Office for National Statistics

Statistical bulletin

Quarterly alcohol-specific deaths in England and Wales: 2001 to 2019 registrations and Quarter 1 (Jan to Mar) to Quarter 4 (Oct to Dec) 2020 provisional registrations

Quarterly rates and numbers of deaths caused by diseases known to be a direct consequence of alcohol misuse. Includes 2001 to 2019 registrations and provisional registrations for Quarter 1 (Jan to Mar) to Quarter 4 (Oct to Dec) 2020.

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1 . Main points

- Provisional data for England and Wales show there were 7,423 deaths (13.0 per 100,000 people) from alcohol-specific causes registered in 2020, a 19.6% increase compared with 2019 (6,209 deaths; 11.0 per 100,000 people) and the highest annual total in our time-series (beginning in 2001).
- There were 1,963 alcohol-specific deaths registered in Quarter 4 (Oct to Dec) of 2020, and with an age-standardised rate of 13.6 deaths per 100,000 people, this was the highest rate for any quarter in almost two decades.
- When comparing the same quarter across the years, the rate in Quarter 1 (Jan to Mar) 2020 was statistically similar to rates in previous years, however, rates in Quarter 2 (Apr to June), Quarter 3 (July to Sept) and Quarter 4 2020 were all statistically significantly higher than in any other year back to 2001.
- The difference between 2019 and 2020 has been increasing in each successive quarter; the age-standardised rate in 2020 was 8.5% higher in Quarter 1, 17.4% higher in Quarter 2, 21.9% in Quarter 3 and 28.3% higher in Quarter 4, than in the equivalent quarter of 2019.
- Provisional analysis for England shows that the male alcohol-specific death rate in 2020 was 4.2 times higher in the most deprived local areas than the least deprived local areas (34.1 compared with 8.1 deaths per 100,000, respectively); in 2019 the same rate was 3.8 higher in the most deprived local areas than the least deprived local areas (29.1 compared with 7.6 deaths per 100,000, respectively).

Analysis for 2020 is provisional and may change when the final figures are published in our annual Alcohol-specific deaths in the UK bulletin.

2 . Alcohol-specific deaths in England and Wales

Alcohol-specific deaths registered in 2020

A provisional total of 7,423 alcohol-specific deaths were registered in England and Wales in 2020, a 19.6% increase when compared with 2019 (6,209 deaths). Equivalent to a provisional age-standardised rate of 13.0 deaths per 100,000 people, the alcohol-specific death rate in 2020 represents a statistically significant rise of 18.2% from the rate (11.0 deaths per 100,000) in 2019.

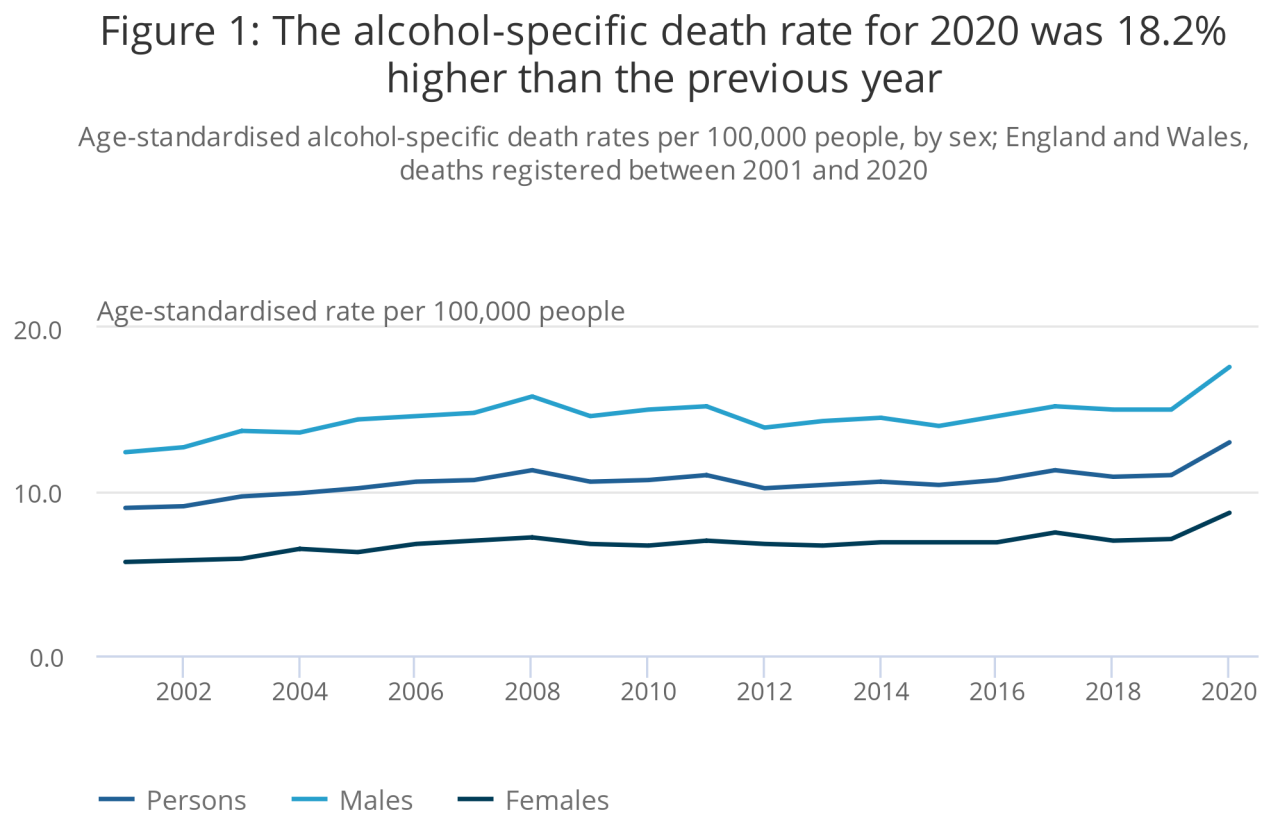
Between 2001 and 2019, the number of alcohol-specific deaths increased by an average of 2.1% each year which is equivalent to an average annual increase of 1.2% in the alcohol-specific death rate over the same period. The rise seen in 2020 is greater than any other year since 2001.

Alcohol-specific deaths only include those health conditions where each death is a direct consequence of alcohol misuse (that is, wholly-attributable causes such as alcoholic liver disease). See Section 8. Measuring the data for more information.

Consistent with previous years, the alcohol-specific death rate for males in 2020 (17.6 deaths per 100,000 males; 4,891 deaths) was around twice the rate for females (8.7 deaths per 100,000 females; 2,532 deaths).

Figure 1: The alcohol-specific death rate for 2020 was 18.2% higher than the previous year

Age-standardised alcohol-specific death rates per 100,000 people, by sex; England and Wales, deaths registered between 2001 and 2020



Source: Office for National Statistics – Quarterly alcohol-specific deaths in England and Wales

Notes:

1. Figures for 2020 are provisional and will be finalised in the annual Alcohol-specific deaths in the UK bulletin.
2. Rates are expressed per 100,000 population and standardised to the 2013 European Standard Population.
3. Deaths of non-residents are included in figures for England and Wales.
4. Figures are for deaths registered in each calendar year.

The National Statistics definition of alcohol-specific deaths includes only those health conditions where each death was a direct consequence of alcohol misuse (that is, wholly-attributable deaths). Most of these are chronic (longer-term) conditions associated with continued misuse of alcohol. Therefore, the increase in deaths in 2020 is more likely to be attributed to those with previous history of alcohol misuse or dependency.

3 . Quarterly analysis

Alcohol-specific deaths registered in 2020 by quarter

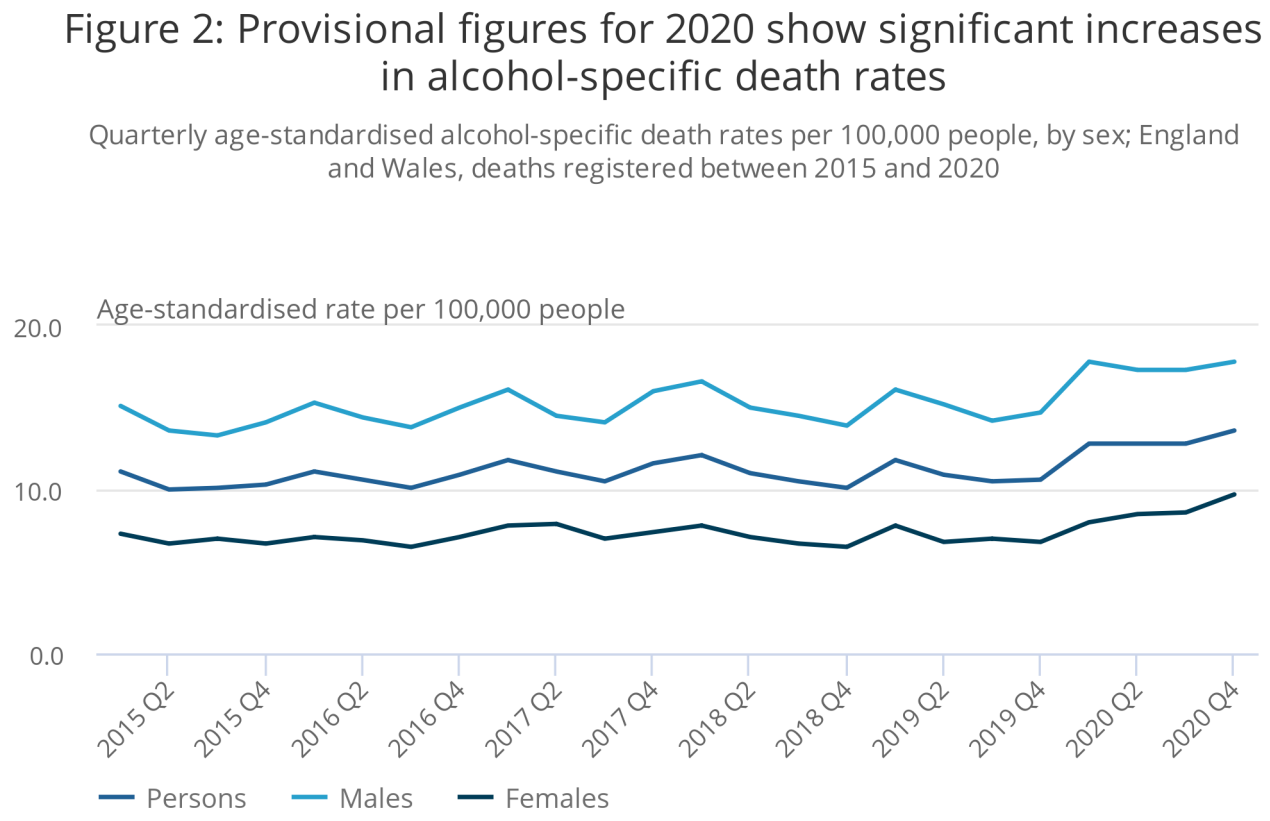
Rates of alcohol-specific deaths have statistically significantly increased since the second quarter of 2020 compared with the same period in 2019. Quarters 2 (Apr to June) and 3 (July to Sept) 2020 both saw provisional rates of 12.8 alcohol-specific deaths per 100,000 people, and with 13.6 deaths per 100,000 population, Quarter 4 (Oct to Dec) 2020 saw the highest recorded rate of any quarter since 2001. All of these rates were statistically significantly higher than the respective periods in 2019.

The difference in rates of alcohol-specific deaths between 2019 and 2020 has grown larger with each quarter. The rate in Quarter 1 (Jan to Mar) 2020 was 8.5% higher than the same period in 2019; in Quarter 2 2020 the rate was 17.4% higher; in Quarter 3 2020 the rate was 21.9% higher; and in Quarter 4 2020 the rate was 28.3% higher.

Since 2001, rates of alcohol-specific deaths in England and Wales have generally been higher in the first quarter of each year. As such, while there were 12.8 alcohol-specific deaths per 100,000 in Quarter 1 2020, this was not statistically significantly different to the rate seen for that period in 2019.

Figure 2: Provisional figures for 2020 show significant increases in alcohol-specific death rates

Quarterly age-standardised alcohol-specific death rates per 100,000 people, by sex; England and Wales, deaths registered between 2015 and 2020



Source: Office for National Statistics – Quarterly alcohol-specific deaths in England and Wales

Notes:

1. Figures are for deaths registered in each calendar year and quarter.
2. "Q1" refers to Quarter 1 (Jan to Mar), "Q2" refers to Quarter 2 (Apr to June), "Q3" refers to Quarter 3 (July to Sept), "Q4" refers to Quarter 4 (Oct to Dec).
3. See Figure 1 for other relevant notes (notes 1 to 3).

Alcohol-specific deaths by country and English region

England

Figures for England tend to follow a similar pattern to that of England and Wales combined, with quarterly rates ranging between 12.6 and 13.6 deaths per 100,000 people in 2020. Compared with the same period in 2019, rates were statistically significantly higher in England in Quarters 2, 3 and 4 2020.

Wales

As shown in Figure 3, alcohol-specific rates for Wales increased to 15.7 deaths per 100,000 in Quarter 1 2020 before declining in subsequent quarters. Rates for Wales by quarter have not changed in recent years in terms of statistical significance; because of the smaller number of registered deaths, Wales tends to have a more volatile pattern than England.

English regions

When comparing quarterly rates for the English regions in 2020 with the corresponding quarter in 2019 there were significant increases in the North East and London in Quarter 2 2020, in the South West in Quarter 3 2020, and in the North West, West Midlands and South East in Quarter 4 2020.

Rates for persons are presented in Figure 3, though caution is recommended when directly comparing regional rates; because of the relatively smaller number of deaths, rates for English regions by quarter of death registration have a wide degree of statistical uncertainty.

Figure 3: Alcohol-specific death rates rose in Quarter 4 in the majority of English regions and Wales

Quarterly age-standardised alcohol-specific death rates per 100,000 people, by English region, Wales and England, deaths registered between Quarter 1 2015 and Quarter 4 2020

Notes:

1. Figures for England, Wales and English regions exclude deaths of non-residents and are based February 2021 boundaries.
2. See Figure 2 for other relevant notes (notes 1 to 2).

Download the data

4 . Alcohol-specific deaths and deprivation

This section looks at alcohol-specific death rates and how these differ among those living in the most deprived local areas versus the least deprived areas.

The Index of Multiple Deprivation (IMD) is an overall measure of deprivation based on factors such as income, employment, health, education, crime, the living environment and access to housing within an area. There are different measurements for England and Wales, which are not directly comparable.

England

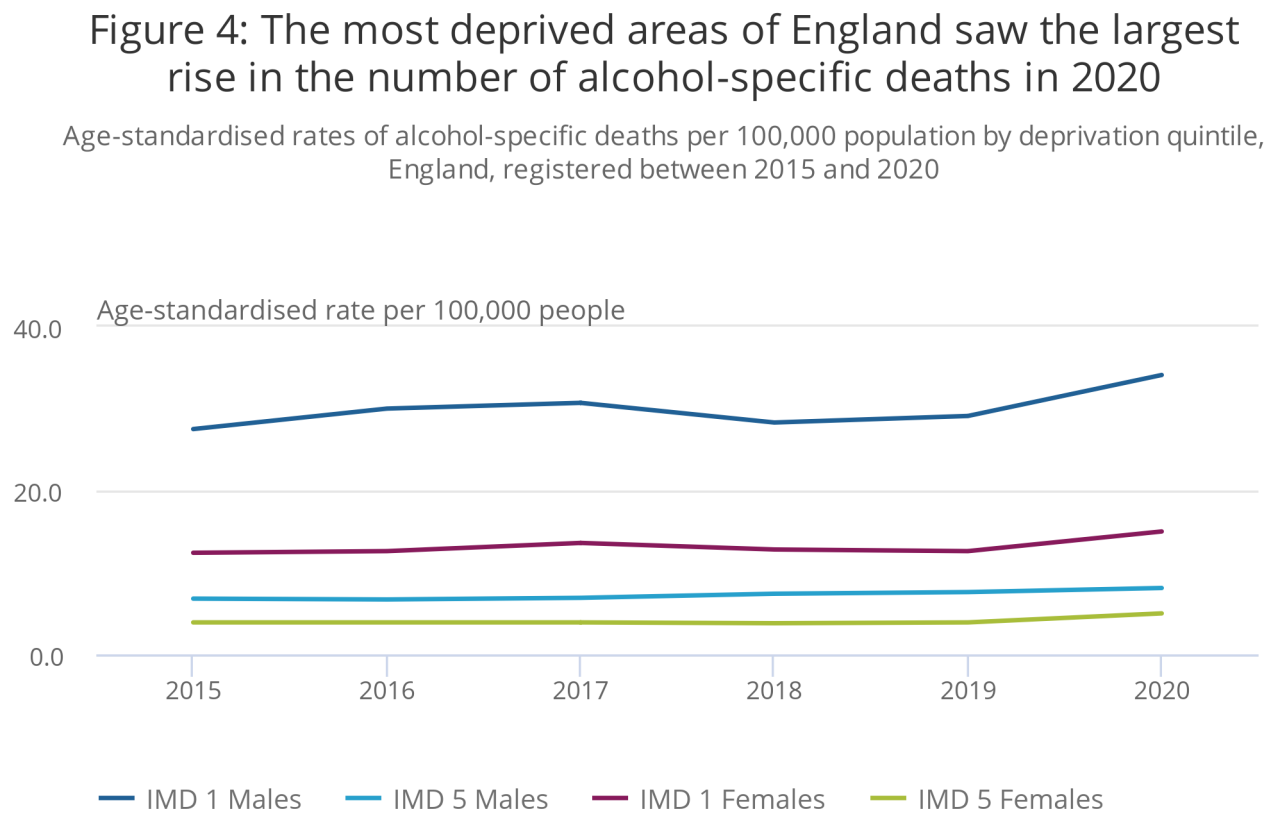
In previous years alcohol-specific deaths have disproportionately affected areas with higher levels of deprivation (see Figure 4). In 2019 the alcohol-specific death rate for males was 3.8 times higher in the most deprived quintile (Quintile 1; 29.1 deaths per 100,000) than in the least deprived quintile (Quintile 5; 7.6 deaths per 100,000), and for females the rate was 3.2 times higher in the most deprived quintile (12.6 deaths per 100,000) than in the least deprived quintile (3.9 deaths per 100,000).

In 2020 the relative difference between the most deprived and least deprived areas had increased for males and decreased for females. The rate for males was 4.2 times higher in the most deprived quintile (34.1 deaths per 100,000) compared with the least deprived quintile (8.1 deaths per 100,000), and the rate for females was 3.0 times higher in the most deprived quintile (15.0 deaths per 100,000) compared with the least deprived quintile (5.0 deaths per 100,000).

Further analysis for each quintile of deprivation is available in the accompanying dataset. Interestingly, those who lived in the fourth quintile of deprivation saw the largest increase between 2019 and 2020, with alcohol-specific death rates in this quintile increasing statistically significantly by 22.6% and by 34.0% in males and females, respectively.

Figure 4: The most deprived areas of England saw the largest rise in the number of alcohol-specific deaths in 2020

Age-standardised rates of alcohol-specific deaths per 100,000 population by deprivation quintile, England, registered between 2015 and 2020



Source: Office for National Statistics – Quarterly alcohol-specific deaths in England and Wales

Notes:

1. IMD Quintiles range from 1 (most deprived) to 5 (least deprived).
2. See Figure 2 for other relevant notes.

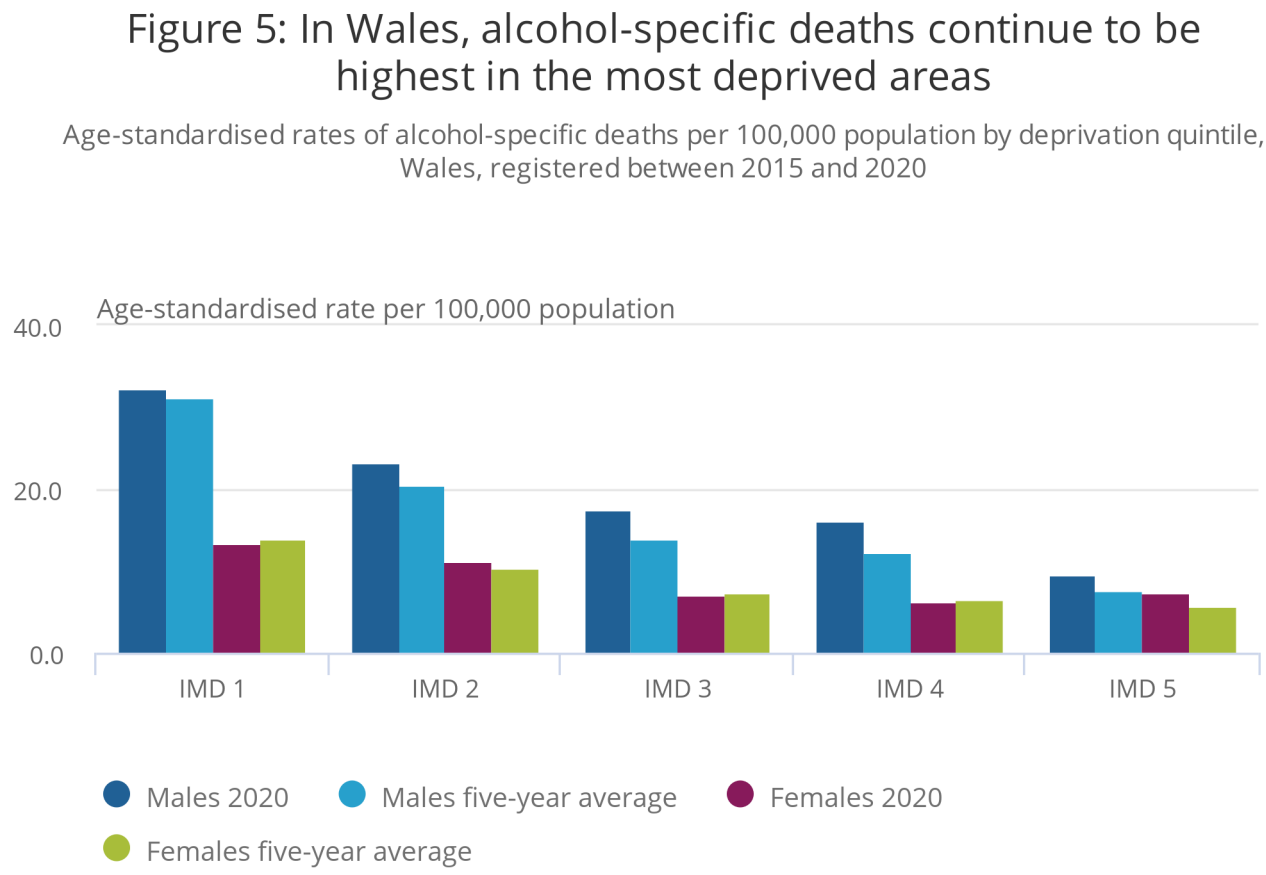
Wales

The lower number of deaths in Wales makes it difficult to examine the relationship between deprivation and alcohol-specific deaths for single years. Instead looking at the five-year average (2015 to 2019 registrations), the overall relationship between deprivation and alcohol-specific deaths is the same as England with the highest rates in the most deprived areas (Quintile 1), and the lowest rates in the least deprived (Quintile 5).

None of the observed differences between rates by IMD in 2020 and the five-year average were statistically significant (Figure 5).

Figure 5: In Wales, alcohol-specific deaths continue to be highest in the most deprived areas

Age-standardised rates of alcohol-specific deaths per 100,000 population by deprivation quintile, Wales, registered between 2015 and 2020



Source: Office for National Statistics – Quarterly alcohol-specific deaths in England and Wales

Notes:

1. IMD Quintile range from 1 (most deprived) to 5 (least deprived).
2. See Figure 2 for other relevant notes.

5 . Factors that could be associated with the 2020 increase in alcohol-specific deaths

When trying to understand the elevated rates of alcohol-specific deaths seen since April 2020, there will be many complex factors, and it may be some time before we fully understand all of these.

Data from Public Health England show that consumption patterns have changed since the onset of the coronavirus (COVID-19) pandemic. Alcohol consumption is a contributing factor to hospital admissions and death.

For further discussion see our previous release.

6 . Quarterly data

The accompanying dataset includes more data on alcohol-specific deaths by:

- Age group
- Underlying cause of death
- Coronavirus (COVID-19) as a contributing cause of death

Quarterly alcohol-specific deaths in England and Wales
Dataset | Released 6 May 2021
Quarterly rates and numbers of deaths caused by diseases known to be a direct consequence of alcohol misuse. Includes 2001 to 2019 registrations and provisional registrations for Quarter 1 (Jan to Mar) to Quarter 4 (Oct to Dec) 2020.

7 . 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. For further information on the definition used, please see our annual release.

Year of registration

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

Registration delay

The registration delay refers to the time lag between the date of death (that is, when the death occurred) and the date the death was registered. For further information on the impact of registration delays, see Section 8: Measuring the data.

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 geographic areas, the sexes and over time. For more information see Sections 6 and 7 of the Alcohol-specific deaths in the UK QMI.

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. For more information see Sections 6 and 7 of the Alcohol-specific deaths in the UK QMI.

8 . Measuring the data

Quality and methodology

Numerous changes were made to death certification and registration under the Coronavirus Act 2020. We have previously explored the impact on the quality of death registration data. More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in Section 10 of the annual bulletin and the Alcohol-specific deaths in the UK QMI.

Figures are for deaths registered, rather than deaths occurring in each quarter and year. In England and Wales, the deaths included in our alcohol-specific definition are more commonly certified by a doctor (67.0% in 2019).

The amount of time it takes to complete an inquest creates what is known as a "registration delay", which is a lag between the date of death and the date of death registration. For alcohol-specific deaths registered in 2020, the average (median) time between death occurrence and registration was six days in England and Wales.

Quarterly age-standardised rates

Age-standardised mortality rates are calculated using the number of deaths and mid-year population estimates provided by our Population Estimates Unit. Mid-year population estimates were used for 2001 to 2019 rate calculations while 2018-based ONS population projections were used for 2020 age-standardised rates. For more information on age-standardisation, please see the Alcohol-specific deaths in the UK QMI.

Calculation of mortality rates for quarterly deaths requires adjustments to be made to annual population estimates in order to calculate rates that are comparable with annual rates.

We calculate an annual population centred on the mid-point of the quarter using two years' worth of population estimates or projections. This is then multiplied by the proportion of the number of days within a quarter of the total number of days within that year. The output is used as the population denominator in calculations of age-standardised and age-specific mortality rates.

9 . Strengths and limitations

This release aims to monitor alcohol-specific death registrations in England and Wales, based on the best available provisional data.

Quarterly data for 2020 are provisional and may be subject to changes once annual death registrations are complete. For example, some deaths may be registered but the underlying cause of death might not have yet been coded. Data for 2020 will be finalised in the next annual Alcohol-specific deaths in the UK release (expected in late 2021).

Quarterly age-standardised rates are included to aid interpretation, such as whether changes by quarter in a given registration year are statistically meaningful. This is especially important when interpreting low numbers of deaths, which are prone to random fluctuation and volatility over time.

Since the beginning of our data time series in 2001, the number of alcohol-specific death registrations in Quarter 1 (Jan to Mar) tends to be higher than those observed in any of the other quarters, which should be kept in mind when making comparisons. Further guidance on how to interpret the data included in this release is available in the "Table interpretation" worksheet of the accompanying dataset.

10 . Related links

Alcohol-specific deaths in the UK: registered in 2019
Bulletin | Released 2 February 2021
Deaths caused by diseases known to be a direct consequence of alcohol misuse by sex, age and region.