



Alcohol and Health

Produced by
Institute of
Alcohol Studies
1 The Quay
St Ives
Cambs PE27 5AR

Tel: 01480 466766
Fax: 01480 497583
Email: info@ias.org.uk
<http://www.ias.org.uk>

In 1990, the World Health Organisation estimated that globally alcohol accounted for 3.5 per cent of the total of days lost to death and disability.¹ This exceeded the cost to life and longevity caused by smoking.

The explanation of this finding is that in addition to chronic diseases that affect drinkers after many years of heavy use, alcohol also contributes to traumatic outcomes that kill or disable disproportionately high numbers of young people, resulting in many years of disability-free life being lost.

In terms of mortality, even if allowance is made for alcohol's supposed protective effect in regard to coronary heart disease, globally in 1990, alcohol still caused over 3/4 million more deaths than it prevented.

The burden of alcohol-related disease is highest in the developed countries, particularly Europe, the continent with the highest levels of alcohol consumption.

Within WHO European Region, alcohol products are responsible for around 9 per cent of the total disease burden. As well as deaths from chronic diseases such as alcohol-related liver disease and cirrhosis, between 40% and 60% of all deaths from intentional and unintentional injury are alcohol-related.

Medical Problems Related to Alcohol²

Nervous System

Acute intoxication	black-outs'
Persistent brain damage:	Wernicke's encephalopathy Korsakoff's syndrome cerebellar degeneration dementia
Cerebrovascular disease:	strokes, especially in young people subarachnoid haemorrhage subdural haematoma after head injury
Withdrawal symptoms:	tremor, hallucinations, fits
Nerve and muscle damage:	weakness, paralysis, burning sensation in hands and feet

Liver

Infiltration of liver with fat
Alcoholic hepatitis
Cirrhosis and eventual liver failure
Liver cancer

Gastrointestinal System

Reflux of acid into the oesophagus
Tearing and occasionally rupture of the oesophagus
Cancer of the oesophagus
Gastritis
Aggravation and impaired healing of peptic ulcers
Diarrhoea and impaired absorption of food
Chronic inflammation of the pancreas leading in some to diabetes and malabsorption of food.

Nutrition

Malnutrition from reduced intake of food, toxic effects of alcohol on intestine, and impaired metabolism, leading to weight loss
Obesity, particularly in early stages of heavy drinking.

Heart and Circulatory System

Abnormal rhythms
High blood pressure
Chronic heart muscle damage leading to heart failure

Respiratory System

Fractured rib
Pneumonia from inhalation of vomit
Overproduction of cortisol leading to obesity, acne, increased facial hair, and high blood pressure
Condition mimicking over-activity of the thyroid with loss of weight, anxiety, palpitations, sweating, and tremor
Severe fall in blood sugar, sometimes leading to coma
Intense facial flushing in many diabetics taking the anti-diabetic drug chlorpropamide.

Reproductive System

In men, loss of libido, reduced potency, shrinkage in size of testes and penis, reduced or absent sperm formation and so infertility, and loss of sexual hair
In women, sexual difficulties, menstrual irregularities, and shrinkage of breasts and external genitalia

Occupation and Accidents

Impaired work performance and decision making
Increased risk and severity of accidents

The Foetus, the child and the Family

Damage to the fetus and the fetal alcohol syndrome

Acute intoxication in young children produces hypothermia, low blood sugar levels, depressed respiration.

Effect on physical development and behaviour of child through heavy drinking by parents

Interaction of alcohol with medicinal substances

Increased likelihood of unwanted effects of drugs

Reduced effectiveness of medicines.

Impact of Alcohol on the NHS

In 2000, a report by the Royal College of Physicians stated that alcohol is a major cause of attendance and admission to general hospitals in both the A & E/Trauma and non-emergency setting.

The report estimated that alcohol accounts for up to 12 per cent of the total expenditure on hospitals, equivalent to around £3 billion every year.³

- Overall probably around 1 in 16 of all hospital admissions are for alcohol-related causes.
- One in six people attending accident and emergency departments have alcohol-related injuries or problems rising to 8 out of 10 at peak times.
- In addition, 1 in 5 patients admitted to hospital for other reasons are drinking at hazardous levels.
- In 1993 Dr. J. Chick reported that in urban hospitals in Britain 15-30% of male medical and surgical patients and 8-15% of women patients have alcohol problems.⁴
- Between 1995-7, Marshal et al conducted a prevalence study of current substance misuse amongst acute general medical admissions in a London hospital. 20 per cent of admissions were identified as substance misusers; the majority (72 per cent) of the identified patients having an alcohol problem. 19 per cent were currently using illegal drugs and 9 per cent were poly drug users.⁵

NHS Admissions for Selected Alcohol Related Diagnoses

England 1998/99

Admissions

Diagnosis (ICD 10) (6)		All persons (1)	Males	Females
Primary diagnosis				
F10	Mental and behavioural disorders due to alcohol	28,700	19,600	8,800
F10.0	Acute intoxication	8,200	5,200	2,900
F10.1	Harmful use	2,600	1,700	900
F10.2	Dependence syndrome	11,500	7,900	3,500
F10.3	Withdrawal state	3,900	3,000	900
F10.4	Withdrawal state with delirium	900	700	200
F10.5	Psychotic disorder	500	400	100
F10.6	Amnesic syndrome	200	200	100
F10.7	Residual and late-onset psychotic disorder	200	100	100
F10.8	Other mental and behavioural disorders	100	0	0
F10.9	Unspecified mental and behavioural disorders	600	400	200
K70				
T51	Alcoholic liver disease	9,000	6,000	3,000
	Toxic effect of alcohol	1,900	1,100	800
Primary and secondary diagnosis				
F10(3)	Mental and behavioural disorders due to alcohol	78,900	56,800	21,700
F10.0	Acute intoxication	24,100	17,500	6,500
F10.1	Harmful use	14,000	9,800	4,200
F10.2	Dependence syndrome	31,900	22,900	8,900
F10.3	Withdrawal state	6,500	5,000	1,500
F10.4	Withdrawal state with delirium	1,400	1,100	300
F10.5	Psychotic disorder	700	500	200
F10.6	Amnesic syndrome	500	400	100
F10.7	Residual and late-onset psychotic disorder	400	300	100
F10.8	Other mental and behavioural disorders	100	100	0
F10.9	Unspecified mental and behavioural disorders	1,200	700	400
K70				
T51	Alcoholic liver disease	19,200	13,100	6,100
	Toxic effect of alcohol	16,600	8,700	7,900

Notes:

- 1 "All persons" includes those whose sex was indeterminate or not known.
- 2 The data include private patients in NHS hospitals (but not private patients in private hospitals).
- 3 Patients admitted with a primary diagnosis of one of the alcohol related diseases shown, are included both at "primary diagnosis" and "primary and secondary diagnosis". Patients admitted with a primary diagnosis not related to alcohol (eg an injury), but who have an alcohol related secondary diagnosis are included at "primary and secondary diagnosis" only.
- 4 The "Primary and Secondary diagnosis" summary data for ICD code F10, are less than the sum of the data for the subdivisions of F10 because a patient may be admitted with more than one diagnosis within the subdivisions of F10
- 5 Data in this table are grossed for both coverage and unknown/invalid clinical data. They have been rounded to the nearest one hundred admissions.
- 6 ICD10 = International Classification of Diseases, 10th Revision: see Annex B for further information.

Source: Department of Health, Hospital Episode Statistics⁶

Mortality from Alcohol

The number of deaths directly from alcohol-related conditions is rising in both men and women. The increase is especially marked in younger age groups.

Deaths from selected causes linked to alcohol consumption, by gender

England and Wales, 1988 to 1999

Numbers

Year	Alcoholic psychoses	Alcohol dependence syndrome	Non-dependent abuse of alcohol	Alcoholic cardiomyopathy	Chronic liver disease and cirrhosis	Toxic effect of alcohol
ICD 9 code (1)	291	303	305.0	425.5	571 (3)	980
Persons						
1988	11	144	141	79	2,801	108
1989	10	148	124	104	3,023	120
1990	18	143	111	115	3,063	153
1991	19	146	118	100	3,102	152
1992	17	125	134	107	3,056	126
1993	15	187	138	93	2,979	138
1994	9	230	139	108	3,244	123
1995	16	235	130	112	3,612	130
1996	14	250	144	140	3,789	152
1997	18	326	150	132	4,107	174
1998	28	322	164	145	4,494	143
1999	22	325	158	137	4,718	148
Men						
1988	9	96	101	59	1,494	77
1989	5	96	81	77	1,614	81
1990	13	98	74	100	1,680	101
1991	15	95	88	79	1,747	101
1992	12	79	103	89	1,753	90
1993	10	130	97	78	1,701	92
1994	9	164	101	81	1,900	85
1995	12	162	92	90	2,148	91
1996	10	172	100	116	2,261	102
1997	15	220	107	114	2,463	127
1998	19	206	116	116	2,771	99
1999	13	220	109	109	2,904	99
Women						
1988	2	48	40	20	1,307	31
1989	5	52	43	27	1,409	39
1990	5	45	37	15	1,383	52
1991	4	51	30	21	1,355	51
1992	5	46	31	18	1,303	36
1993	5	57	41	15	1,278	46
1994	0	66	38	27	1,344	38
1995	4	73	38	22	1,464	39
1996	4	78	44	24	1,528	50
1997	3	106	43	18	1,644	47
1998	9	116	48	29	1,723	44
1999	9	105	49	28	1,814	49

Note:

1. ICD – International Classification of Diseases, 9th revision.
2. The data up to 1992 are based on the year the death was registered. From 1993 onwards, these data are based on the year of occurrence.
3. Some of the deaths recorded under ICD 9 571 may not be attributable to alcohol.

Source: ONS DH2 Mortality Statistics – Cause, 1988 – 1999⁷

In addition to these alcohol-defined conditions there are also other non-alcohol specific causes of death (for example, for some forms of cancer and stroke) to which alcohol contributes. Some examples are given below

Health

Estimates of proportion of death attributable to alcohol from various conditions⁸

Condition	% Attributable to alcohol
Cancer of oesophagus	14 – 75%
Cancer of liver	15 – 29%
Cancer of female breast	3 – 4%
Hypertension	5 – 11%
Chronic pancreatitis	60 – 84%
Acute pancreatitis	24 – 42%
Falls	23 – 35%
Drownings	30 – 38%
Fire injuries	38 – 45%
Suicide	27 – 41%
Assault	27 – 47%

The question of how many deaths in total are attributable to alcohol is a matter of controversy and cannot be answered definitively. Estimates for England and Wales range from 5,000 to 40,000 per annum.

References:

1. C. Murray & A Lopez (eds) *The Global Burden of Disease*
Harvard School of Public Health – Behalf of WHO Geneva 1996
2. Royal College of Physicians: *A Great and Growing Evil - The Medical Consequences of Alcohol Abuse*. 1987)
3. *Alcohol – Can the NHS Afford It?* Royal College of Physicians 2000
4. Dr J Chick. *British Medical Journal* 27 November 1993
5. Marshal et al *Q.J. Med* 1999; 92: 319-326
6. Department of Health, *Hospital Episode Statistics (HES)*. SD2HES, Room 430B, Department of Health, 80 London Road, London SE1 6LH.
7. Office for National Statistics. *Mortality statistics: cause: review of the Registrar General on deaths by cause, sex and age, in England and Wales 1999*. London: The Stationery Office. 2000 (DH2: no. 26)
8. T.K. Greenfield: *Individual Risk of Alcohol-Related Disease and Problems*, in N. Heather, T.J. Peters & T Stockwell (eds) *International Handbook Alcohol Dependence and Problems*. Wiley 2001.

Institute of Alcohol Studies

14th December 2001