



Public Health
England

Local Alcohol Profiles for England 2017 user guide

About Public Health England

Public Health England's mission is to protect and improve the nation's health and to address inequalities through working with national and local government, the NHS, industry and the voluntary and community sector. PHE is an operationally autonomous executive agency of the Department of Health.

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1. Background

This document outlines the methods used by the Risk Factors Intelligence (RFI) team, to produce a national alcohol dataset, the Local Alcohol Profiles for England (LAPE), together with a brief guide on how to use the online tool. The metadata and methods for individual indicators are outlined in Section 5.

Alcohol use has health and social consequences borne by individuals, their families, and the wider community. In 2006, the former North West Public Health Observatory gathered routine data and intelligence from a range of sources (including the Department of Health and the Home Office), to provide a national indicator set intended to inform and support local, sub-national and national alcohol policies. These indicators provided measures to help prioritise and target local areas of concern.

The latest update, Local Alcohol Profiles for England 2017, was released on 7th Mar 2017 and continues to reflect the wide range of domains that are affected by alcohol use. The profiles (<http://fingertips.phe.org.uk/profile/local-alcohol-profiles>) contain 20+ alcohol-related indicators for the following area types/geographies where possible: lower tier local authorities (district and unitary authority), upper tier local authorities (county and unitary authority), Public Health England centre, government office region, England, lower tier deprivation decile, upper tier deprivation decile, Office for National Statistics (ONS) group, ONS sub group, clinical commissioning group, clinical commissioning area team, clinical commissioning region.

2. Key changes to the Local Alcohol Profiles for England 2017

There have been several key changes to the methodologies used to calculate indicators presented in the Local Alcohol Profiles for England 2017. This is summarised in this section; more detailed descriptions of the methodologies used to create individual indicators are presented, by indicator, in section 6.

2.1 Years of life lost due to alcohol-related conditions

In Feb 2017 a new measure '1.02 Years of life lost due to alcohol-related conditions' has replaced '1.01 Months of life lost due to alcohol' to ensure consistency with subsequent Public Health England indicators based on premature mortality (such as those in the Public Health Outcomes Framework). This new measure expressed as a directly age standardised rate is the potential number of years of life lost that would occur in a standard population if that population were to experience the age specific number of potential years of life lost of the subject population.

2.2 Measuring alcohol sales and consumption

In Mar 2017 eight new indicators measuring alcohol sales and consumption have been added under a new domain named called 'Availability and Consumption'. The eight new indicators are as follows:

- off-trade sales of alcohol per head (all alcohol sales, wine sales, beer sales, spirits sales)
- number and density of licensed premises
- % Drinking above CMO guidelines (Upper Tier only)
- % binge drinkers (Upper Tier only)
- % abstainers (Upper Tier only).

2.3 Data correction applicable to 3 indicators

An error was discovered in the age-group data which was published in May 2016: '10.06 Admission episodes for alcohol-related conditions (Narrow) - Under 40s', '10.07 Admission episodes for alcohol-related conditions (Narrow) - 40-64 yrs', '10.08 Admission episodes for alcohol-related conditions (Narrow) - Over 65s'. In May 2017 a fully revised back-series has been produced replacing all previously published data. The error was caused by incorrectly standardising the calculated values from the filtered age-groups against all-age denominators. Therefore the revised values are significantly higher than the May 2016 values.

2.4 Replacing person-based indicators with admission-based indicators

In May 2017, the updated profiles contain 2 new indicators: '5.02 - Admission episodes for alcohol-specific conditions - Under 18s', '6.02 - Admission episodes for alcohol-specific conditions'. These indicators had previously been expressed in terms of the number of people that were admitted to hospital. In response to user feedback ([Results of the LAPE User Survey 2016](#)), the LAPE indicators have been simplified and are now all expressed in terms of the number of admissions (where individuals may be counted more than once per year).

Correspondingly, indicators '7.01 Persons admitted to hospital for alcohol-related conditions (Broad)', '8.01 Persons admitted to hospital for alcohol-related conditions (Narrow)' have been dropped from the profiles.

2.5 Minor revision to hospital admission indicators

In May 2017, a number of revisions have been applied to the hospital admission indicators leading to minor changes in the resulting values. For each indicator a fully revised back-series has been produced. More specifically, the following indicators have been revised so as not to include admissions with an 'Unknown' Government Office Region of residence which has led to a slight decrease in the England total values. In addition, the same indicators have been output by more recent geographies boundaries than those applied in the original May 2016 dataset (updated to 2013 lower / upper tier local authority boundaries):

9.01 Admission episodes for alcohol-related conditions (Broad)

9.03 Admission episodes for alcohol-related cardiovascular disease conditions (Broad)

9.04 Admission episodes for alcohol-related mental and behavioural disorders due to use of alcohol condition (Broad)

9.05 Admission episodes for alcohol-related alcoholic liver disease condition (Broad)

10.01 Admission episodes for alcohol-related conditions (Narrow)

10.03 Admission episodes for alcohol-related unintentional injuries conditions (Narrow)

10.04 Admission episodes for alcohol-related mental and behavioural disorders due to use of alcohol condition (Narrow)

10.05 Admission episodes for alcohol-related intentional self-poisoning by and exposure to alcohol condition (Narrow)

Another indicator has been revised to include retrospective updates to the underlying dataset. Again, a fully revised back-series has been produced. Similarly, the May 2017 measure has been updated based on 2013 lower / upper tier local authority boundaries:

13.01 Incidence rate of alcohol-related cancer

3. Alcohol-attributable fractions

3.1 Alcohol-attributable fractions used to calculate alcohol-related mortality and hospital admissions

Attributable fraction values, or population attributable fractions, are the proportion of a health condition or external cause that is attributable to the exposure of a specific risk factor (such as alcohol) in a given population. Local Alcohol Profiles for England use attributable fractions to estimate the number of deaths and hospital admissions that are related to alcohol consumption. Attributable fractions may be estimated directly, for example, by assigning specific attributable fractions to external causes of morbidity and mortality. Alternatively, indirectly estimated attributable fractions can be derived from the relative risk associated with the exposure of interest, in combination with information about the prevalence of the exposure in the target population. The population attributable fraction calculation assumes a causal association between risk factor and outcome, meaning that the attributable fraction can also be viewed as the expected proportional reduction in cases of an outcome arising in the population as a result of removing the exposure, in this case, alcohol.

Appendix 1 shows the attributable fractions used to estimate the number of alcohol-related deaths and hospital admissions reported in Local Alcohol Profiles for England 2015. These alcohol-attributable fractions were updated in 2014 and are taken from Jones et al. (2014).¹ Sex and age specific alcohol-attributable fractions reflect the difference in exposure, prevalence and physiological differences between males and females and between age groups. The table includes outcomes with a negative attributable fraction where low levels of alcohol consumption were found to have a protective effect, such as diabetes mellitus type II (Appendix 1). Outcomes where alcohol has a protective effect are not included when the alcohol-attributable fractions are applied to mortality and Hospital Episode Statistics data.

3.2 Alcohol-specific conditions

Alcohol-specific conditions include those conditions where alcohol is causally implicated in all cases of the condition; for example, alcohol-induced behavioural disorders and alcohol-related liver cirrhosis. The alcohol-attributable fraction is 1.0 because all cases (100%) are caused by alcohol.

3.3 Alcohol-related conditions

Alcohol-related conditions include all alcohol-specific conditions, plus those where alcohol is causally implicated in some but not all cases of the outcome, for example hypertensive diseases, various cancers and falls. The attributable fractions for alcohol-related outcomes used here range from between 0 and less than 1.0. For example, the alcohol-attributable

fraction for mortality from pneumonia among men aged 75 and over is 0.10 because the latest epidemiological data suggest that 10% of pneumonia cases among this population are due to alcohol¹. Outcomes where alcohol has a protective effect (i.e. the fraction is less than 0) are not included when the alcohol-attributable fractions are applied to mortality and Hospital Episode Statistics data.

An alcohol-attributable fraction is the proportion of a condition caused by alcohol.

An alcohol-attributable fraction of 1.0 = 100% of cases are caused by alcohol.

An alcohol-attributable fraction of 0.25 = 25% of cases are caused by alcohol.

3.4 Alcohol-attributable fractions for children

Alcohol-attributable fractions for children (aged under 16 years) are included for alcohol-specific diagnoses (where the alcohol-attributable fraction is 1.0) and for low birth weight (where the alcohol-attributable fraction is 0.05, Appendix 1). For other conditions, alcohol-attributable fractions were not available for children.

4. Processing ONS Mortality Data

4.1 Adjusting for the impact of ICD-10 coding changes

Two correction factors have been applied to alcohol attributable fractions to account for changes in ICD-10 coding in 2011 and 2014. These correction factors adjust trend data to allow a proper comparison between current data and that from previous time periods. These resources from the Association of Public Health Observatories (APHO) website give guidance on the application of these correction factors or ‘comparability ratios’:

- Using ONS mortality data – taking account of changes to cause of death coding from 2011
- Using ONS mortality data – taking account of changes to cause of death coding from 2014

5. Confidence intervals

The majority of estimates presented within the Local Alcohol Profiles for England are accompanied by confidence intervals. The following definition of a confidence interval is taken from the briefing: *Commonly used public health statistics and their confidence intervals*,⁵ available at: www.apho.org.uk/resource/item.aspx?RID=48457

A confidence interval is a range of values that is normally used to describe the uncertainty around a point estimate of a quantity. This uncertainty arises as factors influencing the indicator are subject to chance occurrences that are inherent in the world around us. These occurrences result in random fluctuations in the indicator value between different areas and time periods. In the case of indicators based on a sample of the population, uncertainty also arises from random differences between the sample and the population itself. The stated value should therefore be considered as only an estimate of the true or 'underlying' value. Confidence intervals quantify the uncertainty in this estimate and, generally speaking, describe how different the point estimate could have been if the underlying conditions stayed the same, but chance had led to a different set of data. Wider confidence intervals equate to greater uncertainty in the estimate. Confidence intervals are given with a stated probability level. In Local Alcohol Profiles for England this is 95%, and so we say that there is a 95% probability that the interval includes the true value. The use of 95% is arbitrary but is conventional practice in medicine and public health.

5.1 Confidence interval methodology

Confidence limits for directly age-standardised rates methodology:

Byar's methodology was used to generate 95% confidence intervals, as detailed in APHO *Technical Briefing 3: Commonly used public health statistics and their confidence intervals*.⁵

The formula numbers below correspond to those in the briefing available from:

www.apho.org.uk/resource/item.aspx?RID=48457

An accompanying Excel spreadsheet, replicating all formulae, is also available from this website.

The confidence limits for the directly age-standardised rate are given by:

$$DSR_{lower} = DSR + \sqrt{\frac{Var(DSR)}{Var(O)}} \times (O_{lower} - O)$$

$$DSR_{upper} = DSR + \sqrt{\frac{Var(DSR)}{Var(O)}} \times (O_{upper} - O)$$

here:

O is the total observed count of events in the local or subject population.

O_{lower} and O_{upper} are the lower and upper confidence limits for the observed count of events.

$Var(O)$ is the variance of the total observed count O .

DSR is the directly age-standardised rate.

$Var(DSR)$ is the variance of the directly age-standardised rate.

Using Byar's method, the $100(1-\alpha)\%$ confidence limits for the observed number of events are given by:

$$O_{lower} = O \times \left(1 - \frac{1}{9O} - \frac{z}{3\sqrt{O}} \right)^3$$

$$O_{upper} = (O+1) \times \left(1 - \frac{1}{9(O+1)} + \frac{z}{3\sqrt{(O+1)}} \right)^3$$

where:

z is the $100(1-\alpha/2)$ th percentile value from the standard normal distribution. For example, for a 95% confidence interval, $\alpha = 0.05$ and $z = 1.96$ (i.e. the 97.5th percentile value from the standard normal distribution).

The variances of the observed count O and the DSR are estimated by:

$$Var(O) = \sum_i O_i$$

$$Var(DSR) = \frac{1}{\left(\sum_i w_i \right)^2} \times \sum_i \frac{w_i^2 O_i}{n_i^2}$$

where:

O_i is the observed number of events in the local or subject population in age group i .

n_i is the number of individuals in the local or subject denominator population in age group i , or the population \times period at risk (e.g. 'person-years').

w_i is the number (or proportion) of individuals in the reference or standard population in age group i .

The Excel formulae available at www.apho.org.uk/resource/item.aspx?RID=48617 were used to calculate confidence intervals. The spreadsheet uses Excel's built-in functions for exact probabilities for all cases based on numerators under 389, in order to give the most accurate results. For higher numerators, Excel's statistical functions fail (intermittently), and while macros are available to calculate exact Poisson probabilities, it is simpler to use Byar's method, and extremely accurate to do so.⁵

Confidence limits for crude rates methodology

Byar's methodology was used to generate 95% confidence intervals, as detailed in APHO *Technical Briefing 3: Commonly used public health statistics and their confidence intervals*.⁵

The formula numbers below correspond to those in the briefing available from:

(www.apho.org.uk/apho/techbrief.htm). An accompanying Excel spreadsheet, replicating all formulae, is also available from the link above.

The rate of events r is given by:

where:
$$r = \frac{O}{n}$$

O is the numerator number of observed events;
 n is the denominator population-years at risk.

The confidence limits for the rate r are given by:

$$r_{lower} = \frac{O_{lower}}{n}$$

$$r_{upper} = \frac{O_{upper}}{n}$$

where:

O_{lower} and O_{upper} are the lower and upper confidence limits for the observed count of events;

Using Byar's method, the $100(1-\alpha)\%$ confidence limits for the observed number of events are given by:

$$O_{lower} = O \times \left(1 - \frac{1}{9O} - \frac{z}{3\sqrt{O}} \right)^3$$

$$O_{upper} = (O+1) \times \left(1 - \frac{1}{9(O+1)} + \frac{z}{3\sqrt{(O+1)}} \right)^3$$

where:

z is the $100(1-\alpha/2)$ th percentile value from the standard normal distribution. For example, for a 95% confidence interval, $\alpha = 0.05$ and $z = 1.96$ (i.e. the 97.5th percentile value from the standard normal distribution).

The Excel formulae available at www.apho.org.uk/resource/item.aspx?RID=48457 were used to calculate confidence intervals. The spreadsheet uses Excel's built-in functions for exact probabilities for all cases based on numerators under 389, in order to give the most accurate results. For higher numerators, Excel's statistical functions fail (intermittently), and while macros are available to calculate exact Poisson probabilities, it is simpler to use Byar's method, and extremely accurate to do so.⁵

6. Indicator overview and metadata

6.1 Mortality and years of life lost due to alcohol

This section provides an overview and metadata for the indicators below:

Indicator number	Indicator name
1.02	Years of life lost due to alcohol-related conditions
2.01	Alcohol-specific mortality
3.01	Mortality from chronic liver disease
4.01	Alcohol-related mortality

Mortality data for the years of life lost due to alcohol-related conditions, alcohol-specific and alcohol-related mortality indicators were extracted from the Office for National Statistics annual deaths extract by the Risk Factors Intelligence (RFI) team using the underlying cause of death corresponding to the International Classification of Diseases (version 10) codes in Appendix 1. The corresponding mid-year population estimates were obtained from the Office for National Statistics. Alcohol-specific and alcohol-related deaths were assigned the alcohol-attributable fractions described in Appendix 1.

Alcohol-specific mortality and mortality from chronic liver disease are based on three consecutive years of mortality data. Years of life lost due to alcohol-related conditions and alcohol-related mortality are based on one year of mortality data. All measures are expressed as directly age-standardised rates.

Years of life lost due to alcohol-related conditions

Indicator number	1.02
Indicator full name	Years of life lost due to alcohol-related conditions.
What is being measured	Potential years of life lost in adults aged <75 due to alcohol-related causes.
Who does it measure	Persons, males and females all ages.
When does it measure	Calendar year.
Indicator definition	Directly age-standardised rate of potential years of life lost in adults aged <75 due to alcohol-related causes that would occur in a standard population if that population were to experience the age specific number of potential years of life lost of the subject population.
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. The Office for National Statistics provides the annual deaths extract and mid-year population estimates.
Definition of numerator	The number of alcohol-related deaths in those aged 0-74 multiplied by the number of years of life lost up to the age of 75.. Deaths from alcohol-related conditions are based on underlying cause of death (and all cause of deaths fields for the conditions: ethanol poisoning, methanol poisoning, toxic effect of alcohol) registered in the calendar year. Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight. For other conditions, alcohol-attributable fractions were not available for children.
Source of numerator	Annual death extracts from the Office for National Statistics.
Definition of denominator	All population aged <75, split into quinary age groups (0-4, 5-9, 10-14...,70-74)
Source of denominator	Office for National Statistics.
Confidence interval methodology	Byar's methodology was used to generate 95% confidence intervals, as detailed in APHO <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . ⁵ The formula numbers below correspond to those in the briefing available from: www.apho.org.uk/resource/item.aspx?RID=48457

	<p>An accompanying Excel spreadsheet, replicating all formulae, is also available from this website.</p> <p>Because each year of life lost for one individual is not an independent event, a slight amendment to this method needs to be made by changing the weighting parameter. For DSRs, the weighting given to each age group is derived from the Standard Population. PYLL is still a weighted average of death rates, but the weighting reflects the years of life lost as well as the standard population.</p> <p>So, in the formulae for the confidence intervals, an amendment is applied to the formula for $Var(DSR)$. The corrected formula is:</p> $Var(DSR) = \frac{\sum_i \frac{\alpha_i^2 w_i^2 O_i}{n_i^2}}{(\sum_i w_i)^2}$ <p>where:</p> <ul style="list-style-type: none"> α_i is the life expectancy for age group i w_i is the reference (standard) population for age group i O_i is the observed number of deaths in age group i n_i is the denominator population for age group i
<p>Caveats</p>	<p>Care should be taken in the interpretation of this indicator as this may well be an under-reporting of the actual years of life lost. This is due to the fact that although the age of 75 is the cut off for what is deemed an "early" or "premature" death, the life expectancy in England is actually 4.5 years higher for males and about 8 years higher for females.</p> <p>In addition, there is the potential for the underlying cause of death to be incorrectly attributed on the death certificate and the cause of death misclassified. Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight (Appendix 1). For other conditions, alcohol-attributable fractions were not available for children. Conditions where low levels of alcohol consumption are protective (have a negative alcohol-attributable fraction) are not included in the calculation of the indicator.</p>
<p>Methodology</p>	<ol style="list-style-type: none"> 1. Each alcohol-related death is assigned an alcohol-attributable fraction (Appendix 1) based on underlying cause of death (and all cause of deaths fields for the conditions: ethanol poisoning, methanol poisoning, toxic effect of alcohol). The alcohol-attributable fractions are then aggregated by age group (0-4, 5-9, 10-14...,70-74), sex and area of residence. 2. The average number of years between age at death and 75

	<p>for each five-year age band are used to weight the number of deaths in that age band to give the average number of years of life lost for that age band. The total number of years of life lost for persons, males and females is summed for each age band.</p> <p>3. Mid-year population estimates are used to calculate directly age-standardised rates. The directly age-standardised rate is the rate of events that would occur in a population with a standard age structure if that population were to experience the age-specific rates of the subject population. The standard population used is the European standard population. The age groups used are: 0-4, 5-9, 10-14...,70-74. The rate is expressed per 100,000 population. Comparability ratios were used in the calculation of trend data.</p>
<p>Summary footnote</p>	<p>Directly age-standardised rate of potential years of life lost in adults aged <75 due to alcohol-related causes, per 100,000 population (standardised to the European standard population). Risk Factors Intelligence (RFI) team from the Office for National Statistics annual death extracts and Office for National Statistics mid-year population estimates.</p>

Alcohol-specific mortality

Indicator number	2.01
Indicator full name	Alcohol-specific mortality.
What is being measured	Mortality from alcohol-specific conditions.
Who does it measure	Persons, males and females all ages.
When does it measure	Three year moving average.
Indicator definition	Mortality from alcohol-specific conditions, directly age-standardised rate, all ages, per 100,000 European standard population.
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. The Office for National Statistics provides knowledge and intelligence teams with the annual extract and mid-year population estimates.
Definition of numerator	Deaths from alcohol-specific conditions (three years pooled) based on underlying cause of death (and all cause of deaths fields for the conditions: ethanol poisoning, methanol poisoning, toxic effect of alcohol) registered in the calendar year for all ages.
Source of numerator	Annual death extracts from the Office for National Statistics.
Definition of denominator	Office for National Statistics mid-year population estimates by five-year age bands. Three years are pooled.
Source of denominator	Office for National Statistics.
Confidence interval methodology	Byar's methodology was used to generate 95% confidence intervals, as detailed in APHO <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . ⁵ The formula numbers below correspond to those in the briefing available from: www.apho.org.uk/resource/item.aspx?RID=48457 An accompanying Excel spreadsheet, replicating all formulae, is also available from this website.
Caveats	There is the potential for the underlying cause of death to be incorrectly attributed on the death certificate and the cause of death misclassified.

<p>Methodology</p>	<p>The directly age-standardised rate is the rate of events that would occur in a population with a standard age structure if that population were to experience the age-specific rates of the subject population. The standard population used is the European standard population. The age groups used are 0 to 4, 5 to 9, ..., 85 to 90, 90+ years. The rate has been calculated as the simple average of the individual annual rates. The rate is expressed per 100,000 population. Comparability ratios were used in the calculation of trend data.</p>
<p>Summary footnote</p>	<p>Deaths from alcohol-specific conditions, all ages, directly age-standardised rate per 100,000 population (standardised to the European standard population). Risk Factors Intelligence (RFI) team from the Office for National Statistics annual death extracts and Office for National Statistics mid-year population estimates.</p>

Mortality from chronic liver disease

Indicator number	3.01
Indicator full name	Mortality from chronic liver disease.
What is being measured	Mortality rate form chronic liver disease.
Who does it measure	Persons, males and females all ages.
When does it measure	Three year moving average.
Indicator definition	Mortality from chronic liver disease, directly age-standardised rate, all ages, per 100,000 European standard population.
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. The Office for National Statistics provides knowledge and intelligence teams with the annual extract and mid-year population estimates.
Definition of numerator	Deaths from chronic liver disease, including cirrhosis, classified by underlying cause of death (International Classification of Disease, version 10: K70, K73 to K74), registered in the calendar year for all ages. Three years of data are pooled.
Source of numerator	Annual death extracts from the Office for National Statistics.
Definition of denominator	Office for National Statistics mid-year population estimates by five-year age bands. Three years are pooled.
Source of denominator	Office for National Statistics.
Confidence interval methodology	Byar's methodology was used to generate 95% confidence intervals, as detailed in <i>APHO Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . ⁵ The formula numbers below correspond to those in the briefing available from: www.apho.org.uk/resource/item.aspx?RID=48457 An accompanying Excel spreadsheet, replicating all formulae, is also available from this website.
Caveats	There is the potential for the underlying cause of death to be incorrectly attributed on the death certificate and the cause of death misclassified.

<p>Methodology</p>	<p>The directly age-standardised rate is the rate of events that would occur in a population with a standard age structure if that population were to experience the age-specific rates of the subject population. The standard population used is the European standard population. The age groups used are 0 to 4, 5 to 9,, 85 to 90, 90+ years. The rate has been calculated as the simple average of the individual annual rates. The rate is expressed per 100,000 population. Comparability ratios were used in the calculation of trend data.</p>
<p>Summary footnote</p>	<p>Deaths from chronic liver disease including cirrhosis (International Classification of Diseases, version 10: K70, K73 to K74), all ages, directly age-standardised rate per 100,000 population (standardised to the European standard population). Risk Factors Intelligence (RFI) team from the Office for National Statistics annual death extracts and Office for National Statistics mid-year population estimates.</p>

Alcohol-related mortality

Indicator number	4.01
Indicator full name	Alcohol-related mortality.
What is being measured	Estimated number of alcohol-related deaths
Who does it measure	Persons, males and females all ages.
When does it measure	Calendar year.
Indicator definition	Mortality from alcohol-related conditions, directly age-standardised rate, all ages, per 100,000 European standard population.
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. The Office for National Statistics provides knowledge and intelligence teams with the annual extract and mid-year population estimates.
Definition of numerator	Deaths from alcohol-related conditions (Appendix 1) based on underlying cause of death (and all cause of deaths fields for the conditions: ethanol poisoning, methanol poisoning, toxic effect of alcohol) registered in the calendar year for all ages. Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight (Appendix 1). For other conditions, alcohol-attributable fractions were not available for children.
Source of numerator	Annual death extracts from the Office for National Statistics.
Definition of denominator	Office for National Statistics mid-year population estimates, by five-year age bands.
Source of denominator	Office for National Statistics.
Confidence interval methodology	Byar's methodology was used to generate 95% confidence intervals, as detailed in APHO <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . ⁵ The formula numbers below correspond to those in the briefing available from: www.apho.org.uk/resource/item.aspx?RID=48457 An accompanying Excel spreadsheet, replicating all formulae, is also available from this website.

Caveats	<p>There is the potential for the underlying cause of death to be incorrectly attributed on the death certificate and the cause of death misclassified. Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight (Appendix 1). For other conditions, alcohol-attributable fractions were not available for children. Conditions where low levels of alcohol consumption are protective (have a negative alcohol-attributable fraction) are not included in the calculation of the indicator.</p>
Methodology	<p>Each alcohol-related death is assigned an alcohol-attributable fraction (Appendix 1) based on underlying cause of death (and all cause of deaths fields for the conditions: ethanol poisoning, methanol poisoning, toxic effect of alcohol). The alcohol-attributable fractions are then aggregated by age group (0 to 4, 5 to 9, ..., 85 to 90, 90+), sex and area of residence. Mid-year population estimates are used to calculate directly age-standardised rates. The directly age-standardised rate is the rate of events that would occur in a population with a standard age structure if that population were to experience the age-specific rates of the subject population. The standard population used is the European standard population. The age groups used are 0 to 4, 5 to 9, ..., 85 to 90, 90+ years. The rate is expressed per 100,000 population. Comparability ratios were used in the calculation of trend data.</p>
Summary footnote	<p>Deaths from alcohol-related conditions, all ages, directly age-standardised rate per 100,000 population (standardised to the European standard population). Risk Factors Intelligence (RFI) team from the Office for National Statistics annual death extracts and Office for National Statistics mid-year population estimates.</p>

6.2 Number of admissions to hospital for alcohol-related conditions

This section provides an overview and metadata for the indicators below:

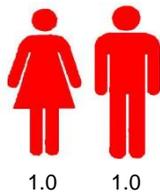
Indicator number	Indicator name
5.02	Admission episodes for alcohol-specific conditions - Under 18s
6.02	Admission episodes for alcohol-specific conditions
9.01	Admission episodes for alcohol-related conditions ^a (Broad)
9.03	Admission episodes for alcohol-related cardiovascular disease conditions (Broad)
9.04	Admission episodes for mental and behavioural disorders due to use of alcohol condition (Broad)
9.05	Admission episodes for alcoholic liver disease condition (Broad)
10.01	Admission episodes for alcohol-related conditions (Narrow)
10.03	Admission episodes for alcohol-related unintentional injuries conditions (Narrow)
10.04	Admission episodes for mental and behavioural disorders due to use of alcohol condition (Narrow)
10.05	Admission episodes for intentional self-poisoning by and exposure to alcohol condition (Narrow)
10.06	Admission episodes for alcohol-related conditions (Narrow), persons under 40
10.07	Admission episodes for alcohol-related conditions (Narrow), persons 40 to 64
10.08	Admission episodes for alcohol-related conditions (Narrow), persons 65+

To calculate the broad indicators of alcohol-related hospital admissions, the list of International Classification of Diseases (version 10) codes (Appendix 1) is used to extract all episodes containing alcohol-related diagnoses from the Hospital Episode Statistics datasets. Sex and age specific alcohol-attributable fractions are then applied to each episode.

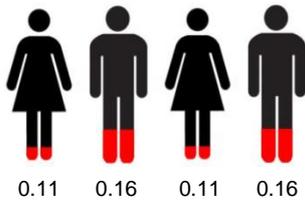
To calculate the narrow indicator of alcohol-related hospital admissions, the following are extracted: episodes where the primary code is an alcohol-related condition listed in Appendix 1 or episodes where the primary code is not an alcohol-related condition but one of the secondary codes is an external cause with an alcohol-attributable fraction listed in Appendix 1.

^a Previously National Indicator 39 (NI39).

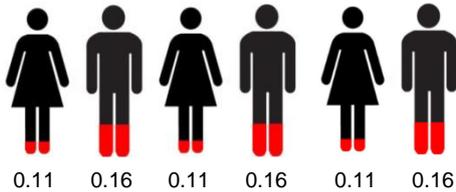
The total alcohol-related admission episodes for an area are the sum of episode-specific data. An illustration of this summation is given below.



The alcohol-attributable fraction for accidental poisoning by and exposure to alcohol is 1.0 (Appendix 1). Summing two people admitted for ethanol poisoning will give a total of 2.0 alcohol-related admission episodes.



The alcohol-attributable fraction for colorectal cancer for the population aged 16 to 24 years is 0.16 for males and 0.11 for females (Appendix 1). Summing five males and five females aged 16 to 24 years admitted for colorectal cancer will give a total of 1.35 alcohol-related admission episodes.



Admission episodes for alcohol-specific conditions - Under 18s

Indicator number	5.02
Indicator full name	Admission episodes for alcohol-specific conditions - Under 18s
What is being measured	Admissions to hospital for under 18s where the primary diagnosis or any of the secondary diagnoses are an alcohol-specific (wholly attributable) condition.
Who does it measure	Persons, male, female aged less than 18 years.
When does it measure	Three financial years (pooled).
Indicator definition	Admissions to hospital for under 18s where the primary diagnosis or any of the secondary diagnoses are an alcohol-specific (wholly attributable) condition. Crude rate per 100,000 population.
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. Hospital Episode Statistics publish annual extracts each year. The Office for National Statistics publishes mid-year population estimates.
Definition of numerator	The number of hospital admission episodes for under 18s where the primary diagnosis or any of the secondary diagnoses are an alcohol-specific condition for three financial years pooled.
Source of numerator	NHS Digital.
Definition of denominator	Office for National Statistics mid-year population estimates for the population aged 0 to 17 years. Three years are pooled.
Source of denominator	Office for National Statistics.
Confidence interval methodology	Byar's methodology was used to generate 95% confidence intervals, as detailed in <i>APHO Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . The formula numbers below correspond to those in the briefing available from: www.apho.org.uk/resource/item.aspx?RID=48457 An accompanying Excel spreadsheet, replicating all formulae, is also available from the link above.
Caveats	Hospital admission data can be coded differently in different parts of the country. In some cases, details of the patient's residence are insufficient to allocate the patient to a particular area and in other cases the patient has no fixed abode. These

	cases are included in the England total but not in the local authority or PHE centre figures.
Methodology	<p>Admission episodes for alcohol-specific conditions - under 18s are calculated as follows (text in square brackets refers to terms in Hospital Episode Statistics dataset fields):</p> <ol style="list-style-type: none"> 1. Select Hospital Episode Statistics records where: <ul style="list-style-type: none"> the admission is a finished episode [<i>epistat</i> = 3]; the admission is an ordinary admission, day case or maternity [<i>classpat</i> = 1, 2 or 5]; it is an admission episode [<i>epiorder</i> = 1]; there is a valid age, under 18, at start of episode [<i>startage</i> between 0 and 17 or between 7001 and 7007]; the region of residence is one of the English regions [<i>resgor</i> <= K or U or Y]; the episode end date [<i>epiend</i>] falls within the specified period; an alcohol-specific International Classification of Diseases (version 10) code (Appendix 1) appears in any diagnosis field [<i>diag_nn</i>]. 2. For each admission episode identified in step 1 above, an alcohol-attributable fraction is applied based on the diagnostic codes, age group and sex of the patient (Appendix 1). Where there is more than one alcohol-attributable International Classification of Diseases (version 10) code among the 20 possible diagnostic codes (from <i>diag_nn</i>) the code(s) with the largest alcohol-attributable fraction is selected; <ul style="list-style-type: none"> in the event of there being two or more codes with the same alcohol-attributable fraction within the same episode, select the one from the lowest diagnostic position [<i>diag_nn</i>]. ('Diagnostic position', takes an integer value between 1 and 20, corresponding to the 20 diagnosis fields [<i>diag_01</i> to <i>diag_20</i>]). 3. Calculate crude rates by: <ul style="list-style-type: none"> Aggregating the alcohol-specific admission episodes from above by area of residence and aggregating mid-year population estimates for the population aged under 18 years for each area. <p>Crude rates per 100,000 were calculated using the following formula:</p> $(a/b) \times 100,000$ <p>where:</p> <ul style="list-style-type: none"> <i>a</i> is the number of alcohol-specific admission episodes for the population aged under 18 years. <i>b</i> is the Office for National Statistics' population estimates for the population aged under 18 years.

Summary footnote	Admission episodes for alcohol-specific conditions - under 18s, crude rate per 100,000 population. Risk Factors Intelligence (RFI) team from Hospital Episode Statistics. Office for National Statistics mid-year population. Does not include attendance at Accident and Emergency departments.
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Admission episodes for alcohol-specific conditions

Indicator number	6.02
Indicator full name	Admission episodes for alcohol-specific conditions
What is being measured	Admissions to hospital where the primary diagnosis or any of the secondary diagnoses are an alcohol-specific (wholly attributable) condition.
Who does it measure	Persons, males and females all ages.
When does it measure	Financial year.
Indicator definition	Admissions to hospital where the primary diagnosis or any of the secondary diagnoses are an alcohol-specific (wholly attributable) condition. Directly age standardised rate per 100,000 population (standardised to the European standard population).
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. Hospital Episode Statistics publish annual extracts each year. The Office for National Statistics publishes mid-year population estimates.
Definition of numerator	The number of hospital admission episodes where the primary diagnosis or any of the secondary diagnoses are an alcohol-specific condition.
Source of numerator	NHS Digital.
Definition of denominator	Office for National Statistics mid-year population estimates, by five-year age bands.
Source of denominator	Office for National Statistics.
Confidence interval methodology	Byar's methodology was used to generate 95% confidence intervals, as detailed in APHO <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . ⁵ The formula numbers below correspond to those in the briefing available from:

	<p>www.apho.org.uk/resource/item.aspx?RID=48457</p> <p>An accompanying Excel spreadsheet, replicating all formulae, is also available from this website.</p>
Caveats	<p>Hospital admission data can be coded differently in different parts of the country. In some cases, details of the patient's residence are insufficient to allocate the patient to a particular area and in other cases the patient has no fixed abode. These cases are included in the England total but not in the local authority or PHE centre figures.</p>
Methodology	<p>Admission episodes for alcohol-specific conditions are calculated as follows:</p> <ol style="list-style-type: none"> 1. Select Hospital Episode Statistics records where: <ul style="list-style-type: none"> the admission is a finished episode [<i>epistat</i> = 3]; the admission is an ordinary admission, day case or maternity [<i>classpat</i> = 1, 2 or 5]; it is an admission episode [<i>epiorder</i> = 1]; there is a valid age at start of episode [<i>startage</i> between 0 and 120 or between 7001 and 7007]; the region of residence is one of the English regions, no fixed abode or unknown [<i>resgor</i> <= K or U or Y]; the episode end date [<i>epiend</i>] falls within the specified period; and an alcohol-specific International Classification of Diseases (version 10) code (Appendix 1) appears in any diagnosis field [<i>diag_nn</i>]. 2. For each admission episode identified in step 1 above, an alcohol-attributable fraction is applied based on the diagnostic codes, age group and sex of the patient (Appendix 1). Where there is more than one alcohol-attributable International Classification of Diseases (version 10) code among the 20 possible diagnostic codes (from <i>diag_nn</i>) the code(s) with the largest alcohol-attributable fraction is selected; <ul style="list-style-type: none"> in the event of there being two or more codes with the same alcohol-attributable fraction within the same episode, select the one from the lowest diagnostic position [<i>diag_nn</i>]. ('Diagnostic position', takes an integer value between 1 and 20, corresponding to the 20 diagnosis fields [<i>diag_01</i> to <i>diag_20</i>]). 3. Calculate directly standardised rates by: <ul style="list-style-type: none"> Aggregating the alcohol-specific admissions from above by five-year age groups (0 to 4, 5 to 9, to 85 to 89 and 90 years and over), for each area of residence using mid-year population estimates to derive age group and sex-specific rates for each area; calculating directly age-standardised rate per 100,000 population, standardised to the European standard population.

Summary footnote	Admission episodes for alcohol-specific conditions, all ages, directly age-standardised rate per 100,000 population (standardised to the European standard population). Risk Factors Intelligence (RFI) team from Hospital Episode Statistics. Office for National Statistics mid-year population estimates. Does not include attendance at Accident and Emergency departments.

Admission episodes for alcohol-related conditions, broad and narrow measures

Indicator number	9.01 to 10.05
Indicator full name	Admission episodes for alcohol-related conditions.
What is being measured	Admission episodes for alcohol-related conditions.
Who does it measure	All admissions all ages.
When does it measure	Financial year.
Indicator definition	Hospital admissions for alcohol-related conditions, directly age-standardised rate per 100,000 population European standard population.
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. Hospital Episode Statistics publish annual extracts each year. The Office for National Statistics publishes mid-year population estimates.
Definition of numerator	<p><u>Broad measure:</u> Admissions to hospital where the primary diagnosis or any of the secondary diagnoses are an alcohol-attributable code (Appendix 1). Indicator 9.03 was filtered for cardiovascular disease conditions; 9.04 for the mental and behavioural disorders due to use of alcohol condition; and 9.05 for the alcoholic liver disease condition. Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight (Appendix 1). For other conditions, alcohol-attributable fractions were not available for children.</p> <p><u>Narrow measure:</u> Admissions to hospital where the primary diagnosis is an</p>

	<p>alcohol-attributable code (Appendix 1) or a secondary diagnosis is an alcohol-attributable external cause code (Appendix 1). Indicator 10.03 was filtered for unintentional injuries conditions; 10.04 for the mental and behavioural disorders due to use of alcohol condition; and 10.05 for the intentional self-poisoning by and exposure to alcohol condition. Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight (Appendix 1). For other conditions, alcohol-attributable fractions were not available for children.</p>
Source of numerator	NHS Digital.
Denominator definition	Office for National Statistics mid-year population estimates, by five-year age bands, all persons.
Denominator source	Office for National Statistics.
Confidence interval methodology	<p>Byar's methodology was used to generate 95% confidence intervals, as detailed in APHO <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i>.⁵ The formula numbers below correspond to those in the briefing available from: www.apho.org.uk/resource/item.aspx?RID=48457 An accompanying Excel spreadsheet, replicating all formulae, is also available from this website.</p>
Caveats	<p>Analysis has revealed significant differences across the country in the coding of cancer patients in the Hospital Episode Statistics. In particular, in some areas, regular attenders at hospital for treatments like chemotherapy and radiotherapy are being incorrectly recorded as admissions. Since cancer admissions form part of the overarching alcohol-related admission national indicators, the inconsistent recording across the country for cancer patients has some implication for these headline measures.</p> <p>Cancer admissions make up approximately a quarter of the total number of alcohol-related admissions on the narrow definition. Analysis suggests that, although most Local Authorities would remain within the same RAG group compared with the England average if cancer admissions were removed, the ranking of Local Authorities within RAG groups would be altered. We are continuing to monitor the impact of this issue and to consider ways of improving the consistency between areas.</p> <p>Data for England includes records with geography 'Unknown' and 'No fixed abode'. Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight. For other conditions, alcohol-attributable fractions were not available for children. Conditions where low levels of alcohol consumption are protective (have a negative</p>

	alcohol-attributable fraction) are not included in the calculation of the indicator.
Methodology	<p>Alcohol-related hospital admission is calculated as follows:</p> <p><u>Broad measure:</u></p> <ol style="list-style-type: none"> 1. Select Hospital Episode Statistics records where: <ul style="list-style-type: none"> the admission is a finished episode [<i>epistat</i> = 3]; the admission is an ordinary admission, day case or maternity [<i>classpat</i> = 1, 2 or 5]; it is an admission episode [<i>epiorder</i> = 1]; <p>there is a valid age at start of episode [<i>startage</i> between 0 and 120 or between 7001 and 7007];</p> <p>the region of residence is one of the English regions, no fixed abode or unknown [<i>resgor</i> ≤ K or U or Y];</p> <p>the episode end date [<i>epiend</i>] falls within the financial year an alcohol-attributable International Classification of Diseases (version 10) code (Appendix 1) appears in any diagnosis field [<i>diag_nn</i>].</p> <ol style="list-style-type: none"> 2. For each episode identified in step 1 above, an alcohol-attributable fraction is applied based on the diagnostic codes, age group and sex of the patient (Appendix 1). Where there is more than one alcohol-attributable International Classification of Diseases (version 10) code among the 20 possible diagnostic codes (from <i>diag_nn</i>) the code(s) with the largest alcohol-attributable fraction is selected; <ul style="list-style-type: none"> in the event of there being two or more codes with the same alcohol-attributable fraction within the same episode, select the one from the lowest diagnostic position [<i>diag_nn</i>]. ('Diagnostic position', takes an integer value between 1 and 20, corresponding to the 20 diagnosis fields [<i>diag_01</i> to <i>diag_20</i>]). 3. Indicator 9.03 was filtered for cardiovascular disease conditions (ICD10 codes: I10 to I15, I20 to I25, I47 to I48, I60 to I62, I69.0 to I69.2, I63 to I66, I69.3 to I69.4, I85); 9.04 for the mental and behavioural disorders due to use of alcohol condition (ICD10 code: F10); and 9.05 for the alcoholic liver disease condition (ICD10 code: K70). 4. Calculate directly standardised rates by: <ul style="list-style-type: none"> aggregating alcohol-related admissions above by five-year age groups (0 to 4, 5 to 9, to 85 to 89 and 90 years and over), for each area of residence using mid-year population estimates to derive age group and sex-specific rates for each area; calculating directly age-standardised rate per 100,000 population, standardised to the European standard population.

Narrow measure:

1. Select Hospital Episode Statistics records where:
 - the admission is a finished episode [*epistat* = 3]
 - the admission is an ordinary admission, day case or maternity [*classpat* = 1, 2 or 5];
 - it is an admission episode [*epiorder* = 1];
 - there is a valid age at start of episode [*startage* between 0 and 120 or between 7001 and 7007];
 - the region of residence is one of the English regions, no fixed abode or unknown [*resgor* <= K or U or Y];
 - the episode end date [*epiend*] falls within the financial year an alcohol-attributable International Classification of Diseases (version 10) code (Appendix 1) appears in any diagnosis field [*diag_nn*].
2. For each episode identified in step 1 above, an alcohol-attributable fraction is applied to the primary diagnosis field [*diag_01*] or an alcohol-attributable external cause code (Appendix 1) appears in one of the secondary codes [*diag_02* to *diag_20*] based on the diagnostic codes, age group and sex of the patient (Appendix 1);
 - Where there is more than one alcohol-related International Classification of Diseases (version 10) code among the 20 possible diagnostic codes (from *diag_nn*) the code(s) with the largest alcohol-attributable fraction is selected;
 - in the event of there being two or more codes with the same alcohol-attributable fraction within the same episode, select the one from the lowest diagnostic position [*diag_nn*] ('Diagnostic position', takes an integer value between 1 and 20, corresponding to the 20 diagnosis fields [*diag_01* to *diag_20*]).
3. Indicator 10.03 was filtered for the mental and behavioural disorders due to use of alcohol condition (ICD10 code: F10); 10.04 for unintentional injuries conditions (ICD10 codes: § [see Appendix 1], X40 to X49 (excl. X45), W00 to W19, X00 to X09, W65 to W74); and 10.05 for the intentional self-poisoning by and exposure to alcohol condition (X65).
4. Calculate directly standardised rates by:
 - aggregating alcohol-related admissions above by five-year age groups (0 to 4, 5 to 9 to 85 to 89 and 90 years and over), for each area of residence using mid-year population estimates to derive age group and sex-specific rates for each area;
 - calculating directly age-standardised rate per 100,000 population, standardised to the European standard population.

Summary footnote	Admission episodes for alcohol-related conditions (broad measure [primary diagnosis or any secondary diagnosis] and narrow measure [primary diagnosis or any secondary diagnosis with an external cause]), all ages, directly age-standardised rate per 100,000 population (standardised to the European standard population). Risk Factors Intelligence (RFI) team from Hospital Episode Statistics. Office for National Statistics mid-year population estimates. Does not include attendance at Accident and Emergency departments.
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Admission episodes for alcohol-related conditions, narrow measures, broad age bands

Indicator number	10.06 to 10.08
Indicator full name	Admission episodes for alcohol-related conditions (narrow), broad age bands.
What is being measured	Admission episodes for alcohol-related conditions for those aged under 40, 40 to 64 and 65+.
Who does it measure	All admissions in respective age bands.
When does it measure	Financial year.
Indicator definition	Hospital admissions for alcohol-related conditions, directly age-standardised rate per 100,000 population European standard population.
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. Hospital Episode Statistics publish annual extracts each year. The Office for National Statistics publishes mid-year population estimates.
Definition of numerator	Admissions to hospital where the primary diagnosis is an alcohol-attributable code (Appendix 1). Indicator 10.6 was filtered for persons aged under 40; 10.07 for those aged 40 to 64; and 10.08 for those aged 65 and over. Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight (Appendix 1). For other conditions, alcohol-attributable fractions were not available for children.
Source of numerator	NHS Digital.
Denominator definition	Office for National Statistics mid-year population estimates, by five-year age bands, all persons.

Denominator source	Office for National Statistics.
Confidence interval methodology	<p>Byar's methodology was used to generate 95% confidence intervals, as detailed in APHO <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i>.⁵ The formula numbers below correspond to those in the briefing available from:</p> <p>www.apho.org.uk/resource/item.aspx?RID=48457</p> <p>An accompanying Excel spreadsheet, replicating all formulae, is also available from this website.</p>
Caveats	<p>Analysis has revealed significant differences across the country in the coding of cancer patients in the Hospital Episode Statistics. In particular, in some areas, regular attenders at hospital for treatments like chemotherapy and radiotherapy are being incorrectly recorded as admissions. Since cancer admissions form part of the overarching alcohol-related admission national indicators, the inconsistent recording across the country for cancer patients has some implication for these headline measures.</p> <p>Cancer admissions make up approximately a quarter of the total number of alcohol-related admissions on the narrow definition. Analysis suggests that, although most Local Authorities would remain within the same RAG group compared with the England average if cancer admissions were removed, the ranking of Local Authorities within RAG groups would be altered. We are continuing to monitor the impact of this issue and to consider ways of improving the consistency between areas.</p> <p>Data for England includes records with geography 'Unknown' and 'No fixed abode'. Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight. For other conditions, alcohol-attributable fractions were not available for children. Conditions where low levels of alcohol consumption are protective (have a negative alcohol-attributable fraction) are not included in the calculation of the indicator.</p>
Methodology	<p>Alcohol-related hospital admission is calculated as follows:</p> <ol style="list-style-type: none"> 1. Select Hospital Episode Statistics records where: <ul style="list-style-type: none"> the admission is a finished episode [<i>epistat</i> = 3] the admission is an ordinary admission, day case or maternity [<i>classpat</i> = 1, 2 or 5]; it is an admission episode [<i>epiorder</i> = 1]; there is a valid age at start of episode [<i>startage</i> between 0 and 120 or between 7001 and 7007] and that age falls within the range of the indicator being calculated; the region of residence is one of the English regions, no fixed abode or unknown [<i>resgor</i> <= K or U or Y];

	<p>the episode end date [epiend] falls within the financial year an alcohol-attributable International Classification of Diseases (version 10) code (Appendix 1) appears in any diagnosis field [diag_nn].</p> <p>2. For each episode identified in step 1 above, an alcohol-attributable fraction is applied to the primary diagnosis field [diag_01] or an alcohol-attributable external cause code (Appendix 1) appears in one of the secondary codes [diag_02 to diag_20] based on the diagnostic codes, age group and sex of the patient (Appendix 1);</p> <p>Where there is more than one alcohol-related International Classification of Diseases (version 10) code among the 20 possible diagnostic codes (from <i>diag_nn</i>) the code(s) with the largest alcohol-attributable fraction is selected;</p> <p>in the event of there being two or more codes with the same alcohol-attributable fraction within the same episode, select the one from the lowest diagnostic position [diag_nn] ('Diagnostic position', takes an integer value between 1 and 20, corresponding to the 20 diagnosis fields [diag_01 to diag_20]).</p> <p>3. Indicator 10.02 was filtered for malignant neoplasm conditions (ICD10 codes C00 to C14, C15, C18 to C20, C21, C22, C32, C50); 10.03 for the mental and behavioural disorders due to use of alcohol condition (ICD10 code: F10); 10.04 for unintentional injuries conditions (ICD10 codes: § [see Appendix 1], X40 to X49 (excl. X45), W00 to W19, X00 to X09, W65 to W74); and 10.05 for the intentional self-poisoning by and exposure to alcohol condition (X65).</p> <p>4. Calculate directly standardised rates by: aggregating alcohol-related admissions above by five-year age groups (0 to 4, 5 to 9 to 85 to 89 and 90 years and over), for each area of residence using mid-year population estimates to derive age group and sex-specific rates for each area; calculating directly age-standardised rate per 100,000 population, standardised to the European standard population.</p>
<p>Summary footnote</p>	<p>Admission episodes for alcohol-related conditions (broad measure [primary diagnosis or any secondary diagnosis] and narrow measure [primary diagnosis or any secondary diagnosis with an external cause]), all ages, directly age-standardised rate per 100,000 population (standardised to the European standard population). Risk Factors Intelligence (RFI) team from Hospital Episode Statistics. Office for National Statistics mid-year population estimates. Does not include attendance at Accident and Emergency departments.</p>

6.3 Claimants of benefits due to alcoholism

Claimants of benefits due to alcoholism

Indicator number	11.01
Indicator full name	Claimants of benefits due to alcoholism – working age
What is being measured	A snapshot showing the number of claimants of Incapacity Benefit or Severe Disablement Allowance or Employment and Support Allowance with alcohol misuse as the main disabling condition as a rate of the working age population.
Who does it measure	Persons, working age (males aged 16 to 64 years, females aged 16 to 61 years).
When does it measure	Quarterly snapshot - May 2015
Indicator definition	Claimants of Incapacity Benefit or Severe Disablement Allowance or Employment and Support Allowance with alcohol misuse as the main disabling condition, crude rate per 100,000 (working age, persons) population.
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. The Department for Work and Pensions analyse data quarterly. May 2015 was the most current dataset as at April 2016. The Office for National Statistics publishes mid-year population estimates around July-September.
Definition of numerator	Claimants of Incapacity Benefit/Severe Disablement Allowance or Employment and Support Allowance whose main medical reason to not work is alcoholism. Causes of incapacity are based on the International Classification of Diseases (version 10) codes, published by the World Health Organization. To qualify for Incapacity Benefit or Severe Disablement Allowance, claimants have to undertake a medical test of incapacity for work which is called the Personal Capability Assessment. Therefore, the medical condition recorded on Incapacity Benefit or Severe Disablement Allowance claim form does not itself confer entitlement to incapacity benefits, so for example, the decision for a customer claiming Incapacity Benefit on grounds of alcoholism would be based on their ability to carry out the range of activities in the Personal Capability Assessment; or on the effects of any associated mental health problems.

Source of numerator	Department for Work and Pensions
Denominator definition	Mid-year population estimates (2014) for males aged 16 to 64 years and females aged 16 to 61 years.
Denominator source	Office for National Statistics
Confidence interval methodology	Byar's methodology was used to generate 95% confidence intervals, as detailed in <i>APHO Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . The formula numbers below correspond to those in the briefing available from: www.apho.org.uk/resource/item.aspx?RID=48457 An accompanying Excel spread sheet, replicating all formulae, is also available from this link.
Caveats	The number of Incapacity Benefit/Severe Disablement Allowance claimants with alcohol misuse as main disabling condition and the number of Employment and Support Allowance claimants with alcohol misuse as main disabling condition were only available as counts rounded to the nearest 10 for local authorities. These rounded values have been summed to generate a total figure of those claiming with alcohol misuse as main disabling condition.
Methodology	Crude rates per 100,000 working age population were calculated using mid-year population estimates for males aged 16 to 64 years and females aged 16 to 61 years. The following formula was used: $(a/b) \times 100,000$ Where: <i>a</i> is the number of claimants of Incapacity Benefit or Severe Disablement Allowance or Employment and Support Allowance with alcohol misuse as main disabling condition <i>b</i> is the Office for National Statistics' working age population estimates.
Summary Footnote	Claimants of Incapacity Benefit/Severe Disablement Allowance or Employment and Support Allowance whose main medical reason for not working is alcoholism, crude rate per 100,000 (working age, persons) population. Risk Factors Intelligence (RFI) team from Department for Work and Pensions data May 2015 and Office for National Statistics 2014 mid-year population estimates for males aged between 16 to 64 years and females aged 16 to 61 years.

6.4 Alcohol Related Road Traffic Accidents

Alcohol Related Road Traffic Accidents

Indicator number	12.01
Indicator full name	Alcohol related road traffic accidents
What is being measured	A snapshot showing the number of road traffic incidents with a failed breath test as a rate of the total number of road traffic incidents.
Who does it measure	Traffic Accidents
When does it measure	Calendar Year
Indicator definition	Reported road accidents (of all severities) in which at least one driver failed a breath test - crude rate per 1,000 accidents.
Timeliness	Produced annually by the Risk Factors Intelligence team. The Department for Work and Pensions analyse data quarterly. May 2015 was the most current dataset as at April 2016. The Office for National Statistics publishes mid-year population estimates around July-September.
Definition of numerator	Number of reported road accidents (of all severities) in which at least one driver failed a breath test.
Source of numerator	STATS19 data provided by the Department of Transport.
Denominator definition	Number of total reported road accidents.
Denominator source	STATS19 data provided by the Department of Transport.
Confidence interval methodology	Byar's methodology was used to generate 95% confidence intervals, as detailed in <i>APHO Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . The formula numbers below correspond to those in the briefing available from: www.apho.org.uk/resource/item.aspx?RID=48457 An accompanying Excel spread sheet, replicating all formulae, is also available from this link.
Caveats	<p>The legal driving age in England is 17, or 16 for some people claiming disability benefit. In this indicator, data has been labelled as 17 years plus.</p> <p>This data is extracted from STATS19 system. The STATS19 data only includes accidents that involved personal injury, occurred on a public highway or footway and became known to the police within 30 days of occurrence. This means that any accident in which no injury occurs (called a damage-only accident) or occurs on private land away from the public highway will not be included in the data. Furthermore, there is no</p>

	<p>legal obligation for drivers to report road accidents to the police, even if somebody is injured, provided the parties concerned exchange personal details at the scene.</p> <p>Figures will not include accidents in which a driver died and was found to have an illegal BAC level.</p> <p>Figures will not include accidents in which a driver was too badly injured to administer a breath test or hit and run accidents where a driver left the scene (in both cases the driver could have failed a breath test if it was possible to take one).</p> <p>STATS19 data includes London (Heathrow Airport) as its own Local Authority. For the purpose of this analysis, any data for Heathrow Airport has been included in the Local Authority for Hillingdon.</p> <p>In some cases, accidents that should be reported by drivers to the police are not reported. This may be because the driver is ignorant of the legal requirements or is reluctant to do so, for example, if the driver has been drinking or is uninsured, leading to a slight under representation of the true accident figures; see: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/462818/reported-road-casualties-gb-notes-definitions.pdf for more information.</p>
<p>Methodology</p>	<p>Crude rate per 1,000 accidents: The number of reported road accidents (of all severities) in which at least one driver failed a breath test divided by the total number of road accidents, multiplied by 1000. The following formula was used:</p> $(a/b) \times 1000$ <p>Where: <i>a</i> is the number of reported road accidents (of all severities) in which at least one driver failed a breath test <i>b</i> is the total number of road accidents</p>
<p>Summary Footnote</p>	<p>Alcohol related road traffic accidents - crude rate per 1,000 accidents. Risk Factors Intelligence (RFI) team from number of reported road accidents (of all severities) in which at least one driver failed a breath test and number of total reported road accidents extracted from the STATS19 data set by the Department of Transport. In some cases, accidents that should be reported by drivers to the police are not reported leading to a slight under representation of the true accident figures, see: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/462818/reported-road-casualties-gb-notes-definitions.pdf for more information.</p>

6.5 Alcohol Related Cancer Incidence

Alcohol related cancer incidence

Indicator number	13.01
Indicator full name	Incidence rate of alcohol-related cancer
What is being measured	The rate of persons diagnosed with an alcohol related cancer
Who does it measure	All incidence of alcohol related cancer.
When does it measure	Calendar year.
Indicator definition	Alcohol attributable fractions applied to cancer incidence per 100,000 in the population (for cancer of the mouth, oesophagus, colorectal, liver, larynx and breast)
Timeliness	Produced annually by the Risk Factors Intelligence (RFI) team. Incidence data produced annually from the National cancer registration and analysis service. The Office for National Statistics publishes mid-year population estimates.
Definition of numerator	Alcohol attributable fractions (see Appendix 2) - http://www.cph.org.uk/publication/updating-england-specific-alcohol-attributable-fractions/) are applied to cancer incidence by age group and gender for the six cancer types with a recognised link to alcohol consumption - i) ICD codes C00-C14, Lips, oral cavity and pharynx, ii) ICD code C15, Oesophagus, iii) ICD code C18-C21, Colorectal, iv) ICD code C22, Liver, v) ICD code C32, Larynx, vi) ICD code C50, Breast. The events were extracted for individuals aged 16+ therefore age groups used are 16 to 19, 20 to 24, 25 to 29, 30 to 34 ..., 85 to 90, 90+ years.
Source of numerator	PHE analysis of National Cancer Registration and Analysis Service data
Denominator definition	Office for National Statistics mid-year population estimates, by five-year age bands, all persons.
Denominator source	Office for National Statistics.
Confidence interval methodology	Byar's methodology was used to generate 95% confidence intervals, as detailed in APHO <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . ⁵ The formula numbers below correspond to those in the briefing

	<p>available from: www.apho.org.uk/resource/item.aspx?RID=48457 An accompanying Excel spreadsheet, replicating all formulae, is also available from this website.</p>
<p>Caveats</p>	<p>Although there is a proven link between alcohol consumption and certain cancer types, the effect is a lagged i.e. development of cancer would generally occur several years after consumption. The effect is also cumulative over time. The alcohol attributable fraction methodology uses current population consumption in different age groups applied to known dose/response relationships. This does not take into account the fact that alcohol consumption patterns change over an individual's life course. Fractions are applied by age and gender. However, there is no differentiation by region or deprivation group i.e. the same fraction, split by age and gender, is applied across the whole country. Please note that some of the cancers related to alcohol are also smoking-related (so smoking could also be a contributory factor). In addition, this indicator is not sensitive enough to measure significant change in areas over time.</p>
<p>Methodology</p>	<p>Alcohol-related cancer incidence is calculated as follows:</p> <ol style="list-style-type: none"> 1. Select cancer incidence records where: the sex of the patient is valid [sex = 1 or 2]; 2. For each record identified in step 1 above, an alcohol-attributable fraction is applied to the site group field based on the site code, age group and sex of the patient (Appendix 1); 3. Calculate directly standardised rates by: aggregating alcohol-related admissions above by five-year age groups (0 to 4, 5 to 9 to 85 to 89 and 90 years and over), for each area of residence using mid-year population estimates to derive age group and sex-specific rates for each area; calculating directly age-standardised rate per 100,000 population, standardised to the European standard population.
<p>Summary footnote</p>	<p>Cancer incidence for alcohol-related neoplasms , all ages, directly age-standardised rate per 100,000 population (standardised to the European standard population). Risk Factors Intelligence (RFI) team from National Cancer Registration and Analysis Service data. Office for National Statistics mid-year population estimates.</p>

7. Consumption and availability

Volume of alcohol sold through the off-trade

Indicator number	17.01 to 17.04
Indicator full name	Volume of alcohol sold through the off-trade: all alcohol, beer, wine and spirit sales.
What is being measured	The rate of average number of litres of alcohol sold per adult
Who does it measure	All adults who purchase alcohol through the off-trade.
When does it measure	Calendar year.
Indicator definition	Average litres of alcohol sold per adult (18+) through the off-trade by alcohol product type: all alcohol, beer, wine and spirit sales
Timeliness	PHE have purchased one year of alcohol sales data (on and off trade) to assess its value as a potential public health indicator. On the basis of this analysis PHE plans to include off-trade sales as a new indicator in LAPE and consideration will be given to further future purchase of this data subject to the necessary funds being available.
Definition of numerator	Litres of alcohol sold through the off-trade.
Source of numerator	CGA Strategy / Nielsen.
Denominator definition	The number of adults aged 18 or over in the population.
Denominator source	ONS mid-year population.
Confidence interval methodology	Nielsen have previously provided information which shows that the sales rate for England and Wales has maximum variability of +/- 1.1%. A multiplier of $\sqrt{1/p}$ (where p is the proportion of total sales outlets falling in a particular area) has been used to estimate the maximum percentage variation at a local level.
Caveats	The method of allocation of sales to local authorities from TV region assumes that average sales per outlet are constant across LAs within a region. There are potential biases in the numerator as a measure of local consumption due to the exclusion of unrecorded alcohol (e.g. untaxed or illegal alcohol)

	<p>and wastage (sold alcohol which isn't consumed). There is also potential under-recording from the non-inclusion of online sales and sales from discount retailers. There are potential biases in the use of 18+ resident population as a denominator as the following groups are not adjusted for: alcohol sales to those under the age of 18 and sales to those who are not resident in the UK.</p>
<p>Methodology</p>	<p>Off-trade alcohol sales estimates are obtained by Nielsen using weekly store-census data from most large multiple retailers and several smaller retailer groups. These data represent an estimated three-quarters of all alcohol sold through the off-trade. For 'impulse' outlets (independent outlets and most of the smaller multiple retailers), weekly data are provided by a stratified random sample of outlets. The sample size is designed to give a maximum national standard error of 2.5% at the 95% confidence interval level. The off-trade universe is updated continually for larger multiple retailers using automatically provided data, and at least annually for impulse outlets using various trade sources. Sales from discount retailers are excluded.</p> <p>Estimation of data at LA level - Sales data are designed for estimation at TV region level. In order to provide estimates at LA level, average sales volume per outlet per region by drink type have been calculated. These averages have then been applied to the number of outlets in the LA and divided by the population to produce rates per head.</p>
<p>Summary footnote</p>	<p>Volume of alcohol sold through the off-trade: all alcohol, beer, wine and spirit sales, 18+, crude rate. Risk Factors Intelligence (RFI) team using data from CGA Strategy / Nielsen and Office for National Statistics (ONS) - Mid Year Population Estimates.</p>

Number of premises licensed to sell alcohol per square kilometre

Indicator number	18.01
Indicator full name	Number of premises licensed to sell alcohol per square kilometre
What is being measured	The rate of number of premises licences and club premises certificates permitted to sell or supply alcohol per square kilometre.
Who does it measure	All premises licences and club premises certificates permitted to sell or supply alcohol per square kilometre.
When does it measure	Financial year.
Indicator definition	Number of premises licences and club premises certificates permitted to sell or supply alcohol per square kilometre.
Timeliness	Annual
Definition of numerator	Number of premises licences and club premises certificates permitted to sell or supply alcohol on-trade and/or off-trade.
Source of numerator	Annual administrative return from local authorities to the Home Office.
Denominator definition	The total land area of the local authority converted from hectares to kilometres squared.
Denominator source	ONS Standard Area Measurements.
Confidence interval methodology	Byar's method
Caveats	A premises may have a license to sell alcohol but not actually sell alcohol. A premises may have ceased trading since a license was granted but not yet been removed from LA records. For a small number of LAs (30 in 2016) there are missing or incomplete data and hence we would be unable to provide a value for those areas. Correspondingly, the England value is based on local authorities with a known number of license premises only.
Methodology	These data are published as National Statistics by the Home Office. They are based on administrative data returns from LAs. Where LAs provide missing or incomplete data, values are imputed to estimate a complete England total. However imputed estimates are not published by LA. In 2015/16, 30 lower tier LAs had missing or incomplete data.

Summary footnote	Number of premises licences and club premises certificates permitted to sell or supply alcohol per square kilometre, crude rate. Risk Factors Intelligence (RFI) team using data from National Statistics by the Home Office and Office for National Statistics (ONS) - Standard Area Measurements.
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Percentage of adults who abstain from drinking alcohol

Indicator number	19.01
Indicator full name	Percentage of the adults who abstain from drinking alcohol.
What is being measured	The proportion of adults who abstain from drinking alcohol.
Who does it measure	All adult abstainers who said "No" to question DNNOW - "Do you drink alcohol nowadays?" and "Never" to question DNANY - "Do you drink occasionally or never drink?." In the Health Survey for England.
When does it measure	Calendar year.
Indicator definition	% of those aged 18+ who report to never drink alcohol in the Health Survey for England.
Timeliness	Next update is planned for three years time using a new rolling average period.
Definition of numerator	Abstainers are defined as those who say "No" to question DNNOW - "Do you drink alcohol nowadays?" and "Never" to question DNANY - "Do you drink occasionally or never drink?".
Source of numerator	Health Survey for England.
Denominator definition	Survey respondents aged 18+ by usual LA of residence who provided a response to question DNNOW in Health Survey for England.
Denominator source	Health Survey for England.
Confidence interval methodology	Wilson Score method
Caveats	Household surveys are known to under-estimate alcohol consumption when compared with administrative sources such

	as tax returns and sales data. This is less likely to effect estimates of abstinence than indicators based on quantity of alcohol consumed. There is often a lag between alcohol consumption and alcohol-related harms, particularly for chronic conditions where the lag can be many years. Some individuals who currently abstain from alcohol might have drunk at risky levels in the past and hence remain at risk of developing alcohol-related conditions.
Methodology	Health Survey for England data for 2011 to 2014 was combined to increase the sample size to a sufficiently robust level. The numerator and denominator were extracted by upper tier LA. The proportion was calculated as $100 * (\text{number of abstainers}) / (\text{respondents aged 18+})$.
Summary footnote	Proportion of abstainers, Risk Factors Intelligence (RFI) team using data from Health Survey for England.

Percentage of adults binge drinking on heaviest drinking day

Indicator number	19.02
Indicator full name	Percentage of adults binge drinking on heaviest drinking day in the last week (women more than 6 units, men more than 8 units).
What is being measured	The proportion of adults binge drinking on heaviest drinking day in the last week.
Who does it measure	All respondents aged 18+ who reported to drink more than 6 units of alcohol (women) or more than 8 units of alcohol (men) on their heaviest drinking day in the last week. In the Health Survey for England.
When does it measure	Calendar year.
Indicator definition	% of those aged 18+ who reported to drink more than 6 units of alcohol (women) or more than 8 units of alcohol (men) on their heaviest drinking day in the last week in the Health Survey for England.
Timeliness	Next update is planned for three years time using a new rolling average period.
Definition of numerator	Defined as those who reported drinking more than 6/8 units of alcohol on their heaviest drinking day in the previous week (survey variable d7unitwgrp).

Source of numerator	Health Survey for England.
Denominator definition	Survey respondents aged 18+ by usual LA of residence
Denominator source	Health Survey for England.
Confidence interval methodology	Wilson Score method
Caveats	Household surveys are known to under-estimate alcohol consumption when compared with administrative sources such as tax returns and sales data. There is often a lag between alcohol consumption and alcohol-related harms, particularly for chronic conditions where the lag can be many years. Some individuals who don't currently binge drink might have drunk at risky levels in the past and hence remain at risk of developing alcohol-related conditions. Individuals vary in how they metabolise and react to alcohol. People of different ages and sizes can be affected differently by drinking similar amounts.
Methodology	Health Survey for England data for 2011 to 2014 was combined to increase the sample size to a sufficiently robust level. The numerator and denominator were extracted by upper tier LA. The proportion was calculated as $100 * (\text{binge drinkers}) / (\text{respondents aged 18+})$.
Summary footnote	Proportion of adults who binge drink on heaviest day in last week, Risk Factors Intelligence (RFI) team using data from Health Survey for England.

Percentage of adults drinking over 14 units of alcohol a week

Indicator number	19.03
Indicator full name	Percentage of adults drinking over 14 units of alcohol a week.
What is being measured	The proportion of adults drinking over 14 units of alcohol a week.
Who does it measure	All respondents aged 18+ who reported to drink more than 14 units of alcohol each week, in the Health Survey for England.

When does it measure	Calendar year.
Indicator definition	% of those aged 18+ who reported to drink more than 14 units of alcohol each week in the Health Survey for England.
Timeliness	Next update is planned for three years time using a new rolling average period.
Definition of numerator	Defined as those who reported that they usually drink more than 14 units of alcohol a week (derived from the survey variable "totalwu" - total weekly units).
Source of numerator	Health Survey for England.
Denominator definition	Survey respondents aged 18+ by usual LA of residence
Denominator source	Health Survey for England.
Confidence interval methodology	Wilson Score method
Caveats	Household surveys are known to under-estimate alcohol consumption when compared with administrative sources such as tax returns and sales data. There is often a lag between alcohol consumption and alcohol-related harms, particularly for chronic conditions where the lag can be many years. Some individuals who don't currently exceed government guidelines might have drunk at risky levels in the past and hence remain at risk of developing alcohol-related conditions. Individuals vary in how they metabolise and react to alcohol. People of different ages and sizes can be affected differently by drinking similar amounts.
Methodology	Health Survey for England data for 2011 to 2014 was combined to increase the sample size to a sufficiently robust level. The numerator and denominator were extracted by upper tier LA. The proportion was calculated as $100 * (\text{drinkers over 14 units}) / (\text{respondents aged 18+})$.
Summary footnote	Proportion of adults who drinking over 14 units of alcohol a week, Risk Factors Intelligence (RFI) team using data from Health Survey for England.

8. References

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Condition	ICD10 code(s)	0-15		16-24		25-34		35-44		45-54		55-64		65-74		75+	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Partially attributable conditions - chronic conditions																	
Infectious and parasitic diseases																	
Tuberculosis	A15-A19	0.00	0.00	0.30	0.19	0.33	0.17	0.34	0.21	0.35	0.22	0.35	0.20	0.31	0.14	0.22	0.11
Malignant neoplasm of:																	
Lip, oral cavity and pharynx	C00-C14	0.00	0.00	0.53	0.38	0.44	0.35	0.44	0.42	0.46	0.43	0.47	0.40	0.40	0.31	0.29	0.24
Oesophagus	C15	0.00	0.00	0.58	0.49	0.61	0.48	0.61	0.53	0.63	0.53	0.63	0.51	0.60	0.45	0.52	0.38
Colorectal	C18-C20, C21	0.00	0.00	0.16	0.11	0.18	0.12	0.18	0.13	0.19	0.14	0.19	0.13	0.17	0.11	0.13	0.11
Liver and intrahepatic bile ducts	C22	0.00	0.00	0.15	0.11	0.17	0.11	0.17	0.12	0.18	0.13	0.18	0.12	0.16	0.10	0.12	0.11
Larynx	C32	0.00	0.00	0.35	0.25	0.39	0.23	0.39	0.28	0.41	0.29	0.41	0.27	0.36	0.21	0.28	0.17
Breast	C50	0.00	0.00	0.00	0.12	0.00	0.13	0.00	0.14	0.00	0.15	0.00	0.14	0.00	0.12	0.00	0.11
Diabetes mellitus																	
Diabetes mellitus (type II)	E11	0.00	0.00	-0.04	-0.20	-0.04	-0.21	-0.04	-0.22	-0.04	-0.22	-0.03	-0.22	-0.04	-0.20	-0.03	-0.15
Diseases of the nervous system																	
Epilepsy and Status epilepticus	G40-G41	0.00	0.00	0.32	0.22	0.35	0.20	0.35	0.24	0.37	0.25	0.37	0.23	0.33	0.18	0.24	0.15
Cardiovascular disease																	
Hypertensive diseases	I10-I15	0.00	0.00	0.22	0.26	0.25	0.17	0.25	0.30	0.27	0.31	0.27	0.25	0.23	0.09	0.15	-0.06
Ischaemic heart disease	I20-I25	0.00	0.00	-0.10	-0.10	-0.10	-0.08	-0.10	-0.10	-0.10	-0.10	-0.10	-0.09	-0.11	-0.07	-0.10	-0.02
Cardiac arrhythmias	I47-I48	0.00	0.00	0.15	0.10	0.17	0.11	0.17	0.12	0.18	0.13	0.18	0.12	0.16	0.10	0.12	0.11
Haemorrhagic stroke - mortality	I60-I62, I69.0-	0.00	0.00	0.18	0.25	0.20	0.22	0.20	0.27	0.21	0.28	0.22	0.26	0.19	0.19	0.15	0.13
Haemorrhagic stroke - morbidity	I69.2	0.00	0.00	0.20	-0.11	0.22	-0.14	0.23	-0.11	0.24	-0.10	0.24	-0.12	0.21	-0.16	0.17	-0.15
Ischaemic stroke - mortality	I63-I66, I69.3-	0.00	0.00	0.01	-0.09	0.02	-0.14	0.02	-0.09	0.03	-0.08	0.04	-0.10	0.01	-0.16	0.00	-0.14
Ischaemic stroke - morbidity	I69.4	0.00	0.00	0.00	-0.06	0.01	-0.07	0.01	-0.06	0.02	-0.06	0.03	-0.07	0.00	-0.07	-0.01	-0.06
Oesophageal varices - mortality	I85	0.00	0.00	0.70	0.64	0.73	0.62	0.74	0.68	0.76	0.69	0.76	0.66	0.70	0.58	0.55	0.57
Oesophageal varices - morbidity		0.00	0.00	0.44	0.31	0.47	0.41	0.48	0.38	0.50	0.40	0.50	0.41	0.44	0.42	0.33	0.51
Respiratory infections																	
Pneumonia	J10.0, J11.0,	0.00	0.00	0.12	0.07	0.14	0.06	0.14	0.08	0.15	0.08	0.15	0.08	0.13	0.05	0.10	0.03

Condition	ICD10 code(s)	0-15		16-24		25-34		35-44		45-54		55-64		65-74		75+	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	J12- J15, J18																
Digestive disease																	
Unspecified liver disease - mortality	K73,	0.00	0.00	0.70	0.64	0.73	0.62	0.74	0.68	0.76	0.69	0.76	0.66	0.70	0.58	0.55	0.57
Unspecified liver disease - morbidity	K74	0.00	0.00	0.44	0.31	0.47	0.41	0.48	0.38	0.50	0.40	0.50	0.41	0.44	0.42	0.33	0.51
Cholelithiasis (gall stones)	K80	0.00	0.00	-0.25	-0.17	-0.28	-0.17	-0.28	-0.19	-0.30	-0.19	-0.30	-0.18	-0.27	-0.16	-0.21	-0.14
Acute and chronic pancreatitis	K85, K86.1 (excl. K85.2)	0.00	0.00	0.35	0.17	0.39	0.14	0.40	0.20	0.43	0.21	0.43	0.18	0.35	0.12	0.20	0.10
Pregnancy and childbirth																	
Spontaneous abortion	O03	0.00	0.00	0.00	0.08	0.00	0.08	0.00	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Low birth weight	P05- P07	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Partially attributable conditions - acute conditions																	
Unintentional injuries																	
Road/pedestrian traffic accidents - mortality	§	0.00	0.00	0.42	0.25	0.46	0.22	0.39	0.22	0.41	0.23	0.28	0.14	0.16	0.07	0.06	0.03
Road/pedestrian traffic accidents - morbidity		0.00	0.00	0.28	0.17	0.31	0.15	0.26	0.15	0.27	0.15	0.19	0.09	0.11	0.05	0.04	0.02
Poisoning - mortality	X40- X49	0.00	0.00	0.32	0.18	0.37	0.17	0.37	0.20	0.40	0.19	0.38	0.14	0.26	0.08	0.12	0.04
Poisoning - morbidity	(excl. X45)	0.00	0.00	0.14	0.08	0.17	0.08	0.16	0.09	0.18	0.08	0.17	0.06	0.12	0.04	0.05	0.02
Fall injuries - mortality	W00- W19	0.00	0.00	0.32	0.18	0.37	0.17	0.37	0.20	0.40	0.19	0.38	0.14	0.26	0.08	0.12	0.04
Fall injuries - morbidity		0.00	0.00	0.14	0.08	0.17	0.08	0.16	0.09	0.18	0.08	0.17	0.06	0.12	0.04	0.05	0.02
Fire injuries - mortality	X00- X09	0.00	0.00	0.32	0.18	0.37	0.17	0.37	0.20	0.40	0.19	0.38	0.14	0.26	0.08	0.12	0.04
Fire injuries - morbidity		0.00	0.00	0.14	0.08	0.17	0.08	0.16	0.09	0.18	0.08	0.17	0.06	0.12	0.04	0.05	0.02
Drowning - mortality	W65- W74	0.00	0.00	0.32	0.18	0.37	0.17	0.37	0.20	0.40	0.19	0.38	0.14	0.26	0.08	0.12	0.04
Drowning - morbidity		0.00	0.00	0.14	0.08	0.17	0.08	0.16	0.09	0.18	0.08	0.17	0.06	0.12	0.04	0.05	0.02
Other unintentional injuries - mortality	Rest of 'v' series	0.00	0.00	0.32	0.18	0.37	0.17	0.37	0.20	0.40	0.19	0.38	0.14	0.26	0.08	0.12	0.04
Other unintentional injuries - morbidity	§§	0.00	0.00	0.14	0.08	0.17	0.08	0.16	0.09	0.18	0.08	0.17	0.06	0.12	0.04	0.05	0.02

Condition	ICD10 code(s)	0-15		16-24		25-34		35-44		45-54		55-64		65-74		75+	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Intentional injuries																	
Intentional self-harm – mortality	X60-X84,	0.00	0.00	0.32	0.18	0.37	0.17	0.37	0.20	0.40	0.19	0.38	0.14	0.26	0.08	0.12	0.04
Intentional self-harm - morbidity	Y87.0 (excl. X65)	0.00	0.00	0.14	0.08	0.17	0.08	0.16	0.09	0.18	0.08	0.17	0.06	0.12	0.04	0.05	0.02
Event of undetermined intent - mortality	Y10-Y34,	0.00	0.00	0.32	0.18	0.37	0.17	0.37	0.20	0.40	0.19	0.38	0.14	0.26	0.08	0.12	0.04
Event of undetermined intent - morbidity	Y87.2 (excl. Y15)	0.00	0.00	0.14	0.08	0.17	0.08	0.16	0.09	0.18	0.08	0.17	0.06	0.12	0.04	0.05	0.02
Assault - mortality	X85-Y09,	0.00	0.00	0.32	0.18	0.37	0.17	0.37	0.20	0.40	0.19	0.38	0.14	0.26	0.08	0.12	0.04
Assault - morbidity	Y87.1	0.00	0.00	0.14	0.08	0.17	0.08	0.16	0.09	0.18	0.08	0.17	0.06	0.12	0.04	0.05	0.02

§ = V021-V029, V031-V039, V041-V049, V092, V093, V123-V129, V133-V139, V143-V149, V194-V196, V203-V209, V213-V219, V223-V229, V233-V239, V243-V249, V253-V259, V263-V269, V273-V279, V283-V289, V294-V299, V304-V309, V314-V319, V324-V329, V334-V339, V344-V349, V354-V359, V364-V369, V374-V379, V384-V389, V394-V399, V404-V409, V414-V419, V424-V429, V434-V439, V444-V449, V454-V459, V464-V469, V474-V479, V484-V489, V494-V499, V504-V509, V514-V519, V524-V529, V534-V539, V544-V549, V554-V559, V564-V569, V574-V579, V584-V589, V594-V599, V604-V609, V614-V619, V624-V629, V634-V639, V644-V649, V654-V659, V664-V669, V674-V679, V684-V689, V694-V699, V704-V709, V714-V719, V724-V729, V734-V739, V744-V749, V754-V759, V764-V769, V774-V779, V784-V789, V794-V799, V803-V805, V811, V821, V830-V833, V840-V843, V850-V853, V860-V863, V870-V878, V892. §§ = V01, V090, V091, V099, V100-V109, V110-V119, V120-122, V130-132, V140-V142, V150-V159, V160-V169, V170-V179, V180-V189, V191-V193, V20-V28: 0.1–0.2; V290-V293, V30-V38: 0.1–0.2; V390-V393, V40-V48: 0.1–0.2; V490-V493, V50-V58: 0.1–0.2; V590-V593, V60-V68: 0.1–0.2; V690-V693, V70-V78: 0.1–0.2; V790-V793, V800, V801, V806–V809, V810, V812–V819, V820, V822–V829, V834–V839, V844–V849, V854–V859, V864–V869, V879, V88, V890, V891, V893–V899, V90-V94, V95-V97, V98-V99, W20-W52, W75-W84, W85–W99, X10-X19, X20-X29, X30-X33, X50-X57, X58, X59, Y40-Y84 Y85, Y86, Y88, Y89