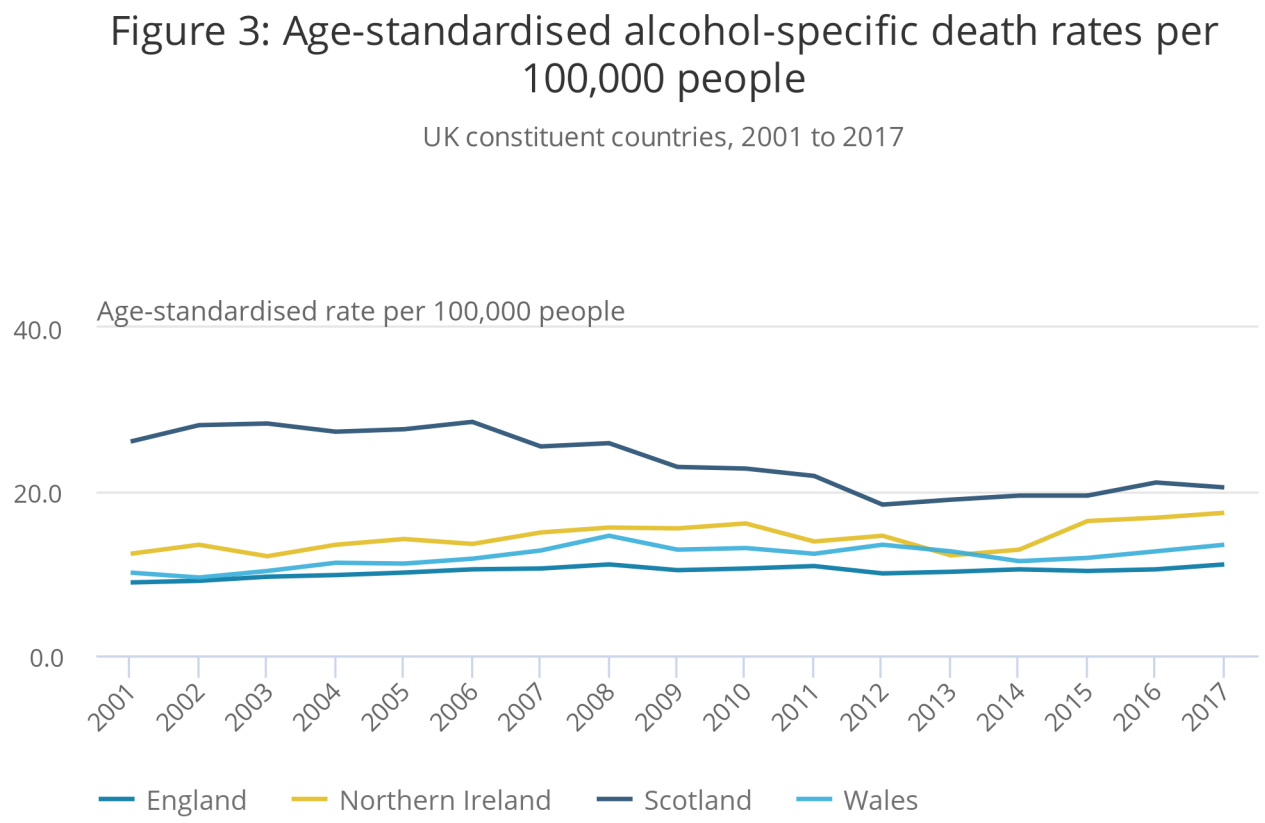
Scotland is the only UK country to see a statistically significant decrease in rates since 2001

Scotland has had the highest alcohol-specific death rate in the UK, for all persons, since the time series began in 2001, while England has had the lowest, as shown in Figure 3. The rate in Scotland in 2017 was 20.5 deaths per 100,000 people, while in England it was 11.1 deaths per 100,000 people. The alcohol-specific death rates in Wales and Northern Ireland in 2017 were 13.5 and 17.4 deaths per 100,000 people respectively.

Alcohol-specific death rates in England, Northern Ireland and Wales were all significantly higher in 2017 compared with 2001 – the largest difference being a 40% increase in Northern Ireland. In Scotland, the 2017 rate was significantly lower than in 2001, with a 21% reduction.

Figure 3: Age-standardised alcohol-specific death rates per 100,000 people

UK constituent countries, 2001 to 2017



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

Notes:

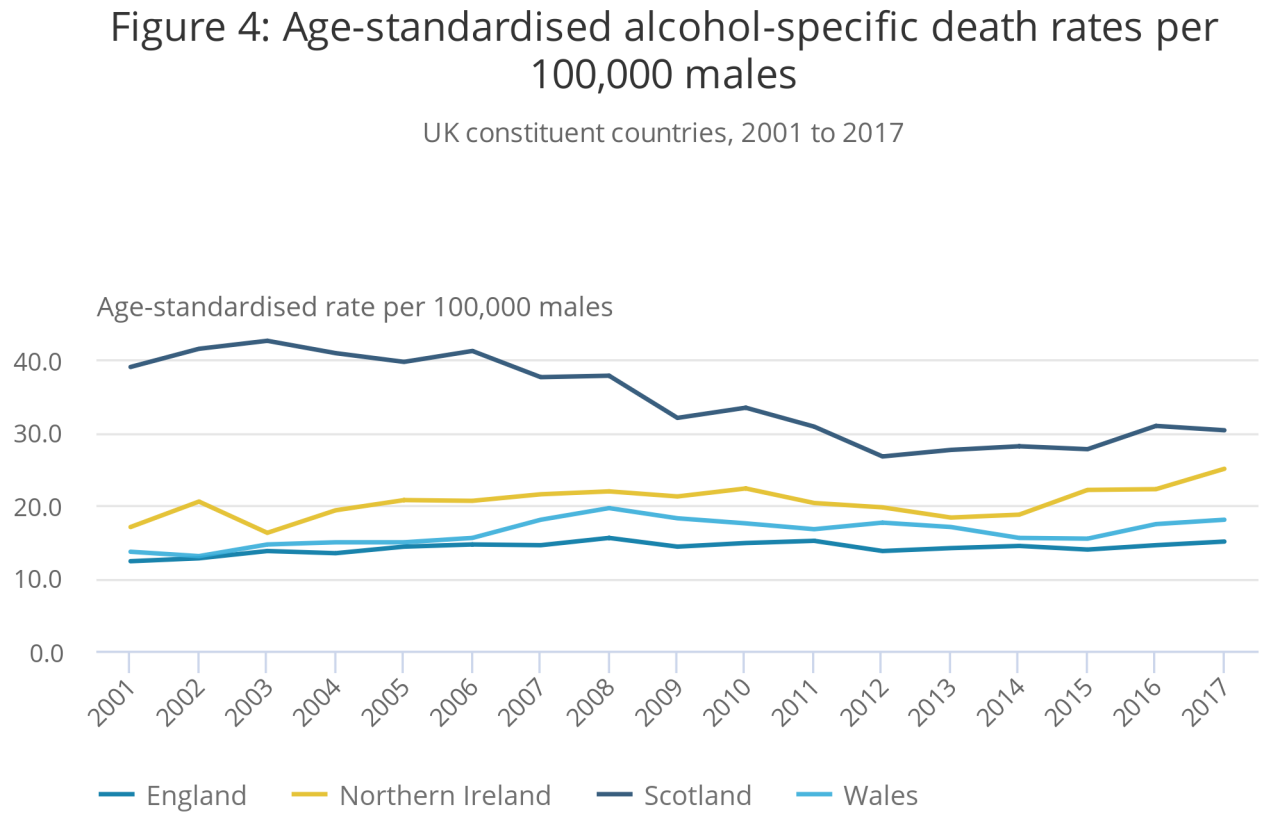
1. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population.
2. Deaths of non-residents are excluded in figures for each constituent country of the UK.
3. Figures are for deaths registered in each calendar year.

Alcohol-specific death rates have declined for males in Scotland

Scotland had the highest alcohol-specific death rate in 2017 at 30.0 deaths per 100,000 males, a statistically significant decrease of 22% compared with the rate in 2001 (39.0 deaths per 100,000). With 25.0 deaths per 100,000 males, the latest rate in Northern Ireland is 47% higher than that observed in 2001 (17.0 deaths per 100,000), the largest statistically significant increase of the constituent UK countries. Wales and England continued to have the lowest rates in 2017, with 18.0 and 15.0 alcohol-specific deaths per 100,000 males, respectively (see Figure 4).

Figure 4: Age-standardised alcohol-specific death rates per 100,000 males

UK constituent countries, 2001 to 2017



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

Notes:

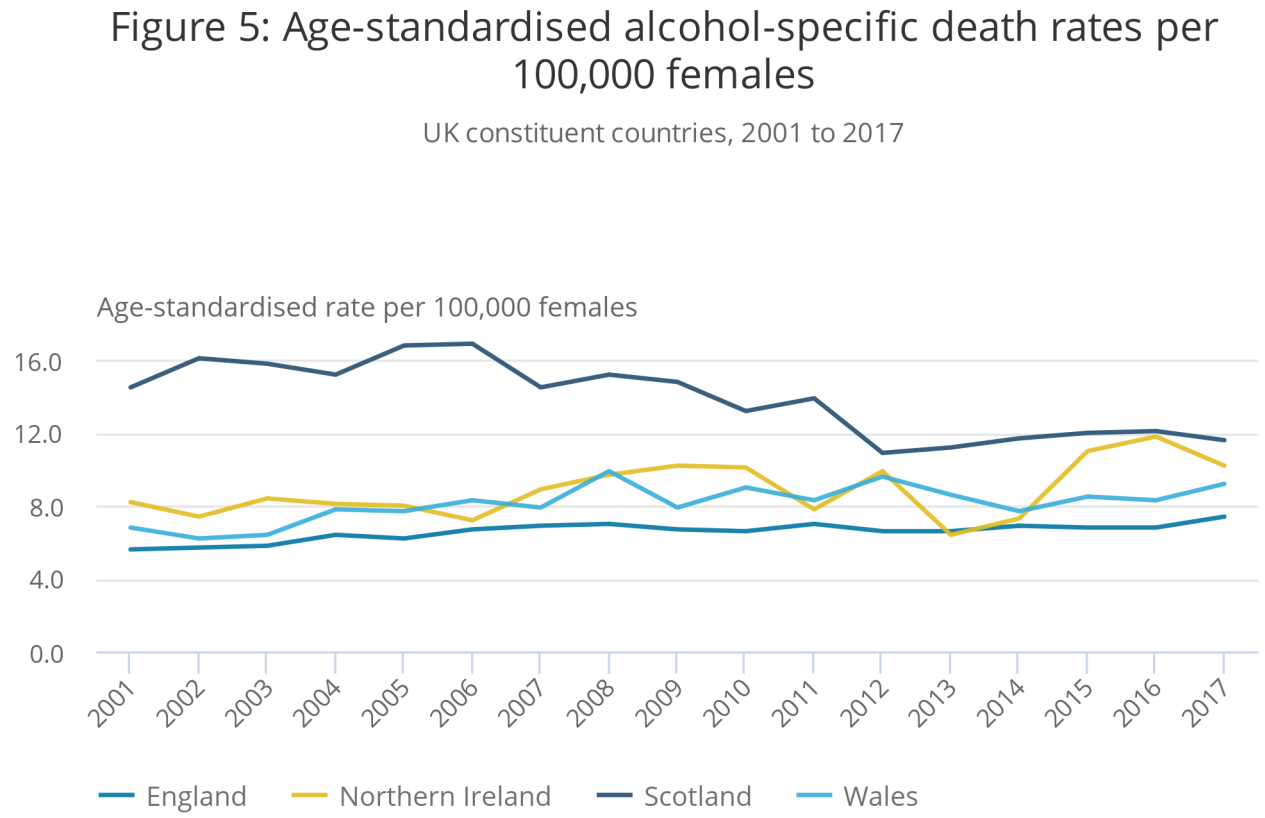
1. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population.
2. Deaths of non-residents are excluded in figures for each constituent country of the UK.
3. Figures are for deaths registered in each calendar year.

Alcohol-specific death rates among females have significantly increased in England since 2001 but remain the lowest in the UK

Although the alcohol-specific death rate in England remained the lowest of the four countries at 7.4 deaths per 100,000 females, England was the only country to have a significant increase in the female rate since 2001 (an increase of 32% from 5.6 deaths per 100,000). In contrast, the female alcohol-specific death rate in 2017 for Scotland (11.6 deaths per 100,000) was the lowest since 2013, and a statistically significant decrease of 20% since 2001 (see Figure 5).

Figure 5: Age-standardised alcohol-specific death rates per 100,000 females

UK constituent countries, 2001 to 2017



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 excluded in figures for each constituent country of the UK.
3. Figures are for deaths registered in each calendar year.

6 . Regions of England

Alcohol-specific death rate highest in the North East in 2017

The rate of alcohol-specific deaths in 2017 was highest in the North East region (15.5 deaths per 100,000 people), despite the rate falling since 2014. London had the lowest rate (7.8 deaths per 100,000 people) of any region for the first time since 2011. With the exception of London, all regions have significantly higher alcohol-specific rates in 2017 than in 2001. The same geographical patterns were seen for both sexes.

Further 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 6: Age-standardised rates of alcohol-specific deaths by sex and region

England, 2001 and 2017

7 . Deaths caused by unspecified hepatitis, fibrosis and cirrhosis of the liver by sex, UK, 2013 to 2017

The definition that was used in previous Office for National Statistics releases to estimate deaths due to 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.

However, the consultation also highlighted support for continued publication of deaths due to these two conditions. Therefore, we will continue to provide the number of deaths caused by these conditions in the UK, separate from the number of alcohol-specific deaths (please see the accompanying supplementary dataset for a further breakdown by age group).

Deaths from these two conditions are still counted in separate measures of alcohol-related harm produced by public health agencies across the UK (see Section 8, Different sources of data to understand the impact of alcohol consumption on mortality).

Table 2: Deaths caused by unspecified hepatitis and fibrosis and cirrhosis of the liver, UK, 2013 to 2017

	Number of deaths				
Sex	**2013**	**2014**	**2015**	**2016**	**2017**
Males	1,022	1,082	1,120	1,212	1,212
Females	669	720	721	770	740
Persons	1,691	1,802	1,841	1,982	1,952

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. Back to table
2. Figures are for deaths registered in each calendar year. Back to table
3. 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 billiary cirrhosis). Back to table

8 . Different sources of data to understand the impact of alcohol consumption

When trying to ascertain the impact of alcohol consumption on mortality, there tends to be two main approaches, each with its own advantages and disadvantages. The first counts deaths from diseases that are a direct consequence of alcohol misuse (that is, wholly attributable deaths), such as the definition of alcohol-specific deaths reported in this release. One benefit of using the definition of alcohol-specific deaths, is that it provides a consistent methodology for the whole of the UK, meaning that robust and comparable estimates of trends in alcohol mortality can be made.

The definition of alcohol-specific deaths, however, underestimates the burden of alcohol consumption on mortality as it excludes diseases where there is evidence showing that only a proportion of the deaths, for a given cause, are caused by alcohol (that is, partially attributable deaths; see The relationship between different dimensions of alcohol use and the burden of disease – an update (PDF, 1.13MB)). Public health agencies across the UK including Public Health England (PHE), The Scottish Public Health Observatory, and Public Health Wales also 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 definitions benefit from providing a more realistic estimate of deaths caused by alcohol, however, the estimates tend to be less comparable, particularly across time due to changes in drinking behaviour, and between countries due to different data sources being used to measure the amount of alcohol consumed.

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.

When looking at the data from the public health agencies:

- PHE estimate that 24,202 deaths in 2017 were caused by alcohol consumption in England
- there were an estimated 3,705 deaths attributable to alcohol consumption in 2015 among adults aged 16 years and over in Scotland, equating to 6.5% of the total number of deaths (57,327)
- in Wales, it is estimated that approximately 1,500 deaths are attributable to alcohol consumption each year, representing 1 in 20 of all deaths

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.

9 . 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.

In 2017, the average (median) time taken for a death to be registered in England and Wales was six days. The majority of alcohol-specific deaths registered in 2017 also occurred in that year (91%). The average registration periods for alcohol-specific deaths in Scotland and Northern Ireland were three days and eight days respectively.

10 . User-requested data

Special extracts and tabulations of alcohol-related 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 456626. Our charging policy is also available.

11 . Quality and methodology

The Alcohol-specific deaths Quality and Methodology Information report contains important information on:

- the strengths and limitations of the data and how it compares with related data
- uses and users of the data
- how the output was created
- the quality of the output including the accuracy of the data

Statistics on mortality are derived from the information provided when deaths are certified and registered. Further information about the methods and quality of these statistics can be found in the Quality and Methodology Information report. 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.

Differences referred to in this bulletin are based on unrounded figures. A difference that is described as "statistically significant" has been assessed using 95% confidence intervals. If a difference is said to be statistically significant, it is unlikely that it could have occurred by chance alone. Confidence intervals give a measure of the statistical precision of an estimate and show the range of uncertainty around the estimated figure. As a general rule, if the confidence interval around an estimate overlaps with the interval around another, there is no significant difference between the two estimates. When the number of deaths is less than 100, the method used to calculate confidence intervals is different (see Confidence intervals for weighted sums of poisson parameters for more information).