Local Alcohol Profiles for England 2016 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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Published May 2016

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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 2016, was released on 1st March 2016 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 2016

There have been two key changes to the methodologies used to calculate indicators presented in the Local Alcohol Profiles for England 2016. These are summarised here; more detailed descriptions of the methodologies used to create individual indicators are presented, by indicator, in section 5.

A slight methodological change has occurred since the Local Alcohol Profiles for England 2015 were released. The data presented in the Local Alcohol Profiles for England 2016 should not be compared with data published in previous versions. The Risk Factors Intelligence (RFI) team have recalculated data for previous years in line with recent changes in order to ensure comparisons across years are valid.

2.1 Attributable fractions for mortality trends

A correction factor has been applied to alcohol attributable fractions to account for changes in ICD-10 coding for 2014. This correction factor adjusts trend data to allow a proper comparison between current data and that from previous time periods.

2.2 Added new indicator 'Alcohol related road traffic accidents'

Added to the Other Impacts indicator group, this new for 2016 indicator provides insights into how many road traffic accidents involve at least one party who failed a sobriety test.

2.3 Added new indicator 'Incidence rate of alcohol-related cancer'

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.

In response a new indicator has been introduced to estimate cancer harms related to alcohol. Although this does not replace the previously published indicator ('Admission episodes for alcohol-related malignant neoplasm conditions') like for like, it is considered a more reliable measure of the impact of alcohol on cancer. This new indicator is expressed as a Directly Standardised Rate (DSR) using three year aggregates of incidence and population data.

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 alcohol[1]. 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. 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.

4.1 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−α)% 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−α/2)th percentile value from the standard normal distribution. For example, for a 95% confidence interval, α = 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 × 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:

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

where:

    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]

5. Indicator overview and metadata

5.1 Mortality and months of life lost due to alcohol

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

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

Mortality data for the months of life lost due to alcohol, 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.

Months of life lost due to alcohol is based on three consecutive years of mortality data. Alcohol-specific mortality is based on three consecutive years of mortality data and is a directly age-standardised rate. Mortality from chronic liver disease is based on three years of mortality data and is a directly age-standardised rate. Finally, alcohol-related mortality is based on one year of mortality data and is a directly age-standardised rate.

Months of life lost due to alcohol

Indicator number	1.01
Indicator full name	Months of life lost due to alcohol.
What is being measured	An estimate of the increase in life expectancy at birth which would be expected if all alcohol-related deaths were prevented for those aged less than 75 years.
Who does it measure	Males and females aged less than 75 years.
When does it measure	Three year moving average.
Indicator definition	Months of life lost due to alcohol for those aged less than 75 years.
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. The Office for National Statistics produces annual interim life tables.
Definition of numerator	Deaths from alcohol-related 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 those aged less than 75 years. 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	Office for National Statistics mid-year population estimates for the population aged 0 to 74 years (age bands: <1, 1 to 44, 45 to 54, 55 to 64 and 65 to 74 years). Estimates are aggregated from single year age bands. Three years are pooled.
Source of denominator	Office for National Statistics.
Confidence interval methodology	Confidence intervals have not been generated for this indicator.
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. 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.
Methodology	1. Select deaths under 75. 2. Assemble three consecutive years of data for locality deaths in England. 3. Assemble corresponding three consecutive years of locality mid-year population estimates (age bands: <1, 1 to 44, 45 to 54, 55 to 64 and 65 to 74 years). 4. Reduce each observed death by the corresponding alcohol-attributable fraction based on underlying cause of death (and all cause of deaths fields for the conditions: ethanol poisoning, methanol poisoning, toxic effect of alcohol). 5. Attach national (England and Wales three year aggregates) years of life lost values to each fractional observed death from Office for National Statistics interim life tables (www.ons.gov.uk/ons/rel/lifetables/interim-life-tables/2010-2012/index.html): deaths in first year counted as life expectancy at birth deaths in years one to four counted as life expectancy at age two, deaths in years five to nine counted as life expectancy at age seven, and so on… …deaths at 70 to 74 counted as life expectancy at 72 6. Sum attributable years of life lost in age groups <1, 1 to 44, 45 to 54, 55 to 64, 65 to 74 by sex and locality. 7. Calculate local, regional and England three year attributable years of life lost rates per 10,000 population by age group and sex. 8. Standardise to the European standard population in age groups. 9. This gives the average years of life lost for each year lived in an area. 10. Multiply by 12 (to convert to months), and by life expectancy at birth (to project lifetime effect). This methodology was developed by Tom Hennell, Risk Factors Intelligence (RFI) team. Comparability ratios were used in the calculation of trend data.
Summary footnote	An estimate of the increase in life expectancy at birth that would be expected if all alcohol-related deaths were prevented for those aged less than 75 years. Risk Factors Intelligence (RFI)

	team from the Office for National Statistics annual death extracts and Office for National Statistics mid-year population estimates.

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 *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.
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.

Methodology	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.
Summary footnote	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.

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 *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.
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.

Methodology	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.
Summary footnote	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.

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 *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.

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. 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.
Methodology	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.
Summary footnote	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.

5.2 Number of people and number of admissions to hospital for alcohol-related conditions

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

Indicator number	Indicator name
5.01	Persons under 18 admitted to hospital for alcohol-specific conditions
6.01	Persons admitted to hospital for alcohol-specific conditions
7.01	Persons admitted to hospital for alcohol-related conditions (Broad)
8.01	Persons admitted to hospital for alcohol-related conditions (Narrow)
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.

Within the Local Alcohol Profiles for England, the Risk Factors Intelligence (RFI) team calculates the number of men and women admitted to hospital each year for alcohol-specific and alcohol-related conditions. The analysis carried out by Risk Factors Intelligence (RFI)

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[a] Previously National Indicator 39 (NI39).

team is person based, yielding a period prevalence estimate of the number of persons admitted to hospital at least once during the course of a (financial) year.

Episodes relating to the same individual are linked using Hospital Episode Statistics identification code (which uniquely identifies a patient across all years). As there are 20 diagnosis codes per episode, and potentially more than one episode per person, there may be more than one alcohol-related International Classification of Diseases (version 10) code associated with an individual over the course of the year. The decision rules described below allocate individuals to a single International Classification of Diseases (version 10) code so that an alcohol-related fraction can be applied. These rules produce estimates for period prevalence and avoid double counting of people.

Rules to allocate individuals to a single International Classification of Diseases (version 10) code for person-based analysis (broad indicator).
For each individual:
1. Identify all alcohol-attributable diagnosis codes from their Hospital Episode Statistics records.
2. Select the code(s) with the largest attributable fraction.
3. In the event of there being two or more episodes with the same high attributable fraction, select the one from the earliest episode (using start date).
4. In the event of there being two or more diagnoses with the same high attributable fraction, within the same episode, select the one from the lowest diagnostic position.

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. As with the broad indicator of alcohol-related hospital admissions, rules are produced in order to avoid double counting of people and these are described below.

Rules to allocate individuals to a single International Classification of Diseases (version 10) code for person-based analysis (narrow indicator).
For each individual:
1. Identify all alcohol-attributable diagnosis codes from their Hospital Episode Statistics records.
2. Select the code(s) for which the primary diagnosis code is an alcohol-attributable diagnosis code or an alcohol-attributable external cause code appears in one of the secondary codes.
3. Select the code(s) with the largest attributable fraction.
4. In the event of there being two or more episodes with the same high attributable fraction, select the one from the earliest episode (using start date).

Person-specific admissions were originally adopted by the former North West Public Health Observatory's Local Alcohol Profiles for England tool as one measure of the number of

individuals being adversely affected by alcohol. However, an additional indicator (admission episodes for alcohol-related conditions [Broad][b]) was subsequently developed as a measure of pressures from alcohol on health systems. For this indicator, the alcohol-attributable fractions are applied in order to estimate the number of admissions rather than the number of people.

Indicators 5.01 to 8.01 relate to the number of **people** admitted to hospital each year per 100,000 population for alcohol-specific and alcohol-related conditions.

In contrast, indicators 9.01 to 10.07 relate to the number of **admission episodes** to hospital for alcohol-related conditions for every 100,000 population.

Individuals may be admitted more than once in any year. A person is counted only once in indicators 5.01 to 8.01 but may contribute more than one admission episode to indicators 9.01 to 10.07.

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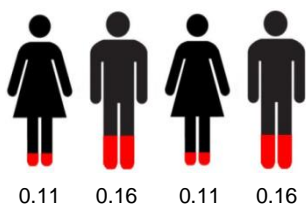
The alcohol-attributable fraction for colorectal cancer for the population aged 16 to 24 years is 0.16 for males and 0.11 for females (Appendix 1). Summing five males and five females aged 16 to 24 years admitted for colorectal cancer will give a total of 1.35 alcohol-related admission episodes.

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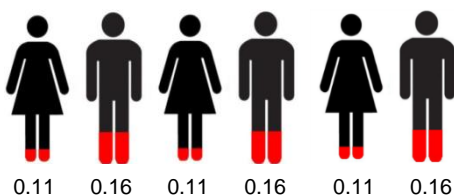
[b] Previously National Indicator 39 (NI39).

Alcohol-specific hospital admission – under 18 years

Indicator number	5.01
Indicator full name	Persons under 18 admitted to hospital for alcohol-specific conditions
What is being measured	Individual persons aged less than 18 years admitted to hospital due to alcohol-specific conditions.
Who does it measure	Persons aged less than 18 years.
When does it measure	Three financial years (pooled).
Indicator definition	Persons admitted to hospital due to alcohol-specific conditions – under 18 years, 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	Persons aged less than 18 years admitted to hospital where the primary diagnosis or any of the secondary diagnoses are an alcohol-specific code (Appendix 1) for three financial years pooled.
Source of numerator	The Health and Social Care Information Centre (HSCIC).
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 *APHO Technical Briefing 3: Commonly used public health statistics and their confidence intervals*. 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	Alcohol-specific hospital admission for people aged less than 18 years are calculated as follows (text in square brackets refers to terms in Hospital Episode Statistics dataset fields): 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]; the sex of the patient is valid [sex = 1 or 2]; there is a valid age, under 18, at start of episode [*startage* between 0 and 17 or between 7001 and 7007]; the region of residence is one of the English regions [*resgor*<= K or U or Y]; the episode end date [epiend] falls within the specified period; an alcohol-specific International Classification of Diseases (version 10) code (Appendix 1) appears in any diagnosis field [*diag_nn*]. 2. Select a single diagnosis to create a person-based indicator by: identifying all alcohol-specific diagnosis codes for each individual [using *Hospital Episode Statistics identification code*] within each financial year; in the event of there being two or more episodes with an alcohol-specific diagnosis, select the one from the earliest episode using start date [*epistart*]; in the event of there being two or more alcohol-specific diagnoses 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. Calculate crude rates by: aggregating alcohol-specific admissions above by area of residence aggregating mid-year population estimates for the population aged under 18 years for each area. Crude rates per 100,000 were calculated using the following formula: $$(a/b) \times 100,000$$ where: *a* is the number of alcohol-specific admissions for the population aged under 18 years. *b* is the Office for National Statistics' population estimates for the population aged under 18 years.

Summary footnote	Persons admitted to hospital due to alcohol-specific conditions, under 18 years, 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.

Alcohol-specific hospital admission

Indicator number	6.01
Indicator full name	Persons admitted to hospital for alcohol-specific conditions
What is being measured	Individual persons admitted to hospital due to alcohol-specific conditions.
Who does it measure	Persons, males and females all ages.
When does it measure	Financial year.
Indicator definition	Persons admitted to hospital due to alcohol-specific conditions, all ages, 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	Persons admitted to hospital where the primary diagnosis or any of the secondary diagnoses are an alcohol-specific code (Appendix 1) for the financial year.
Source of numerator	The Health and Social Care Information Centre (HSCIC).
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 *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.
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	Alcohol-specific hospital admission are calculated as follows: 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]; the sex of the patient is valid [sex = 1 or 2]; 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 specified period; and an alcohol-specific International Classification of Diseases (version 10) code (Appendix 1) appears in any diagnosis field [*diag_nn*]. 2. Select a single diagnosis to create a person-based indicator by: identifying all alcohol-specific diagnosis codes for each individual [using *Hospital Episode Statistics Identification code*] within the financial year; in the event of there being two or more episodes with an alcohol-specific diagnosis, select the one from the earliest episode using start date [*epistart*]; in the event of there being two or more alcohol-specific diagnoses, 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. Calculate directly age-standardised rate by: aggregating alcohol-specific admissions above by age group (five-year age bands to age 89, and 90 years and over), sex and 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	Persons admitted to hospital due to 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.

Alcohol-related hospital admissions, broad and narrow measures

Indicator number	7.01 and 8.01
Indicator full name	Persons admitted to hospital for alcohol-related conditions (Broad and Narrow measure).
What is being measured	Individual (in year) persons admitted to hospital due to alcohol-related conditions.
Who does it measure	Persons, males and females all ages.
When does it measure	Financial year.
Indicator definition	Persons admitted to hospital due to alcohol-related conditions, all ages, 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	Broad measure: Persons admitted to hospital where the primary diagnosis or any of the secondary diagnoses are an alcohol-attributable code (Appendix 1). 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. Narrow measure: Persons admitted to hospital where the primary diagnosis is an alcohol-attributable code (Appendix 1) or one of the secondary codes is an external alcohol-attributable code (Appendix 1). 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	The Health and Social Care Information Centre (HSCIC).
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 *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.
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. 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.
Methodology	Broad measure: Alcohol-related hospital admission are calculated as follows: 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]; the sex of the patient is valid [*sex* = 1 or 2]; 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-related 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 attach the appropriate alcohol-attributable fraction to the alcohol-attributable diagnoses using the International Classification of Diseases (version 10) code, age group and sex of the patient (Appendix 1). 3. Select a single diagnosis to create a person-based indicator by: identifying all alcohol-attributable diagnosis codes for each

individual [using *Hospital Episode Statistics Identification code*] within the financial year;
select the code(s) with the largest attributable fraction
in the event of there being two or more episodes with the same high alcohol-attributable fraction, select the one from the earliest episode using start date [*epistart*]);
in the event of there being two or more diagnoses with the same high 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*]).
4. Calculate directly age-standardised rate by:
aggregating alcohol-related admissions above by age group (five-year age bands to age 89, and 90 years and over), sex and 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
<u>Narrow measure:</u>
Alcohol-related hospital admission are calculated as follows:
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].
the sex of the patient is valid [*sex* = 1 or 2].
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 the primary diagnosis field [*diag_01*] or an alcohol-related external cause code (Appendix 1) appears in one of the secondary codes [*diag_02 to diag_20*].
2. For each episode identified in step 1 above attach the appropriate alcohol-attributable fraction to the alcohol-attributable diagnoses using the International Classification of Diseases (version 10) code, age group and sex of the patient (Appendix 1).
3. Select a single diagnosis to create a person-based indicator by:
identifying all alcohol-attributable diagnosis codes for each

	individual [using *Hospital Episode Statistics Identification code*] within the financial year; select the code(s) with the largest attributable fraction in the event of there being two or more episodes with the same high alcohol-attributable fraction, select the one from the earliest episode using start date [*epistart*]); in the event of there being two or more diagnoses with the same high 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*]). 4. Calculate directly age-standardised rate by: aggregating alcohol-related admissions above by age group (five-year age bands to age 89, and 90 years and over), sex and 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	Persons admitted to hospital due to 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.

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	Broad measure: 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. Narrow measure: Admissions to hospital where the primary diagnosis is an 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.
Source of	The Health and Social Care Information Centre (HSCIC).

numerator	
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 *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.
Caveats	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. 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. 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.
Methodology	Alcohol-related hospital admission is calculated as follows: Broad 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]; the sex of the patient is valid [*sex* = 1 or 2];

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 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 *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 9.03 was filtered for cardiovascular disease conditions (ICD10 codes: I10 to I15, I20 to I25, I47 to I48, I60 toI62, 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:

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];

the sex of the patient is valid [*sex* = 1 or 2];

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.

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	The Health and Social Care Information Centre (HSCIC).
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 *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.

Caveats	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. 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. 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.
Methodology	Alcohol-related hospital admission is calculated as follows: 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]; the sex of the patient is valid [*sex* = 1 or 2]; there is a valid age at start of episode [*startage* 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 [*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 10.02 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). 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.

5.3 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 *APHO Technical Briefing 3: Commonly used public health statistics and their confidence intervals*. 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: *a* is the number of claimants of Incapacity Benefit or Severe Disablement Allowance or Employment and Support Allowance with alcohol misuse as main disabling condition *b* 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.

5.4 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 *APHO Technical Briefing 3: Commonly used public health statistics and their confidence intervals*. 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 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. 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

	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. Figures will not include accidents in which a driver died and was found to have an illegal BAC level. 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). 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. 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.
Methodology	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: $$(a/b) \text{ x } 1000$$ Where: a is the number of reported road accidents (of all severities) in which at least one driver failed a breath test b is the total number of road accidents
Summary Footnote	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.

5.5 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 *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.
Caveats	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.
Methodology	Alcohol-related cancer incidence is calculated as follows: 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.
Summary footnote	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.

6. References

1. Jones L and Bellis MA (2014). *Updating England-specific alcohol-attributable fractions.* Liverpool: Centre for Public Health, Liverpool John Moores University.

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3. Public Health England Transition Team (2012). Structure of Public Health England. Factsheet [Online]. Available from: *http://webarchive.nationalarchives.gov.uk/20130805112926/http://healthandcare.dh.gov.uk/phe-structure* [Accessed 11 November 2013].

4. Eurostat (2013). *Revision of the European standard population. Report of Eurostat's task force.* Luxembourg: Publications Office for the European Union.

5. Eayres D (2008). *APHO Technical Briefing 3: Commonly used public health statistics and their confidence intervals.* York: Association of Public Health Observatories.

Appendix 1. Updated alcohol-attributable fractions

Updated alcohol-attributable fractions used to calculate alcohol-specific and alcohol-related hospital admission and mortality

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
Wholly attributable conditions																	
Alcohol-induced pseudo-Cushing's syndrome	E24.4	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mental and behavioural disorders due to use of alcohol	F10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Degeneration of nervous system due to alcohol	G31.2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Alcoholic polyneuropathy	G62.1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Alcoholic myopathy	G72.1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Alcoholic cardiomyopathy	I42.6	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Alcoholic gastritis	K29.2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Alcoholic liver disease	K70	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Alcohol-induced acute pancreatitis	K85.2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Alcohol-induced chronic pancreatitis	K86.0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fetal alcohol syndrome (dysmorphic)	Q86.0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Excess alcohol blood levels	R78.0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ethanol poisoning	T51.0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Methanol poisoning	T51.1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Toxic effect of alcohol, unspecified	T51.9	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Accidental poisoning by and exposure to alcohol	X45	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Intentional self-poisoning by and exposure to alcohol	X65	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Poisoning by and exposure to alcohol, undetermined intent	Y15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Evidence of alcohol involvement determined by blood alcohol level	Y90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Evidence of alcohol involvement determined by level of intoxication	Y91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

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-I69.2	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		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-I69.4	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		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, K74	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		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 (excl. X45)	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		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, Y87.0 (excl. X65)	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		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, Y87.2 (excl. Y15)	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		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, Y87.1	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		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