

Statistical bulletin

# Alcohol-related deaths in the UK: registered 2013

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



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# 1 . Key findings

- In 2013 there were 8,416 alcohol-related deaths registered in the UK, an age standardised rate of 14.0 deaths per 100,000 population. A small increase of 49 deaths compared to 2012 did not change the overall rate
- Looking at longer-term trends, the age standardised death rate from alcohol-related causes was the lowest since 2000
- 66% of alcohol-related deaths in the UK in 2013 were among males
- For both sexes, the UK death rates were highest among those aged 60-64 years (45.3 deaths per 100,000 males and 22.4 per 100,000 females)
- While Scotland had the highest alcohol-related death rate in 2013, it was the only constituent country of the UK with significantly lower rates than 10 years ago
- Within England, males in London had a significantly lower rate in 2013 compared with 2004. Rates in other regions for both genders remained relatively stable

## 2 . Summary

This bulletin presents alcohol-related death figures for the UK, its constituent countries and regions of England for 2013. The results are presented for the last 10 years (2004 to 2013) for ease of presentation. The accompanying reference tables contain data from 1994 onwards.

Alcohol-related deaths are mostly those caused by diseases known to be related to alcohol consumption, such as cirrhosis of the liver. Accidental or violent deaths where alcohol abuse may have played a part are not included. The full definition is explained later in this bulletin.

This bulletin contains:

- age and sex breakdowns for the UK as a whole in 2013
- time trends for the UK as a whole
- comparisons between the four countries of the UK
- figures for England, Wales, and the regions of England
- information on the wider context and uses of these statistics
- details of important methodological issues and changes

Detailed statistics for [Scotland](#), published by National Records of Scotland and for [Northern Ireland](#), published by the Northern Ireland Statistics and Research Agency (NISRA).

In 2013 there were 8,416 alcohol-related deaths registered in the UK, an age standardised rate of 14.0 deaths per 100,000 population. Of these, 5,565 deaths were males and 2,851 were females, with rates of 19.1 deaths per 100,000 males and 9.1 per 100,000 females.

Male age-specific alcohol-related death rates were around twice the female rates at all ages. The highest death rate by age was among those aged 60-64 years for both sexes (45.3 deaths per 100,000 males and 22.4 per 100,000 females).

Figures are based on deaths registered in each calendar year, rather than occurring in each year. Since the majority of alcohol-related deaths registered in 2013 also occurred in that year, registration delays are likely to have no impact on the findings.

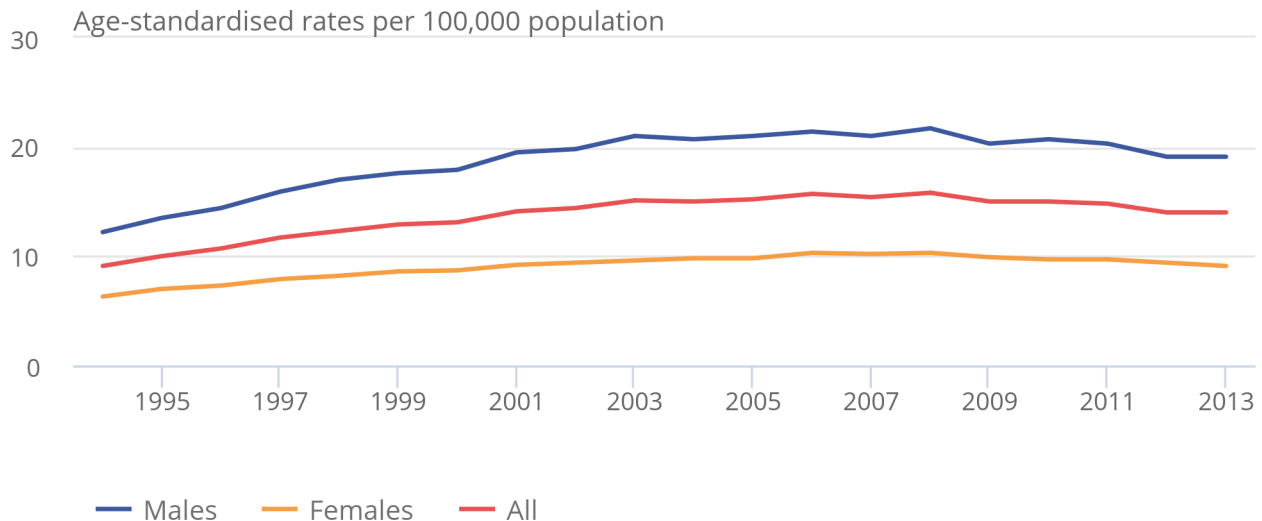
ONS is now using the 2013 European Standard Population (ESP), which replaces the 1976 version, to calculate age-standardised rates. Death rates from 1994 onwards have been revised using the 2013 ESP. Therefore, these figures differ from previously published figures which used the 1976 ESP. More information can be found in the section 'Methodological changes affecting age-standardised rates'.

**Figure 1: Alcohol-related death rates, United Kingdom, registered in 1994-2013**

United Kingdom

Figure 1: Alcohol-related death rates, United Kingdom, registered in 1994-2013

United Kingdom



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

Notes:

1. A common definition of alcohol-related death is used across the United Kingdom; the 'Definition' section has further information
2. Rates per 100,000 population, standardised to the 2013 European Standard Population
3. Deaths of non-residents are included in figures for the UK
4. Figures are for deaths registered in each calendar year
5. In 2013 the average number of days between date of death and death registration in England and Wales was five days for alcohol-related causes

### 3 . Definition

The National Statistics definition of alcohol-related deaths only includes those causes regarded as being most directly due to alcohol consumption, as shown in Box 1. It does not include other diseases where alcohol has been shown to have some causal relationship, such as cancers of the mouth, oesophagus and liver. The definition includes all deaths from chronic liver disease and cirrhosis (excluding biliary cirrhosis), even when alcohol is not specifically mentioned on the death certificate. Apart from deaths due to poisoning with alcohol (accidental, intentional or undetermined), this definition excludes any other external causes of death, such as road traffic and other accidents.

The definition allows for consistent comparisons over time for those deaths most clearly associated with alcohol consumption.

### National Statistics definition of alcohol-related deaths (ICD-10)

ICD-10 code	Text
F10	Mental and behavioural disorders due to use of alcohol
G31.2	Degeneration of nervous system due to alcohol
G62.1	Alcoholic polyneuropathy
I42.6	Alcoholic cardiomyopathy
K29.2	Alcoholic gastritis
K70	Alcoholic liver disease
K73	Chronic hepatitis, not elsewhere classified
K74	Fibrosis and cirrhosis of liver (Excluding K74.3-K74.5 - Biliary cirrhosis)
K86.0	Alcohol induced chronic pancreatitis
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

## 4 . Context and uses of these statistics

Alcohol is a psychoactive substance, with dependence producing properties. It has been widely used for ritualistic and recreational purposes for centuries. Once consumed, alcohol is quickly absorbed by the stomach and small intestine and carried throughout the blood stream where its effects on the brain are quickly established. The human body treats alcohol as a toxic substance, and removes it by breaking it down in the liver ([FPH, 2008](#)).

The harmful effects of alcohol on the human body can be categorised as acute (immediate) or chronic (longer-term). Examples of acute effects include reduced coordination and lowered inhibitions, while chronic effects include liver cirrhosis, heart disease and increased risk of developing liver, bowel and other forms of cancer ([Cancer Research 2014](#)). However, these effects are largely determined by the volume of alcohol consumed, drinking behaviour, and on exceptional occasions, the quality of the alcohol ingested ([World Health Organisation, 2011](#)) (WHO).

Although many people consume alcohol responsibly, alcohol consumption is a major preventable cause of premature death, with alcohol-related deaths accounting for 8,416 deaths in the UK in 2013. Excessive drinking causes a large number of diseases, social and economic burden on societies, and results in approximately 3.3 million (5.9 % of all deaths) deaths globally each year ([WHO, 2014](#)). This is greater than, for example, the proportion of deaths from HIV/AIDS (2.8%), violence (0.9%) or tuberculosis (1.7%) (WHO, 2014). In England, alcohol misuse costs the National Health Service (NHS) around £3.5 billion per year ([Government's Alcohol Strategy, 2012](#)).

Therefore, there is widespread policy, professional and public interest in the prevalence of alcohol-related deaths in the UK. The main users of these statistics include the Department of Health and devolved government administrations, public health organisations and local government. The figures on alcohol-related deaths are used to monitor and develop policies to protect the health of the general public.

In November 2010, the government published a White Paper titled '[Health lives, healthy people: our strategy for public health in England](#)' (Department of Health, 2010) which outlines the government's commitment to protecting the population from serious health threats and helping people to live longer, healthier and more fulfilling lives. Among other lifestyle and behavioural factors, the paper highlights the harmful effects of alcohol abuse and the associated cost to the NHS. The Home Office's [Alcohol Strategy](#) (2012) introduced a minimum unit price for alcohol and initiated a consultation on banning multi-buy alcohol discounting in order to reduce the number of people drinking to harmful levels.

Non-government users of these statistics include non-profit organisations such as [Drinkaware](#) and [Addaction](#). These organisations use the statistics to raise awareness of the potential risks associated with excessive drinking habits, to target support services to groups at risk of experiencing adverse consequences of alcohol consumption and to inform public opinion and government policy. Many of these organisations have signed up as partners to the government's [Public Health Responsibility Deal](#) (Department of Health, 2014). Academics and researchers also use the statistics to investigate the cause and impacts of alcohol-related deaths.

These statistics are of interest to the general public. Local and national media report on alcohol-related death trends and geographical patterns and may comment on the effectiveness of current or proposed government policies.

This statistical bulletin presents figures for the UK, England and Wales, and English Regions. Statistics for Scotland are also published by the [National Records of Scotland](#) while those for Northern Ireland are published by the [Northern Ireland Statistics and Research Agency](#).

## 5 . Age and sex breakdowns for the UK as a whole in 2013

Age-standardised rates take into account differences in the age structures of populations, and therefore enable the comparison of trends in alcohol-related deaths over time. However, these are overall rates which do not provide any indication of the performance of individual age groups. In contrast, age-specific rates allow comparisons to be made between age groups. This section describes the differences in alcohol-related mortality by sex and detailed (five year) age group, using age-specific rates, for 2013 only. Rates were not calculated where three or fewer deaths were recorded in an age group.

In 2013, alcohol-related death rates for men increased steadily across age groups from 0.3 per 100,000 population for those aged 20-24 to a peak of 45.3 per 100,000 for those aged 60-64 years (see figure 2). The oldest age groups from 75 years upwards had rates similar to men in their early 40s.

For women, the lowest death rate was among those aged 20-24 (0.2 per 100,000) and highest was among 60-64 year olds (22.4 per 100,000). Rates increased with age up to 60-64 years, with older age groups again having rates closer to those of women in their 40s and 50s.

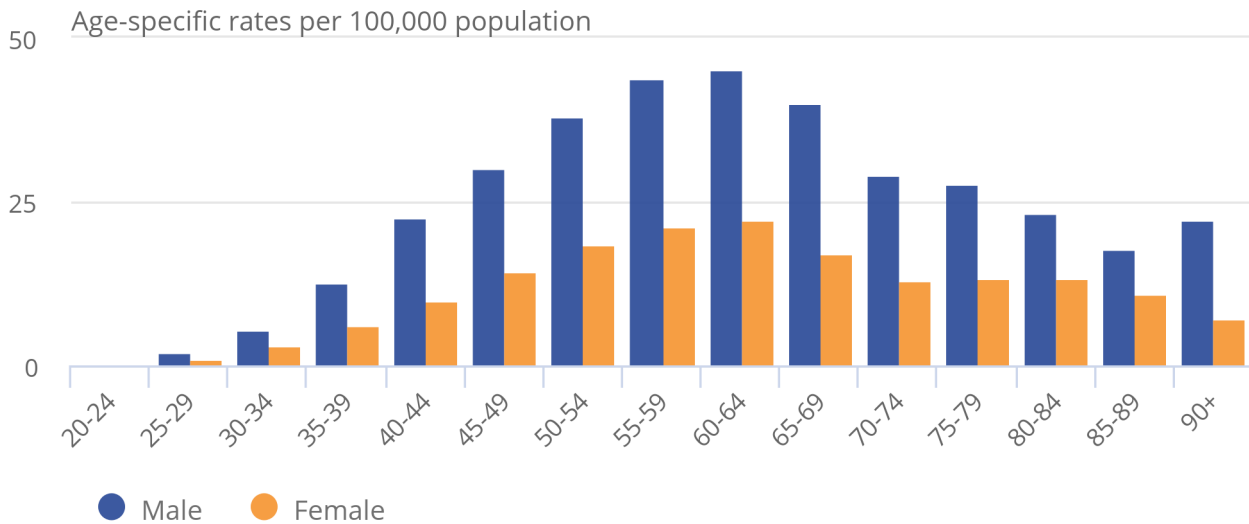
Male and female rates were not significantly different for those aged 20-24 and 85-89. In all other age groups, the alcohol-related death rate for men was approximately twice that of women. For those aged 90 years and over, the rate for men was three times higher than that of women.

**Figure 2: Age-specific alcohol-related death rates by sex and age, UK, registered in 2013**

United Kingdom

Figure 2: Age-specific alcohol-related death rates by sex and age, UK, registered in 2013

United Kingdom



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

**Notes:**

1. A common definition of alcohol-related death is used across the United Kingdom; see the 'Definition section for further information
2. Rates are not calculated for persons under 20 years of age due to small numbers of deaths
3. Deaths of non-residents are included in figures for the UK
4. In 2013 the average number of days between date of death and death registration in England and Wales was five days for alcohol-related causes

## 6 . Time trends for the UK as a whole

This section uses age-standardised rates, which allow for changes over time in the age structure of the population, to summarise trends by age and sex. Broader age groups are used than in the preceding section as these make it easier to follow the patterns over time.

The number of male alcohol-related deaths rose from 5,431 in 2004 to a peak of 5,999 in 2008 before falling to 5,565 in 2013.

Age-standardised rates were relatively stable compared to the large increase over the previous decade, but with a significant decrease seen between 2006 and 2011 and a second between 2011 and 2012. The male rate of 19.1 per 100,000 in 2013 was significantly lower than the rate of 20.7 in 2004, and the lowest since the rate of 17.9 in 2000.

For females, the number of alcohol-related deaths increased from 2,790 in 2004 to 3,032 in 2008, before falling to 2,851 in 2013.

Trends in female alcohol-related death rates were less marked than those for males, but also saw a substantial increase in the decade from 1994 followed by a decline from a peak in 2006. The age-standardised rate for females in 2013 (9.1 per 100,000), was the lowest since the rate of 8.7 per 100,000 in 2000. On the whole, the 2013 rate for females was not significantly different from that observed in 2004.

The causes of death defined as alcohol-related in this bulletin (the 'Definition' section has more details) are those causes regarded as being most directly due to alcohol consumption. Data on alcohol consumption in Great Britain in 2012, from the Opinions and Lifestyle Survey (OPN) (ONS, 2013b) showed that men were more likely to be frequent drinkers (those who drank alcohol on at least five days in the week before being interviewed) than women. The difference in alcohol consumption patterns between the sexes is likely to be the main factor responsible for the higher number of male alcohol-related deaths.

The OPN report also showed that between 2005 and 2012, the proportion of adults who drank frequently fell from 22% to 14% for men and from 13% to 9% for women. While the decrease in the proportion of frequent drinkers is likely to have an impact on the number of alcohol-related deaths recorded, it is unlikely that the full effects of this will be seen for a number of years, due to the time taken for many alcohol-related diseases to develop. For example, alcoholic liver disease, the most prevalent cause of alcohol-related deaths can take more than ten years to develop.

Variations in age-standardised rates divided into broad age bands were also observed between 2004 and 2013 (see figures 3 and 4). Due to small numbers of deaths, rates were not calculated for those aged under 15.

Those aged 55-74 consistently had the highest death rates over the period, for both sexes. Among males aged 35-54 the rate fell significantly from 29.5 per 100,000 in 2004 to 25.8 per 100,000 in 2013. For those in the other age groups, there was no significant difference between the 2004 and 2013 rates.

A similar pattern was observed for females in all age groups, with only those aged 35-54 having a significantly lower rate in 2013 than in 2004. In each year, the rate for males in each age group was approximately two to three times higher than that of females.

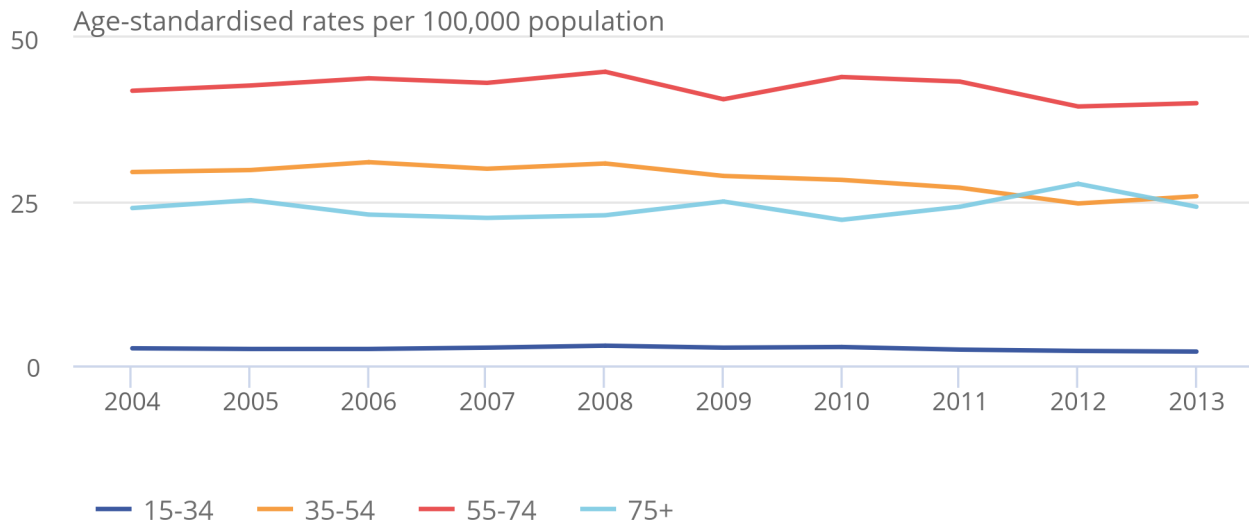


**Figure 3: Alcohol-related death rates by age group, males, UK, registered in 2004–2013**

United Kingdom

Figure 3: Alcohol-related death rates by age group, males, UK, registered in 2004–2013

United Kingdom



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

Notes:

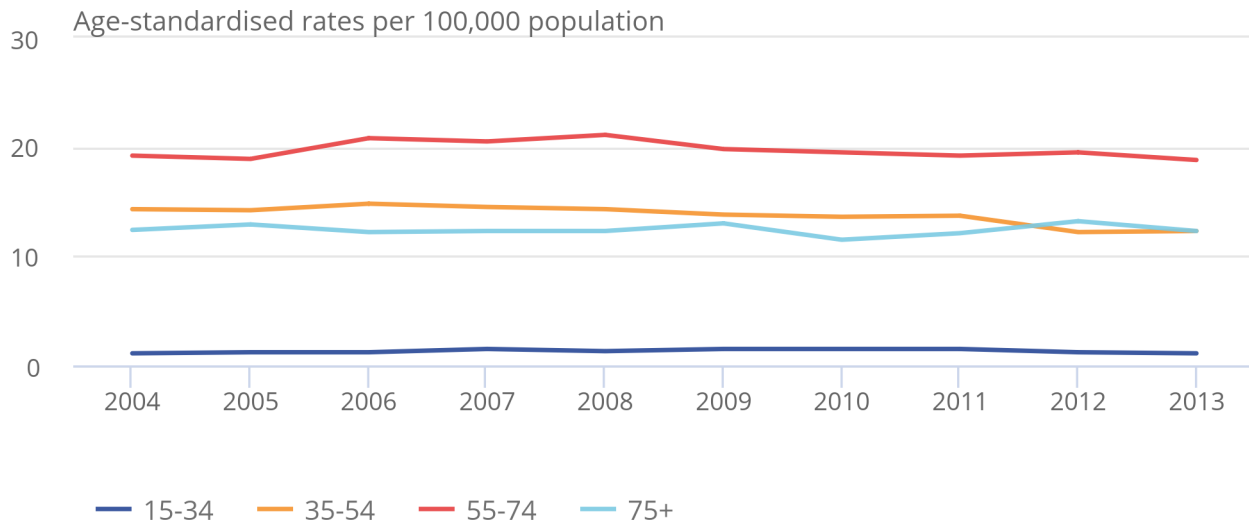
1. A common definition of alcohol-related death is used across the United Kingdom; the 'Definition' section has further information
2. Rates per 100,000 population, standardised to the 2013 European Standard Population
3. Rates not calculated for persons aged under 15 due to small number of deaths
4. Deaths of non-residents are included in figures for the UK
5. Figures are for deaths registered in each calendar year
6. In 2013 the average number of days between date of death and death registration in England and Wales was five days for alcohol-related causes

**Figure 4: Alcohol-related death rates by age group, females, UK, registered in 2004–2013**

United Kingdom

Figure 4: Alcohol-related death rates by age group, females, UK, registered in 2004–2013

United Kingdom



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

Notes:

1. A common definition of alcohol-related death is used across the United Kingdom; the 'Definition' section has further information
2. Rates per 100,000 population, standardised to the 2013 European Standard Population
3. Rates not calculated for persons aged under 15 due to small number of deaths
4. Deaths of non-residents are included in figures for the UK
5. Figures are for deaths registered in each calendar year
6. In 2013 the average number of days between date of death and death registration in England and Wales was five days for alcohol-related causes

## 7. Comparisons between the four countries of the UK

In 2013, Scotland had the highest age-standardised alcohol-related death rate for males at 29.8 per 100,000 population, while England had the lowest at 17.8 per 100,000.

Male alcohol-related death rates in England were significantly lower than in Scotland throughout the period 2004–13, but not always significantly lower than in the other two UK countries. Compared with Wales, the England male rates were significantly lower in six of the ten years examined, but comparable in the remaining four years (2007 to 2009 and 2012). Compared with Northern Ireland, rates in England were comparable for 2011 and 2013, but significantly lower in the remainder of the period.

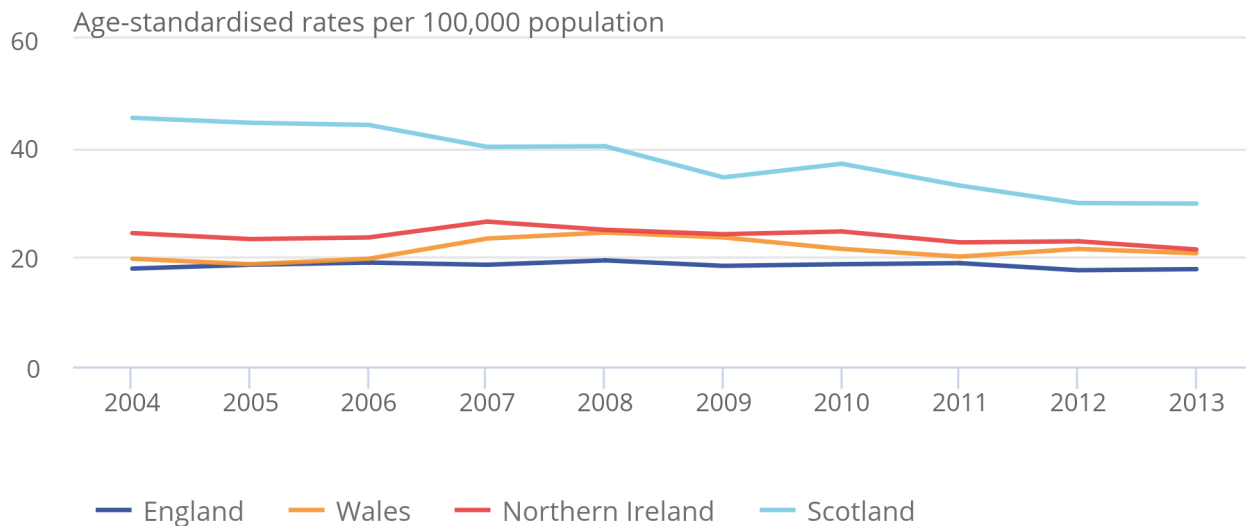
Although Scotland had the highest male alcohol-related death rates of the four UK countries throughout the decade from 2004, it was the only country with a significantly lower rate in 2013 compared with 2004 (see figure 5). While rates in Scotland fell significantly by 34% from 45.5 per 100,000 in 2004 to 29.8 per 100,000 in 2013, there was no significant change in rates for England, Wales and Northern Ireland between these years.

**Figure 5: Alcohol-related death rates, males, UK constituent country, registered in 2004–2013**

United Kingdom

Figure 5: Alcohol-related death rates, males, UK constituent country, registered in 2004–2013

United Kingdom



Source: Office for National Statistics

Notes:

1. A common definition of alcohol-related death is used across the United Kingdom' see the 'Definition' section for further information
2. Rates per 100,000 population, standardised to the 2013 European Standard Population
3. Deaths of non-residents are excluded
4. Figures are for deaths registered in each calendar year
5. In 2013 the average number of days between date of death and death registration was five for alcohol-related causes

In 2013, female alcohol-related death rates were highest in Scotland at 13.0 per 100,000 and lowest in Northern Ireland at 7.5 per 100,000.

As with males, the female rate in England was significantly lower than in Scotland throughout the period 2004–13 (see figure 6). With the exception of 2009, rates in England and Northern Ireland were not significantly different over the period, while Wales had significantly higher rates than England in six of the last 10 years.

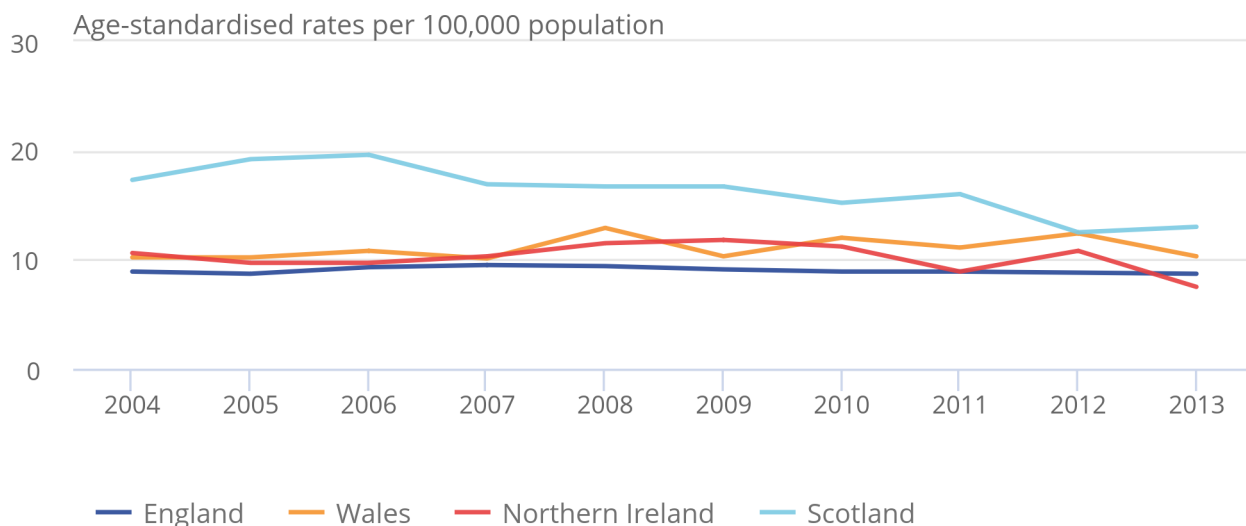
Of the four UK countries, only Scotland had a significantly lower female alcohol-related death rate in 2013 than in 2004. In Scotland, rates fell by 25% from 17.3 per 100,000 in 2004 to 13.0 per 100,000 in 2013.

**Figure 6: Alcohol-related death rates, females, UK constituent country, registered in 2004–2013**

United Kingdom

Figure 6: Alcohol-related death rates, females, UK constituent country, registered in 2004–2013

United Kingdom



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

Notes:

1. A common definition of alcohol-related death is used across the United Kingdom' the 'Definition' section has further information
2. Rates per 100,000 population, standardised to the 2013 European Standard Population
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## 8 . England, regions of England and Wales

### England

In 2013, the number of male deaths stood at 4,332, with 47% of these deaths (2,028) occurring in the 55-74 age group. Over the last 10 years (2004 to 2013), rates for males increased significantly from 17.9 per 100,000 in 2004 to 19.4 per 100,000 in 2008, before falling to 17.8 per 100,000 in 2013.

For females, the number of alcohol-related deaths was 2,260 in 2013, 146 more than in 2004. Again, as with males, most of these deaths occurred in the 55-74 age group (45%). Despite fluctuations in the annual number of deaths, rates have remained relatively stable over the last 10 years.

### Regions of England

Alcohol-related death rates for both sexes varied significantly by region within England.

For males, the highest rate in 2013 was in the North West (24.5 per 100,000 population), while the lowest was in the East of England (12.9 per 100,000). Despite annual variation in rates, the male rate in London was significantly lower in 2013 than in 2004, while in the East of England the rate was significantly higher.

Despite male rates being relatively stable in most regions in the last ten years, with the exception of London and the East of England, the 2013 rates were significantly higher than they were in 1994 for every English region.

In 2013, the highest rate for females was in the North West (12.1 per 100,000), while the lowest was in the East of England (6.2 per 100,000 population). In general, these two regions also had the highest and lowest rates, respectively, between 2004 and 2013.

The regional differences recorded in alcohol-related deaths are likely to have resulted from regional differences in drinking habits. Consumption habit data from [Public Health England \(2006\)](#) in 1998, showed that males and females in the North West were most likely to have been binge drinking on one day in the week before the survey, while males in the East of England, and females in the East of England, London and the South East were least likely to display these drinking habits.

An investigation into age-standardised hospital admissions due to alcohol-related causes 2001-2004 by the [North East Public Health Observatory \(2006\)](#) revealed a similar pattern, with the North West recording the highest regional admissions, and the East of England recording the lowest rates for both sexes.

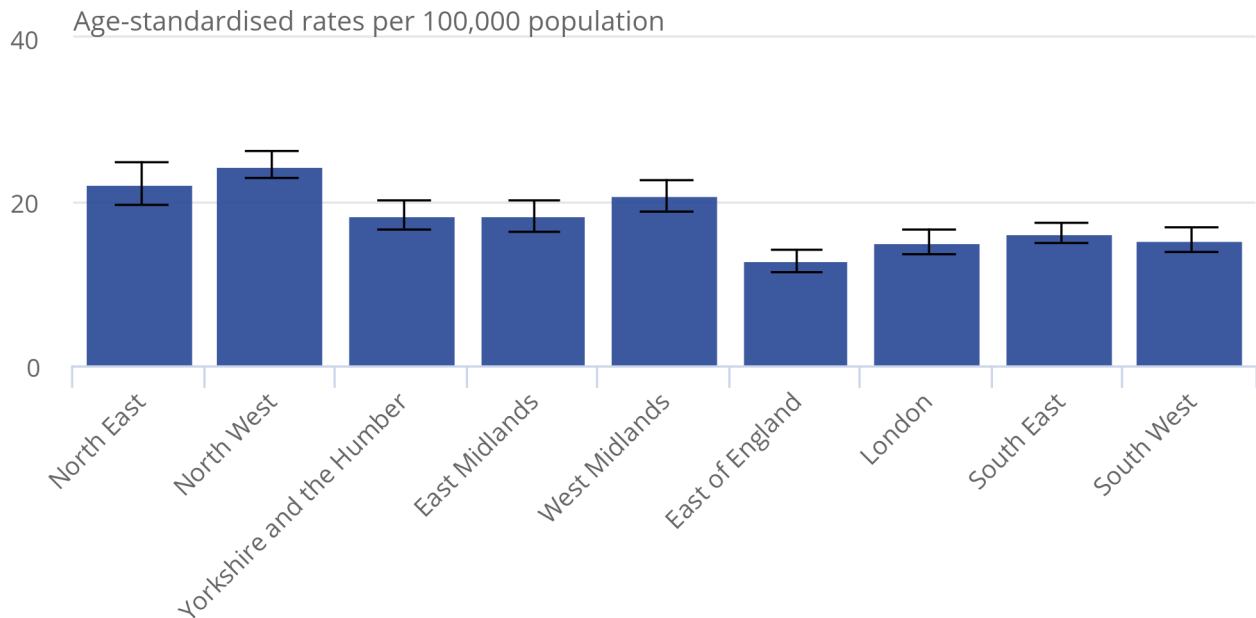
The geographic variation in alcohol-related death rates has been well documented in previous research. For example, [Breakwell et al. \(2007\) \(2.95 Mb Pdf\)](#) reported a strong link between higher alcohol-related death rates and those living in the most deprived neighbourhoods of England and Wales. Similarly, [Fone et al. \(2013\)](#) showed that those living the most deprived areas of Wales were more likely to demonstrate harmful binge drinking behaviour than those in the least deprived areas. [Erskine et al. \(2010\)](#) also supported these findings, additionally reporting higher risk of alcohol-related deaths in urban areas, after accounting for socio-economic status.

**Figure 7a: Alcohol-related death rates, with 95% confidence intervals, by region, registered in 2013**

Male

Figure 7a: Alcohol-related death rates, with 95% confidence intervals, by region, registered in 2013

Male



Source: Office for National Statistics

Notes:

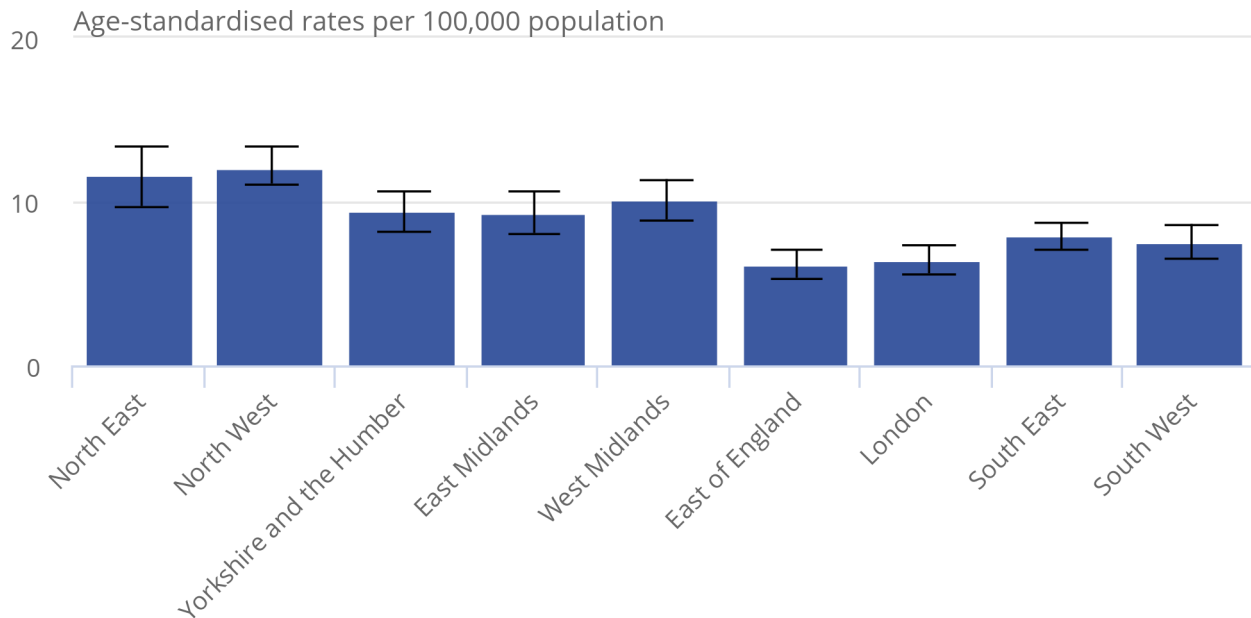
1. A common definition of alcohol-related death is used across the United Kingdom; see the 'Definition' section for further information
2. Rates per 100,000 population, standardised to the 2013 European Standard Population
3. Deaths of non-residents are excluded
4. Figures are for deaths registered in each calendar year
5. 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 one figure overlaps with the interval around another, we cannot say with certainty that there is more than a chance difference between the two figures
6. In 2013 the average number of days between date of death and death registration was five days for alcohol-related causes

**Figure 7b: Alcohol-related death rates, with 95% confidence intervals, by region, registered in 2013**

Female

Figure 7b: Alcohol-related death rates, with 95% confidence intervals, by region, registered in 2013

Female



Source: Office for National Statistics

Notes:

1. A common definition of alcohol-related death is used across the United Kingdom; see the 'Definition' section for further information
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6. In 2013 the average number of days between date of death and death registration was five days for alcohol-related causes

## Wales

In 2013, the alcohol-related death rate for males was significantly higher in Wales than in England (20.7 per 100,000 compared with 17.8 per 100,000 population). Between 1994 and 2008 alcohol-related death rates for males almost doubled, increasing from 12.7 per 100,000 population to 24.5 per 100,000. However, like England, rates in Wales have remained relatively stable since.

For females in Wales in 2013, the alcohol-related death rate was 10.3 per 100,000. This rate was not significantly different from that observed in England. As with males, female death rates increased significantly between 1994 and 2008, from 6.1 per 100,000 to 12.9 per 100,000.

## 9 . Data tables - Males

**Table 1: Male alcohol-related death rates: by UK country and region of England, 2004-2013**

Country/Region	Rate per 100,000 population									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
United Kingdom	20.7	21.0	21.4	21.0	21.7	20.3	20.7	20.3	19.1	19.1
England	17.9	18.6	19.0	18.6	19.4	18.4	18.7	18.9	17.6	17.8
North East	20.4	23.9	22.8	24.8	24.5	23.8	25.9	24.8	21.3	22.3
North West	24.0	24.0	24.2	26.9	26.2	25.0	24.0	26.3	24.3	24.5
Yorkshire and The Humber	18.5	19.9	19.5	18.8	18.9	18.3	18.6	18.9	18.4	18.4
East Midlands	14.7	16.8	16.7	15.9	18.9	17.3	18.7	18.4	16.8	18.3
West Midlands	20.5	21.9	22.0	21.4	24.2	21.2	21.0	21.7	19.5	20.7
East of England	12.2	12.1	13.7	14.0	14.8	13.6	14.0	14.5	12.6	12.9
London	20.0	19.5	21.8	17.3	18.4	17.7	18.4	17.0	17.3	15.1
South East	15.1	15.8	16.1	15.6	15.1	15.5	15.9	15.7	14.9	16.2
South West	15.0	17.2	15.7	16.4	17.1	16.9	16.9	16.8	16.9	15.4
Wales	19.7	18.7	19.7	23.4	24.5	23.6	21.5	20.1	21.5	20.7
Scotland	45.5	44.6	44.2	40.2	40.3	34.6	37.1	33.1	29.9	29.8
Northern Ireland	24.4	23.3	23.6	26.5	25.0	24.2	24.7	22.7	22.9	21.4

Source: Office for National Statistics

### Notes:

1. A common definition of alcohol-related death is used across the United Kingdom; see the 'Definition' section for further information
2. Rates per 100,000 population standardised to the 2013 European Standard Population
3. Deaths of non-residents are included in figures for the UK, but excluded in figures for England, Wales and regions
4. Figures are for deaths registered in each calendar year
5. In 2013 the average number of days between date of death and death registration in England and Wales was 5 days for alcohol-related causes
6. Figures for 2002 to 2010 are based on mid-year population estimates, revised in light of the 2011 Census



**Table 2: Number of male alcohol-related deaths: by UK country and region of England, registered in 2004-2013**

Country/Region	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
United Kingdom	5,431	5,566	5,768	5,732	5,999	5,690	5,865	5,792	5,473	5,565
England	3,922	4,103	4,271	4,234	4,476	4,315	4,439	4,503	4,232	4,332
North East	278	269	294	291	310	287	314	303	255	277
North West	742	750	761	845	826	811	780	863	792	807
Yorkshire and The Humber	414	446	447	439	447	437	451	456	449	455
East Midlands	280	327	334	318	388	362	399	391	363	392
West Midlands	484	518	533	521	601	529	535	554	500	532
East of England	297	299	343	360	389	360	372	388	344	356
London	541	517	601	477	524	510	544	499	504	458
South East	534	570	584	583	569	597	616	621	591	656
South West	352	407	374	400	422	422	428	428	434	399
Wales	266	254	271	326	344	334	309	287	311	306
Scotland	1,037	1,021	1,040	959	971	837	909	815	741	741
Northern Ireland	174	171	173	199	185	187	191	177	178	172

Source: Office for National Statistics

Notes:

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2. Deaths of non-residents are included in figures for the UK, but excluded in figures for England, Wales and regions
3. Figures are for deaths registered in each calendar year
4. In 2013 the average number of days between date of death and death registration in England and Wales was 5 days for alcohol-related causes

## 10 . Data tables - Females

**Table 3: Female alcohol-related death rates: by UK country and region of England, registered in 2004-2013**

Country/Region	Rate per 100,000 population									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
United Kingdom	9.8	9.8	10.3	10.2	10.3	9.9	9.7	9.7	9.4	9.1
England	8.9	8.7	9.3	9.5	9.4	9.1	8.9	8.9	8.8	8.7
North East	11.8	10.6	11.2	12.8	13.6	12.6	11.9	12.0	11.4	11.6
North West	12.9	12.7	13.4	14.0	14.5	12.9	13.2	12.6	13.6	12.1
Yorkshire and The Humber	8.5	8.4	9.6	9.7	8.3	9.1	8.7	10.3	8.8	9.4
East Midlands	9.9	8.6	7.9	9.0	9.0	9.4	8.1	8.5	8.3	9.3
West Midlands	10.3	10.2	10.4	11.2	11.8	10.7	10.8	11.1	10.2	10.1
East of England	6.9	7.1	7.8	7.7	6.4	6.4	6.7	6.8	7.2	6.2
London	7.4	7.8	7.6	7.5	7.1	7.2	7.7	6.3	7.0	6.5
South East	7.6	7.6	8.5	7.6	7.7	7.8	7.2	7.6	7.4	7.9
South West	6.7	6.7	8.0	7.8	8.2	8.2	7.3	7.8	7.2	7.5
Wales	10.2	10.2	10.8	10.1	12.9	10.3	12.0	11.1	12.4	10.3
Scotland	17.3	19.2	19.6	16.9	16.7	16.7	15.2	16.0	12.5	13.0
Northern Ireland	10.6	9.7	9.7	10.3	11.5	11.8	11.2	8.9	10.8	7.5

Source: Office for National Statistics

Notes:

1. A common definition of alcohol-related death is used across the United Kingdom; see the 'Definition' section for further information
2. Rates per 100,000 population standardised to the 2013 European Standard Population
3. Deaths of non-residents are included in figures for the UK, but excluded in figures for England, Wales and regions
4. Figures are for deaths registered in each calendar year
5. In 2013 the average number of days between date of death and death registration in England and Wales was 5 days for alcohol-related causes
6. Figures for 2003 to 2010 are based on mid-year population estimates, revised in light of the 2011 Census

**Table 4: Number of female alcohol-related deaths: by UK country and region of England, registered in 2004-2013**

Country/Region	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
United Kingdom	2,790	2,820	2,990	2,992	3,032	2,974	2,925	2,956	2,894	2,851
England	2,114	2,094	2,246	2,310	2,295	2,267	2,230	2,272	2,263	2,260
North East	148	133	141	164	175	163	155	158	150	153
North West	425	423	448	465	486	438	449	433	469	422
Yorkshire and The Humber	204	203	235	239	208	229	221	261	226	244
East Midlands	202	178	170	194	194	205	180	188	187	211
West Midlands	258	259	268	288	307	280	286	296	276	274
East of England	186	193	214	214	180	180	193	198	211	185
London	217	227	222	227	215	226	244	205	225	211
South East	297	304	337	310	308	327	306	322	320	343
South West	177	174	211	209	222	219	196	211	199	217
Wales	150	152	159	151	197	159	185	172	193	161
Scotland	441	492	506	440	440	445	409	432	339	359
Northern Ireland	81	75	75	84	91	96	93	75	92	64

Source: Office for National Statistics

Notes:

1. A common definition of alcohol-related death is used across the United Kingdom; see the 'Definition' section for further information
2. Deaths of non-residents are included in figures for the UK, but excluded in figures for England, Wales and regions
3. Figures are for deaths registered in each calendar year
4. In 2013 the average number of days between date of death and death registration in England and Wales was 5 days for alcohol-related causes

## 11 . Methodological changes affecting age-standardised rates

The European Standard Population (ESP) is an artificial population structure used to weight mortality or incidence data to produce age-standardised rates. Eurostat, the statistical office of the European Union, updated this population structure at the end of 2012.

The 2013 ESP takes into account changes in the EU population, providing a more current, methodologically sound and widely acceptable basis for calculating age-standardised rates than the previous 1976 ESP ([Eurostat, 2013](#)).

An [ONS report examining the impact of the change in ESP on mortality data \(2013a\)](#) showed that sex-specific rates, for causes where deaths predominantly occur at older ages, are significantly higher under the 2013 ESP compared with the 1976 ESP. This is because the larger number of older people in the 2013 ESP exerts more influence on these rates than the 1976 ESP. Since alcohol-related deaths occur more at older ages, the rates presented here are greater in magnitude than those previously published using the 1976 ESP for the same periods. However, the difference between death rates based on the old and new ESP is purely methodological and does not indicate an actual increase in the previously published numbers of deaths or death rates.

## 12 . Modifications to standard error and confidence interval calculations

The mortality data in this release are not subject to sampling variation as they were not drawn from a sample. Nevertheless, they may be affected by random variation, particularly where the number of deaths or probability of dying is small. To help assess the variability in the rates, they have been presented alongside 95% confidence intervals (CI's).

Traditionally, a normal approximation method is used to calculate confidence intervals on the assumption that alcohol-related deaths are normally distributed. However, in some instances, for example in Wales, the annual number of alcohol-related deaths may be relatively small (fewer than 100), and may be assumed to follow a Poisson probability distribution. In such cases, it is more appropriate to use the confidence limit factors from a Poisson distribution table to calculate the confidence intervals instead of a normal approximation method.

For age-standardised rates, the method used in calculating confidence intervals for rates based on fewer than 100 deaths was proposed by [Dobson et al., \(1991\)](#) as described in [APHO. \(2008\)](#). For age-specific rates, the exact Poisson limit factors for the age-specific number of deaths was used to calculate 95% CI's where there were fewer than 100 deaths in a particular age group.

For both age-standardised and age-specific rates, normal approximation methods were used to calculate 95% CI's where there were 100 or more deaths.

Full details of all the methodological changes in this bulletin will be published in the [Quality and Methodology information note for 'Alcohol-related deaths' \(144 Kb Pdf\)](#) at a later date.

## 13 . 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.

Alcohol-related death statistics are presented based on the number of deaths registered in each calendar year, rather than the number of deaths that actually occurred in that year. 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.

In 2013, fewer deaths from alcohol related causes were registered within 5 days than deaths from all other causes (56% compared to 73%). The median time taken for a death to be registered was 5 days, a day longer than from all other causes of death, with a range of 0 to 1,563 days. Approximately 79% of alcohol related deaths were registered within 30 days, while 6% took upwards of 6 months to be registered. 91% of alcohol-related deaths which occurred in 2013 were also registered in 2013. The median registration delay for alcohol-related deaths in Scotland was 3 days, while for Northern Ireland it was 6 days.

**Table 5: Registration period for alcohol-related deaths and all-cause mortality, England and Wales, deaths registered in 2013**

Cause	Deaths registered in 2013	Proportion of deaths registered (per cent)					
		Within 5 days	Six days to one month (6-30 days)	One to three months (31 - 91 days)	Three to six months (92 - 183 days)	Six months to one year (184 - 365 days)	Over 1 year (over 365 days)
Alcohol-related	7,080	61.0%	22.1%	6.6%	7.6%	5.1%	1.4%
All-cause	506,790	73.2%	20.5%	1.6%	2.2%	1.8%	0.8%

Source: Office for National Statistics

Notes:

1. All cause mortality was extracted based on the underlying cause of death, defined using the International Classification of Diseases, tenth revision (ICD-10)
2. A common definition of alcohol-related death is used across the United Kingdom; see the 'Definition' section for further information
3. Figures include deaths of non-residents
4. Deaths where the day and/or month of death are missing have been excluded

## 14 . Results on the Office for National Statistics website

Figures for alcohol-related deaths for the UK, England, Wales and regions of England can be found in [Microsoft Excel workbooks](#) on the Office for National Statistics website.

The three workbooks contain:

- Results for the UK – age-standardised rates per 100,000 (with 95% confidence intervals) and numbers of alcohol-related deaths for the period 1994 to 2013. Figures are available split by sex and broad age groups (All ages, 15-34, 35-54, 55-74 and 75 and over)
- Results for constituent countries of the UK- the number of alcohol-related deaths for the period 2001-2013. Figures are available split by sex, 5 year age group, and individual cause of death code
- Results for England and Wales – age-standardised rates per 100,000 (with 95% confidence intervals) and numbers of alcohol-related deaths for England and Wales, England, Wales and regions of England for the period 1994-2013. Figures are available split by sex and broad age groups (All ages, 15-34, 35-54, 55-74 and 75 and over; figures presented by sex only for regions of England)

## 15. References

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World Health Organisation (2011) [Global Status Report on Alcohol and Health](#). [Accessed 20/01/2015]

World health Organisation (2014) [Global Status Report on Alcohol and Health 2014](#). [Accessed 20/01/2015]

## 16. Background notes

1. 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 Report \(382.3 Kb Pdf\)](#).
2. In England and Wales, deaths should be registered within five days of the death occurring, but there are some situations which result in the registration of the death being delayed, for instance if a death is considered unexpected, accidental or suspicious. In 2013 the average number of days between date of death and death registration was five days for alcohol-related causes. Further information on the impact of registration delays on data quality is available.

3. 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.
4. The tenth revision of the International Classification of Diseases (ICD-10) was introduced in Scotland in 2000 and in England and Wales and Northern Ireland in 2001.
5. The introduction of ICD-10 in England and Wales in 2001 had a significant effect on mortality rates for some diseases, causing a discontinuity in mortality trends for these causes of death. However, the change resulted in a difference of less than 1% in the number of deaths from alcohol-related causes.
6. Figures are for deaths registered in each calendar year.
7. This bulletin presents age-standardised rates calculated using the direct method of standardisation while the 2013 European Standard Population was used as the standard. These make allowances for differences in the age structure of the population, over time and between sexes. The age-standardised rate for a particular cause of death is that which would have occurred if the observed age-specific rates for that cause had applied in the given standard population. Previously published rates for 1991-1993 are not comparable with those calculated using 1976 ESP.
8. Mid 2002–10 population estimates have been revised in light of the 2011 Census for each UK constituent country. UK rates for this period have therefore been rebased on these revised population estimates and may differ from previously published figures for the period.
9. Within this bulletin, a difference which 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.
10. Alcohol-related death rates included in this bulletin are presented with 95% confidence intervals in the reference tables accompanying this release.
11. Special extracts and tabulations of alcohol-related death (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:

Mortality Analysis Team, Life Events and Population Sources Division  
Office for National Statistics  
Government Buildings  
Cardiff Road  
Newport  
Gwent  
NP10 8XG

Tel: 01633 456736 E-mail: [mortality@ons.gsi.gov.uk](mailto:mortality@ons.gsi.gov.uk)

The ONS charging policy is available on the ONS website.

12. As a valued user of our statistics, we would welcome feedback on this release. In particular, the content, format and structure. Please send feedback to the postal or e-mail address above.
13. Details of the policy governing the release of new data are available from the Media Relations Office. [media.relations@ons.gsi.gov.uk](mailto:media.relations@ons.gsi.gov.uk)
14. National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.
15. Differences referred to in this bulletin are based on unrounded figures.

16. Details of the policy governing the release of new data are available by visiting [www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html](http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html) or from the Media Relations Office email: [media.relations@ons.gsi.gov.uk](mailto:media.relations@ons.gsi.gov.uk)

These National Statistics are produced to high professional standards and released according to the arrangements approved by the UK Statistics Authority.