

Health impacts of alcohol Factsheet

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Health impacts: Introduction

According to the World Health Organisation (WHO), the harmful use of alcohol results in 2.5 million deaths each year globally. Alcohol is associated with more than 60 adverse health consequences and is ranked by the WHO as the third leading cause of death and disability in the developed world.¹ This is supported by the latest data from the Global Burden of Disease report, which ranks alcohol as the third most dangerous health risk in the entire world.² It is also the leading risk factor in the Western Pacific and the Americas and the second highest in Europe.³ Dealing with the problems of alcohol consumption is rated as more important than high cholesterol levels and obesity, 3 times more important than diabetes and 5 times more important than asthma.⁴

A nation's consumption of alcohol directly impacts on the health of its citizens. The European Comparative Alcohol Study has found that for all European Union (EU) countries, any rise or fall in alcohol consumption runs parallel to the harm caused by it.⁵

This especially applies to the UK, where deaths from liver cirrhosis (largely caused by alcohol) increased – as did consumption levels – between 1987 and 2001. Cirrhosis deaths more than doubled over the period in Scotland alone, and are now among the highest in Western Europe.⁶

But alcohol does not just impact on the body; it affects mental health too. Alcohol is the second most widely consumed psychoactive drug in the world, (caffeine is first). Some of the most frequently cited reasons for drinking involve bringing about a change of mood in order to feel better (e.g. drinking 'to relieve stress', cheer oneself up, etc). But alcohol is actually a depressant, and when it is consumed to harmful levels it becomes one of the leading risk factors for depression and suicides. As a result, virtually every system can be affected by the consumption of alcohol.

1 World Health Organisation (WHO) (2010), '[Global strategy to reduce the harmful use of alcohol](#)'

2 Institute of Alcohol Studies (December 2012), '[Alcohol now third most dangerous health risk in the world, says Lancet study](#)'

3 WHO, '[Alcohol](#)', Media Centre

4 Eurocare, '[Five Facts about Alcohol and Health](#)'

5 Norstrom T & Skog O-J (2001), 'Alcohol and mortality', *Addiction*, 96, Supplement 1, S5–S18

6 The Scottish Government, '[Health in Scotland 2007: Annual Report of the Chief Medical Officer](#)'

Alcohol's impact on the body

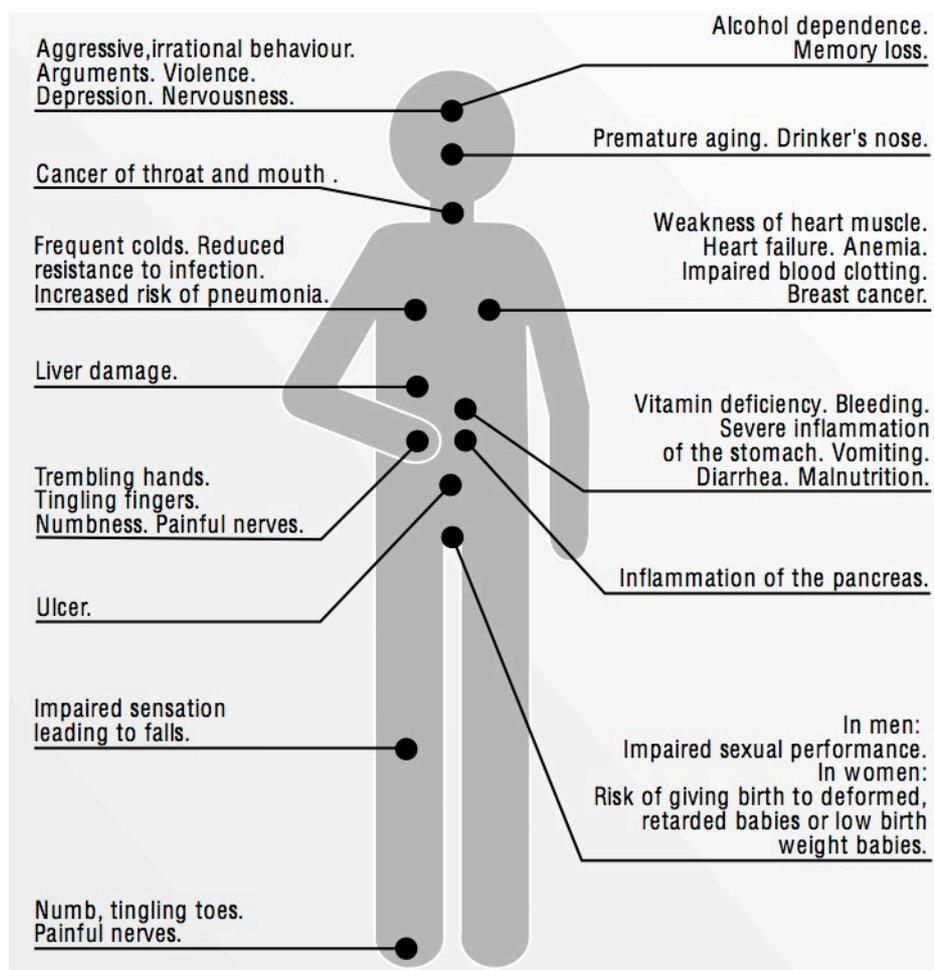
Alcohol affects health in a variety of ways; virtually every system can be damaged in the body by its harmful consumption. Alcohol is associated with more than 60 adverse health consequences and hundreds of physical and mental conditions.

Alcohol is metabolised in the body using 2 processes:

1. Oxidation: body cells combine oxygen with dissolved food in the bloodstream, leading to the release of heat and energy (calories) to be used for cell maintenance and repair. Alcohol calories are burnt immediately. Oxidation deals with over 90% of alcohol consumed.
2. Elimination: between 2 and 10% of alcohol consumed escapes unused via breath, urine or sweat glands.

For all types of alcohol-related harm, risk increases the more an individual drinks.¹ The effects of excessive alcohol consumption on the mind and body are illustrated in Figure 1.

Figure 1: Effects of high-risk drinking



Source: Babor, Thomas F., Higgins-Biddle, John C., Saunders, John B., and Monteiro, Maristela G (2nd edition; June 2006)., 'The Alcohol Use Disorders Identification Test: Guidelines for use in primary care', WHO, [Management of substance abuse: Alcohol](#)

Brain: As a depressant of the central nervous system, alcohol interferes with the brain's communication pathways. This occurs by the penetration of the blood-brain barrier, which otherwise prevents or slows the passage of some drugs and other harmful substances from the blood into the central nervous system. These disruptions can change mood and behaviour, and make it harder to think clearly and move with coordination. The degree to which brain activity slows down depends on how much, and how fast, a person drinks.

Some effects people experience include: altered speech; hazy thinking; slowed reaction time; dulled hearing; impaired vision; weakened muscles; and foggy memory.

Heart: Although a small amount of alcohol may reduce the risk of a heart attack, for many drinkers alcohol actually increases the risk of heart disease. This is why even the leading British researcher who supports the notion of a protective effect in relation to heart disease still states that "the balance of harm and benefit does not weigh in favour of making a recommendation to the public to drink in order to prevent coronary heart disease".²

According to one report, a drink every second day gives almost all the protection that alcohol has on reducing the risk of a heart attack;³ above 2 drinks a day, the risk of death from heart disease also increases. Whether consumed as wine, beer, or spirits, it is the alcohol content that matters; a glass of wine, 250ml of ordinary strength beer and a single measure of spirits are all equal in their impact on health.⁴

The biochemical changes that might reduce the risk of heart disease result equally from every last unit of alcohol derived from the beverage. Consumption patterns are just as likely to have an adverse impact on a drinker's mental and physical health as the amount of alcohol consumed.

Large amounts of alcohol can affect how the heart works, and in turn, the rest of the body. If the heart isn't pumping blood throughout the body effectively, other organs may suffer from lack of oxygen or nutrients.⁵

Drinking a lot over a long time or too much on a single occasion can cause and aggravate heart conditions such as cardiomyopathy (stretching and drooping of heart muscle) and arrhythmias (irregular heart beat), and may also lead to strokes and high blood pressure.

Liver: One organ that is particularly affected by alcohol is the liver because it is the main organ that processes alcohol. Heavy drinking over a period of years can damage the liver, causing inflammations such as steatosis (fatty liver) alcoholic hepatitis, and fibrosis.

Some of this damage comes from free radicals, a group of molecules that are highly reactive. These molecules can attack the nearest stable molecule, leading to a dangerous chain reaction that can result in a disease called cirrhosis of the liver. Cirrhosis occurs when scar tissue replaces normal, healthy tissue and the liver, which needs unrestricted blood flow, doesn't work as it should.⁶

Cancers: A recent meta-analysis found that compared with nondrinkers or occasional alcohol drinkers (≤ 1 drink/day, equivalent to ≤ 12.5 g/day of ethanol), heavy drinking (≥ 4

drinks/day, equivalent to ≥ 50 g/day of ethanol) was associated with a 52% increased risk for colorectal cancer.⁷ This is in line with much scientific evidence showing that the risks from drinking compared with non-drinking appear to begin increasing significantly at an intake of around 3 drinks per day for cancers of the oral cavity and pharynx; oesophagus; larynx; breast; liver; colon; and rectum, liver cirrhosis, essential hypertension, chronic pancreatitis, injuries and violence.

Digestive and endocrine systems: Alcohol is not digested like other foods; it avoids the normal digestive process and goes straight into the bloodstream. About 20% of the alcohol consumed is absorbed in the stomach, and about 80% is absorbed in the small intestine. Alcohol increases acid in the stomach, which in alcohol abusers can lead to severe stomach pain or sores in the intestines. One way to help prevent the increase of acid is by eating while drinking, as food slows down the rate at which alcohol is absorbed by the body.⁸

The action of hormone release is complex. They must be released at the right time, to the right tissues in the body. Alcohol can impair both the functions of the glands that release hormones and the tissues to which they are being sent. Drinking heavily can cause a steep rise in blood sugar, to which the pancreas responds by producing insulin to lower the blood sugar. But if it rises too steeply, the resulting overproduction of insulin can actually lead to low blood sugar, a condition called hypoglycemia. This is especially dangerous for diabetics, especially those taking certain drugs to lower their blood sugar.

Alcohol also affects the endocrine system by interfering with how the body absorbs calcium, a chemical needed for strong bones. As a result, people who drink heavily may be at a higher risk for osteoporosis, a disease in which bone density declines. If bones aren't strong, there is a greater possibility of fractures.

Immune system and impaired sensations: From having frequent colds to numbness, heavy or hazardous drinking on a single occasion slows your body's ability to ward off infections, even up to 24 hours after getting drunk. Over time, chronic drinkers are more liable to contract diseases like pneumonia and tuberculosis than those who do not drink above the recommended guidelines.

Men or boys who drink large amounts of alcohol can experience the loss of testosterone, the hormone that regulates male sexual function and semen. As a result, they could experience erectile dysfunction and emotional changes.

Some women find that they are more affected by alcohol while ovulating or when they are premenstrual. This is because it takes alcohol longer to be metabolised, leading to a higher blood alcohol concentration. Women using oral contraceptives may not become intoxicated as quickly as they would otherwise, because of the contraceptive's ability to delay the absorption of alcohol into the bloodstream.

Heavy drinking is already known to be a possible cause of infertility, but a Danish study found that even small amounts of alcohol can affect fertility.⁹ Exposure to alcohol can affect pregnant women too. Fetal Alcohol Syndrome is a term commonly used to describe

the range of effects that can occur in an individual who was exposed to alcohol during pregnancy.

By crossing the placental barrier, alcohol can affect a foetus by stunting its growth or weight, creating distinctive facial stigmata, and damaging the structure of the central nervous system in development. This can result in psychological or behavioural problems at birth, and physical symptoms such as an abnormally small head, defective development of mid facial tissues, minor outer ear abnormalities, abnormally small eyes, and heart and genital defects.

Dependence: The risk of dependence jumps dramatically for men who exceed 7/8 drinks per occasion, for women 5/6 drinks per occasion (aka binge drinking levels).¹⁰ Heavy steady chronic drinking at sufficiently high levels can also lead to the physiological changes that result in alcohol dependence.¹¹

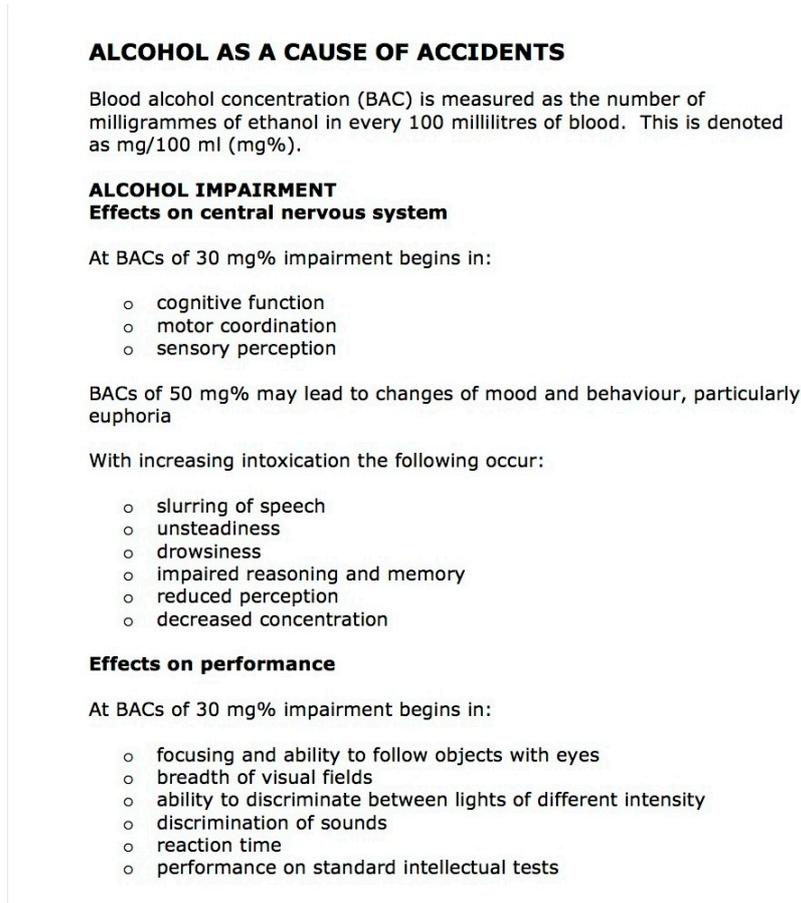
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- 1 Anderson, Peter (2003), 'The Risk of Alcohol', PhD Thesis, Nijmegen University; The Netherlands
 - 2 Marmot, M., Brunner, E (September 1991), 'Alcohol and Cardiovascular Disease: The status of the U-Shaped Curve', British Medical Journal (BMJ), vol 303, pp. 565–8
 - 3 Corrao, G., Rubbiatai, L., Bagnardi, V., et al (2000), 'Alcohol and coronary heart disease', Addiction, 94, pp. 649–663
 - 4 Anderson, 'The Risk of Alcohol'
 - 5 Science NetLinks, '[Alcohol and the Human Body](#)', Circulatory System
 - 6 Science NetLinks, 'Digestive system'
 - 7 Fedirko, V., et al (February 2011)., '[Alcohol drinking and colorectal cancer risk: an overall and dose–response meta-analysis of published studies](#)' Annals of Oncology, vol 22
 - 8 Science NetLinks, 'Digestive system'
 - 9 Jensen, Tina Kold., et al (August 1998)., 'Does moderate alcohol consumption affect fertility?', BMJ, vol 317, pp. 505–510
 - 10 National Institute on Alcohol Abuse and Alcoholism (2002), 'Alcohol consumption and problems in the general population: Findings from the 1992 National Longitudinal Alcohol Epidemiologic Survey'
 - 11 The ICAP Blue Book, '[Module 17: Alcohol dependence and Treatment](#)', p. 17.3

Alcohol, accidents and injuries

Alcohol-related health harm is not just limited to chronic disease or physical illness. The presence of alcohol in the body has also been shown to increase the severity of injuries from accidents.¹

Alcohol has a range of psycho-motor and cognitive effects that increase accident risk on reaction times, cognitive processing, coordination, vigilance, vision and hearing, even at low blood alcohol levels. For these reasons alcohol consumption is normally closely regulated in relation to the operation of transport systems and other safety sensitive environments and activities. The British Medical Association (BMA) Guide to Alcohol & Accidents comprises a list of the symptoms of alcohol consumption at various levels (see Figure 2).

Figure 2: Alcohol as a cause of accidents



Source: British Medical Association Guide to Alcohol & Accidents, published jointly by the British Medical Association (BMA) and the Institute of Alcohol Studies (IAS) (June 1989)

Adverse effects on vision have been found at blood alcohol concentrations of 30mg%, and the psychomotor skills required for driving have been found to show impairment from 40mg% (in the UK the legal blood alcohol limit for drivers is 80mg%). Raised risk of accident can also remain some time after drinking, as skills and faculties do not necessarily return to normal immediately even once all alcohol has left the body.

A 2009 parliamentary paper recognised alcohol as a contributory factor in accidents on the road, at home and in the workplace, as well as being strongly linked with acts of violence and social disorder. A national survey of most of the UK's Emergency Departments found that 70% of night time attendances and 40% of daytime attendances were caused by alcohol.²

Alcohol is the biggest single cause of accidents in the home. Every year, there are around 4,000 fatal domestic accidents, 2.6 million accidents that require treatment in A&E departments and many more accidents not accounted for in the hospital admissions statistics.

Alcohol-related accidents can often have fatal outcomes. In 2008, the London Fire Brigade estimated that almost a third of accidental fire deaths in the capital were alcohol related.³ At a conservative estimate, it is believed that a total of 400 people die in alcohol-related home accidents every year.⁴

Alcohol's ability to increase the risk of danger extends beyond the home. According to Alcoholics Anonymous, a quarter of accidents at work are drink-related.⁵

In a study of airline pilots who had to perform routine tasks in a simulator under 3 alcohol test conditions, it was found that:

- before the ingestion of any alcohol, 10% of them could not perform all the operations correctly;
- after reaching a blood alcohol concentration of 100mg/dl, 89% could not perform all the operations correctly;
- and 14 hours later, after all the alcohol had left their systems, 68% still could not perform all the operations correctly.⁶

(For more information, please refer to the Alcohol in the workplace factsheet from the Alcohol Knowledge Centre)

Alcohol consumption and, in particular, binge-drinking increases the risk of being a victim of violence, usually through decreased physical capacity, compromised decision-making and isolation in unsuitable settings. In England and Wales, it is estimated that alcohol is associated with 15 – 25% of all suicides and 65% of all suicide attempts. In Scotland, 53% of people committing suicide who had contact with mental health services in the 12 months prior to death had a history of alcohol misuse.⁷

It also increases the likelihood of perpetrating violence through reduced inhibition and increased aggression. 1.2 million violent incidents (around half of all violent crimes) and 360,000 incidents of domestic violence (around a third) are linked to alcohol misuse, and an estimated 19,000 alcohol-related sexual assaults occur each year in England and Wales.⁸

1 Fuller, M. G (1995), 'Alcohol use and injury severity in trauma patients', *Journal of Addictive Diseases*, 14, pp. 47–54

2 House of Commons Health Committee (2009), '[Alcohol: First Report](#)'

3 London Fire Brigade (2008), '[Almost a third of accidental fire deaths in London are alcohol related](#)'

4 Drinkaware, '[Alcohol and accidents](#)'; Consumer & Competition Policy Directorate (2002), 'Research on the proportion of home accidents involving product fault or contributory behaviour', p. 28

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- 5 Alcoholics Anonymous Great Britain, '[Interesting Statistics](#)'
 - 6 Modell and Mountz (1990), 'The problem of alcohol use by pilots', New England Journal of Medicine
 - 7 Shepherd, John., Bellis, Mark., Hughes, Karen., Stewart, Lindsey., et al (2005)., '[Alcohol and Violence: Briefing Statement](#)', The UK Faculty of Public Health (FPH), p. 2
 - 8 FPH, p. 2; Prime Minister's Strategy Unit, (March 2004), 'Alcohol Harm Reduction Strategy for England', p. 13

How alcohol mortality and morbidity rates are calculated in the UK

Within the United Kingdom, data on alcohol-related mortality and morbidity are compiled separately by the National Health Service (NHS) statistics departments for England, Wales, Scotland and Northern Ireland. The Office of National Statistics (ONS) holds data on alcohol mortality and morbidity rates for England and Wales, as the Information Services Division (ISD) do for Scotland and the Northern Ireland Statistics and Research Agency (NISRA) for Northern Ireland.

All NHS statistics compiled on alcohol-related causes of death or admissions to hospitals follow the World Health Organisation (WHO)'s International Statistical Classification of Diseases and Related Health Problems. The most recent system of categorisation – the 10th revision – was endorsed by the 43rd World Health Assembly in May 1990 and came into use in WHO Member States from 1994.¹

All rates are also standardised according to the European Age Standardised Rate (EASR). The ISD defines this as follows:

Standardised rates are used to allow comparisons across geographical areas by controlling for differences in the age structure of local populations. Age standardised rates can be compared across areas and time periods. They give the number of events that would occur in a standard population (per 100,000) if that population had the age-specific rates of a given area. The rates are standardised to the European Standard Population (ESP). The age groups used for deriving the standardised rates are as defined in the ESP.²

Alcohol-related deaths may be counted in two different ways. The current UK definition reports on the 'specific' or 'underlying cause' of death; i.e. a) the disease or injury which initiated the train of morbid events leading directly to death; or b) the circumstances of the accident or violence which produced the fatal injury.³

The underlying cause of death is the principal cause usually used in mortality statistics. However, it does not include deaths where an alcohol-related condition was recorded as a contributory factor rather than as the underlying cause; a contributory cause of death is a significant condition that *contributes* to the fatal outcome. A broader definition of an alcohol-related death includes both underlying and contributory causes. Mortality statistics under the title 'any mention' combine these factors.

The ONS definition of alcohol-related deaths only includes those causes regarded as being most directly due to alcohol consumption (e.g. all deaths from chronic liver disease and cirrhosis, excluding biliary cirrhosis), even when alcohol is not specifically mentioned on the death certificate. Apart from deaths due to poisoning with alcohol (accidental, intentional or undetermined), this definition excludes any other external causes of death, such as road traffic and other accidents, as well as diseases where alcohol has been shown to have some causal relationship, such as cancers of the mouth, oesophagus and liver.⁴

Estimates of the number of alcohol-related admissions to hospitals in England are calculated using a method developed by the NWPHO, which takes information on patients' characteristics and diagnoses from the Hospital Episode Statistics (HES) together with estimates for the proportion of cases of a particular disease or injury that are caused by alcohol consumption (known as alcohol-attributable fractions (AAFs)). AAFs were calculated for 47 conditions where a causal relationship with alcohol consumption has been established, of which 13 were by definition directly or wholly attributable to alcohol consumption (AAF = 1) and 34 were partially attributable to alcohol consumption ($0 < \text{AAF} < 1$).⁵

Local Alcohol Profiles England (LAPE) provides the full list of conditions attributable to alcohol-related deaths and illnesses/injuries, along with their AAFs, based on the ICD-10 codes.

Figure 3: List of ICD-10 codes used and attributable fractions for alcohol-attributable/specific hospital admissions and mortality

ICD-10 code	ICD-10 name	Alcohol-attributable fraction*															
		0-15		16-24		25-34		35-44		45-54		55-64		65-74		75+	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
E24.4	Alcohol-induced pseudo-Cushing's syndrome	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
F10	Mental and behavioural disorders due to use of alcohol	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
G31.2	Degeneration of nervous system due to alcohol	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
G62.1	Alcoholic polyneuropathy	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
G72.1	Alcoholic myopathy	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
I42.6	Alcoholic cardiomyopathy	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
K29.2	Alcoholic gastritis	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
K70	Alcoholic liver disease	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
K86.0	Chronic pancreatitis (alcohol induced)	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
T51.0	Ethanol poisoning	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
T51.1	Methanol poisoning	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
T51.9	Toxic effect of alcohol, unspecified	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
X45	Accidental poisoning by and exposure to alcohol	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
C00-C14	Malignant neoplasm of lip, oral cavity and pharynx	0.00	0.00	0.50	0.40	0.50	0.35	0.49	0.36	0.53	0.35	0.50	0.33	0.44	0.26	0.36	0.20
C15	Malignant neoplasm of oesophagus	0.00	0.00	0.32	0.23	0.31	0.20	0.30	0.20	0.34	0.20	0.32	0.18	0.26	0.14	0.20	0.10
C18	Malignant neoplasm of colon	0.00	0.00	0.05	0.03	0.05	0.03	0.04	0.03	0.05	0.03	0.05	0.03	0.04	0.02	0.03	0.01
C20	Malignant neoplasm of rectum	0.00	0.00	0.08	0.06	0.08	0.05	0.08	0.05	0.09	0.05	0.08	0.05	0.07	0.03	0.05	0.03
C22	Malignant neoplasm of liver and intrahepatic bile ducts	0.00	0.00	0.16	0.11	0.15	0.10	0.15	0.10	0.17	0.10	0.16	0.09	0.13	0.07	0.10	0.05
C32	Malignant neoplasm of larynx	0.00	0.00	0.34	0.25	0.33	0.21	0.32	0.22	0.36	0.21	0.34	0.20	0.28	0.15	0.22	0.11
C50	Malignant neoplasm of breast	0.00	0.00	0.00	0.09	0.00	0.08	0.00	0.09	0.00	0.09	0.00	0.08	0.00	0.06	0.00	0.04
G40-G41	Epilepsy and Status epilepticus	0.00	0.00	0.56	0.64	0.58	0.59	0.58	0.61	0.61	0.61	0.61	0.57	0.51	0.45	0.42	0.35
I10-I15	Hypertensive diseases	0.00	0.00	0.34	0.24	0.33	0.19	0.32	0.20	0.37	0.20	0.34	0.18	0.27	0.13	0.20	0.09
I47-I48	Cardiac arrhythmias	0.00	0.00	0.35	0.36	0.36	0.35	0.37	0.35	0.38	0.35	0.37	0.33	0.34	0.27	0.30	0.22
**I50-I51	Heart failure	0.00	0.00	0.004	0.002	0.004	0.002	0.004	0.002	0.004	0.002	0.004	0.002	0.004	0.002	0.004	0.002
I60-I62, I69.0-I69.2	Haemorrhagic stroke	0.00	0.00	0.31	0.20	0.30	0.15	0.27	0.15	0.34	0.15	0.30	0.13	0.24	0.10	0.16	0.06
I63-I66, I69.3-I69.4	Ischaemic stroke	0.00	0.00	0.16	0.03	0.13	0.00	0.08	0.00	0.18	0.00	0.12	0.00	0.06	0.00	0.00	0.00
I85	Oesophageal varices	0.00	0.00	0.77	0.67	0.76	0.59	0.74	0.60	0.79	0.59	0.77	0.57	0.71	0.48	0.61	0.38
K22.6	Gastro-oesophageal laceration-haemorrhage syndrome	0.00	0.00	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
K73-K74	Chronic hepatitis, not elsewhere classified and Fibrosis and cirrhosis of liver	0.00	0.00	0.77	0.67	0.76	0.59	0.74	0.60	0.79	0.59	0.77	0.57	0.71	0.48	0.61	0.38
K85, K86.1	Acute and chronic pancreatitis	0.00	0.00	0.27	0.19	0.27	0.16	0.26	0.16	0.30	0.16	0.27	0.14	0.22	0.10	0.16	0.07
L40 excluding L40.5	Psoriasis	0.00	0.00	0.34	0.33	0.34	0.33	0.35	0.33	0.36	0.32	0.35	0.31	0.33	0.26	0.30	0.22
O03	Spontaneous abortion	0.00	0.00	0.00	0.23	0.00	0.21	0.00	0.22	0.00	0.21	0.00	0.20	0.00	0.15	0.00	0.12
§	Pedestrian traffic accident- hospital admission	0.00	0.00	0.35	0.16	0.45	0.19	0.46	0.21	0.46	0.21	0.23	0.03	0.23	0.03	0.23	0.03
§	Pedestrian traffic accident- death	0.00	0.00	0.69	0.50	0.58	0.22	0.51	0.42	0.51	0.42	0.16	0.06	0.16	0.06	0.16	0.06
§§	Road traffic accident (driver/rider) - hospital admission	0.00	0.00	0.21	0.09	0.33	0.15	0.24	0.12	0.24	0.12	0.09	0.03	0.09	0.03	0.09	0.03
§§	Road traffic accident (driver/rider) - death	0.00	0.00	0.37	0.18	0.37	0.18	0.37	0.18	0.37	0.18	0.09	0.00	0.09	0.00	0.09	0.00
V90-V94	Water transport accidents	0.00	0.00	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
V95-V97	Air/space transport accidents	0.00	0.00	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
W00-W19	Fall injuries	0.00	0.00	0.22	0.14	0.22	0.14	0.22	0.14	0.22	0.14	0.22	0.14	0.12	0.04	0.12	0.04
W24-W31	Work/machine injuries	0.00	0.00	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
W32-W34	Firearm injuries	0.00	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
W65-W74	Drowning	0.00	0.00	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
W78-W79	Inhalation of gastric contents/Inhalation and ingestion of food causing obstruction of the respiratory tract	0.00	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
X00-X09	Fire injuries	0.00	0.00	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
X31	Accidental excessive cold	0.00	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
**X60-X84, Y10-Y34	Intentional self-harm/Event of undetermined intent	0.00	0.00	0.34	0.35	0.34	0.33	0.35	0.34	0.37	0.34	0.36	0.32	0.31	0.25	0.27	0.20
X85-Y09	Assault	0.00	0.00	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27

§ V02-V04 (.1, .9), V06.1, V09.2, V09.3
 §§ V12-V14 (.3 -.9), V19.4-V19.6, V19.9, V20-V28 (.3 -.9), V29-V79 (.4 -.9), V80.3-V80.5, V81.1, V82.1, V82.9, V83.0-V86 (.0 -.3), V87.0-V87.9, V89.2, V89.3, V89.9
 *An alcohol-attributable fraction is the attributable fraction due to alcohol; i.e. 1 = 100%, 0.25 = 25% of cases are attributable to alcohol. ** Admission episodes for alcohol-attributable conditions (previously N139) do not include ICD-10 codes I50-I51 (they become zero when rounded to two decimal places), or Y34. The difference is negligible.

Source: LAPE, 'User Guide'

For each episode of care in hospital, clinicians record the primary diagnosis and up to 19 secondary diagnoses. Where an episode involves more than one alcohol-related

diagnosis, the highest AAF within the record is used as the estimate of the overall alcohol-attributable fraction for that episode. The primary diagnosis is defined in the NHS Data Dictionary as “the main condition treated or investigated during the relevant episode of healthcare, and where there is no definitive diagnosis, the main symptom, abnormal findings or problem”.⁶ All subsequent conditions discovered in the patient during their episode are recorded as secondary.

Clinicians in Wales calculate the number of alcohol-related admissions based on the NWPHO method of AAFs from a set of 14 diagnoses (1 primary plus 13 secondary). Both the Health & Social Care Information Centre (HSCIC) in England and the Public Health Wales Observatory (PHWO) use these methods to produce two separate figures on alcohol-related hospital admissions:

- A broad measure, which is derived by summing the AAF associated with each admission based on the diagnosis most strongly associated with alcohol out of all diagnoses (both primary and secondary)
- A narrow measure, which is constructed in a similar way but counts only the fraction associated with the diagnosis in the primary position

Scottish statistics on alcohol morbidity rates are produced differently, on two counts. Firstly, the registration of alcohol-related hospital episodes is derived from a list of 26 conditions based on the ICD-10 coding system.⁷ Secondly, for each episode of care in hospital, clinicians record the primary diagnosis and up to 5 supplementary diagnoses on discharge, based on recording ICD-10 codes "directly attributable to alcohol".⁸

A further distinction between the English and Scottish counting methods is that the information presented on General Acute and Psychiatric inpatient and day case hospital stays relates to the time of discharge rather than admission. The reason for this is that as “diagnostic information usually becomes available during the course of a hospital stay, the use of discharge data provides a more complete and accurate picture of a patient’s condition(s)”.⁹

NISRA’s calculations of alcohol-related morbidity rates follows the Scottish method.¹⁰

The North West Public Health Observatory (NWPHO) addresses some of the limitations of the methods used to calculate mortality and morbidity rates. For instance, the application of AAFs to hospital admissions requires the assumption that the admission profile for an alcohol-related admission for a partially attributable condition is the same as the admission profile for a non-alcohol-related admission.¹¹

Another concern is that the data analysed only includes hospital admissions and not presentation to accident and emergency departments (unless they resulted in an admission).¹² This suggests that there may be many more casualties resulting from alcohol which never reach the hospital and therefore go unrecorded.

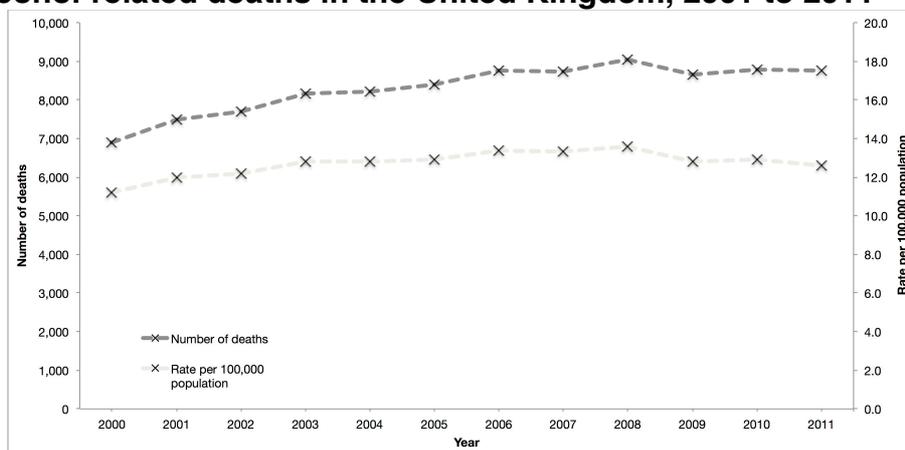
The effect of these discrepancies in the methodology is to underestimate the true impact of alcohol on mortality and morbidity rates. IAS has recommended that the methodology used to record data on alcohol-related hospital admissions be amended in order to produce a more robust estimate of the burden caused by alcohol that is comparable between regions and over time.¹³

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- 1 World Health Organisation (WHO), '[International Classification of Diseases \(ICD\)](#)'
 - 2 Information Services Division (ISD) Scotland (May 2012), '[Alcohol-related Hospital Statistics Scotland 2012, Publication Report](#)', p. 11
 - 3 Health and Social Care Information Centre (HSCIC) (October 2010), '[HOSPITAL EPISODE STATISTICS: Mortality Data Dictionary](#)', p. 5
 - 4 Office for National Statistics (ONS) (January 2012), '[Alcohol-related Deaths in the UK, 2010](#)', p. 15
 - 5 HSCIC (May 2012), '[Statistics on Alcohol: England, 2012](#)', p. 59
 - 6 NHS Data Model and Dictionary Service, '[Primary Diagnosis](#)'
 - 7 ISD Scotland/NHS National Services Scotland (February 2011), '[Alcohol Statistics Scotland 2011](#)', p. 103
 - 8 ISD Scotland/NHS National Services Scotland, pp. 96–7
 - 9 ISD Scotland/NHS National Services Scotland, p. 40
 - 10 HSC Public Health Agency (April 2011), 'Health Intelligence Briefing: Alcohol use and alcohol related harm in Northern Ireland', p. 38
 - 11 Jones L., Bellis M., Dedman D., et al. (June 2008), '[Alcohol-attributable fractions for England: alcohol-attributable mortality and hospital admissions](#)', North West Public Health Observatory (NWPHO), Centre for Public Health Research Directorate, Liverpool John Moores University, Liverpool, p. 8
 - 12 Morleo M., Dedman D., O'Farrell Irene., et al. (May 2010), '[Alcohol-attributable hospital admission: segmentation series report 3](#)', NWPHO, p. 7
 - 13 Institute of Alcohol Studies (August 2012), 'IAS response to NWPHO consultation on the methods used to estimate alcohol-related hospital admissions for England'

Alcohol-related mortality rates

According to current Office for National Statistics (ONS) figures, there were 8,748 alcohol-related deaths in the UK in 2011, 42 fewer than the previous year. Since 2000, the number of alcohol-related deaths in the UK has risen from 6,884 (11.2 deaths per 100,000 persons) to 8,748 (12.6/100,000), peaking at 9,031 (13.6/100,000) in 2008.¹

Figure 4: Alcohol-related deaths in the United Kingdom, 2001 to 2011



Source: ONS (January 2013), [‘Alcohol-related deaths in the United Kingdom, 2011’](#), Reference Tables

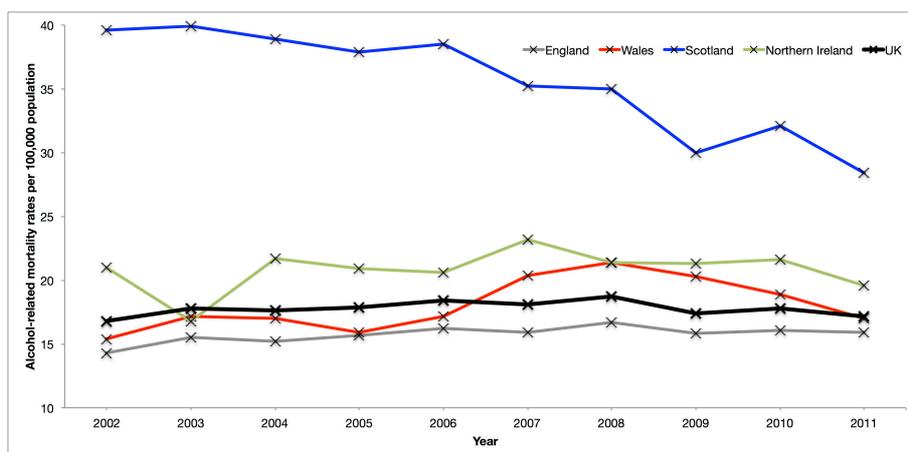
When broken down by country, 10-year trend data reveal huge differences in registered alcohol-related death rates between Scotland and other nations of the United Kingdom (see Figure 5). For males, Scotland’s alcohol-mortality rates have consistently topped the rankings, reaching a high of 39.9 deaths per 100,000 population in 2003, more than twice the UK average.

Alcohol-related mortality rates for men improved between 2002 and 2011 in Scotland (decrease from 39.6 to 28.4/100,000) and in Northern Ireland (21 to 19.6/100,000). But Scotland’s male alcohol-related mortality rate is still significantly above the UK average (17.2/100,000).

Rates worsened – in line with the UK average – in England and Wales over the same period. Both countries’ male alcohol-related mortality rates peaked in 2008 (at 16.7 and 21.4/100,000 respectively). Alcohol-related mortality rates for males in England have been consistently below the UK average throughout the decade, standing higher in 2011 compared with 2002 (15.9 and 14.3/100,000 respectively). Welsh alcohol-related mortality rates for males were higher in 2011 than in 2002 (15.4 and 17/100,000 respectively).

Figure 5: Alcohol-related death rates per 100,000 population, 2002 to 2011

a) Males

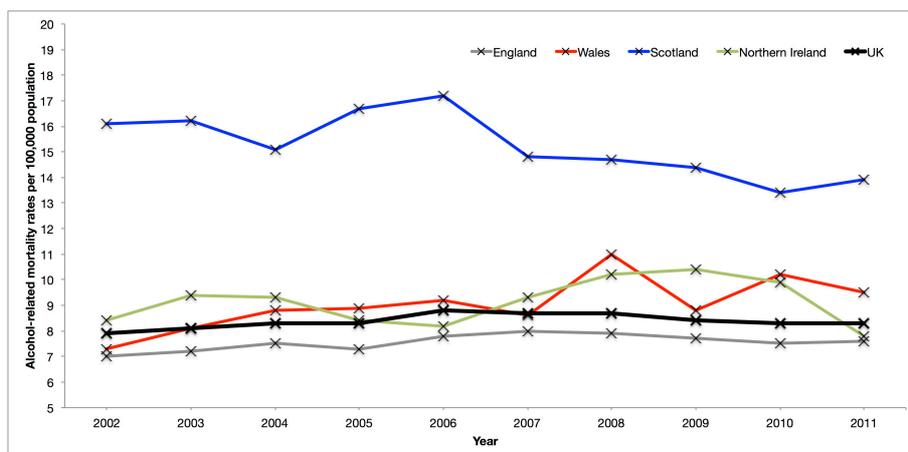


Source: ONS, Northern Ireland Statistics and Research Agency, SCOTTISH RECORD OFFICE (July 2013), 'Age-standardised mortality rates per 100,000 population (with 95 per cent confidence limits) where the underlying cause of death was alcohol-related: by sex, country and region, UK, deaths registered between 2002 and 2011', in [House of Commons Library](#)

Alcohol-related mortality rates for females also show a discrepancy between Scotland and other UK nations. Scotland's alcohol-mortality rates for females peaked at 17.2 deaths per 100,000 population in 2006, more than twice the UK average.

However, unlike all other UK nations, Scotland's female alcohol-related mortality rates were lower in 2011 compared with 2002 (13.9 and 16.1/100,000). Rates are higher for all other UK nations over the same period, in line with the UK average. Welsh rates increased most – from 7.3/100,000 in 2002 to 9.5/100,000 in 2011 – peaking at 11 alcohol-related female deaths per 100,000 population in 2008. England's female alcohol-related mortality rates remained below the UK average for the entire period, higher in 2011 (7.6/100,000) than in 2002 (7/100,000).

b) Females



Source: ONS, Northern Ireland Statistics and Research Agency, SCOTTISH RECORD OFFICE (July 2013), 'Age-standardised mortality rates per 100,000 population (with 95 per cent confidence limits) where the underlying cause of death was alcohol-related: by sex, country and region, UK, deaths registered between 2002 and 2011', in [House of Commons Library](#)

When broken down by age, the most recent figures show that the decrease in alcohol-related mortality in the 12-month period leading up to December 2011 was limited to men, with the total number of male deaths dropping from 5,865 (17.8/100,000) in 2010 to 5,792 (17.2/100,000) in 2011. The highest alcohol-related death rate occurred in males aged 55–74 (44/100,000); the lowest male death rate was in those aged 15–34 (2.3/100,000).²

The number of female deaths showed a small increase between 2010 and 2011 from 2,925 to 2,956; the rate of female alcohol-related deaths remained constant at 8.3 per 100,000 in both years. The alcohol-related death rate was highest in the 55–75 cohort (19.6/100,000); rates were lowest in women aged 15–34 (1.4/100,000).

Figure 6: Alcohol-related deaths in the UK, 2011 (by age and sex)

	Males	Rate per 100,000 population	Females	Rate per 100,000 population
15-34	193	2.3	121	1.4
35-54	2,357	27.2	1,212	13.7
55-74	2,752	44.0	1,279	19.6
75+	490	24.8	344	12.4

Source: ONS, '[Alcohol-related Deaths in the UK, 2011](#)', Reference Tables

Whereas ONS statistics account only for those causes regarded as being most directly due to alcohol consumption, the NWPCHO includes all possible contributing factors to alcohol mortality rates. As a result, alcohol was estimated to be a cause of almost 15,000 deaths in 2005, accounting for 3% of total deaths throughout England.³

England

According to the Health & Social Care Information Centre's (HSCIC) latest Statistics on Alcohol England, there were 6,923 deaths directly related to alcohol in 2011. This represented a 3% increase on the previous year, when there were 6,669 such deaths. The number of male deaths rose from 4,439 in 2010 to 4,518 in 2011. The number of female deaths also rose from 2,230 to 2,405 over the same period.⁴

The Local Alcohol Profiles for England (LAPE) website presents various geographical depictions of data on alcohol-specific and alcohol-attributable mortality rates. The following tables list the regions with the highest and lowest rates:

Figure 7a: Alcohol-Specific Mortality, per 100,000 population (2008-2010), highest and lowest rates

	Males	Females
Highest	Corby (41.71) Blackpool (36.21) Bournemouth (33.32)	Blackpool (16.84) Stoke-on-Trent (14.99) Preston (14.94)
Lowest	Isles of Scilly (0.00) Richmondshire (1.48) Eden (2.82)	City of London, Isles of Scilly, Adur (0.00) Uttlesford (0.70) Babergh (0.99)

Source: [LAPE](#)

Figure 7b: Alcohol-Attributable Mortality, per 100,000 population (2010), highest and lowest rates

	Males	Females
Highest	Hastings (74.12) Blackpool (69.43) Bournemouth (65.01)	Preston (33.67) Knowsley (26.32) Manchester (24.88)
Lowest	Vale of White Horse (14.55) Ashford (16.68) Derbyshire Dales (17.49)	Isles of Scilly (0.98) City of London (2.32) Mole Valley (5.42)

Source: [LAPE](#)

HSCIC figures also show that alcoholic liver disease (code K70) is the most common type of alcohol-related death in England, accounting for 64% (4,441) of all alcohol-related deaths in 2011.⁵ This was also true for both sexes (see Figure 8). Alcohol liver disease accounted for 65% and 62% of male and female alcohol-related deaths respectively. More men died of alcohol-related deaths than women in all categories except chronic hepatitis (where it was not elsewhere specified) (K73).

Figure 8: Alcohol-related deaths in England, by sex, 2011

Alcohol-related deaths^{1,2}, by gender, 2011

ICD 10 code ³	England	Numbers		
		Women	Men	Total
	All persons	2,405	4,518	6,923
F10	Mental and behavioural disorders due to alcohol	127	300	427
I42.6	Alcoholic cardiomyopathy	13	93	106
K70	Alcoholic liver disease	1,498	2,943	4,441
K73	Chronic hepatitis - not elsewhere specified	3	0	3
K74	Fibrosis and cirrhosis of the liver (excluding K74.3-K74.5)	512	872	1,384
K86.0	Alcoholic induced chronic pancreatitis	0	5	5
X45	Accidental poisoning by and exposure to alcohol	103	257	360
	Other causes ⁴	17	28	45

1. Deaths occurring in each calendar year.
2. Data may include non-residents.
3. See Appendix A for further information
4. Some causes linked to alcohol consumption as defined by ONS

Source:
DH2 Mortality Statistics - Cause, No.s 28, 29,

Source: HSCIC, [‘Statistics on Alcohol: England 2013’](#), Tables, Table 4.14

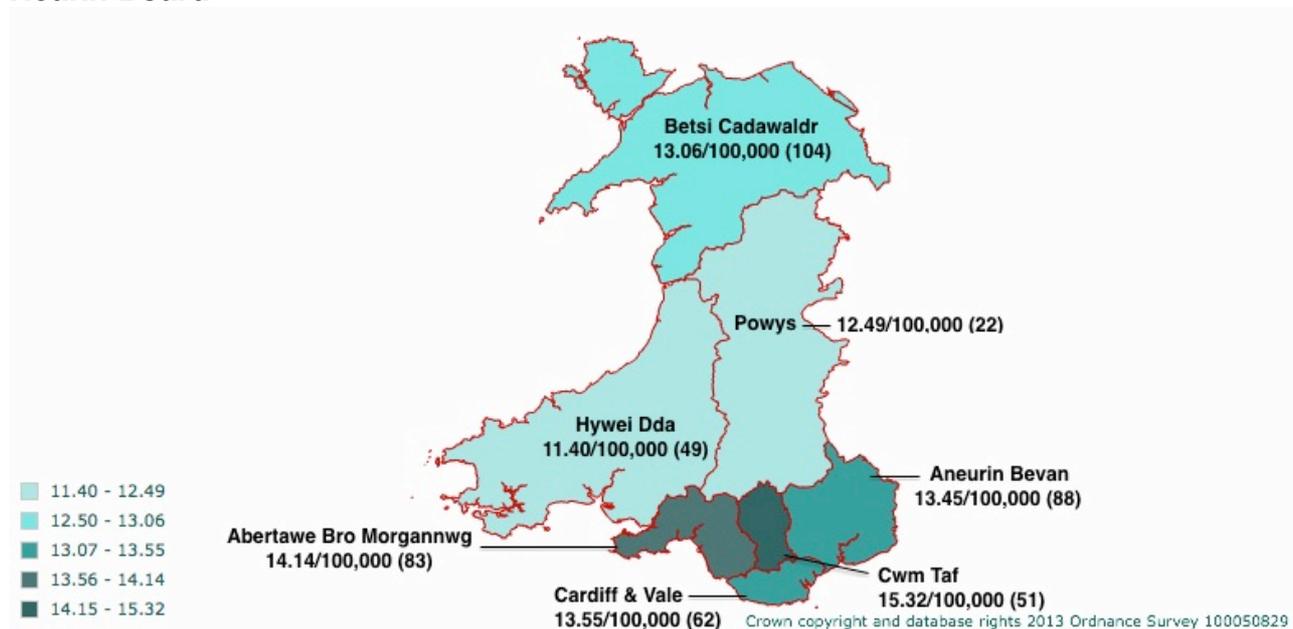
Wales

There were 459 alcohol-related deaths in Wales by ONS standards in 2011, 287 male and 172 female. The mortality rates for males and females were 17 and 9.5 per 100,000, significantly higher than corresponding rates in England (15.9 and 7.6 per 100,000 respectively).⁶

In 2011, the LHB with the highest registered mortality rate was Cwm Taf (15.32 alcohol-related deaths per 100,000 population); Betsi Cadwaldr LHB identified the most number

of cases. The lowest alcohol-related mortality rate was found in Hywei Dda (11.40/100,000), the fewest cases were identified by the Powys LHB (see Figure 9).

Figure 9: Alcohol-related death rates per 100,000 population, Wales, 2011, by Local Health Board



Source: Health Maps Wales, '[Alcohol-related Mortality | Map Report](#)'

Scotland

For Scotland, the latest figures on alcohol-related mortality reveal that there were a total of 1,247 deaths in 2011 by ONS standards, a slight decrease on 1,318 deaths in 2010. Men represented 65% of all mortalities (815); there were 432 alcohol-related female deaths.⁷

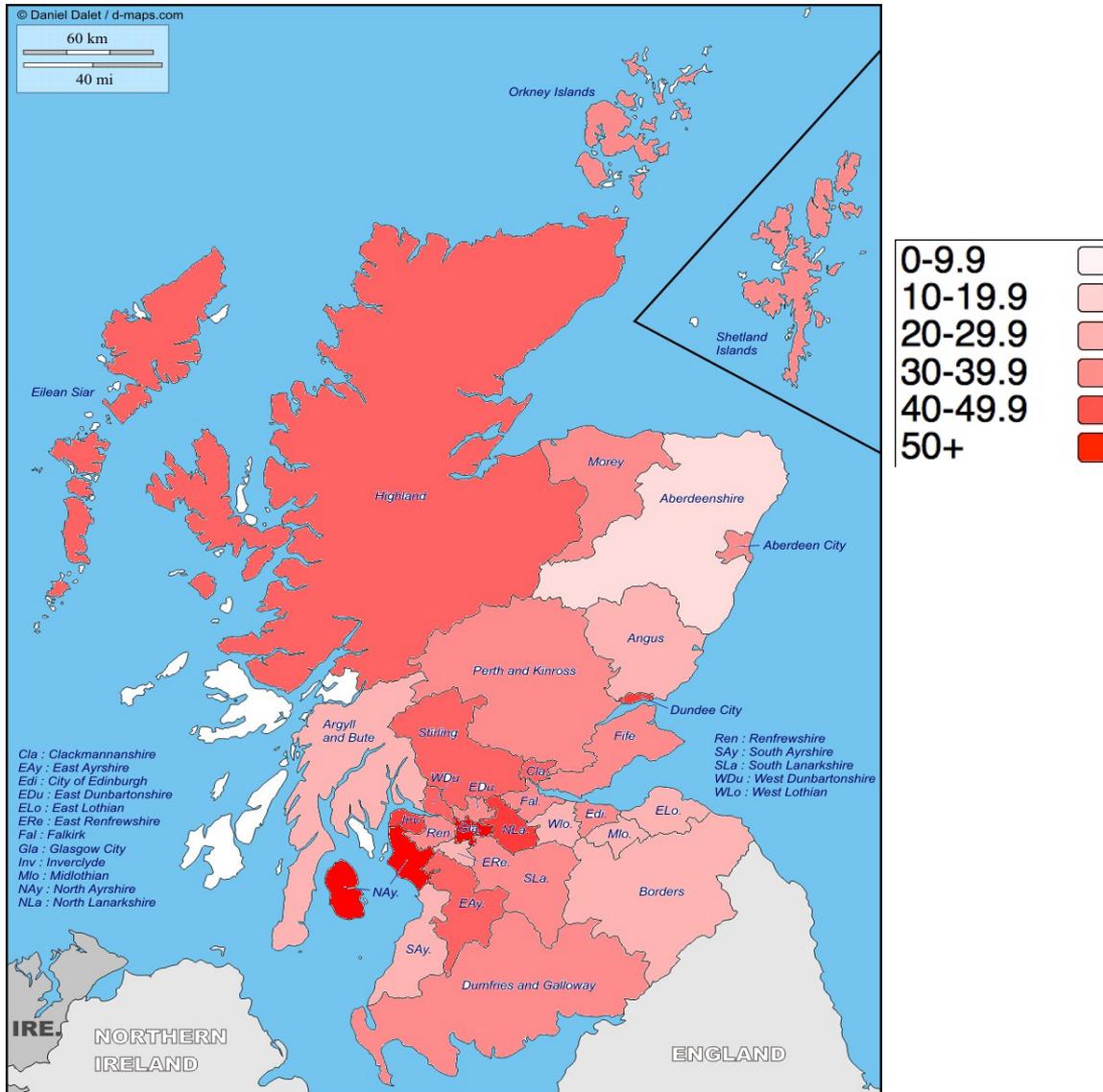
The current dataset is yet to be adjusted per 100,000 of the population; the most recent figures on the proportion of alcohol-related mortalities in Scotland come from the 2011 edition of Alcohol Statistics Scotland report. It states that 53,856 deaths were registered in 2009, of which alcohol was the 'underlying cause' of death in 1,282 (or 2.4%) of all cases.

More men than women died of alcohol-related conditions, with men accounting for 65% of deaths where alcohol was the 'underlying cause' (men: 837 deaths, women: 445 deaths). The alcohol-related mortality rate for males was more than twice that for females (30.0 per 100,000 population compared to 14.4 per 100,000 population respectively).

Alcohol deaths by any mention – which includes deaths where an alcohol-related condition is coded as a 'contributory cause' – accounted for 4% of all deaths (2,151) in Scotland in 2009. The geographical variation in rates is illustrated in Figure 10.

Figure 10: Scotland, alcohol-related death rates per 100,000 population (as an underlying cause) (2009)

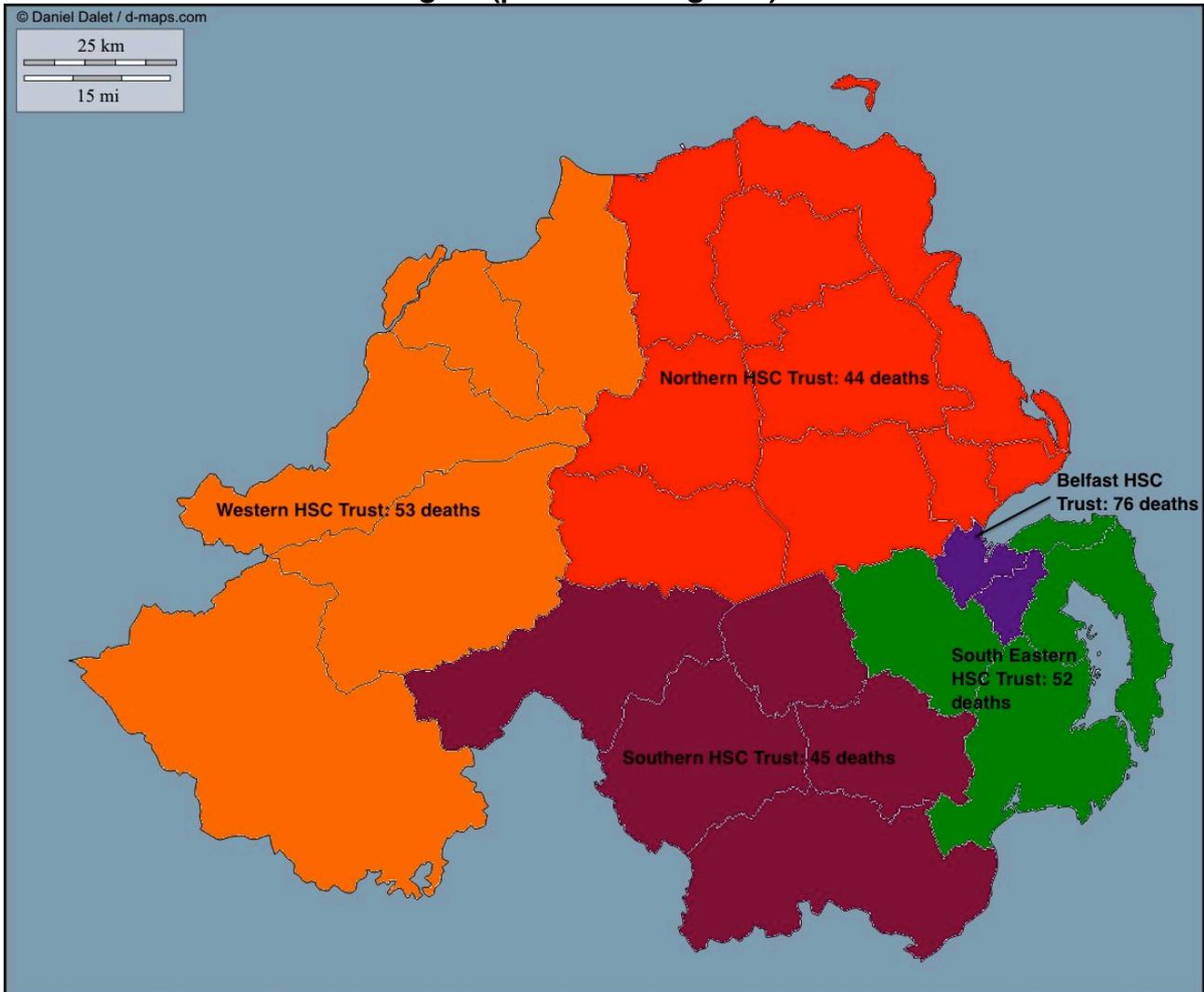
a) Males



Northern Ireland

Northern Ireland provisional records show that the highest number of alcohol-related deaths in 2012 occurred in the Belfast Health & Social Care Trust region (76). The lowest number of deaths occurred in the Northern HSC Trust region (44).

Figure 11: Alcohol Related Deaths Registered in Northern Ireland, 2002 to 2012, by Health & Social Care Trust region (provisional figures)



Source: NISRA, '[Alcohol and Drug Deaths](#)'

Figure 12 shows that there were a total of 270 alcohol-related deaths in 2012, an increase of 18 on the previous year (252). There were almost twice as many male alcohol-related deaths (178) as there were female ones (92). Between 2002 and 2012, nearly 3,000 alcohol-related people have died from alcohol-related causes in Northern Ireland. The male/female ratio of alcohol-related deaths is roughly 2:1 (see Figure 12).

Figure 12: Number of alcohol related deaths by underlying cause of death and registration year, 2012 (provisional figures)

Registration Year	All	Sex	
	Persons	Male	Female
2002	238	165	73
2003	214	132	82
2004	255	174	81
2005	246	171	75
2006	248	173	75
2007	283	199	84
2008	276	185	91
2009	283	187	96
2010	284	191	93
2011	252	177	75
2012 ^p	270	178	92
Total (2002-2012) ^a	2,849	1,932	917

Source: Source: NISRA, 'Alcohol and Drug Deaths'

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- 1 Office for National Statistics (ONS) (January 2013), '[Alcohol-related deaths in the United Kingdom, 2011](#)', p. 1
 - 2 ONS (plus General Register Office for Scotland, Northern Ireland Statistics and Research Agency), '[Alcohol-related deaths in the United Kingdom, 2011](#)', Tables
 - 3 Jones L., Bellis M., Dedman D., et al. (June 2008), '[Alcohol-attributable fractions for England: alcohol-attributable mortality and hospital admissions](#)', North West Public Health Observatory (NWPHO), Centre for Public Health Research Directorate, Liverpool John Moores University, Liverpool; Smith, Rebecca (August 2008), '[Fifteen thousand people die from alcohol-related diseases every year](#)', The Telegraph
 - 4 Health & Social Care Information Centre (HSCIC) (May 2013), '[Statistics on Alcohol: England, 2013](#)', Tables, p. 53
 - 5 HSCIC, 'Statistics on Alcohol: England, 2013', Tables
 - 6 ONS, Tables
 - 7 General Register Office for Scotland (August 2012), '[Alcohol-related deaths in Scotland, 1979 to 2011](#)', Table 1

Alcohol-related morbidity rates

UK statistics on morbidity are collected separately by the health agencies of each country and are calculated according to different sets of criteria (**see previous sections of factsheet for more information**). LAPE has figures on alcohol-related hospital admissions throughout England, categorised by a broad and a narrow measure of morbidity.

England

In 2011/12, there were an estimated 1,220,300 alcohol-related hospital admissions in England by the broad measure (2,298 per 100,000 population), up 4% on the 2010/11 total of 1,168,300 (1,974/100,000 population) and more than twice as many as in 2002/03 (510,700 admissions; see Figure 13).¹ Rates were highest in the North East (3,156) and lowest in the South Central (1,764) Strategic Health Authorities (SHA).

The most recent estimates of AAFs for alcohol-related morbidity show that of the 1,220,300 alcohol-related hospital admissions recorded (broad measure), roughly 304,200 were wholly attributable to the consumption of alcohol. In 2011/12, there were 200,900 hospital admissions with a primary diagnosis of a disease attributable to alcohol (narrow measure), of which 70,300 were wholly attributable.²

Figure 13: Number of alcohol-related hospital admissions, England, 2002/03 to 2011/12

England	Approx. number of admissions, by financial year									
	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Alcohol-related NHS hospital admissions based on primary and secondary diagnoses	510,700	570,100	644,700	736,000	802,000	863,500	945,400	1,056,900	1,168,300	1,220,300
NHS hospital admissions with a primary diagnosis wholly or partly attributable to alcohol	142,000	151,000	160,500	173,900	179,900	181,300	185,800	194,800	198,900	200,900

Source: HSCIC (May 2013), '[Statistics on Alcohol: England, 2013](#)', Tables

The North West Public Health Observatory's (NWPHO) calculations of the admissions numbers focuses on people rather than admissions. It estimated that in 2005, 459,842 people were admitted to hospital as a result of their alcohol consumption. As with alcohol-related mortality, the NWPHO has stated that due to the limitations of the current evidence and likely underestimation of population levels of alcohol consumption, the figure was a conservative estimate of the harm attributable to alcohol consumption.³

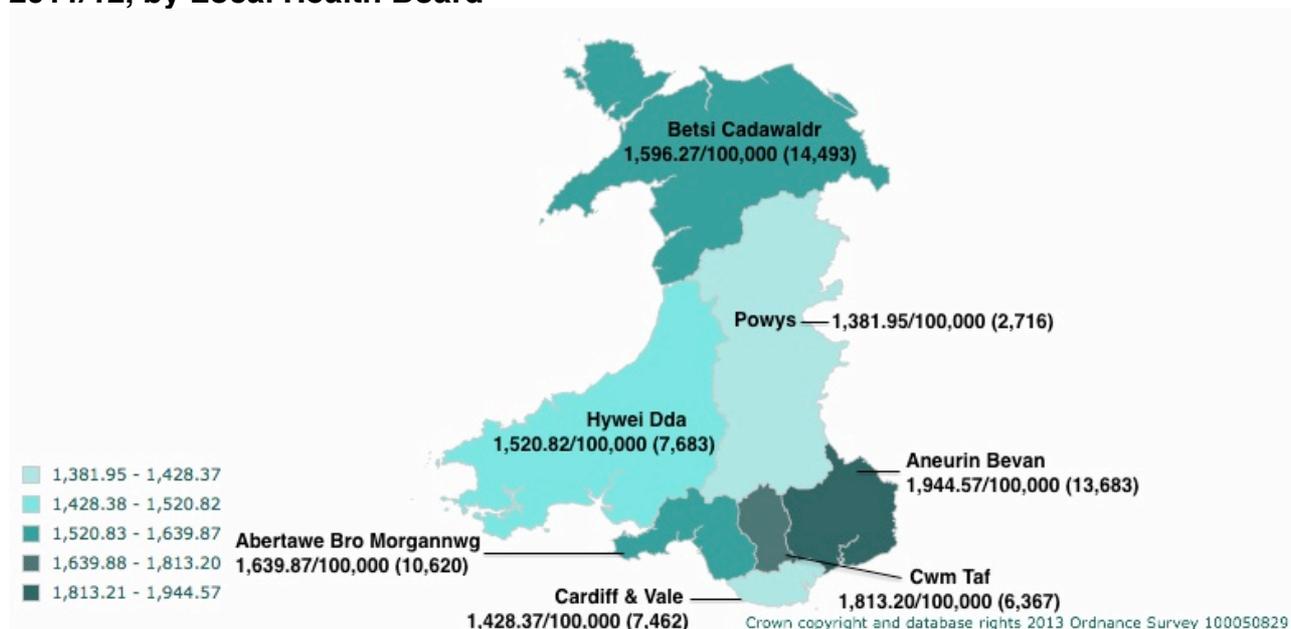
Wales

According to Health Maps Wales data, there were 63,235 (1,643 per 100,000 population) alcohol-related admissions to Welsh hospitals in 2011/12 by broad measure, marking a slight increase on the previous year's figure of 62,734 admissions (1,643/100,000), and an increase of 52% over the previous decade (see Figure 15). From the 63,024 alcohol-

related hospital admissions recorded in 2011/12, 24% (15,356) were specifically attributable to the consumption of alcohol.⁴

Figure 14 shows that admission rates were highest in Aneurin Bevan LHB (1,944/100,000 population) and lowest in neighbouring Powys LHB (1,381/100,000). Powys also registered the fewest alcohol-related admissions during the 12-month period (2,716); at 14,493, Betsi Cadwaldr LHB had the most.

Figure 14: Alcohol-attributable admissions rates per 100,000 population, Wales, 2011/12, by Local Health Board



Source: Health Maps Wales, [‘Hospital Admissions due to Alcohol-specific and attributable conditions | Map Report’](#)

Figure 15: Number of alcohol-related hospital admissions, Wales, 2002/03 to 2011/12

Wales	Approx. number of admissions, by financial year									
	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Alcohol-related NHS hospital admissions based on primary and secondary diagnoses	41,479	44,788	46,669	53,116	56,357	55,498	59,274	58,555	62,734	63,235
NHS hospital admissions with a primary diagnosis wholly or partly attributable to alcohol	11,556	12,078	12,315	13,765	14,925	14,599	14,942	14,696	15,398	15,461

Source: Health Maps Wales, [‘Hospital Admissions due to Alcohol-specific and attributable conditions’](#)

Scotland

The Information Services Division (ISD) in Scotland bases its morbidity figures by hospital records of discharges rather than admissions. These discrepancies in recording methods prevent a straightforward comparison between Scotland's figures and those from its NHS England and Wales counterparts. The ISD also make a distinction between general acute and psychiatric discharges.

Annual provisional estimates of alcohol-related discharges from general acute hospitals show a 1% decrease in 2011/12 (38,724; 689 per 100,000 EASR) on the previous year (38,920; 697 per 100,000 EASR). The 38,724 discharges in 2011/12 involved 25,989 patients.

Greater Glasgow & Clyde NHS area had the highest number of alcohol-related discharges in Scotland in 2011/12 (12,642); its discharge rate per 100,000 population (1,012) was second only to the Orkney Islands (1,404). The number of alcohol-related discharges was lowest in Shetland; the rate was lowest in Forth Valley.⁵

Figure 16: Number and rate of alcohol-related discharges from general acute hospitals in Scotland, 2007/08 – 2011/12

General acute inpatient and day case discharges	Five-Year Period				
	2007/08 ^r	2008/09 ^r	2009/10 ^r	2010/11 ^r	2011/12 ^p
Number ⁵	43 032	41 974	39 335	38 920	38 724
EASR	788	763	710	697	689
5. Diagnosis on discharge can be recorded in up to six positions. r Revised. p Provisional.					

Source: ISD Scotland (May 2013), '[Alcohol-related Hospital Statistics Scotland 2011/12](#)', Tables

In 2010/11, there were 3,451 alcohol-related discharges from psychiatric hospitals in Scotland, a rate of 64 discharges per 100,000 population. Alcohol dependence was recorded in 68% (2,362) of all alcohol-related discharges from psychiatric hospitals, a rate of 45 discharges per 100,000 population.

Figure 17: Number and rate of alcohol-related discharges from psychiatric hospitals in Scotland, 2006/07 – 2010/11

Psychiatric inpatient discharges	Five-Year Period				
	2006/07 ^r	2007/08 ^r	2008/09 ^r	2009/10 ^r	2010/11 ^p
Number ⁵	4 070	3 895	4 235	4 087	3 451
EASR	77	74	80	77	64
5. Diagnosis on discharge can be recorded in up to six positions. r Revised. p Provisional.					

Source: ISD Scotland, '[Alcohol-related Hospital Statistics Scotland 2011/12](#)', Tables

Northern Ireland

The most recent figures produced by Public Health Agency Northern Ireland show that there were 11,543 alcohol-related admissions to hospitals 2009/10, of which 3,475 were coded by primary diagnosis. Admissions with any alcohol-related diagnosis (broad measure) increased by 61% between 1999/2000 and 2009/10, while those with a primary diagnosis (narrow measure) increased by 54% over the same period.

Figure 18: Admissions to HSC Hospitals with an alcohol related diagnosis, Northern Ireland, from 1999/2000 to 2009/2010

	Primary alcohol related diagnosis			Any alcohol related diagnosis		
	Male	Female	All	Male	Female	All
1999/00	1697	566	2263	5198	1969	7167
2000/01	1844	675	2519	6208	2424	8632
2001/02	1990	741	2731	6689	2713	9402
2002/03	2015	733	2748	6612	2749	9361
2003/04	1933	745	2678	6738	2655	9393
2004/05	2199	821	3020	7207	2973	10180
2005/06	2234	770	3004	7031	2921	9952
2006/07	2013	777	2790	7009	2817	9826
2007/08	2508	836	3344	8207	3174	11381
2008/09	2448	868	3316	8270	3257	11527
2009/10	2523	952	3475	8235	3308	11543

Source: Health Intelligence in the Public Health Agency Northern Ireland, 'Health Intelligence Briefing: Alcohol use and alcohol related harm in Northern Ireland – April 2011', p.21, Figure 25

Between 1999/2000 and 2009/10 the number of alcohol-related admissions on both counts increased at a greater rate for females than for males. However, the male rate of admissions by primary diagnosis remained almost 2.5 times greater (250 per 100,000 population) than for females (105/100,000) at the last count.

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- 1 Health and Social Care Information Centre (May 2013), '[Statistics on Alcohol: England, 2013](#)', pp. 47
 - 2 HSCIC, 'Statistics on Alcohol: England, 2013', pp. 47–49
 - 3 Jones L., Bellis M., Dedman D., et al. (June 2008), 'Alcohol-attributable fractions for England: alcohol-attributable mortality and hospital admissions', North West Public Health Observatory (NWPHO), Centre for Public Health Research Directorate, Liverpool John Moores University, Liverpool, pp. 33–34
 - 4 Health Maps Wales (February 2013), '[Hospital Admissions due to Alcohol-specific and attributable conditions | Map Report](#)'
 - 5 ISD Scotland/NHS National Services Scotland, 'Alcohol-related Hospital Statistics Scotland 2011/12', [Drugs & Alcohol Misuse Publications](#)