

Article

The impact of using the new definition of alcohol-specific deaths

This article communicates the new definition of alcohol-specific deaths, the reasons for it and its impact on the existing time series of alcohol-related deaths.

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1 . Introduction

Since 2006, Office for National Statistics (ONS) has reported deaths associated with alcohol misuse in the UK and each of its countries using the National Statistics (NS) definition of alcohol-related deaths. A recent consultation undertaken by ONS recommended that the definition should be updated to one of alcohol-specific deaths; this definition will also be used by Public Health England (PHE) in addition to the devolved administrations. This article outlines the definition change, the reasons for it, its impact on the existing time series and how we plan to make the transition.

2 . Main points

- The new definition of alcohol-specific deaths produces an average yearly death count in the UK that is 18.7% lower than the previous definition for males and 24.6% lower for females; this is explained by the new definition excluding deaths that are partially attributable to alcohol.
- Among males and females, when looking at age-standardised rates of death, the new definition shows a similar pattern of year-to-year rises and falls, and longer-term changes and trends, to those produced by the previous definition; this is true for the UK and each of its constituent countries.
- When looking at age-specific rates of deaths for the UK, the new and previous definitions' rates "peak" in the same age groups for males (60 to 64 years) and females (55 to 59 years); among older age groups, rates from the new definition are substantially lower.
- Office for National Statistics (ONS) will use the new definition of alcohol-specific deaths from the date of the next publication (scheduled for November 2017), for deaths registered in 2016.

3 . The definition change

Our recent consultation identified [broad support for the introduction of a revised definition of alcohol-specific deaths](#) (see Table 1). This new definition includes conditions known to be exclusively caused by alcohol (that is, wholly attributable causes) and excludes conditions where only a proportion of the deaths are caused by alcohol (that is, partially attributable causes). Compared with that used previously, the new definition includes several additional wholly attributable conditions (see Table 1). The [causes of death included in the new definition are closely aligned with current international consensus](#) (see Rehm et al., 2017) and bring consistency to the way in which alcohol-related deaths are reported across the UK.

Table 1: Conditions included in the new definition of alcohol-specific deaths and the previous National Statistics definition of alcohol-related deaths^{1,2}

Condition	ICD-10 Code	Alcohol-specific	Alcohol-related
Wholly attributable conditions			
Alcohol-induced pseudo-Cushing's syndrome ²	E24.4	X	
Mental and behavioural disorders due to use of alcohol	F10	X	X
Degeneration of nervous system due to alcohol	G31.2	X	X
Alcoholic polyneuropathy	G62.1	X	X
Alcoholic myopathy ²	G72.1	X	
Alcoholic cardiomyopathy	I42.6	X	X
Alcoholic gastritis	K29.2	X	X
Alcoholic liver disease	K70	X	X
Alcohol-induced acute pancreatitis ²	K85.2	X	
Alcohol induced chronic pancreatitis	K86.0	X	X
Fetal alcohol syndrome (dysmorphic) ²	Q86.0	X	
Excess alcohol blood levels ²	R78.0	X	
Accidental poisoning by and exposure to alcohol	X45	X	X
Intentional self-poisoning by and exposure to alcohol	X65	X	X
Poisoning by and exposure to alcohol, undetermined intent	Y15	X	X
Partially attributable conditions			
Chronic hepatitis, not elsewhere classified	K73		X
Fibrosis and cirrhosis of liver	K74.0-K74.2, K74.6-K74.9		X

Notes:

1. The conditions included in each definition are defined using codes from the International Classification of Diseases (10th Revision; ICD-10)
2. Wholly attributable conditions that have been added to the new definition of alcohol-specific deaths

4 . Reasons for the definition change

Office for National Statistics (ONS) has adopted the new definition of alcohol-specific deaths for a number of reasons (see the [consultation response](#) for a substantive list), the main ones included the following.

Harmonisation

Strong support for a harmonised approach across government to measuring deaths caused by alcohol misuse. Different definitions are currently used across government to measure deaths associated with alcohol consumption. These definitions provide varying estimates of alcohol-related harm, which may give contradictory messages and confuse users of the statistics. The new definition of alcohol-specific deaths provides a single, harmonised, measure to be used by different government agencies and departments, in addition to the devolved administrations.

Limitations of the other available options

Agreement that the new definition of alcohol-specific deaths deals with the [main limitations of the other available options](#). The previous National Statistics (NS) definition of alcohol-related deaths includes an incomplete range of wholly and partially attributable conditions. Since the NS definition was introduced, organisations like Public Health England (PHE) have developed measures that separately consider deaths that are wholly and partially attributable to alcohol. Consultation respondents generally favoured the new measure of alcohol-specific deaths as it provides an unambiguous measure of deaths where alcohol is the sole cause.

5 . Limitations of the new definition

The definition of alcohol-specific deaths does not include diseases that are partially attributable to alcohol, such as cancers of the mouth, oesophagus and liver. As such, the definition of alcohol-specific deaths underestimates the burden of alcohol consumption on mortality. Despite this, the new definition benefits from a consistent methodology across the UK, making it useful for robust and comparable estimates of trends in alcohol mortality.

6 . The impact of the definition change on the existing time series

This section of the article describes how the new definition of alcohol-specific deaths changes the time series when compared with the previous National Statistics (NS) definition of alcohol-related deaths. For the UK and its countries, we begin with a comparison of numbers of deaths before comparing age-standardised and age-specific rates of death. In all, because it excludes deaths that are only partially attributable to alcohol, the new definition produces counts and rates of death that are lower than those produced previously. However, both definitions follow similar patterns of year-to-year rises and falls, and longer-term changes and trends.

The impact of the definition change on numbers of deaths

Deaths in the UK as a whole

For deaths registered in the UK between 2001 and 2015, the new definition of alcohol-specific deaths produces lower counts of deaths when compared with the previous NS definition of alcohol-related deaths (see Table 2). The new definition produces a death count that is on average 18.7% lower for males, whereas for females the death count is on average 24.6% lower.

Table 2: Number of deaths from the new and previous definitions, all persons, deaths registered in the UK between 2001 and 2015¹²

	Number of deaths							
	2001	2003	2005	2007	2009	2011	2013	2015
Males								
Old NS definition of alcohol-related deaths	4,938	5,443	5,566	5,732	5,690	5,792	5,565	5,693
New definition of alcohol-specific deaths	3,878	4,321	4,520	4,701	4,642	4,834	4,591	4,642
Percentage (%) difference	21.5	20.6	18.8	18.0	18.4	16.5	17.5	18.5
Females								
Old NS definition of alcohol-related deaths	2,561	2,721	2,820	2,992	2,974	2,956	2,851	3,065
New definition of alcohol-specific deaths	1,823	1,934	2,102	2,259	2,268	2,345	2,200	2,364
Percentage (%) difference	28.8	28.9	25.5	24.5	23.7	20.7	22.8	22.9

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

Notes:

1. Figures include those who were not usually resident in the United Kingdom.
2. Figures are for deaths registered in each calendar year.
3. For succinctness, data are displayed for every other year; please see accompanying datasets for all of the data.

Deaths in each country of the UK

When looking at deaths registered in each constituent country of the UK, as you would expect, the new definition produces lower counts of deaths when compared with the previous NS definition. When looking at the deaths registered in each country between 2001 and 2015:

- in England, the new definition has a death count that is on average 21.1% lower for males and 27.1% lower for females
- in Northern Ireland, the new definition has a death count that is on average 11.5% lower for males and 16.0% lower for females
- in Scotland, the new definition has a death count that is on average 7.8% lower for males and 13.2% lower for females
- in Wales, the new definition has a death count that is on average 20.9% lower for males and 25.6% lower for females

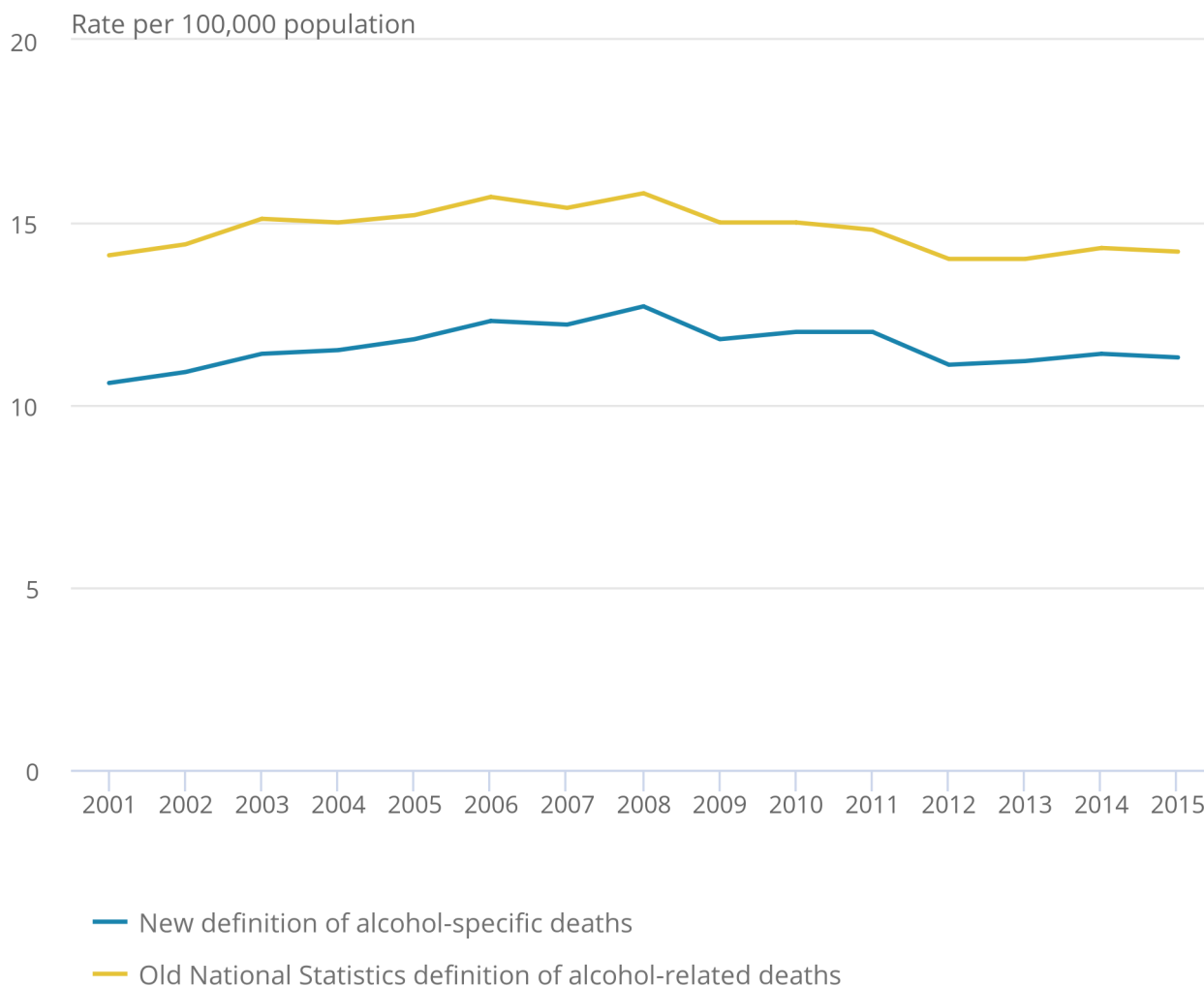
The impact of the definition change on age-standardised rates of death

Rates in the UK as a whole

When looking at deaths for all persons in the UK, between 2001 and 2015, the new definition of alcohol-specific deaths generally gives a pattern of year-to-year rises and falls, and longer-term changes and trends, which are similar to those produced by the previous definition (see Figure 1). However, the alcohol-specific rate is significantly lower for each year during the whole period, as determined by overlapping 95% confidence intervals. These findings are also the case when looking at the sexes separately.

Figure 1: Age-standardised rates of alcohol-specific death, all persons, based on registrations in the UK between 2001 and 2015

Figure 1: Age-standardised rates of alcohol-specific death, all persons, based on registrations in the UK between 2001 and 2015



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

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

Notes:

1. Age-standardised rates are expressed per 100,000 population, standardised to the 2013 European Standard Population
2. Figures include those who were not usually resident in the United Kingdom
3. Figures are for deaths registered in each calendar year.

Rates in each country of the UK

For each country of the UK, the new definition produces lower age-standardised rates of deaths when compared with the previous NS definition (see Table 3). Despite this, for each country, the new definition gives a pattern of results that are similar to those produced by the previous definition. When looking at the rates for each country between 2001 and 2015, the main observations include¹:

- in England, the alcohol-specific rate is significantly lower for each year during the period for both males and females
- in Northern Ireland and Scotland, due to the relatively smaller number of deaths producing more statistical uncertainty, for both sexes there are no significant differences in the rates produced by both definitions during the period
- in Wales, due to the relatively small number of deaths producing a larger degree of statistical uncertainty, there tend to be few statistically significant differences in the rates of death for each year for both sexes; when differences do occur, the alcohol-specific death rates are significantly lower than those produced by the previous definition

Table 3: Age-standardised rates of death for the old and new definitions, deaths registered in each constituent country of the UK between 2001 and 2015¹²³

	2001	2003	2005	2007	2009	2011	2013	2015
England								
Males								
Old NS definition of alcohol-related deaths	16.9	18.2	18.6	18.6	18.4	18.9	17.8	17.8
New definition of alcohol-specific deaths	12.3	13.7	14.3	14.5	14.3	15.1	14.1	13.9
Females								
Old NS definition of alcohol-related deaths	8.2	8.6	8.7	9.5	9.1	8.9	8.7	9.0
New definition of alcohol-specific deaths	5.6	5.8	6.2	6.9	6.7	7.0	6.6	6.8
Northern Ireland								
Males								
Old NS definition of alcohol-related deaths	19.7	19.8	23.3	26.5	24.2	22.7	21.4	24.4
New definition of alcohol-specific deaths	17.0	16.2	20.7	21.5	21.2	20.3	18.3	22.1
Females								
Old NS definition of alcohol-related deaths	10.2	11.1	9.7	10.3	11.8	8.9	7.5	12.4
New definition of alcohol-specific deaths	8.2	8.4	8.0	8.9	10.2	7.8	6.4	11.0
Scotland								
Males								
Old NS definition of alcohol-related deaths	44.0	47.7	44.6	40.2	34.6	33.1	29.8	30.0
New definition of alcohol-specific deaths	39.0	42.6	39.7	37.6	32.0	30.8	27.6	27.7
Females								
Old NS definition of alcohol-related deaths	17.6	18.7	19.2	16.9	16.7	16.0	13.0	13.8
New definition of alcohol-specific deaths	14.5	15.8	16.8	14.5	14.8	13.9	11.2	12.0
Wales								
Males								
Old NS definition of alcohol-related deaths	18.2	20.7	18.7	23.4	23.6	20.1	20.7	19.3
New definition of alcohol-specific deaths	13.6	14.6	14.9	18.0	18.2	16.7	17.0	15.4
Females								
Old NS definition of alcohol-related deaths	10.2	9.7	10.2	10.1	10.3	11.1	10.3	11.3
New definition of alcohol-specific deaths	6.8	6.4	7.7	7.9	7.9	8.3	8.6	8.5

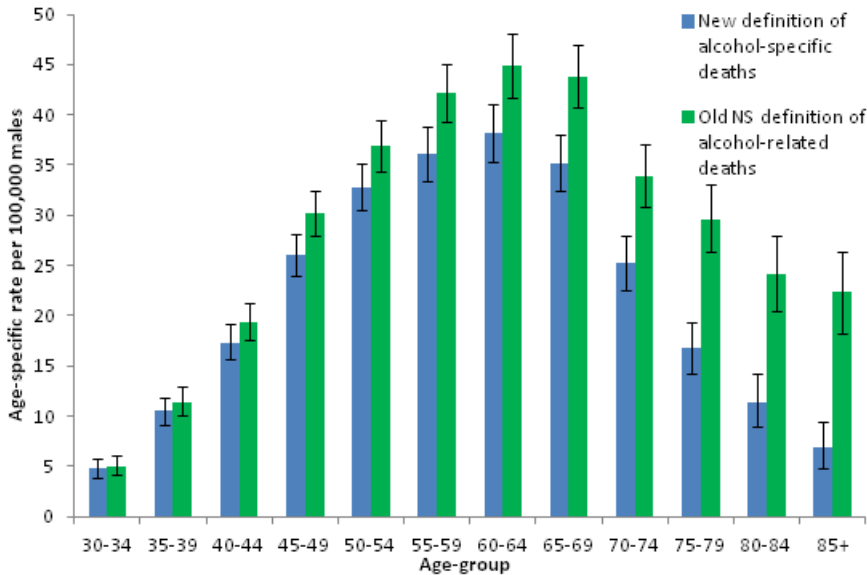
Notes:

1. Age-standardised rates of death are expressed per 100,000 population, and standardised to the 2013 European Standard Population.
2. Figures concern deaths registered in each calendar year.
3. Figures for Northern Ireland and Scotland include deaths of non-usual residents.
4. For succinctness, data are displayed for every other year; please see accompanying datasets for all of the data.

The impact of the definition change on age-specific rates of death

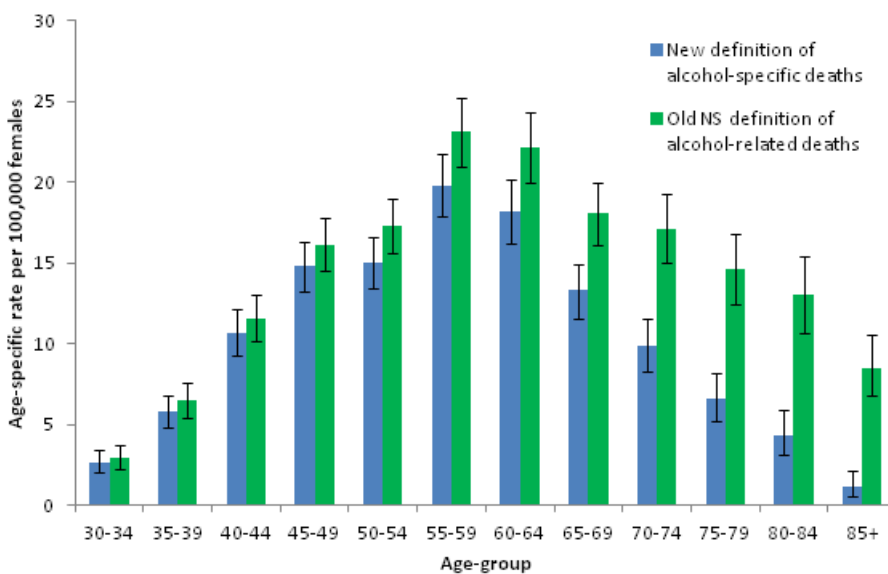
When looking at deaths registered in 2015, for males, as with the previous definition, age-specific rates of death in 2015 peaked among those aged 60 to 64 years (see Figure 2). Further similarity between definitions is shown by no statistical differences between the two sets of rates for those aged 30 to 54 years. The most notable differences between the definitions were for the rates among males aged 65 years and above; when looking at rates produced using the new definition, these are substantially lower.

Figure 2: Age-specific rates of deaths, males, for 2015 registrations in the UK



For females, as with the previous definition, age-specific rates of death in 2015 peaked among those aged 55 to 59 years (see Figure 3). For those aged 30 to 64 years, no statistical differences in the rates were observed between the two definitions. As with males, the most notable differences between the definitions were among the oldest.

Figure 3: Age-specific rates of deaths, females, for 2015 registrations in the UK



When comparing the age-specific rates across a wider period, between 2001 and 2015, the patterns observed in 2015 tend to hold for both sexes (see data in accompanying datasets).

Notes for The impact of the definition change on the existing time series

1. A range of charts displaying the age-standardised rates for each country by sex, and for both definitions, can be found in the [consultation document](#) annex.

7 . Unspecified hepatitis, and fibrosis and cirrhosis of the liver

The previous National Statistics definition included deaths relating to unspecified hepatitis, and fibrosis and cirrhosis of the liver; these partially attributable conditions are excluded from the new definition of alcohol-specific deaths (Table 1). Several [responses to the consultation](#) stated that too little is known about the precise aetiology of these deaths to discount them entirely. As such, in each statistical release we will provide data on the number of deaths for these diseases (see Table 4; a breakdown by age for these diseases is provided in the accompanying datasets).

Table 4: Number of deaths caused by unspecified hepatitis, and fibrosis and cirrhosis of the liver, deaths registered in the UK between 2001 and 2015

Sex	Deaths							
	2001	2003	2005	2007	2009	2011	2013	2015
Males	1,060	1,123	1,047	1,041	1,058	1,007	1,022	1,120
Females	738	787	718	739	709	625	669	721
Persons	1,798	1,910	1,765	1,780	1,767	1,632	1,691	1,841

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

Notes:

1. Figures include those who were not usually resident in the UK.
2. Figures are for deaths registered in each calendar year.
3. Deaths are defined using the International Classification of Diseases, 10th Revision (ICD-10) codes:
 - Chronic hepatitis, not elsewhere specified (K73)
 - Fibrosis and cirrhosis of the liver (excluding billiary cirrhosis; K740-K742, K746)
4. For succinctness, data are displayed for every other year; please see accompanying datasets for all of the data.

8 . Summary of the main findings

When comparing the definitions, the new definition of alcohol-specific deaths produces lower counts and rates, which is explained by the definition excluding partially attributable causes of death. In the UK, the new definition produces a death count that, each year, is around 18.7% lower for males and 24.6% lower for females.

At the geographical levels of the UK and England, age-standardised rates of alcohol-specific death are significantly different for each year between 2001 and 2015 for both males and females. For Northern Ireland, Scotland and Wales, alcohol-specific age-standardised rates tend to be lower; however, the magnitude of these differences is not always clear due to the smaller number of deaths in these countries producing a larger degree of statistical uncertainty. When looking at age-specific rates for the UK, in 2015 the new and previous definitions' rates "peak" in the same age groups for males (60 to 64 years) and females (55 to 59 years). Despite the differences, the trends produced by the two definitions are largely comparable in terms of year-to-year rises and falls in addition to longer-term changes.

9 . Transition to the new definition of alcohol-specific deaths

Office for National Statistics (ONS) will use the new definition of alcohol-specific deaths from the date of the next publication for the 2016 death registrations (scheduled for November 2017). In response to consultation feedback, the first publication based on the new definition will include figures from the previous National Statistics (NS) definition. Subsequently, ONS will no longer publish statistics based on the previous NS definition. In the future, in each statistical release we will also provide data on deaths caused by unspecified hepatitis, and fibrosis and cirrhosis of the liver – for information.