Alcohol and health in Wales 2014

Technical guide

GIG CYMRU NHS WALES

Arsyllfa Iechyd Cyhoeddus Cymru
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1 Introduction

This technical guide describes the methods, indicators, data sources and terms used in the Public Health Wales Observatory publication *Alcohol and health in Wales 2014*. It provides definitions, notes for interpretation, and details of where to find further information. It is intended that this guide is used in conjunction with:

- *Alcohol and health in Wales 2014: Wales profile*
- Seven health board summary documents
- Interactive data files with the main indicators, including charts and tables with additional data

How to use this Technical Guide:

- Section 2 describes the key changes to the methods and indicators in *Alcohol and health in Wales 2014*
- Section 3, 4 and 5 contains guidance on how to interpret some of the charts and maps and also how to use and interpret the interactive data files.
- Section 6 describes the indicators used in the report, in particular their definitions and the caveats to be considered when interpreting the data.
- Section 7 describes the main sources of data used in the report, giving details regarding their method of collection and associated caveats.
- Section 8 provides a glossary of the main terms used in *Alcohol and health in Wales 2014*.

In the electronic version of this guide, you can navigate the document by holding the 'Ctrl' key and left-clicking on a section of interest from the contents page.

The *Alcohol and health in Wales 2014*: Wales profile, the seven health board summary documents, plus the supporting online data files, and this technical guide, are available from

www.publichealthwalesobservatory.wales.nhs.uk/alcohol

2 Key changes in this release

There are number of changes to the methods used for most of the indicators since the previous publication *A profile of alcohol and health in Wales* (2009) and data updates since then. The main changes are:

- A revision of the methods used by Public Health England for mortality and hospital admission indicators relating to alcohol. This includes revision of the alcohol-attributable fractions, list of conditions included and introduction of a new indicator
- Age-standardisation using the new 2013 European Standard population
- Coding changes of mortality data from 2011 onwards
- Revision of mid-year population estimates following the Census 2011
- The ONS definition of 'alcohol-related' mortality has been replaced by alcohol-specific mortality

The data in this 2014 release is therefore not comparable to any previously released alcohol data for Wales. Trends have been provided for all indicators where sufficient years of data were available.

2.1 Revision of attributable fractions

Attributable fractions are the proportions of deaths or hospital admissions that are thought to be caused by a particular exposure, for example alcohol. Fractions are calculated for conditions where there is sufficient evidence of a causal relationship between the exposure and the disease or injury.

In 2014, the alcohol-attributable fractions that are applied to mortality and hospital admission data were updated to take into account new epidemiological evidence for the association between alcohol consumption and health-related outcomes. This exercise resulted in some important changes to the number of health conditions and external causes that are identified as being alcohol-related and also a recalculation of the attributable fractions for some of the existing health measures. The updated alcohol-attributable fractions are shown in Appendix 1 (provided by Public Health England).

The indicators presented here measure harm caused by alcohol and do not include conditions where alcohol can have a protective effect (negative fractions).

2.2 Introduction of a new (narrow) hospital admission indicator

In 2013, Public Health England (PHE) held a stakeholder consultation and following this consultation PHE announced that the current indicator for admission episodes for alcohol-attributable conditions would be supplemented by a new indicator. This report contains both the old (broad) indicator and the new (narrow) indicator.

2.3 Using the 2013 European Standard Population

The European Standard Population (ESP) is an artificial population structure which is used to produce European age-standardised rates. Eurostat, the statistical institute of the European Union, decided at the end of 2012 to bring this population structure up to date. The new 2013 ESP has been introduced and has replaced the existing 1976 ESP.

This methodological change will cause age-standardised mortality/hospital admission rates to increase, in most cases, because the new European standardised population is weighted towards older ages, and most deaths/hospital admissions occur at older ages.

The Public Health Wales Observatory (PHWO) implemented 2013 ESP from May 2014 onwards, and so analyses completed prior to this will have been based on 1976 European Standard Population and are therefore not comparable. Further information on the revision of the European Standard Population and its effects is available at: http://www.ons.gov.uk/ons/guide-method/user-guidance/health-and-life-events/revised-european-standard-population-2013--2013-esp-/index.html

2.4 Changes to the recording of mortality data

There have been changes to the manner in which the text about causes of death on death certificates are translated by the Office for National Statistics into International Classification of Diseases codes. These changes mean that unrevised data are not comparable across years. The main change relates to the rules that govern which cause of death detailed on the death certificate is selected as the underlying cause.

The impact of these changes on mortality relating to alcohol is relatively small. Comparability ratios for the alcohol indicators have been produced by Public Health England to quantify the effect of the coding changes. These ratios have kindly been provided to the Public Health Wales Observatory and implemented in the calculation of all the mortality indicators included in this 2014 release. The ratios have been applied to the number of deaths for the years up to and including 2010 to produce adjusted mortality rates for these years. The number of deaths shown in the tables in the interactive data files for the years before 2011 is therefore the adjusted number of deaths.

This adjustment ensures that indicators are comparable over time (effectively matching the new coding rules) as well as comparable to English indicator data. For more details on compatibility ratios in general see Public Health England (PHE) guidance available at: www.apho.org.uk/resource/item.aspx?RID=126646

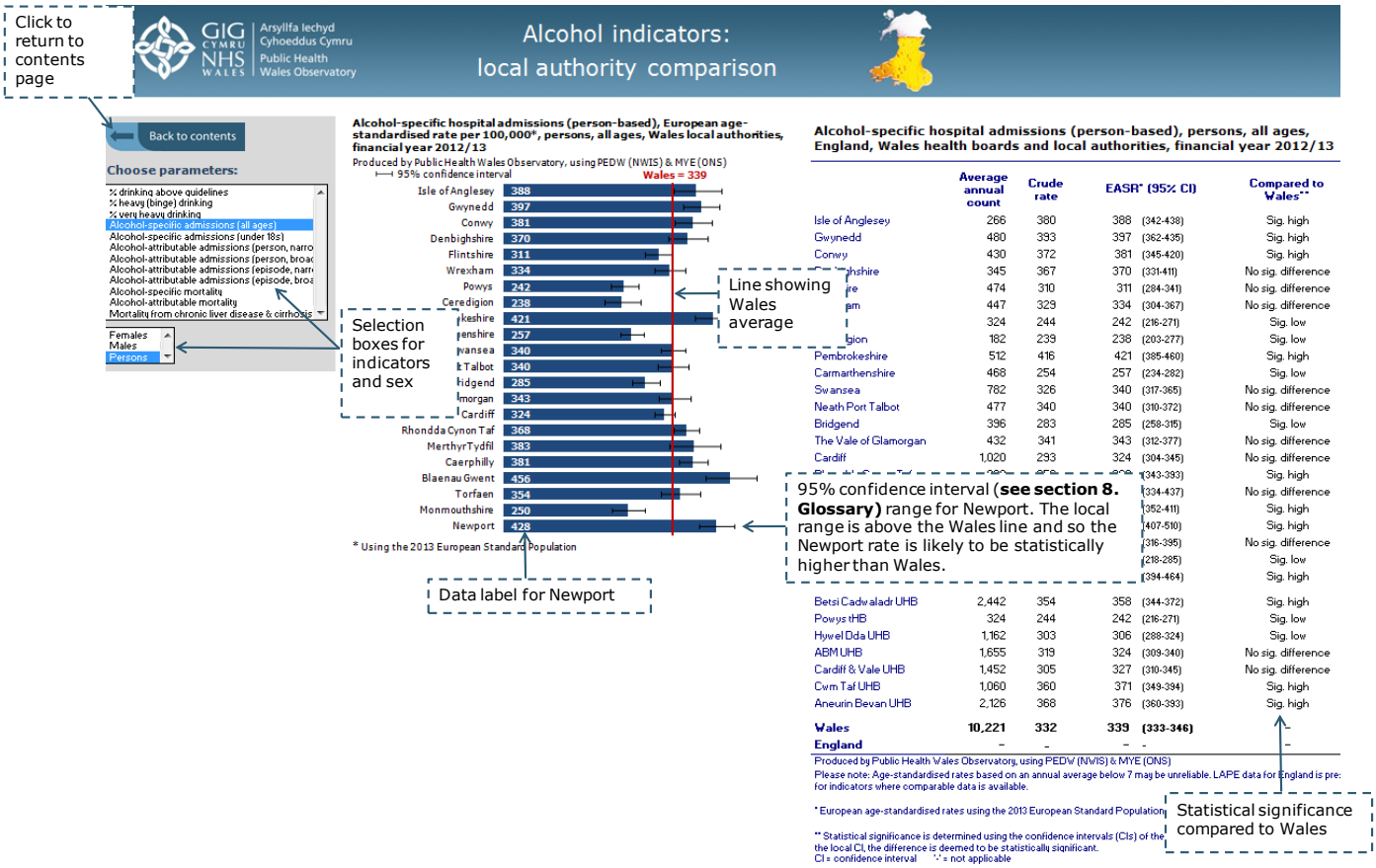
3 Using the main interactive data file

The interactive data file allows the user to choose the sex (where applicable) for each indicator by selecting the desired criteria from the selection boxes. This automatically updates the table and chart.

Figure 1 shows the main interactive data file with the selectable menu on the left hand side for the indicator and sex.

The interactive data file also contains information on how to copy and paste the tables and charts as pictures to allow for use within other documents.

Figure 1



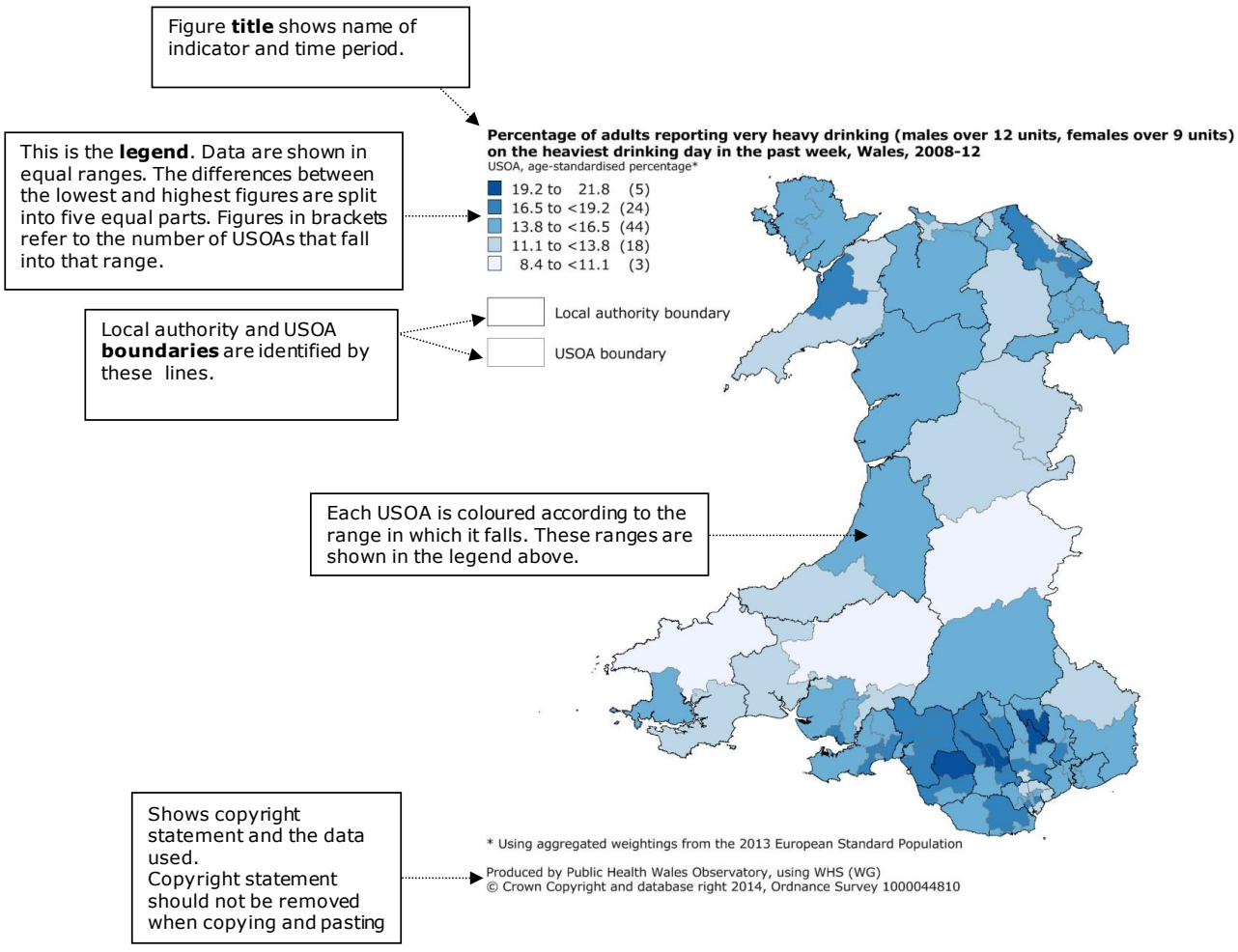
4 Interpreting maps

Maps were produced using Upper Super Output Area (USOA) level for Wales in *Alcohol and health in Wales 2014: Wales profile* and in the seven health board summary documents.

Upper Super Output Areas are geographically-defined areas used to show statistical information and have an average population of 30,000. Based on Census 2011, there are 94 USOAs in Wales. Unlike the LSOA and MSOA geographies, the USOAs in Wales were developed by the Local Government Data Unit (LGDU). Hence, they are an unofficial geography and there is currently no equivalent outside of Wales.

The maps present data for equal range groups within Wales. This was achieved by taking the data at the respective geographical level and splitting it into the required number of equally-sized subsets. For example, if the rate ranged from 10 to 20, the groups would be as follows: 10 to <12; 12 to <14; 14 to <16; 16 to <18; and 18 to 20. The maps were then created by shading each USOA according to which group it fell into. This method aims to put areas with similar values within the same group; however, where there is little variation across Wales, the groups may be quite similar and the use of dark and light colours could make the variation seem greater than it really is.

Figure 9 in *Alcohol and health in Wales 2014: Wales profile* is shown below with annotation to aid interpretation.



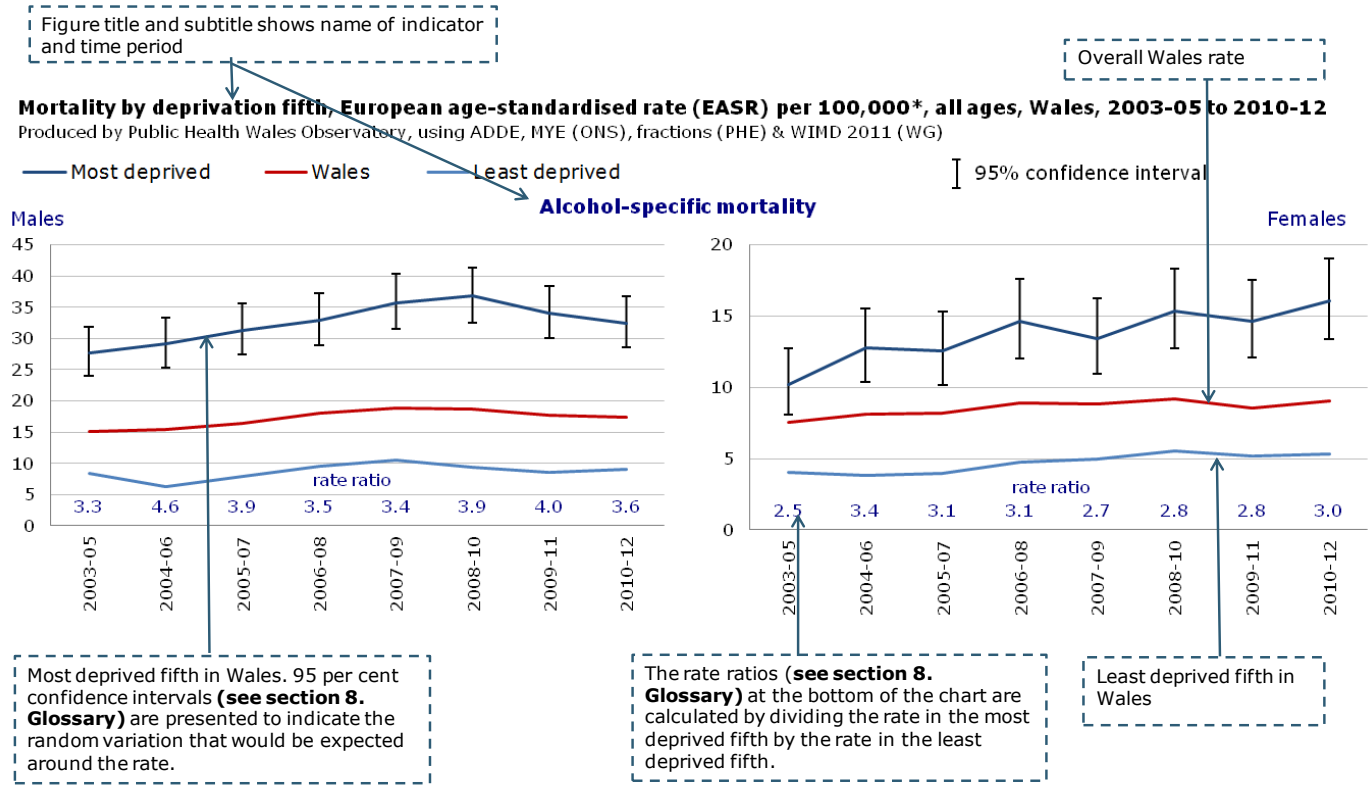
5 Interpreting inequalities trend charts

The following figures in *Alcohol and health in Wales 2014: Wales profile* present trend data for males and females within Wales, the most and least deprived (using Welsh Index of Multiple Deprivation 2011) and also the Wales average.

- Figure 37: Mortality by deprivation fifth, alcohol-specific and alcohol-attributable mortality, European age-standardised rate per 100,000, all ages, Wales, 2003-05 to 2010-12
- Figure 38: Hospital admissions by deprivation fifth (person-based), alcohol-specific, alcohol-attributable admissions (narrow) and alcohol-attributable admissions (broad), European age-standardised rate per 100,000, all ages, Wales, financial years 2003/04 to 2012/13

Three-year rolling rates were calculated for mortality to improve robustness and provide a smoother trend than would be seen using annual data. These three-year periods range from 2003-05 to 2010-12, as shown within the figure titles below. For hospital admissions single financial years were used as the number of events are larger and this matches the English indicators. Age-standardisation was carried out using the 2013 European standard population (see section 8 Glossary under *European age-standardised rate*). The charts show 95 per cent confidence intervals (see section 8 Glossary) for the most deprived fifth in Wales. The rate ratios appear at the bottom of the chart (see section 5.1 and section 8 Glossary).

An excerpt from Figure 37 is shown below with annotation to aid interpretation.



5.1 How to interpret the rate ratio

The rate ratio used in *Alcohol and health in Wales 2014 is* the mortality or hospital admissions rate in the most deprived fifth divided by the rate in the least deprived fifth. A rate ratio of two, for example, means that the rate in the most deprived fifth is twice as high as in the least deprived fifth. The rate ratio is a measure of *relative* inequality that can be compared between causes of death and over time and is independent of the scale.

95 per cent confidence intervals can be used to estimate the statistical significance of a difference between two rate ratios. If, for example, the confidence intervals between two rate ratios do not overlap, then the difference between the two is statistically significant. Confidence intervals around the rate ratio have not been presented in the Wales profile but were generated to aid interpretation.

6 Indicator details

6.1 Drinking in children and young people

Which charts or tables display this information?	Figure 1 in *Alcohol and health in Wales 2014:Wales profile* Health board summary documents
What is being measured?	Alcohol consumption in children and young people in Wales.
How is this indicator defined?	The percentage of children and young people who report drinking at least one alcoholic beverage weekly[1].
Where does the data come from?	• Health Behaviour in School-aged Children (HBSC) survey: Welsh Government/World Health Organization
Who does it measure?	• Boys and girls aged 11-16 (a small number had reached their 16th birthday prior to fieldwork)
When does it measure it?	• 2009/10
What geographical areas does it cover?	• Lowest and highest prevalence of the 43 countries and regions in the World Health Organization (WHO), European Regions and North America, England, Scotland, Ireland (Eire), Wales and Wales health boards.
How is it calculated?	• The percentage of children responding to the HBSC questionnaire according to the definition above.
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• Alcohol consumption figures from HBSC are based on self reported data. Surveys rely on the respondent's honesty when reporting their alcohol consumption. Self-reported prevalence of alcohol consumption may be prone to respondent bias, i.e. people may overestimate or underestimate their behaviour to give a more favourable response. • For further information about the accuracy of this survey, see section 7.8 of this technical guide.
References	1. Welsh Assembly Government Social Research, 2011. *Health Behaviour in School-Aged Children: initial findings from the 2009/10 survey in Wales*; 2011. Available at http://wales.gov.uk/about/aboutresearch/social/latestresearch/healthbehaviours/?lang=en

6.2 Frequency of drinking

Which charts or tables display this information?	Figure 2 in *Alcohol and health in Wales 2014: Wales profile*
What is being measured?	The frequency of drinking alcohol in the past 12 months.
How is this indicator defined?	• The annual survey asks adults a set of questions about their alcohol consumption. Respondents are asked how often they drank alcohol in the past 12 months and, if never, whether they had always been a non-drinker.
Where does the data	• Welsh Health Survey (WHS), Welsh Government (WG)

come from?	
Who does it measure?	• Adults aged 16+ by age group, males, females
When does it measure it?	• 2012
What geographical areas does it cover?	• Wales
How is it calculated?	• Observed percentages
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• For further information about the accuracy of the WHS, see section 7.8 of this technical guide.

6.3 Abstainers

Which charts or tables display this information?	Figure 4 in *Alcohol and health in Wales 2014: Wales profile*
What is being measured?	The (observed) percentage of adults who reported not having drunk alcohol in the past 12 months.
How is this indicator defined?	• The annual survey asks adults a set of questions about their alcohol consumption. Respondents are asked how often they drank alcohol in the past 12 months and, if never, whether they had always been a non-drinker. • Abstainers were defined as not drinking at all in the past 12 months.
Where does the data come from?	• Welsh Health Survey (WHS), Welsh Government (WG)
Who does it measure?	• Figure 4: adults aged 16+ by age group, males, female
When does it measure it?	• 2008-09 and 2011-12 (Figure 4)
What geographical areas does it cover?	• Wales; health boards; local authorities
How is it calculated?	• Observed percentages were calculated using individual-level WHS data in Stata including 95% confidence intervals using the default method
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• Abstainers in this report refer to WHS respondents who report not having drunk alcohol in the past 12 months. It only includes those abstainers who have not consumed alcohol during this fixed period of time and also those who may have drunk alcohol before the time period. • For further information about the accuracy of the WHS, see section 7.8 of this technical guide.

6.4 Drinking above guidelines

Which charts or tables display this information?	Figures 3, 5, 35, 36 in *Alcohol and health in Wales 2014: Wales profile* Health board summary documents Online interactive data files
What is being measured?	The proportion of adults who reported drinking above guidelines on the heaviest drinking day in the past week.
How is this indicator defined?	• The annual survey asks adults a set of questions about their alcohol consumption. Respondents are asked to indicate how many measures of each type of alcohol they had consumed on their heaviest drinking day the previous week from which the number of units drunk on that day is calculated. • The following definitions of drinking are used, based on the heaviest drinking day in the past week: Drinking above guidelines: Men drinking more than 4 units, women drinking more than 3 units.
Where does the data come from?	• Welsh Health Survey (WHS), Welsh Government (WG) • Welsh Index of Multiple Deprivation (WIMD) 2011: Welsh Government
Who does it measure?	• Figures 3 and 5: adults aged 16+, males , females • Figure 35: males aged 16+ • Figure 36: females aged 16+ • Online interactive data files: adults aged 16+, males females, persons • Health board documents: adults aged 16+, persons
When does it measure it?	• 2008-09 and 2011-12 (Figure 5) and 2008-2013 (Figure 3) • 2011-12 (Figures 35 and 36) • Online interactive data files: 2008-2012 and 2011-2012 • Health board summary documents: 2008-12 and 2011-2012
What geographical areas does it cover?	• Wales (Figures 3 and 5) • Wales deprivation fifths (Figures 35 and 36) • Online interactive data files: Wales; health boards; local authorities • Health board documents: health boards and USOAs within health board
How is it calculated?	• Interactive data file on drinking by age group: Observed percentages by age group were calculated using Stata including 95% confidence intervals using the default method • Main interactive data file: Age-standardised percentages were calculated using individual-level WHS data and Stata. Age-standardisation was carried out using aggregated weightings from the 2013 European Standard Population. 95% confidence intervals were calculated using the default method used by Stata for survey data.
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• Survey data on alcohol consumption are known to be underestimated and likely to only capture 60% of consumption (see the comparison to sales data in the Wales profile) • Data from the Welsh Health Survey only reflects the week before the survey, whereas binge drinking may depend on events that do not occur weekly e.g. birthday celebrations. It may also be difficult to estimate the amount of alcohol poured without a measure. • For further information about the accuracy of the WHS, see section 7.8 of this technical guide. • For further information on WIMD 2011, see section 7.10 of this

	technical guide.

6.5 Heavy (binge) drinking

Which charts or tables display this information?	Figures 3, 6, 35, 36 in *Alcohol and health in Wales 2014: Wales profile* Health board summary documents Online interactive data files
What is being measured?	The proportion of adults who reported heavy (binge) drinking on the heaviest drinking day in the past week.
How is this indicator defined?	• The annual survey asks adults a set of questions about their alcohol consumption. Respondents are also asked to indicate how many measures of each type of alcohol they had consumed on their heaviest drinking day the previous week from which the number of units drunk on that day is calculated. • The following definitions of drinking are used, based on the heaviest drinking day in the past week: Heavy (binge) drinking: Men drinking more than 8 units, women drinking more than 6 units.
Where does the data come from?	• Welsh Health Survey (WHS), Welsh Government (WG) • Welsh Index of Multiple Deprivation (WIMD) 2011: Welsh Government
Who does it measure?	• Figures 3 and 6: adults aged 16+, males, females • Figure 35: males aged 16+ • Figure 36: females aged 16+ • Online interactive data files: adults aged 16+, males, females, persons • Health board documents: adults aged 16+, persons
When does it measure it?	• 2008-2013 (Figure 3) and 2008-09 and 2011-12 (Figure 6) • 2011-12 (Figures 35 and 36) • Online interactive data files: 2008-2012 and 2011-2012 • Health board documents: 2008-2012 and 2011-2012
What geographical areas does it cover?	• Wales (Figures 3 and 6) • Wales deprivation fifths (Figures 35 and 36) • Online interactive data files: Wales; health boards; local authorities • Health board documents: health boards, local authorities and USOAs within health board
How is it calculated?	• WHS Interactive data file: Observed percentages by age group were calculated in Stata including 95% confidence intervals using the default method for survey data • Main interactive data file: Age-standardised percentages were calculated using aggregated weightings from the 2013 European Standard Population. 95% confidence intervals were calculated using the default method used by Stata for survey data
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or	• Survey data on alcohol consumption are known to be underestimated and likely to only capture 60% of consumption (see the comparison to sales data in the Wales profile) • Data from the Welsh Health Survey only reflects the week before the survey, whereas binge drinking may depend on events that do not occur weekly e.g. birthday celebrations. It

warnings with the data in relation to this indicator?	may also be difficult to estimate the amount of alcohol poured without a measure. • For further information about the accuracy of the WHS, see section 7.8 of this technical guide. • For further information on WIMD 2011, see section 7.10 of this technical guide.

6.6 Very heavy drinking

Which charts or tables display this information?	Figures 3, 7, 8, 9, 35, 36 in *Alcohol and health in Wales 2014: Wales profile* Health board summary documents Online interactive data files
What is being measured?	The proportion of adults who reported very heavy drinking on the heaviest drinking day in the past week.
How is this indicator defined?	• The annual survey asks adults a set of questions about their alcohol consumption. Respondents are also asked to indicate how many measures of each type of alcohol they had consumed on their heaviest drinking day the previous week from which the number of units drunk on that day is calculated. • The following definitions of drinking are used, based on the heaviest drinking day in the past week: Very heavy drinking: Men drinking more than 12 units, women drinking more than 9 units.
Where does the data come from?	• Welsh Health Survey (WHS), Welsh Government (WG) • Welsh Index of Multiple Deprivation (WIMD) 2011: Welsh Government
Who does it measure?	• Figures 3 and 7: adults aged 16+, males, females • Figures 8 and 9: adults aged 16+, persons • Figure 35: males aged 16+ • Figure 36: females aged 16+ • Online interactive data files: adults aged 16+, males, females, persons • Health board documents: adults aged 16+, persons
When does it measure it?	• 2008-2013 (Figure 3), 2008-09 and 2011-12 (Figure 7), 2011-12 (Figure 8) and 2008-12 (Figure 9) • 2011-12 (Figures 35 and 36) • Online interactive data files: 2008-2012 and 2011-2012 • Health board documents: 2008-2012 and 2011-2012
What geographical areas does it cover?	• Wales (Figure 3 and 7), Wales health boards (Figure 8) and Wales USOAs (Figure 9) • Wales deprivation fifths (Figures 35 and 36) • Online interactive data files: Wales; health boards; local authorities • Health board documents: health boards, local authorities and USOAs within health board
How is it calculated?	• WHS Interactive data file: 95% confidence intervals were calculated using the default method used by Stata for survey data • Main indicator interactive data file: Age-standardised percentages were calculated. Age-standardisation was carried out using the 2013 European Standard Population. 95% confidence intervals were calculated using the default method

	used by Stata for survey data
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• Survey data on alcohol consumption are known to be underestimated and likely to only capture 60% of consumption (see the comparison to sales data in the Wales profile) • Data from the Welsh Health Survey only reflects the week before the survey, whereas binge drinking may depend on events that do not occur weekly e.g. birthday celebrations. It may also be difficult to estimate the amount of alcohol poured without a measure. • For further information about the accuracy of the WHS, see of section 7.8 this technical guide. • For further information on WIMD 2011, see section 7.10 of this technical guide.

6.7 Alcohol-specific hospital admissions (person-based)

Which charts or tables display this information?	Figures 13,16-22 and 38 in *Alcohol and health in Wales 2014: Wales profile* Health board summary documents Online interactive data files
What is being measured?	Alcohol-specific hospital admissions (person-based)
How is this indicator defined?	Measures individuals admitted with alcohol-specific (wholly attributable) conditions, either in the primary diagnosis (main reason) or in secondary diagnoses. It measures adverse effects of alcohol use in the population.
Where does the data come from?	• Numerator: Patient Episode Database for Wales (PEDW), NHS Wales Informatics Service (NWIS) • Denominator: Mid-year population estimates, Office for National Statistics (ONS) • England data: Local Alcohol Profiles for England (LAPE), Public Health England (PHE) • Welsh Index of Multiple Deprivation (WIMD) 2011: Welsh Government
Who does it measure?	• Welsh residents treated in hospitals in Wales or England • Figure 16: males (Figure 18), females, (Figure 19) all ages • Figure 17: males, females, under 18 • Figure 20: persons, all ages • Figure 21: males, females all ages • Figure 22: persons, under 18 • Figure 38: males, females, all ages • Online interactive data files: males, females and persons, all ages and persons (under 18s) • Health board documents: persons, all ages • Figure 13: males, females, all ages (alcohol-specific hospital admissions by condition)
When does it measure it?	• 2003/04-2012/13 (figures 16, 17, 22, 38), 2012/13 (figures 13, 18, 19, 21) and 2010/11-2012/13 (figure 20) • Online interactive data files: 2003/04-2012/13 and 2012/13 • Health board documents: 2003/04-2012/13
What geographical areas does it cover?	• Wales (figures 13, 16, 17, 38), Wales health boards (figures 18, 19), Wales USOAs (figure 20), Wales, England and English

	regions (figure 21), Wales and England (figure 22) • Online interactive data files: Wales; health boards; local authorities • Health board documents: health boards, local authorities and USOAs within health board
How is it calculated?	• Hospital episodes with any mention of an alcohol-specific diagnosis were selected (ICD-10 codes below). • If there was more than one episode per patient, the earliest episode was chosen. The diagnosis was taken from the lowest position (most relevant) for people with multiple alcohol-specific diagnoses in one episode. Patients were counted once per financial year (based on the episode end date). • **All ages:** The European age-standardised rate (EASR) of individuals admitted with alcohol-specific conditions per 100,000 population was calculated with 95% confidence intervals using the method proposed by Dobson et al[1]. • **Under 18s:** Persons admitted to hospital with alcohol-specific conditions, crude rate per 100,000 population was calculated including 95% confidence intervals. 95% confidence intervals using a normal approximation to the Poisson distribution[2] (see p.221 of Altman D.G. et al (2000) *Statistics with confidence*. BMJ books: UK) • **ICD-10 codes:** Conditions defined by Public Health England (PHE) as alcohol-specific, i.e. wholly attributable to alcohol (attributable fraction of 1)[3]. E24.4: Alcohol-induced pseudo Cushing's syndrome F10*: Mental and behavioural disorders due to use of alcohol G31.2: Degeneration of nervous system due to alcohol G62.1: Alcoholic polyneuropathy G72.1: Alcoholic myopathy I42.6: Alcoholic cardiomyopathy K29.2: Alcoholic gastritis K70*: Alcoholic liver disease K85.2: Alcohol induced acute pancreatitis K86.0: Alcohol induced chronic pancreatitis Q86.0: Foetal alcohol syndrome (dysmorphic) T51.0: Ethanol poisoning T51.1: Methanol poisoning T51.9: Toxic effect of alcohol, unspecified X45*: Accidental poisoning by and exposure to alcohol X65*: Intentional poisoning by and exposure to alcohol Y15*: Poisoning by and exposure to alcohol, undetermined extent Y90*: Evidence of alcohol involvement determined by blood alcohol levels Y91*: Evidence of alcohol involvement determined by level of intoxication *indicates that any fourth-character classification can be added to the first three characters • Further details of the method published by Public Health

	England (PHE) can be found in the guide document linked in the reference section below.
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• Hospital admissions for alcohol-specific conditions only include those wholly attributable to alcohol (not those partially attributable). It therefore underestimates the overall burden of alcohol use due to the limited number of conditions. • Attendances to A&E and outpatient departments are not included in this indicator. • The indicator considers all diagnosis positions, and the selected diagnosis may not be the main reason for the hospital admission. • For further information about the accuracy of PEDW, see section 7.7 of this technical guide.
Comparable to England	Yes, the indicator is comparable but there are small differences which should be taken into consideration when making comparisons: • The indicator used by PHE included people with no fixed abode, the PHWO indicator excluded these patients, this accounted for a very small percentage of the total episodes. • The PHE indicator only included hospital episodes that occurred in England. The PHWO indicator included Wales residents treated in hospitals in England. • Variation in coding practice between PEDW and Hospital Episode Statistics (HES) which is used in England may cause differences in the way that events are captured.
References	1. Dobson A.J. et al. Confidence intervals for weighted sums of Poisson parameters. *Stat Med* 1991; 10(3):457-462. 2. Confidence intervals for crude rates (see p.221 of Altman D.G. et al (2000) *Statistics with confidence*. BMJ books: UK) 3. Public Health England (2014). Available on Local Alcohol Profiles for England (LAPE) www.lape.org.uk [Accessed 7th May 2014]

6.8 Alcohol-attributable admission (person-based, narrow measure)

Which charts or tables display this information?	Figures 14, 16, 23 and 38 in *Alcohol and health in Wales 2014:Wales profile* Health board summary documents Online interactive data files
What is being measured?	Alcohol-attributable hospital admission (person-based, narrow)
How is this indicator defined?	Measures individuals admitted with alcohol-attributable conditions (either wholly or partly attributable to alcohol) at least once a year, either as the primary diagnosis (main reason) or an external cause (e.g. injuries) as a secondary diagnosis, whichever is most linked to alcohol (highest fraction). It measures adverse effects of alcohol use in the population.
Where does the data come from?	• Numerator: Patient Episode Database for Wales (PEDW), NHS Wales Informatics Service (NWIS) • Denominator: Mid-year population estimates, Office for National Statistics (ONS) • England data: Local Alcohol Profiles for England (LAPE), Public Health England (PHE) • Welsh Index of Multiple Deprivation (WIMD) 2011: Welsh

	Government
Who does it measure?	• Welsh residents treated in hospitals in Wales or England • Figures 16, 23, 38: males, females, all ages • Figure 14: males, females, all ages (alcohol-attributable (narrow) hospital admissions by condition) • Online interactive data files: males, females and persons, all ages • Health board documents: persons, all ages
When does it measure it?	• 2003/04-2012/13 (Figure 16, 38), 2012/13 (Figures 14, 23) • Online interactive data files: 2003/04-2012/13 and 2012/13 Health board documents: 2003/04-2012/13
What geographical areas does it cover?	• Wales (Figure 14, 16, 38), Wales, England and English regions (Figure 23) • Online interactive data files: Wales; health boards; local authorities • Health board documents: health boards, local authorities
How is it calculated?	• Hospital episodes were selected where the primary diagnosis was an alcohol-attributable condition, or one of the secondary diagnoses was an external cause with an alcohol-attributable fraction (e.g. injury). • From these episodes, the diagnosis with the strongest association with alcohol consumption (highest fraction) was selected. If there was more than one episode per patient with the same fraction, the earliest episode was chosen. • For people with multiple alcohol-attributable diagnoses, with the same fraction in the earliest episode, the diagnosis was taken from the lowest diagnostic position (most relevant). Patients were counted once per financial year (based on the episode end date). • People aged under 16 were only included in the analysis if the diagnosis was an alcohol-specific condition, or if the diagnosis was low birth weight (ICD-10 P05-P07). • Further details of the method published by Public Health England (PHE) can be found in the guide document linked in the reference section below[1]. • The European age-standardised rate of persons with an alcohol-attributable hospital admission per 100,000 population was calculated with 95% confidence intervals using the method proposed by Dobson et al[2].
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• This measure may understimate admissions due to alcohol as it is not considering all secondary diagnoses, but it is likely to be more comparable over time. • Attendances to A&E and outpatient departments are not included in this indicator. • The fractions produced for England are used in the calculation of the indicator and assumptions are made that these equally apply to Wales and, for example, each local authority in Wales. • Coding of secondary diagnoses may vary locally affecting the ability to identify individuals admitted with a secondary diagnosis for an external cause related to alcohol consumption. • For further information about the accuracy of PEDW, see section 7.7 of this technical guide.

Comparable to England	Yes, the indicator is comparable but there are small differences which should be taken into consideration when making comparisons: • The PHE indicator is called "alcohol-related hospital admissions (narrow)" and is produced for males and females, but not persons. • The indicator used by PHE included people with no fixed abode, the PHWO indicator excluded these patients, this accounted for a very small percentage of the total episodes. The PHE indicator only includes hospital episodes that occurred in England. The PHWO indicator includes Wales residents treated in hospitals in England. • Variation in coding practice between PEDW and Hospital Episode Statistics (HES) which is used in England may cause differences in the way that events are captured. • Diagnoses with 'K85' where the fourth character was blank or invalid are not included in the PHE indicator but are included in the PHWO indicator. PHE will be revising this in their next update.
References	1. Public Health England (2014). Available on Local Alcohol Profiles for England (LAPE) www.lape.org.uk [Accessed 7th May 2014] 2. Dobson A.J. et al. Confidence intervals for weighted sums of Poisson parameters. *Stat Med* 1991; 10(3):457-462.

6.9 Alcohol-attributable admissions (person-based, broad measure)

Which charts or tables display this information?	Figures 15, 16, 24 and 38 in *Alcohol and health in Wales 2014: Wales profile* Health board summary documents Online interactive data files
What is being measured?	Alcohol-attributable hospital admissions (person-based, broad)
How is this indicator defined?	Measures individuals admitted with alcohol-attributable conditions (either wholly or in part attributable to alcohol) at least once a year, either as the primary diagnosis (main reason) or a secondary diagnosis, whichever is most linked to alcohol (highest fraction). It measures adverse effects of alcohol use in the population.
Where does the data come from?	• Numerator: Patient Episode Database for Wales (PEDW), NHS Wales Informatics Service (NWIS) • Denominator: Mid-year population estimates, Office for National Statistics (ONS) • England data: Local Alcohol Profiles for England (LAPE), Public Health England (PHE) • Welsh Index of Multiple Deprivation (WIMD) 2011: Welsh Government
Who does it measure?	• Welsh residents treated in hospitals in Wales or England • Figure 15: males, females, all ages (alcohol-attributable admissions (broad) hospital admissions by condition) • Figures 16, 24, 38: males, females, all ages • Online interactive data files: males, females and persons, all ages • Health board documents: persons, all ages
When does it measure it?	• 2003/04-2012/13 (Figure 16, 38), 2012/13 (Figures 15, 24) • Online interactive data files: 2003/04-2012/13 and 2012/13

	• Health board documents: 2003/04-2012/13
What geographical areas does it cover?	• Wales (Figure 15, 16, 38), Wales, England and English regions (Figure 24) • Online interactive data files: Wales; health boards; local authorities • Health board documents: health boards, local authorities
How is it calculated?	• Hospital episodes with any mention of an alcohol-attributable diagnosis in any diagnostic position were selected. • From these, the diagnosis with the strongest association with alcohol consumption (highest fraction) was selected. If there was more than one episode per patient with the same fraction, the earliest episode was chosen. For people with multiple alcohol-attributable diagnoses with the same fraction in the earliest episode, the diagnosis was taken from the lowest diagnostic position (most relevant). Patients were counted once per financial year (based on the episode end date). • People aged under 16 were only included in the analysis if the diagnosis related to an alcohol-specific condition, or if the diagnosis related to low birth weight (ICD-10 P05-P07). • Further details of the method published by Public Health England (PHE) can be found in the guide document linked in the reference section below[1]. • The European age-standardised rate of persons with an alcohol-specific hospital admission per 100,000 population was calculated with 95% confidence intervals using the method proposed by Dobson et al[2].
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• The fractions produced for England are used in the calculation of the indicator and assumptions are made that these equally apply to Wales and, for example, each local authority in Wales. • Attendances to A&E and outpatient departments are not included in this indicator. • Coding of secondary diagnoses may vary locally and so this indicator may vary in its ability of picking up all individuals with an admission related to alcohol. • For further information about the accuracy of PEDW, see section 7.7 of this technical guide.
Comparable to England	Yes, the indicator is comparable but there are small differences which should be taken into consideration when making comparisons: • The indicator used by PHE included people without fixed abode, the PHWO indicator excluded these patients, this accounted for a very small percentage of the total episodes. • The PHE indicator is called "alcohol-related hospital admission (narrow) and is produced for males and females, but not persons" • The PHE indicator only includes hospital episodes that occurred in England. The PHWO indicator included Wales residents treated in hospitals in England. Variation in coding practice between PEDW and Hospital Episode Statistics (HES) which is used in England may cause differences in the way that events are captured. • Diagnoses with 'K85' where the fourth character was blank or invalid are not included in the PHE indicator but are included in the PHWO indicator. PHE will be revising this in their next

	update.
References	1. Public Health England (2014). Available on Local Alcohol Profiles for England (LAPE) www.lape.org.uk [Accessed 7th May 2014] 2. Dobson A.J. et al. Confidence intervals for weighted sums of Poisson parameters. *Stat Med* 1991; 10(3):457-462.

6.10 Alcohol-attributable admissions (episode-based, narrow measure)

Which charts or tables display this information?	Online interactive data files
What is being measured?	This indicator measures hospital admissions with alcohol-attributable conditions, either as the primary diagnosis (main reason) or an external cause (e.g. injuries) as a secondary diagnosis, whichever is most linked to alcohol (highest fraction). Each patient can have multiple admissions per year. This indicator measures the burden of alcohol-attributable harm on hospital services.
How is this indicator defined?	• The European age-standardised (EASR) rate of alcohol-attributable hospital admissions per 100,000 using the narrow definition. • The narrow measure is defined as: hospital admissions where the primary diagnosis is an alcohol-attributable condition (Appendix 2) or one of the secondary codes is an external alcohol-attributable condition (Appendix 2). • Children aged less than 16 years were only included for alcohol-specific conditions and for low birth weight (Appendix 2). For other conditions, alcohol-attributable fractions were not available for children.
Where does the data come from?	• Numerator: Patient Episode Database for Wales (PEDW), NHS Wales Informatics Service (NWIS) • Denominator: Mid-year population estimates, Office for National Statistics (ONS) • England data: Local Alcohol Profiles for England (LAPE), Public Health England (PHE)
Who does it measure?	• Welsh residents treated in hospitals in Wales or England • Online interactive data files: males, females and persons, all ages
When does it measure it?	• Online interactive data files: 2003/04-2012/13 and 2012/13
What geographical areas does it cover?	• Online interactive data files: Wales; health boards; local authorities
How is it calculated?	• Hospital admissions (admitting episodes) were selected where the primary diagnosis was an alcohol-attributable condition, or one of the secondary diagnoses was an external cause with an alcohol-attributable fraction (e.g. injury). • From these admitting episodes, the diagnosis with the strongest association with alcohol (highest fraction) was selected. For people with multiple alcohol-attributable diagnoses with the same fraction, the specific diagnosis was taken from the lowest position (most relevant). • People aged under 16 were only included in the analysis if the

	diagnosis was an alcohol-specific condition, or if the diagnosis was low birth weight (ICD-10 P05-P07). • Further details of the method published by Public Health England (PHE) can be found in the guide document linked in the reference section below[1]. • The European age-standardised rate of persons with an alcohol-specific hospital admission per 100,000 population with 95% confidence intervals calculated using the method proposed by Dobson et al[2].
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• The fractions produced for England are used in the calculation of the indicator and assumptions are made that these equally apply to Wales and, for example, each local authority in Wales. • Attendances to A&E and outpatient departments are not included in this indicator. • Coding of secondary diagnoses may vary locally and so this indicator may vary in its ability of picking up all individuals with an admission related to alcohol. • For further information about the accuracy of PEDW, see section 7.7 of this technical guide.
Comparable to England	Yes, the indicator is comparable but there are small differences which should be taken into consideration when making comparisons: • The PHE indicator is called "Admission episodes for alcohol-related conditions (narrow) and is produced for persons only" • The indicator used by PHE included people with no fixed abode, the PHWO indicator excluded these patients, this accounted for a very small percentage of the total episodes. The PHE indicator only includes hospital episodes that occurred in England. The PHWO indicator included Wales residents treated in hospitals in England. • Variation in coding practice between PEDW and Hospital Episode Statistics (HES) which is used in England may cause differences in the way that events are captured. • Diagnoses with 'K85' where the fourth character was blank or invalid are not included in the PHE indicator but are included in the PHWO indicator. PHE will be revising this in their next update.
References	1. Public Health England (2014). Available on Local Alcohol Profiles for England (LAPE) www.lape.org.uk [Accessed 7th May 2014] 2. Dobson A.J. et al. Confidence intervals for weighted sums of Poisson parameters. *Stat Med* 1991; 10(3):457-462.

6.11 Alcohol-attributable admissions (episode-based, broad measure)

Which charts or tables display this information?	Online interactive data files
What is being measured?	Alcohol-attributable hospital admissions (episode-based, broad)
How is this indicator defined?	This indicator measures hospital admissions with alcohol-attributable conditions, either as the primary diagnosis or a secondary diagnosis. Each patient can have multiple admissions

	per year. This indicator measures the burden of alcohol-attributable harm on hospital services.
Where does the data come from?	• Numerator: Patient Episode Database for Wales (PEDW), NHS Wales Informatics Service (NWIS) • Denominator: Mid-year population estimates, Office for National Statistics (ONS) • England data: Local Alcohol Profiles for England (LAPE), Public Health England (PHE)
Who does it measure?	• Welsh residents treated in hospitals in Wales or England • Online interactive data files: males, females and persons, all ages
When does it measure it?	• Online interactive data files: 2003/04-2012/13 and 2012/13
What geographical areas does it cover?	• Online interactive data files: Wales; health boards; local authorities
How is it calculated?	• Hospital admissions (admitting episodes) with any mention of an alcohol-attributable diagnosis were selected. • From these episodes, the diagnosis with the strongest association with alcohol consumption (highest fraction) was selected. For admission episodes with multiple alcohol attributable diagnoses, with the same fraction, the specific diagnosis was taken from the lowest position (most relevant). • People aged under 16 were only included in the analysis if the diagnosis related to an alcohol specific condition, or if the diagnosis related to low birth weight (ICD10 P05-P07). • Further details of the method published by Public Health England (PHE) can be found in the guide document linked in the reference section below[1]. • The European age-standardised rate of alcohol-attributable hospital admission per 100,000 population was calculated with 95% confidence intervals using the method proposed by Dobson et al[2].
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• This indicator is admission-based rather than person-based; individuals could be counted more than once per financial year[1]. It measures the burden of alcohol misuse on secondary care. • Attendances to A&E and outpatient departments are not included in this indicator. • For further information about the accuracy of PEDW, see section 7.7 of this technical guide.
Comparable to England	Yes, the indicator is comparable but there are small differences which should be taken into consideration when making comparisons: • The PHE indicator is called "Admission episodes for alcohol-related conditions (broad)" and is produced only for persons. • The indicator used by PHE included people with no fixed abode, the PHWO indicator excluded these patients, this accounted for a very small percentage of the total episodes. The PHE indicator only includes hospital episodes that occurred in England. The PHWO indicator included Wales residents treated in hospitals in England. • Variation in coding practice between PEDW and Hospital Episode Statistics (HES) which is used in England may cause

	differences in the way that events are captured. • Diagnoses with 'K85' where the fourth character was blank or invalid are not included in the PHE indicator but are included in the PHWO indicator. PHE will be revising this in their next update.
References	1. Public Health England (2014). Available on Local Alcohol Profiles for England (LAPE) www.lape.org.uk [Accessed 7th May 2014] 2. Dobson A.J. et al. Confidence intervals for weighted sums of Poisson parameters. *Stat Med* 1991; 10(3):457-462

6.12 Alcohol-specific mortality

Which charts or tables display this information?	Figures 25, 26, 30-33 and 37 in *Alcohol and health in Wales 2014: Wales profile* Health board summary documents Online interactive data files
What is being measured?	Mortality from alcohol-specific conditions
How is this indicator defined?	The European age-standardised (3-year rolling average) mortality rate per 100,000 from alcohol-specific conditions (see ICD-10 codes below), adjusted for ICD-10 coding change in 2011.
Where does the data actually come from?	• Numerator: Annual District Deaths Extract (ADDE): Office for National Statistics (ONS) • Denominator: Mid-year population estimates (MYE), Office for National Statistics (ONS) • Welsh Index of Multiple Deprivation (WIMD) 2011: Welsh Government • England data: Local Alcohol Profiles for England (LAPE), Public Health England (PHE)
Who does it measure?	• Figure 25: males, females, all ages (alcohol-specific mortality by condition) • Figures 26, 33, 37: males, females, all ages • Figure 30: males, all ages • Figure 31: females, all ages • Figure 32: persons, all ages • Online interactive data files: males, females and persons, all ages • Health board documents: persons, all ages
When does it measure it?	• 2010-12 (Figure 25, 30, 31, 33) • 2003-05 to 2010-12 (Figures 26, 37) • 2010-12 (Figure 33) • Online interactive data files: 2003-05 to 2010-12 and 2010-2012 • Health board documents: 2003-05 to 2010-12 and 2010-2012
What geographical area does it cover?	• Wales (Figures 25, 26, 37 (deprivation fifths)); Wales health boards (Figures 30,31); Wales USOAs (Figure 32); Wales, England and English regions (figure 33) • Online interactive data files: England; Wales; health boards; local authorities • Health board documents: health boards, local authorities and USOAs within health board
How is it calculated?	Counts of deaths registered between 2003 and 2012 were

	extracted from the ADDE (ONS), for all ages where the underlying cause of death matched the ICD-10 codes for conditions defined by Public Health England as alcohol-specific i.e. wholly attributable to alcohol (attributable fraction=1) (see Appendix 1). This definition matches the indicator used in the LAPE 2014 Profiles[1]. • There has been an ICD-10 coding change for deaths from 2011. Comparability ratios supplied by Public Health England were used to adjust the number of deaths. • Deprivation fifths were created by considering the relative deprivation of all 1909 Lower Super Output Areas in Wales, then inserting four cut-points to create five groups of increasing deprivation. An adjustment was made to attribute levels of deprivation from census 2001 geographies to the new census 2011 geographies as provided by WG. These are numbered from 1 (least deprived) to 5 (most deprived). For the counts of deaths by health board shown within the online interactive spreadsheets, the same process was carried out to produce five groups within each health board. • Rates of alcohol-specific mortality for health boards, local authorities and deprivation fifths (as well as Wales overall) were calculated using mid-year population estimates. These rates were directly age-standardised using the European standard population, to adjust for the effect of age in comparisons between areas. Using a method proposed by Dobson et al[2], 95 per cent confidence intervals were also added to the rates. • Rate ratios for the deprivation fifths were calculated as the rate in the most deprived fifth divided by the rate in the least deprived, to provide a relative measure of inequality.
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• Mortality counts are derived from an annual mortality extract supplied by ONS and are based on the original underlying cause of death for which there is nearly 100% coverage on the mortality register. There is the potential for the underlying cause of death to be incorrectly attributed on the death certificate and, therefore, the cause of death misclassified. • The registration of death is mandatory in the UK, so the dataset should be a near complete record of mortality. However, the assigning of cause of death on the medical certificate is known to vary, for example between areas. *(Further notes on the ADDE are given in section 7.1 of this technical guide)* • The 95% confidence intervals are indications of the random variation that would be expected around a rate. These must be considered when assessing or interpreting a rate. The 95% confidence interval represents a range which has a 95% probability of including the underlying population rate. The range of the confidence interval is dependent on the size of the population from which the events came. Rates based on small populations are likely to have wider confidence intervals and rates based on large populations are likely to have narrower confidence intervals. • Age-standardised rates based on an annual average below 7 may be unreliable.
Comparable to	Yes, the indicator is comparable but there are small differences:

England	• A cause of death with 'K85' where the fourth character was blank or invalid is excluded in the PHE indicator but are included in the PHWO indicator. PHE will be revising this in their next update • The PHE indicator includes deaths without fixed abode, whilst these are excluded in this indicator.
References	1. Public Health England (2014). Available on Local Alcohol Profiles for England (LAPE) www.lape.org.uk [Accessed 7th May 2014] 2. Dobson A.J. et al (1991) Confidence intervals for weighted sums of Poisson parameters. Stat Med 10(3):457-462

6.13 Alcohol-attributable mortality

Which charts or tables display this information?	Figures 25, 26, 34 and 37 in *Alcohol and health in Wales 2014: Wales profile* Health board summary documents Online interactive data files
What is being measured?	Mortality from alcohol-attributable conditions
How is this indicator defined?	The European age-standardised (3-year rolling average) mortality rate per 100,000 from alcohol-attributable conditions (see ICD-10 codes in Appendix 1), adjusted for ICD-10 coding change in 2011.
Where does the data actually come from?	• Numerator: Annual District Deaths Extract (ADDE): Office for National Statistics (ONS) • Denominator: Mid-year population estimates (MYE), Office for National Statistics (ONS) • Welsh Index of Multiple Deprivation (WIMD) 2011: Welsh Government • England data: Local Alcohol Profiles for England (LAPE), Public Health England (PHE)
Who does it measure?	• Figure 25: males, females, all ages (alcohol-attributable mortality by condition) • Figures 26, 34, 37: males, females, all ages • Online interactive data files: males, females and persons, all ages • Health board documents: persons, all ages
When does it measure it?	• 2010-12 (Figure 25) • 2003-05 to 2010-12 (Figures 26, 37) • 2012 (for comparison with England, Figure 34) • Online interactive data files: 2003-05 to 2010-12 and 2010-2012 Health board documents: 2003-05 to 2010-12 and 2010-2012
What geographical area does it cover?	• Wales (Figures 25, 26, 37 (deprivation fifths); Wales, England and English regions (figure 34) • Online interactive data files: Wales; health boards; local authorities • Health board documents: health boards, local authorities and USOAs within health board
How is it calculated?	• Deaths from alcohol-attributable conditions (Appendix 1) registered between 2003 and 2012 for males and females of all ages were extracted from the ADDE (ONS). 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. • Numbers of deaths were multiplied by age/sex-specific attributable fractions based on published studies, using fractions published by PHE[1]. As advised by PHE only positive fractions were applied, as this indicator is based on alcohol-attributable harm and therefore excludes any beneficial effect on some causes of death. Deaths aged under 16 were only included if the condition was wholly attributable to alcohol, i.e. the attributable fraction was one or if the condition related to low birth weight (there were none in the data for the years investigated). • This definition matches the indicator used in the LAPE 2014 Profiles[1]. • There has been an ICD-10 coding change for deaths from 2011. Comparability ratios supplied by Public Health England were used to adjust the number of deaths registered on or before 2010. • Rates of alcohol-attributable mortality for health boards, local authorities and deprivation fifths (as well as Wales overall) were calculated using mid-year population estimates. These rates were directly age-standardised using the European standard population, to adjust for the effect of age in comparisons between areas. Using a method proposed by Dobson et al[2], 95 per cent confidence intervals were also added to the rates. • Rate ratios for the deprivation fifths were calculated as the rate in the most deprived fifth divided by the rate in the least deprived, to provide a relative measure of inequality.
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• Mortality counts are derived from an annual mortality extract supplied by ONS and are based on the original underlying cause of death for which there is nearly 100% coverage on the mortality register. There is the potential for the underlying cause of death to be incorrectly attributed on the death certificate and, therefore, the cause of death misclassified. • The registration of death is mandatory in the UK, so the dataset should be a near complete record of mortality. However, the assigning of cause of death on the medical certificate is known to vary, for example between areas. *(Further notes on the ADDE are given in section 7.1 of this technical guide)* • The 95% confidence intervals are indications of the random variation that would be expected around a rate. These must be considered when assessing or interpreting a rate. The 95% confidence interval represents a range which has a 95% probability of including the underlying population rate. The range of the confidence interval is dependent on the size of the population from which the events came. Rates based on small populations are likely to have wider confidence intervals and rates based on large populations are likely to have narrower confidence intervals.
Comparable to England	Yes, the indicator is comparable but there are small differences: • A cause of death with 'K85' where the fourth character was blank or invalid is excluded in the PHE indicator but are included in the PHWO indicator. PHE will be revising this in their next update

	• The PHE indicator includes deaths without fixed abode, whilst these are excluded in this indicator.
References	1. Public Health England (2014). Available on Local Alcohol Profiles for England (LAPE) www.lape.org.uk [Accessed 7th May 2014] 2. Dobson A.J. et al (1991) Confidence intervals for weighted sums of Poisson parameters. Stat Med 10(3):457-462.

6.14 Mortality from chronic liver disease and cirrhosis

Which charts or tables display this information?	Figure 27 in *Alcohol and health in Wales 2014: Wales profile* Health board summary documents Online interactive data files
What is being measured?	Mortality from chronic liver disease & cirrhosis
How is this indicator defined?	The European age-standardised (3-year rolling average) mortality rate per 100,000 from chronic liver disease (ICD-10 K70, K73-K74), adjusted for ICD-10 coding change in 2011.
Where does the data actually come from?	• Numerator: Annual District Deaths Extract (ADDE): Office for National Statistics (ONS) • Denominator: Mid-year population estimates (MYE), Office for National Statistics (ONS)
Who does it measure?	• Figure 27: males, females, all ages • Online interactive data files: males, females, persons, all ages • Health board documents: males, females, all ages
When does it measure it?	• 2003-05 to 2010-12 (Figure 27) • Online interactive data files: 2003-05 to 2010-12 and 2010-2012 • Health board documents: 2003-05 to 2010-12 and 2010-2012
What geographical area does it cover?	• Wales (Figure 27) • Online interactive data files: Wales; health boards; local authorities
How is it calculated?	• Counts of deaths registered between 2003 and 2012 were extracted from the ADDE (ONS), for all ages where the underlying cause of death matched ICD-10 codes K70, K73-K74. • Numbers of deaths were multiplied by age/sex-specific attributable fractions based on published studies, using fractions published in the PHE[1] file linked below. As advised by PHE only positive fractions were applied, as this indicator is based on alcohol-attributable harm and therefore excludes any beneficial effect on some causes of death. Deaths aged under 16 were only included if the condition was wholly attributable to alcohol, i.e. the attributable fraction was one or if the condition related to low birth weight (there were none in the data for the years investigated). • This definition matches the indicator used in the LAPE 2014 Profiles[1]. • There has been an ICD-10 coding change for deaths from 2011. Comparability ratios supplied by Public Health England were used to adjust the number of deaths registered on or before 2010. • Results are presented as European age-standardised rates (EASR) per 100,000 populations with 95% confidence intervals (intervals are calculated using a method proposed by Dobson et al (1991))[2].

How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• Mortality counts are derived from an annual mortality extract supplied by ONS and are based on the original underlying cause of death for which there is nearly 100% coverage on the mortality register. There is the potential for the underlying cause of death to be incorrectly attributed on the death certificate and, therefore, the cause of death misclassified. • The registration of death is mandatory in the UK, so the dataset should be a near complete record of mortality. However, the assigning of cause of death on the medical certificate is known to vary, for example between areas. *(Further notes on the ADDE are given in section 7.1 of this technical guide)* • The 95% confidence intervals are indications of the random variation that would be expected around a rate. These must be considered when assessing or interpreting a rate. The 95% confidence interval represents a range which has a 95% probability of including the underlying population rate. The range of the confidence interval is dependent on the size of the population from which the events came. Rates based on small populations are likely to have wider confidence intervals and rates based on large populations are likely to have narrower confidence intervals. • Age-standardised rates based on an annual average below 7 may be unreliable.
Comparable to England	Yes, the indicator is comparable but there are small differences: • A cause of death with 'K85' where the fourth character was blank or invalid is excluded in the PHE indicator but are included in the PHWO indicator. PHE will be revising this in their next update • The PHE indicator includes deaths without fixed abode, whilst these are excluded in this indicator.
References	1. Public Health England (2014). Available on Local Alcohol Profiles for England (LAPE) www.lape.org.uk [Accessed 7th May 2014] 2. Dobson A.J. et al (1991) Confidence intervals for weighted sums of Poisson parameters. Stat Med 10(3):457-462.

6.15 Months of life lost due to alcohol

Which charts or tables display this information?	Figures 28 and 29 in *Alcohol and health in Wales 2014: Wales profile* Health board summary documents Online interactive data files
What is being measured?	An estimate of the increase in life expectancy at birth which would be expected if all alcohol-related deaths among males/females aged less than 75 years were prevented.
How is this indicator defined?	• Deaths from alcohol-attributable conditions (Appendix 1) registered in the calendar years 2010-12 for males and females aged less than 75 years. • 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.
Where does the data come from?	• Numerator: Annual District Deaths Extract (ADDE); Life tables for Wales (ONS)

	• Denominator: Mid-year population estimates, Office for National Statistics (ONS)
Who does it measure?	• Figure 28: males, under 75 years • Figure 29: females, under 75 years • Online interactive data files: males, females, persons, under 75 years • Health board documents: males, females, under 75 years
When does it measure it?	• 2010-12 (Figures 28 and 29) • Online interactive data files: 2010-2012 • Health board documents: 2010-2012
What geographical areas does it cover?	• Wales (Figures 28 and 29) • Online interactive data files: Wales; health boards; local authorities
How is it calculated?	• The methodology used by PHE1 was applied to data for Wales. Details of which are summarised below: • Numbers of deaths were multiplied by age/sex-specific attributable fractions based on published studies, using fractions published by PHE[1]. Deaths in people aged under 16 were only included if the condition was wholly attributable to alcohol, i.e. the attributable fraction was one or if the condition related to low birth weight. Comparability ratios were applied for deaths registered in 2010 in order to adjust for ICD-10 coding changes from 2011 onwards. For more details on compatibility ratios see Public Health England (PHE) guidance available at: http://www.apho.org.uk/resource/item.aspx?RID=126646 • The number of years of life lost was calculated by applying the life expectancy at the mid-point of each 5 year age band. For example people aged 1-4 had the life expectancy at age 2 applied. • European age-standardised rates were calculated using the 2013 European Standard Population (ESP) to give the average years of life lost. • Average years of life lost was multiplied by 12 to convert it to months and then by life expectancy at birth to project the lifetime effect.
How accurate and complete will the data be for this indicator? Are there any problems, notes for interpretation or warnings with the data in relation to this indicator?	• Mortality data are considered to be complete and robust. 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. • For further information about the ADDE, see section 7.1 of this technical guide.
Comparable to England	Yes, the indicator is comparable but there are small differences: • A cause of death with 'K85' where the fourth character was blank or invalid is excluded in the PHE indicator but are included in the PHWO indicator. PHE will be revising this in their next update • The PHE indicator includes deaths without fixed abode, whilst

	these are excluded in this indicator.
References	1. Public Health England (2014). Available on Local Alcohol Profiles for England (LAPE) www.lape.org.uk [Accessed 14th September 2014]

7 Data sources

7.1 Annual District Deaths Extract (ADDE)

What does the data tell you?	• The Annual District Deaths Extract (ADDE) is a dataset containing the details of all deaths registered for residents of Wales. • The information presented in the *Alcohol and health in Wales 2014* indicator set relate to deaths registered between 2003 and 2012.
How are the data collected?	• Individual records for death registrations are sent on a weekly basis from the Registrars' offices across England and Wales to the Office for National Statistics (ONS). The ONS collates and validates the data. Data is based on the underlying cause of death e.g. if an individual dies from pneumonia but has been made vulnerable to that disease by end-stage cancer, then cancer (rather than pneumonia) is recorded as the underlying cause of death[1].
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• It is a legal requirement to register a death and so the ADDE provides a reliable and complete data source. • Cause of death is based on the medical certificate of cause of death. This is completed by the certifying doctor for about three quarters of deaths and by a coroner for the remainder. Most of the deaths certified by a coroner do not involve an inquest or any suspicion of violence, but are referred to the coroner because there was no doctor in attendance during the deceased's last illness. There will be a long delay in registering a small number of deaths for which a coroner's ruling is required e.g. suicide, homicide, undetermined intent. • It is important to note that with many thousands of doctors writing certificates, the differences in their training, habits and knowledge mean that there will inevitably be variations in the quality of medical certificates of cause of death (ONS website). • The cause of death is easier to define in younger people. Older people are far more likely to have many underlying health conditions, making it more difficult to determine the underlying cause of death[1].
Who manages the data?	Office for National Statistics (ONS)
Where can you get hold of the data?	Summary data are available from: • The Office for National Statistics website: http://webarchive.nationalarchives.gov.uk/20140721132900/http://www.statistics.gov.uk/hub/health-social-care/health-of-the-population/causes-of-death/index.html [Accessed 6th October 2014] • The Welsh Assembly Government website: https://statswales.wales.gov.uk/Catalogue/ [Accessed 6th October 2014].
References	1. Rooney C, Smith S. Implementation of ICD-10 for mortality data in England and Wales from January 2001. *Health Statistics Quarterly* 2000; 8:41-69. Available at: http://www.ons.gov.uk/ons/rel/hsq/health-statistics-quarterly/no--8--winter-2000/implementation-of-icd-10-for-mortality-data-in-england-and-wales-from-january-

	2001.pdf [Accessed 6th October 2014]

7.2 British Beer and Pub Association (BBPA)

What does the data tell you?	• UK consumption of alcohol (reported in *Alcohol and health in Wales 2014: Wales profile* as weekly alcohol units per person)
How are the data collected?	• Every year, the British Beer and Pub Association (BBPA) publishes a compilation of drinks industry statistics incorporating data from producers, retailers and other relevant sources on alcohol production, as well as government figures on the revenue accrued from UK sales of alcoholic beverages, collected by HM Revenue and Customs (HMRC). • Figures in figure 11 in *Alcohol and health in Wales 2014: Wales profile* is taken from table B8 (page 29) in the BBPA Statistical Handbook 2013. Data has been collated from a variety of sources (HMRC, ONS and BBPA)
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• Data collected by HMRC can be seen as more robust (compared to self-reporting via surveys) in that it shows the actual volume of alcohol bought and sold. However, this too cannot be seen as wholly representative of UK alcohol consumption as it does not include unrecorded alcohol.
Who manages the data?	HM Revenue and Customs (HMRC)
Where can you get hold of the data?	Sheen, David (August 2013), 'Statistical Handbook 2013', British Beer & Pub Association (BBPA), London: Brewing Publications Limited, p. 28

7.3 Health Behaviour in School-aged Children

What does the data tell you?	• The Health Behaviour in School-aged Children (HBSC) survey is a cross-national research study conducted in collaboration with the World Health Organisation (WHO) Regional Office for Europe[1]. • There is a lack of systematic data collection systems in relation to young people aged 11-15 years in most member states of the WHO European region. HBSC goes some way to filling this gap. • It aims to provide a key insight into, and increase our understanding of young people's health and well-being, health behaviours and their social context[1]. • The information presented in this report is based on the most recent 2009/10 HBSC survey.
How are the data collected?	• HBSC was initiated in 1982 by researchers from three countries. It was subsequently adopted by the WHO as a collaborative study. There are now 43 participating countries and regions[1]. • The first cross-national survey was conducted in 1983/84, the second in 1985/86. Since then data collection has been carried out every four years using a common research protocol. • The most recent survey, the eighth in the series, was conducted in 2009/10[2], and included 39 countries across Europe and North America. • In the main, fieldwork took place between October 2009 and May 2010. Internationally more than 200,000 young people took part in the survey and approximately 1,500 respondents in each age group were targeted in each country. Pupils were sampled from schools and/or school classes and data were collected by self-

	administered questionnaire[2]. • The HBSC health board data in this report is based on data collected from 11, 12, 13, 14 and 15 year olds (although labelled as 11-16 year olds as there were a small number having reached their 16th birthday prior to fieldwork). • International data is based on 11, 13 and 15 year olds only (school years 7, 9 and 11). This is because in the last two surveys, data have also been collected from years 8 and 10 (largely 12 and 14 year olds) these are included in the national report but not the international analyses. • Further information is available from: http://www.euro.who.int/__data/assets/pdf_file/0009/167283/E96444_part3.pdf [Accessed 6th October 2014]
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• In 2009/10, a survey of around 9,200 secondary school children in Wales (years 7 to 11) was carried out through interviewer administered paper self-completion sessions in classroom lessons. The response rate for schools was 61 per cent, with 91 per cent of individual pupils responding. From this survey, answers from children in years 7, 9 and 11 (around 5,500 in total) were then submitted to the international study for consistency with the age groups used therein. Further information on the margin of error applicable to the survey results can be found in the document referenced below[3]. • The Wales 2009/10 survey was designed to report results at the national rather than health board level. The health board estimates presented in this report should therefore be interpreted with some caution as they are based on 11, 12, 13, 14 and 15 year olds (although labelled as 11-16 year olds as there were a small number having reached their 16th birthday prior to fieldwork). • Two types of weights were applied to the survey data presented in the Wales health board report: *design weights* were applied to correct for different probabilities of being selected to answer the survey; *non-response weights* were applied to correct for different levels of response among particular groups[3], although this does not have a major impact on the results. Data presented in the international report are unweighted. • The questionnaire is developed in English and is subsequently translated into national and sub-national languages. Specific guidance is provided for translators on the underlying concepts being addressed. Questionnaires are then translated back into English for checking but it is important to acknowledge that some cross-national variation in the way that students understand certain terms may remain[2]. The methodological development of the HBSC survey, and work to maintain quality standards are also described[4]. • The survey is based on a sample rather than the whole population of secondary school children aged 11-16 years old in Wales and, therefore, care must be taken when interpreting the results. • As results are self-reported, some of the findings may be over- or under-estimates. • There may be some systematic bias as pupils who were absent on the day of the survey were not followed up.
Who manages the	International HBSC research network

data?	
Where can you get hold of the data?	• HBSC publications are available at http://www.hbsc.org/ • Wales data for HBSC 2009/10 report available at: http://wales.gov.uk/docs/caecd/research/110328healthbehaviouren.pdf [Accessed 6th October 2014]
References	1. Health Behaviour in School-aged Children [online]. 2012. Available at: http://www.hbsc.org/about/index.html [Accessed 6th October 2014] 2. Currie C et al. eds. *Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey.* Copenhagen: WHO Regional Office for Europe, 2012. Available at: http://www.euro.who.int/__data/assets/pdf_file/0003/163857/Social-determinants-of-health-and-well-being-among-young-people.pdf [Accessed 6th October 2014] 3. Welsh Assembly Government. *Health Behaviour in School-aged Children: initial findings from the 2009/10 survey in Wales*. Cardiff: WG; 2011. Available at: http://wales.gov.uk/docs/caecd/research/110328healthbehaviouren.pdf [Accessed 6th October 2014] 4. Roberts C, Freeman J, Samdal O, Schnohr CW, de Looze ME, Nic Gabhainn S, Iannotti R, Rasmussen M and the International HBSC Study Group (2009) *The Health Behaviour in School aged Children (HBSC) study: methodological developments and current tensions*. International Journal of Public Health, 54, S140-150

7.4 LAPE (Local Alcohol Profiles for England)

What does the data tell you?	• The dataset contains 26 alcohol-related indicators for every local authority in England, and the majority are also available for all Public Health England (PHE) centres in England; the data download also provides data for former government office regions. • The dataset provides a national indicator set to inform and support local, sub-national and national alcohol policies. The indicators provided help to prioritise and target local areas of concern.
How are the data collected?	• The Knowledge and Intelligence Team (North West) gathered routine data and intelligence from a range of sources (including the Department of Health and the Home Office).
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• Refer to the LAPE user guide for individual caveats associated with each of the 26 indicators. • The user guide is available at: http://www.lape.org.uk/downloads/LAPE%20User%20Guide_Final.pdf [Accessed 6th October 2014]
Who manages the data?	Knowledge and Intelligence Team (North West), Public Health England. Data is produced on an annual basis by this team.
Where can you get hold of the data?	LAPE is available at: http://www.lape.org.uk/index.html [Accessed 6th October 2014]
References	

7.5 Office for National Statistics – population estimates

What does the data tell you?	• Mid-year population estimates (as at 30th June each year) provide an estimate of the resident population of an area. • The analysis presented in this report uses population estimates for 2003 to 2012 where appropriate.
How are the data collected?	Population estimates are based on births, deaths and an estimate of migration since the last Census. They are produced using a well-established demographic approach called the cohort component method by the Office for National Statistics (ONS). In simple terms, population estimates are calculated by: • Taking the previous years' population estimate • Taking out special population groups • Ageing every person by one year • Adding births and subtracting deaths • Allowing for inward and outward migration • Re-adding the special population groups.
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• The estimated resident population of an area includes all people who usually live there, whatever their nationality[1]. Members of the UK and non-UK armed forces stationed in the UK are included[1]. UK forces stationed outside the UK are excluded[1]. • Students are taken to be resident at their term time address[1]. • The estimates include long term international migrants (defined as somebody who changes his or her country of usual residence for a period of at least one year)[1]. The estimates do not include short term migrants (people who come to or leave the UK for less than a year)[1]. The census and therefore mid-year population estimates are thought to underestimate the population in some areas e.g. areas of multi-occupancy housing. • Mid-year population estimates are occasionally revised, for example following a Census or a change in methodology. They also take into account boundary changes. • Full guidance on the methodology used by ONS to calculate population estimates can be accessed at: www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/pop-ests/index.html [Accessed 6th October 2014] • Mid-year population estimates are based on the 2011 Census.
Who manages the data?	Office for National Statistics (ONS)
Where can you get hold of the data?	• Office for National Statistics website: http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-274670 [Accessed 6th October 2014]
References	1. Office for National Statistics. *Topic guide to: Population Estimates – Technical Data* [Online]. 2011. Available at: http://webarchive.nationalarchives.gov.uk/20140721132900/http://www.statistics.gov.uk/hub/population/population-change/population-estimates [Accessed 6th October 2014]

7.6 Opinions and Lifestyle Survey (OPN)

What does the data tell you?	• The Opinions and Lifestyle Survey (OPN), formerly called the General Lifestyle Survey (GLF), is an omnibus survey run by the Office for National Statistics (ONS) and collects information on a range of topics from people living in private households in Great

	Britain (excluding the Isles of Scilly and the Scottish Highlands and Islands). • The information presented in *Alcohol and health in Wales 2014: Wales profile* is based on the 2012 release of *Drinking Habits amongst Adults* (Figure 10) and a trend in alcohol consumption in Great Britain (based on GLF figures (Figure 11).
How are the data collected?	• The Opinions and Lifestyle Survey uses a two stage, stratified random probability sample. In common with most ONS surveys, the sampling frame is the Royal Mail Postcode Address File (PAF) of 'small users'. The PAF contains addresses for approximately 27 million private households in the UK receiving fewer than 50 items of mail per day. It is updated every three months, and is the most current and complete address database in the UK. • Demographic and health information is also collected about children in the household. • Information is collected on households through a short interview and on individuals through a self-completion questionnaire. • Topics include: smoking; drinking, health; households, families and people; housing and consumer durables; marriage and cohabitation; occupational and personal pension schemes. • In 2011, 7,960 households in Great Britain took part in the survey and around 15,000 interviews were conducted with adults aged 16 and older. The household response rate was 72 percent[1].
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• The Opinions and Lifestyle Survey is a survey of a sample of the population rather than a full count and is therefore subject to sampling error; that is, the difference between the estimates derived from the sample and the true population values. • Obtaining reliable information about drinking behaviour is difficult, and social surveys consistently record lower levels of consumption than would be expected from data on alcohol sales. This is partly because people may consciously or unconsciously underestimate how much alcohol they drink. Drinking at home is particularly likely to be underestimated because the quantities consumed are less likely to have been measured and also more likely to be larger than those dispensed in licensed premises. • The smaller sample size of the Opinions and Lifestyle Survey (unweighted sample of 370 adults for Wales in 2012) means that its estimates of alcohol prevalence are likely to be less accurate than those from the Welsh Health Survey (approx 15,000 adults per year).
Who manages the data?	Office of National Statistics (ONS)
Where can you get hold of the data?	The Office of National Statistics (ONS) website, available at: http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2011/rpt-introduction.html#tab-The-2011-survey [Accessed 6th October 2014]
References	1. General Lifestyle Survey results for Drinking Habits Amongst Adults, 2012 are available at: http://www.ons.gov.uk/ons/dcp171778_338863.pdf [Accessed 6th October 2014]

7.7 Patient Episode Database for Wales

What does the data tell you?	• Patient Episode Database for Wales (PEDW) comprises records of all episodes of inpatient and day case activity in NHS Wales hospitals. Hospital activity for Welsh residents treated in other UK nations (primarily England) is also included.
How are the data collected?	• The data are collected and coded at each hospital. The records are then electronically transferred to NWIS, where they are validated and merged into the main database.
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• The Census output area of residence is provided for the large majority of records. The output areas are used to assign the local authority and health board areas of residence for each record. • The data held in PEDW is of interest to public health services since it can provide information regarding both health service utilisation and also be used as a proxy for incidence and prevalence of disease. However, since PEDW was created to track hospital activity from the point of view of payments for services, rather than epidemiological analysis, the use of PEDW for public health work is not straightforward. For example: - Counts will vary depending on the question being asked e.g. the number of diagnoses fields used i.e. primary only or all diagnostic positions, will answer different questions around service utilisation or prevalence. - There are a number of different 'currencies' that can be counted in PEDW, such as episodes, admissions, discharges and patients. There are potential limitations associated with the use of each of these measures; their choice is dependent on the question being asked. • Coding practices vary, which makes regional variations more difficult to interpret. For example, records provided by Cardiff & Vale UHB had a high proportion of missing primary diagnoses during 2011/12 (14.4%). The validation process led by the Corporate Health Improvement Programme implemented by NWIS is aiming to address some of these inconsistencies. • Outpatient activity is not included in this dataset. • Attendances to A&E departments are not included in this dataset.
Who manages the data?	NHS Wales Informatics Service (NWIS)
Where can you get hold of the data?	• Annual PEDW data tables are published here: http://www.infoandstats.wales.nhs.uk/page.cfm?pid=41010&orgid=869 [Accessed 6th October 2014] • Health Maps Wales is an online tool produced by NWIS which presents a range of information, including hospital admissions data from PEDW: http://www.infoandstats.wales.nhs.uk/page.cfm?orgid=869&pid=40976 [Accessed 6th October 2014] • Contact details for NHS Wales Informatics Service can be found on their website: http://www.wales.nhs.uk/nwis/page/52504

7.8 Welsh Health Survey

What does the data tell you?	• The Welsh Health Survey provides information about the health of people living in Wales, the way they use health services and their health related lifestyle.
How are the data	• The adult survey was established in 2003 and runs all year round.

collected?	The information relating to children has been collected since 2007. • It is based on a representative sample of people living in private households in Wales, selected using a random sample from the Post Office's Postcode Address File[1]. • Families with children aged under 16 are eligible for the child elements of the survey. In households with three or more children, two children are selected at random to avoid respondent burden. Information is collected on households through a short interview and on individuals through a self-completion questionnaire. One of three age-specific questionnaires are used for children. Two are designed for parents to complete on behalf of children aged 0-3 and 4-12. A third questionnaire is given to children aged 13-15 to complete on their own behalf. Adults (aged 16+) complete their own questionnaire. • At each household, all adults and a maximum of two children are eligible for inclusion in the survey. • A sample of around 15,000 adults and 3,000 children is aimed for per year, to include a minimum of 600 adults from each local authority area.
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• The Welsh Health Survey is the most comprehensive survey into the health of the population across Wales. However, as with all surveys of a sample of the population it is subject to sampling error i.e. the difference between the estimates derived from the sample and the true population values. • The Welsh Health Survey achieves high response rates e.g. in 2011 78% of eligible households took part and self-completion questionnaires were obtained for 83% of adults and 79% of children in participating households. • Survey data is usually presented at a Wales level. Combining data from more than one year can allow results to be presented at a lower level (e.g. age group, geography) by improving the precision of the estimates due to the larger sample size used. • As the survey is based on self-reported data, the results are prone to respondent bias i.e. people may under or over estimate their behaviour to give a more favourable response. • The survey results are weighted to ensure that the age and sex distribution of the responding sample matches that of the population of Wales. • The Postcode Address File covers more than 99% of private households in Wales; the small percentage of people not covered by the Postcode Address File, for example those living in institutions, were not covered by the Welsh Health Survey. The Welsh Health Survey therefore does not include adults living in institutional settings such as care homes or nursing homes etc. • In general terms whereas non-responding adults were more likely than those who responded to be described as having good general health the converse is true for children i.e. children who responded to the survey were more likely to be described as having good general health than non-responding children[2].
Who manages the data?	The data is owned and managed by the Welsh Government. NatCen Social Research (www.natcen.ac.uk) conducts the survey on behalf of the Welsh Government.
Where can you get hold of the data?	Welsh Health Survey results are available at: http://wales.gov.uk/topics/statistics/theme/health/health-survey/results/?lang=en [Accessed 6th October 2014]

References	1. Welsh Government. Welsh Health Survey Quality Report. Cardiff: WG; 2011. Available at: http://wales.gov.uk/docs/statistics/2012/120116healthqualityen.pdf [Accessed 6th October 2014] 2. Sadler et al. Welsh Health Survey 2011 Technical Report. National Centre for Social Research; 2012. Available at http://wales.gov.uk/topics/statistics/theme/health/health-survey/results/?lang=en

7.9 World Health Organisation

What does the data tell you?	• The total, recorded and unrecorded alcohol per capita consumption (APC), litres of pure alcohol in selected WHO countries included in *Global status report on alcohol and health 2014* (see link below).
How are the data collected?	• Official data on recorded alcohol per capita (15+ years) consumption supplied by WHO Member states was recorded and sent to WHO.
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• Official data on recorded alcohol per capita (15+ years) consumption supplied by the respective Member States were given priority. • An additional survey on unrecorded consumption was used to improve estimation of unrecorded consumption in some countries. In this survey, sent to 42 countries with at least 10% unrecorded consumption as part of the total consumption, the nominal group technique was used to solicit five expert judgements per country. • In addition, a systematic search was conducted on all published literature[1]. The data obtained were analysed and fed back to the experts who used them to arrive at a final estimate. • It is important to note that the data are only as reliable as the original source data.
Who manages the data?	Individual countries are responsible for managing their own data.
Where can you get hold of the data?	• Data can be accessed via the report: http://www.who.int/substance_abuse/publications/global_alcohol_report/msb_gsr_2014_1.pdf?ua=1 • Appendix data can be accessed here: http://www.who.int/substance_abuse/publications/global_alcohol_report/msb_gsr_2014_3.pdf?ua=1
References	1. Rehm J, Kailasapillai S, Larsen E, Rehm MX, Samokhvalov AV, Shield KD et al. (2014). A systematic review of the epidemiology of unrecorded alcohol consumption and the chemical composition of unrecorded alcohol. Addiction, Vol 109 Issue 6

7.10 Welsh Index of Multiple Deprivation 2011

What does the data tell you?	• The Welsh Index of Multiple Deprivation (WIMD) is the official measure of relative deprivation at small area level in Wales[1]. • WIMD is made up of eight separate domains of deprivation: income; employment; health; education; housing; access to services; environment; and community safety. • WIMD is used to give an overall deprivation rank for each of the 1,896 lower super output areas (LSOA) in Wales and to give ranks for the separate deprivation domains for each of the LSOAs. • The 2011 version of WIMD (adjusted for 2011 LSOAs) is used in

	the *Alcohol and health in Wales 2014* publication.
How are the data collected?	• Deprivation ranks are calculated for each LSOA in Wales. One area has a higher deprivation rank than another if a larger percentage of its population is classed as deprived. The most deprived area is ranked as one and the least deprived area is ranked as 1,896. • Each of the eight domains is based on a range of different indicators. The domains indices are weighted and combined into an overall index of multiple deprivation. Income and employment are classed as the most important indicators and are given the biggest weighting in the overall index. • To obtain deprivation fifths, geographical areas are ranked from highest to lowest by the deprivation rank and then split into five equal groups, ranging from least deprived to most deprived fifth.
How accurate and complete will the data be? Are there any problems, notes for interpretation or warnings with the data?	• WIMD 2011 scores are based on Census 2001 geographies. In order to consider the level of deprivation in census 2011 geographies the deprivation level from the most relevant 2001 LSOA was applied to the 2011 LSOA. In some areas the level of deprivation may have changed or may not be appropriate for the new statistical geographies. • Not everyone living in a deprived area is deprived and not all deprived people live in deprived areas. An area itself is not deprived, it is the circumstances and lifestyle of people who are living there that affects its deprivation ranks. • The WIMD cannot tell you how much more deprived one LSOA is than another. If one area is ranked as the 100th most deprived and another area as the 300th most deprived, you cannot say that one area is three times more deprived than the other. • Deprivation ranks cannot be compared with scores from a previous index. • The WIMD ranks cannot be compared with those from deprivation indices of other UK countries. • There are no official Local Authority scores. • WIMD is an ecological measure whereas individuals within an area (LSOA in this instance) may vary. • The overall WIMD index includes a health measure and so it can be argued that assessing health experiences against WIMD can have a circular effect. • Unlike measures of material deprivation some of the factors do not relate directly to material deprivation e.g. access to services. • It is important to note that low deprivation does not equate to affluence.
Who manages the data?	Welsh Government's Statistical Directorate and the Local Government Data Unit (Wales)
Where can you get hold of the data?	The Welsh Government website is available at: http://wales.gov.uk/topics/statistics/theme/wimd/wimd2011/;jsessionid=vtp9PtQGt7KVnyjQBKmBbGF57R2yPK1f3FVCvyb6c5c9PdTdct2j!-587213559?lang=en [Accessed 6th October 2014]
References	1. Welsh Government. *Welsh Index of Multiple Deprivation 2011: Technical Report*. Cardiff: WG; 2011. Available at: http://wales.gov.uk/docs/statistics/2011/111222wimd11techen.pdf [Accessed 6th October 2014]

8 Glossary

Age-standardised rate

- Age-standardisation allows for the comparison of rates between populations while taking account of the different age structures of those populations. In order to calculate this we apply the rates which occur in each age band to the standard population structure. Calculating age-standardised rates is particularly useful for health-related behavioural indicators where age has an important influence, and where it may be misleading to compare crude rates. For example, meeting physical activity guidelines may become less common with age and so populations with older age profiles may be observed to perform worse than populations with younger age profiles - age-standardisation adjusts for these differences.

Attributable fractions

- Attributable fractions are the proportions of all cases (e.g. deaths or hospital admissions) that are thought to be caused by a particular exposure, for example alcohol. Fractions are calculated for conditions where there is considered sufficient evidence of a causal relationship between the exposure and the disease or injury.

Alcohol-attributable hospital admissions (person-based, broad)

- Measures individuals admitted with alcohol-attributable conditions (either wholly or in part attributable to alcohol) at least once a year, either as the primary diagnosis (main reason) or a secondary diagnosis, whichever is most linked to alcohol (highest fraction). This measure has been revised.

Alcohol-attributable hospital admissions (person-based, narrow)

- Measures individuals admitted with alcohol-attributable conditions (either wholly or partly attributable to alcohol) at least once a year, either as the primary diagnosis (main reason) or an external cause (e.g. injuries) as a secondary diagnosis, whichever is most linked to alcohol (highest fraction). This is a new measure.

Alcohol-specific hospital admissions

- Measures individuals admitted with alcohol-specific (wholly attributable) conditions, either in the primary diagnosis (main reason) or in secondary diagnoses. This list of conditions has been revised.

Alcohol-attributable mortality

- Includes deaths with an underlying cause of death that is either wholly or partly attributable to alcohol. Revised attributable fractions for each cause of death are applied in the calculation. This wider definition is an estimate based on fractions assuming they apply equally to Wales.

Alcohol-specific mortality

- Includes deaths with an underlying cause of death that is wholly attributable to alcohol e.g. alcoholic liver disease. Additional causes of death were added in the revision of methods.

Census

- The Census provides a count of all people and households within a defined area; here it is undertaken for England and Wales with simultaneous censuses in Scotland and Northern Ireland. The Census gathers information on population, health, housing, employment, transport and ethnicity. In England and Wales it is undertaken every 10 years with the most recent census conducted in 2011.

Confidence intervals (CIs)

- Confidence intervals are indications of the natural variation that would be expected around a rate and they should be considered when assessing or interpreting a rate. The size of the confidence interval is dependent on the number of events occurring and the size of the population from which the events came. Generally speaking, rates based on small numbers of events and small populations are likely to have wider confidence intervals. Conversely, rates based on large populations are likely to have narrower confidence intervals. In the report *Alcohol and health in Wales 2014: Wales profile* we use 95 per cent confidence intervals. This represents a range of values that we can be 95 per cent confident contains the 'true' underlying rate.

European age-standardised rate

- The European age-standardised rate represents the overall rate you would expect if the population had the same age-structure as a theoretical standard European population. See age-standardised rate for further details.

Fifths of deprivation

- Geographical areas are ranked from highest to lowest by deprivation score, using the Welsh Index of Multiple Deprivation, and then split into five groups of similar size, ranging from least deprived to most deprived fifth.

Health board

- Health boards are the NHS bodies in Wales responsible for the health of the population within their geographical area. This includes planning, designing, developing and securing the delivery of primary, community, in-hospital care and specialised services. There are seven health boards in Wales which came into being on 1 October 2009.

Mid-year estimates

- Annual estimates of the resident population as at 30 June each year, provided by ONS. The figures are based on the census and take into account population change due to births, deaths and migration.

Public Health Wales NHS Trust

- Public Health Wales was established as an NHS Trust on 1 October 2009. The Trust incorporates the functions and services previously provided by the National Public Health Service for Wales, the Wales Centre for Health, the Welsh Cancer Intelligence and Surveillance Unit and Screening Services Wales.

Rate ratio

- The rate ratio used in *Alcohol and health in Wales 2014: Wales profile* is the rate in the most deprived fifth divided by the rate in the least deprived fifth. See section 5.1 for more information regarding the interpretation of rate ratios.

Statistical significance

- A difference is called statistically significant if it is unlikely to have occurred by chance. In this publication, statistical significance is determined using the confidence intervals (CIs) of the local value. The national average is treated as an exact reference value and if it falls outside the local confidence interval range, the difference is considered to be statistically significant.

Upper Super Output Area (USOA)

- Defined geographical area based on Census output areas with an average of around 30,000 persons per USOA. There are 94 USOAs in Wales, and the number of USOAs varies between health boards.

Welsh Index of Multiple Deprivation (WIMD)

- WIMD is a measure of multiple deprivation at lower super output area level. A WIMD deprivation score is calculated using eight domains i.e. income, employment, health, education, access to services, housing, physical environment and community.

9 Appendix 1

Updated alcohol-attributable fractions used to calculate mortality

Condition	ICD10 code(s)	Males								Females							
		0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+	0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+
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
Partially attributable conditions - Chronic conditions																	
Infectious and parasitic diseases																	
Tuberculosis*	A15-A19	0.00	0.30	0.33	0.34	0.35	0.35	0.31	0.22	0.00	0.19	0.17	0.21	0.22	0.20	0.14	0.11

Condition	ICD10 code(s)	Males								Females							
		0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+	0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+
Malignant neoplasm of:																	
Lip, oral cavity and pharynx	C00-C14	0.00	0.53	0.44	0.44	0.46	0.47	0.40	0.29	0.00	0.38	0.35	0.42	0.43	0.40	0.31	0.24
Oesophagus	C15	0.00	0.58	0.61	0.61	0.63	0.63	0.60	0.52	0.00	0.49	0.48	0.53	0.53	0.51	0.45	0.38
Colorectal	C18-C20, C21	0.00	0.16	0.18	0.18	0.19	0.19	0.17	0.13	0.00	0.11	0.12	0.13	0.14	0.13	0.11	0.11
Liver and intrahepatic bile ducts	C22	0.00	0.15	0.17	0.17	0.18	0.18	0.16	0.12	0.00	0.11	0.11	0.12	0.13	0.12	0.10	0.11
Larynx	C32	0.00	0.35	0.39	0.39	0.41	0.41	0.36	0.28	0.00	0.25	0.23	0.28	0.29	0.27	0.21	0.17
Breast	C50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.13	0.14	0.15	0.14	0.12	0.11
Diabetes mellitus																	
Diabetes mellitus (type II)	E11	0.00	-0.04	-0.04	-0.04	-0.04	-0.03	-0.04	-0.03	0.00	-0.20	-0.21	-0.22	-0.22	-0.22	-0.20	-0.15
Diseases of the nervous system																	
Epilepsy and Status epilepticus	G40-G41	0.00	0.32	0.35	0.35	0.37	0.37	0.33	0.24	0.00	0.22	0.20	0.24	0.25	0.23	0.18	0.15
Cardiovascular disease																	
Hypertensive diseases	I10-I15	0.00	0.22	0.25	0.25	0.27	0.27	0.23	0.15	0.00	0.26	0.17	0.30	0.31	0.25	0.09	-0.06
Ischaemic heart disease	I20-I25	0.00	-0.10	-0.10	-0.10	-0.10	-0.10	-0.11	-0.10	0.00	-0.10	-0.08	-0.10	-0.10	-0.09	-0.07	-0.02
Cardiac arrhythmias	I47-I48	0.00	0.15	0.17	0.17	0.18	0.18	0.16	0.12	0.00	0.10	0.11	0.12	0.13	0.12	0.10	0.11
Heart failure	I50-I51	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	0.00	0.00
Haemorrhagic stroke - Mortality	I60-I62, I69.0-I69.2	0.00	0.18	0.20	0.20	0.21	0.22	0.19	0.15	0.00	0.25	0.22	0.27	0.28	0.26	0.19	0.13
Ischaemic stroke - Mortality	I63-I66, I69.3-I69.4	0.00	0.01	0.02	0.02	0.03	0.04	0.01	0.00	0.00	-0.09	-0.14	-0.09	-0.08	-0.10	-0.16	-0.14
Oesophageal varices - Mortality	I85	0.00	0.70	0.73	0.74	0.76	0.76	0.70	0.55	0.00	0.64	0.62	0.68	0.69	0.66	0.58	0.57
Respiratory infections																	
Pneumonia*	J10.0, J11.0, J12-J15, J18	0.00	0.12	0.14	0.14	0.15	0.15	0.13	0.10	0.00	0.07	0.06	0.08	0.08	0.08	0.05	0.03
Unspecified liver disease - Mortality	K73, K74	0.00	0.70	0.73	0.74	0.76	0.76	0.70	0.55	0.00	0.64	0.62	0.68	0.69	0.66	0.58	0.57
Cholelithiasis (gall stones)	K80	0.00	-0.25	-0.28	-0.28	-0.30	-0.30	-0.27	-0.21	0.00	-0.17	-0.17	-0.19	-0.19	-0.18	-0.16	-0.14
Acute and chronic pancreatitis	K85, K86.1	0.00	0.35	0.39	0.40	0.43	0.43	0.35	0.20	0.00	0.17	0.14	0.20	0.21	0.18	0.12	0.10
Pregnancy and childbirth																	
Spontaneous abortion**	O03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.11	0.11	0.10	0.00	0.00
Low birth weight*	P05-P07	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Condition	ICD10 code(s)	Males								Females							
		0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+	0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+
Partially attributable conditions - Acute conditions																	
Unintentional injuries																	
Road/pedestrian traffic accidents	§	0.00	0.42	0.46	0.39	0.41	0.28	0.16	0.06	0.00	0.25	0.22	0.22	0.23	0.14	0.07	0.03
Poisoning	X40–X49 (except X45)	0.00	0.32	0.37	0.37	0.40	0.38	0.26	0.12	0.00	0.18	0.17	0.20	0.19	0.14	0.08	0.04
Fall injuries	W00-W19	0.00	0.32	0.37	0.37	0.40	0.38	0.26	0.12	0.00	0.18	0.17	0.20	0.19	0.14	0.08	0.04
Fire injuries	X00-X09	0.00	0.32	0.37	0.37	0.40	0.38	0.26	0.12	0.00	0.18	0.17	0.20	0.19	0.14	0.08	0.04
Drowning	W65-W74	0.00	0.32	0.37	0.37	0.40	0.38	0.26	0.12	0.00	0.18	0.17	0.20	0.19	0.14	0.08	0.04
Other unintentional injuries	§§	0.00	0.32	0.37	0.37	0.40	0.38	0.26	0.12	0.00	0.18	0.17	0.20	0.19	0.14	0.08	0.04
Intentional injuries																	
Intentional self-harm	X60-X84, Y87.0 (except X65)	0.00	0.32	0.37	0.37	0.40	0.38	0.26	0.12	0.00	0.18	0.17	0.20	0.19	0.14	0.08	0.04
Event of undetermined intent	Y10-Y34, Y87.2 (except Y15)	0.00	0.32	0.37	0.37	0.40	0.38	0.26	0.12	0.00	0.18	0.17	0.20	0.19	0.14	0.08	0.04
Assault	X85-Y09, Y87.1	0.00	0.32	0.37	0.37	0.40	0.38	0.26	0.12	0.00	0.18	0.17	0.20	0.19	0.14	0.08	0.04

§ = 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

10 Appendix 2

Updated alcohol-attributable fractions used to calculate morbidity

Condition	ICD10 code(s)	Males								Females							
		0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+	0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+
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
Partially attributable conditions - Chronic conditions																	
Infectious and parasitic diseases																	
Tuberculosis*	A15-A19	0	0.299	0.332	0.336	0.351	0.353	0.307	0.215	0	0.187	0.168	0.214	0.223	0.201	0.142	0.114
Malignant neoplasm of:																	
Lip, oral cavity and pharynx	C00-C14	0	0.525	0.438	0.444	0.464	0.466	0.402	0.288	0	0.384	0.35	0.418	0.428	0.397	0.31	0.237
Oesophagus	C15	0	0.581	0.611	0.613	0.626	0.626	0.595	0.52	0	0.495	0.476	0.526	0.532	0.511	0.446	0.377
Colorectal	C18-C20, C21	0	0.159	0.18	0.182	0.191	0.194	0.169	0.133	0	0.115	0.12	0.133	0.139	0.132	0.111	0.111

Condition	ICD10 code(s)	Males								Females							
		0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+	0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+
Liver and intrahepatic bile ducts	C22	0.00	0.15	0.17	0.17	0.18	0.18	0.16	0.12	0.00	0.11	0.11	0.12	0.13	0.12	0.10	0.11
Larynx	C32	0.00	0.35	0.39	0.39	0.41	0.41	0.36	0.28	0.00	0.25	0.23	0.28	0.29	0.27	0.21	0.17
Breast	C50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.13	0.14	0.15	0.14	0.12	0.11
Diabetes mellitus																	
Diabetes mellitus (type II)	E11	0.00	-0.04	-0.04	-0.04	-0.04	-0.03	-0.04	-0.03	0.00	-0.20	-0.21	-0.22	-0.22	-0.22	-0.20	-0.15
Diseases of the nervous system																	
Epilepsy and Status epilepticus	G40-G41	0.00	0.32	0.35	0.35	0.37	0.37	0.33	0.24	0.00	0.22	0.20	0.24	0.25	0.23	0.18	0.15
Cardiovascular disease																	
Hypertensive diseases	I10-I15	0.00	0.22	0.25	0.25	0.27	0.27	0.23	0.15	0.00	0.26	0.17	0.30	0.31	0.25	0.09	-0.06
Ischaemic heart disease	I20-I25	0.00	-0.10	-0.10	-0.10	-0.10	-0.10	-0.11	-0.10	0.00	-0.10	-0.08	-0.10	-0.10	-0.09	-0.07	-0.02
Cardiac arrhythmias	I47-I48	0.00	0.15	0.17	0.17	0.18	0.18	0.16	0.12	0.00	0.10	0.11	0.12	0.13	0.12	0.10	0.11
Heart failure	I50-I51	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	0.00	0.00
Haemorrhagic stroke - Morbidity	I60-I62, I69.0-I69.2	0.00	0.20	0.22	0.23	0.24	0.24	0.21	0.17	0.00	-0.11	-0.14	-0.11	-0.10	-0.12	-0.16	-0.15
Ischaemic stroke - Morbidity	I63-I66, I69.3-I69.4	0.00	0.00	0.01	0.01	0.02	0.03	0.00	-0.01	0.00	-0.06	-0.07	-0.06	-0.06	-0.07	-0.07	-0.06
Oesophageal varices - Morbidity	I85	0.00	0.44	0.47	0.48	0.50	0.50	0.44	0.33	0.00	0.31	0.41	0.38	0.40	0.41	0.42	0.51
Respiratory infections																	
Pneumonia*	J10.0,	0.00	0.12	0.14	0.14	0.15	0.15	0.13	0.10	0.00	0.07	0.06	0.08	0.08	0.08	0.05	0.03
Unspecified liver disease - Morbidity	K73, K74	0.00	0.44	0.47	0.48	0.50	0.50	0.44	0.33	0.00	0.31	0.41	0.38	0.40	0.41	0.42	0.51
Cholelithiasis (gall stones)	K80	0.00	-0.25	-0.28	-0.28	-0.30	-0.30	-0.27	-0.21	0.00	-0.17	-0.17	-0.19	-0.19	-0.18	-0.16	-0.14
Acute and chronic pancreatitis	K85, K86.1	0.00	0.35	0.39	0.40	0.43	0.43	0.35	0.20	0.00	0.17	0.14	0.20	0.21	0.18	0.12	0.10
Pregnancy and childbirth																	
Spontaneous abortion	O03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.11	0.11	0.10	0.07	0.04
Low birth weight	P05-P07	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	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	§	0.00	0.28	0.31	0.26	0.27	0.19	0.11	0.04	0.00	0.17	0.15	0.15	0.15	0.09	0.05	0.02

Condition	ICD10 code(s)	Males								Females							
		0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+	0-15	16-24	25-34	35-44	45-54	55-64	65-74	75+
Poisoning	X40-X49 (except X45)	0.00	0.14	0.17	0.16	0.18	0.17	0.12	0.05	0.00	0.08	0.08	0.09	0.08	0.06	0.04	0.02
Fall injuries	W00-W19	0.00	0.14	0.17	0.16	0.18	0.17	0.12	0.05	0.00	0.08	0.08	0.09	0.08	0.06	0.04	0.02
Fire injuries	X00-X09	0.00	0.14	0.17	0.16	0.18	0.17	0.12	0.05	0.00	0.08	0.08	0.09	0.08	0.06	0.04	0.02
Drowning	W65-W74	0.00	0.14	0.17	0.16	0.18	0.17	0.12	0.05	0.00	0.08	0.08	0.09	0.08	0.06	0.04	0.02
Other unintentional injuries	§§	0.00	0.14	0.17	0.16	0.18	0.17	0.12	0.05	0.00	0.08	0.08	0.09	0.08	0.06	0.04	0.02
Intentional injuries																	
Intentional self-harm	X60-X84, Y87.0 (except X65)	0.00	0.14	0.17	0.16	0.18	0.17	0.12	0.05	0.00	0.08	0.08	0.09	0.08	0.06	0.04	0.02
Event of undetermined intent	Y10-Y34, Y87.2 (except Y15)	0.00	0.14	0.17	0.16	0.18	0.17	0.12	0.05	0.00	0.08	0.08	0.09	0.08	0.06	0.04	0.02
Assault	X85-Y09, Y87.1	0.00	0.14	0.17	0.16	0.18	0.17	0.12	0.05	0.00	0.08	0.08	0.09	0.08	0.06	0.04	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