



# Alcohol and Health

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In developed countries alcohol is one of the ten leading causes of disease and injury. Worldwide, alcohol causes 3.27 per cent of deaths (1.8 million) and 4 per cent of 'disability adjusted life years' lost (DALYS) (58.3 million). In developed countries, alcohol is responsible for 9.2 per cent of the disease burden.

## **Alcohol causes nearly 10 percent of all ill-health and premature deaths in Europe**

The World Health Organization's Global Burden of Disease Study finds that alcohol is the third most important risk factor, after smoking and raised blood pressure, for European ill-health and premature death.<sup>1</sup> Alcohol is more important than high cholesterol levels and overweight, three times more important than diabetes and five times more important than asthma.

This level of alcohol-related death, disease and disability is much higher in men than women and is highest in Europe and the Americas, where it ranges from 8%-18% for males and 2%-4% for females.

Beside the direct effects of intoxication and addiction, worldwide alcohol is estimated to cause 20-30% of cancer of the oesophagus, liver cancer, cirrhosis of the liver, epilepsy, homicide and motor vehicle accidents.

## **The more a country drinks, the greater the harm from alcohol**

The European Comparative Alcohol Study, financed by the European Commission, finds that as a country's alcohol consumption goes up and down, the harm done by alcohol goes up and down in parallel.<sup>2</sup> This applies to all European countries. Further, the higher the alcohol consumption of a country, the greater the harm from alcohol<sup>3</sup>. In Britain, deaths from liver cirrhosis (largely caused by alcohol) increased steeply between 1987 and 2001. Cirrhosis deaths in Scotland more than doubled, and are now among the highest in Western Europe. In England and Wales, cirrhosis deaths rose by two thirds. Deaths in women increased by almost half during this period. These increases were the steepest in Western Europe, and reflect the fact that alcohol consumption was rising significantly in Britain during this period while it was falling in the mainly wine drinking countries of southern Europe.<sup>4</sup>

## **The more an individual drinks, the greater the risk of harm**

For all types of alcohol-related harm, including cancers, cardiovascular diseases and cirrhosis of the liver, the more an individual drinks, the greater the risk of harm<sup>5</sup>. The annual risk of death from alcohol related cancers (mouth, gullet, throat and liver) increases from 14 per 100,000 for non-drinking middle-aged men to 50 per 100,000 at 4 or more drinks (4 glasses of wine) a day. The risk of breast cancer by age 80 years increases from 88 per 1000 non-drinking women to 133 per 1000 at 6 drinks (a bottle of wine) a day. Risk of drinking compared with non-drinking appears 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

Risks begin to rise with any drinking and increase further with increased intake.<sup>6</sup>

## **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**

One drink every second day gives almost all the protection that alcohol has on reducing the risk of a heart attack<sup>7</sup>. Above two drinks a day the risk of death from heart disease goes up, with the more alcohol drunk, the greater the risk.

## **Whether consumed as wine, beer and spirits, it is alcohol 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.<sup>5</sup> The biochemical changes that might reduce the risk of heart disease result equally from beer, wine or spirits; they do not result from grape juice or wine from which the alcohol has been removed.<sup>8</sup>

In the UK, deaths from alcohol are increasing. For example, there were over 4000 deaths from liver cirrhosis (the main cause of which in the UK is alcohol) in 1999. Two thirds of the deaths occurred in under 65s. Over the last 30 years, deaths from this cause have increased 7-fold in men, 8-fold in women. Cirrhosis now kills more men than Parkinson's Disease, more women than cancer of the cervix.<sup>9</sup>

## **Patterns of Drinking are Important**

In relation to both ill-health caused by alcohol and to its health benefits, the pattern of drinking may be as important as the total amount consumed.<sup>10</sup> Binge drinking is a particularly dangerous form of consumption. For example, risks for alcohol dependence jump dramatically for men who exceed 7/8 drinks per occasion, for women 5/6 drinks per occasion.<sup>11</sup> Similarly, it is the drinking pattern rather than the average number of drinks per week that is likely to be the most significant factor affecting adverse outcomes in pregnancy, with a binge drinking pattern being the most dangerous.<sup>10</sup> Also in regard to health benefits, the protective effect of alcohol in relation to cardiovascular disease is more a function of the frequency of drinking than amount consumed: small amounts consumed several times a week are more beneficial than the same amount consumed over fewer occasions.<sup>12</sup>

## Medical Problems Related to Alcohol<sup>13</sup>

### **Nervous System**

*Acute intoxication*

*blackouts*

*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.*

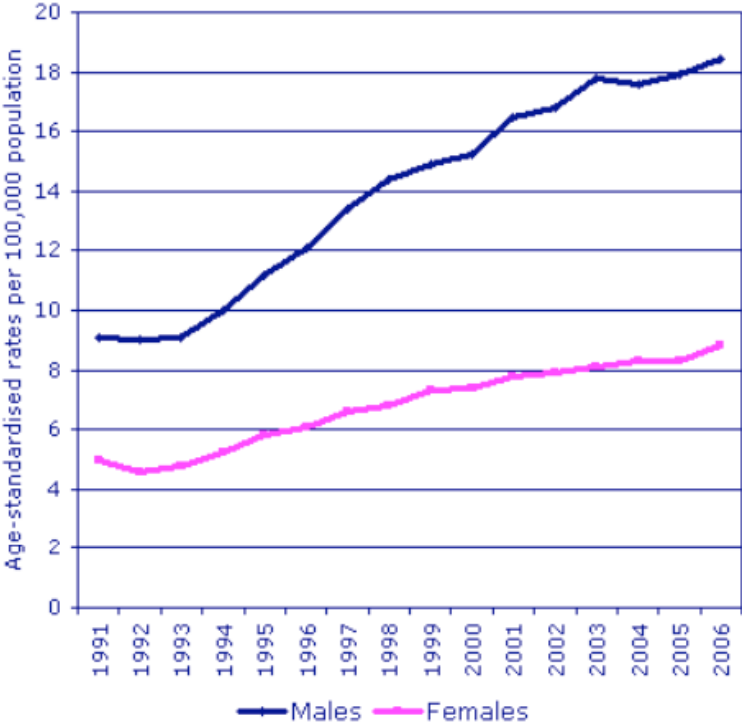
## **Alcohol as a Cause of Death**

### **Estimates of proportion of deaths attributable to alcohol from various conditions <sup>14</sup>**

<b>Condition</b>	<b>% Attributable to alcohol</b>
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%

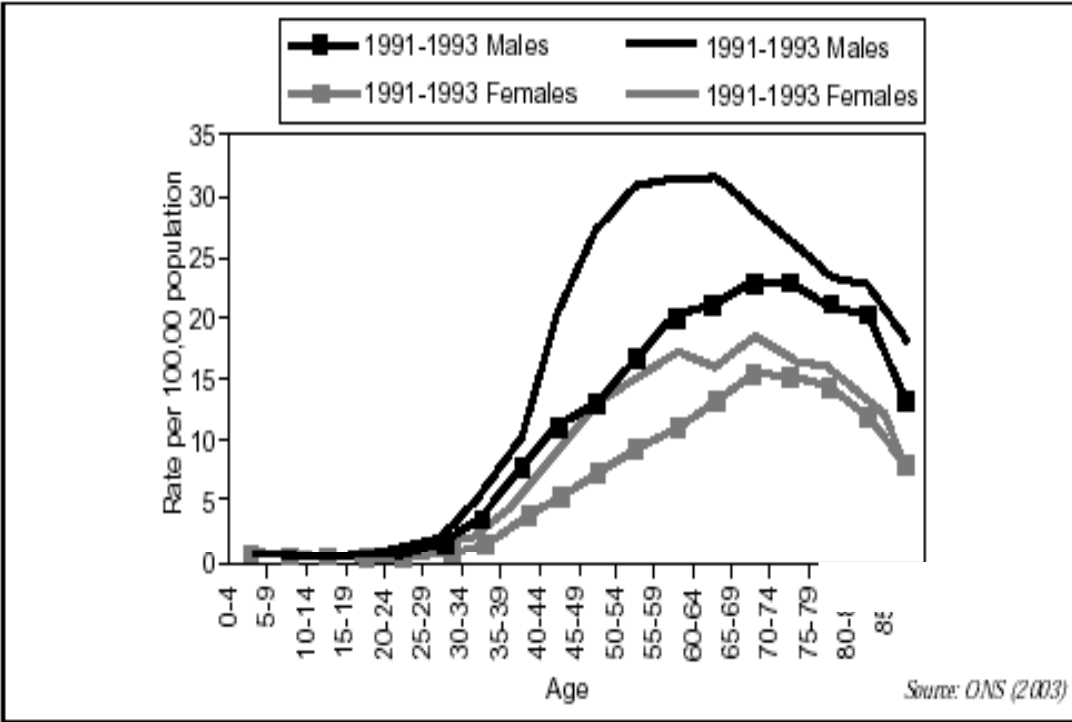
The total number of deaths attributable to alcohol is uncertain. Estimates for the UK range from 8,000 to 40,000 per annum. The lower estimate refers to deaths from alcohol defined causes, mainly alcoholic liver disease. The higher estimate also allows for causes of death to which it is known that alcohol may contribute but which are not defined as alcohol-related. The graph below shows deaths for alcohol-defined conditions.

**Alcohol-related death rates, by sex, UK, 1991-2006<sup>15</sup>**

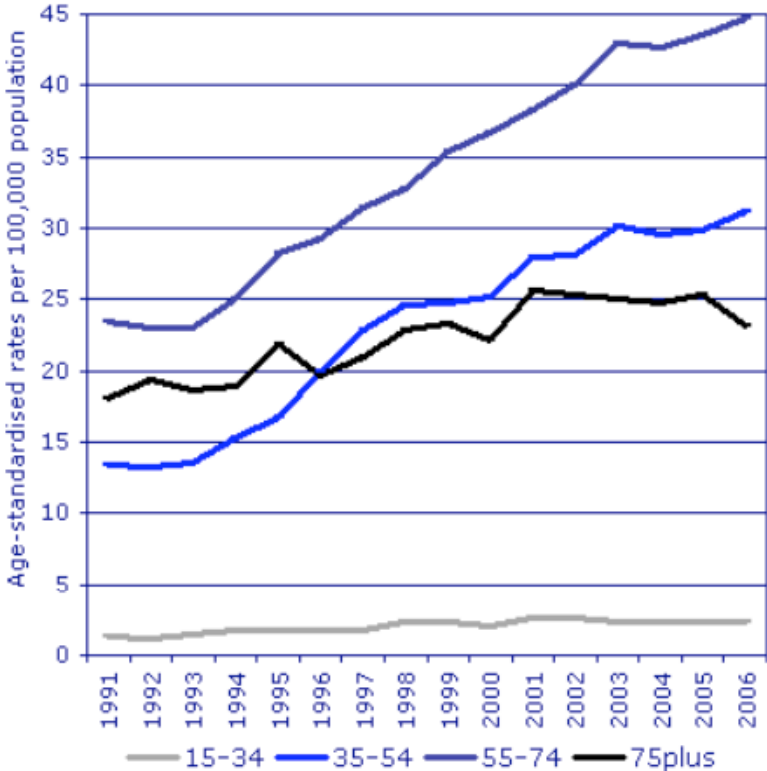


The alcohol-related death rate in the UK continued to increase in 2006, rising from 12.9 deaths per 100,000 population in 2005 to 13.4 in 2006. Rates almost doubled from 6.9 per 100,000 in 1991. The number of alcohol-related deaths more than doubled from 4,144 in 1991 to 8,758 in 2006. In 2006 the male death rate (18.3 deaths per 100,000 population) was more than twice the rate for females (8.8 deaths per 100,000) and males accounted for two thirds of the total number of deaths. For men, the death rates in all age groups increased between 1991 and 2006. The biggest increase was for men aged 35 – 54. Rates in this age group more than doubled, from 13.4 to 31.1 deaths per 100,000 over the period. However, the highest rates in each year were more men aged 55 – 74.<sup>15</sup>

**Age-specific alcohol-related death rates in England and Wales: 1991-2000<sup>16</sup>**



**Male alcohol-related death rates by age group, United Kingdom, 1991-2006<sup>15</sup>**



Death rates by age group for females were consistently lower than rates for males, however trends showed a broadly similar pattern by age. The death rate for women aged 35-54 doubled between 1991 and 2006, from 7.2 to 14.8 per 100,000 population, a larger increase than the rate for women in any other age group. As for men, the highest rates in each year were for the 55 – 74 age group. Between 2005 and 2006, for both sexes, rates remained the same for those aged 15 – 34 and increased for those aged 35 – 54 and 55 – 74. There were small falls in the rates for those aged over 75, down 8 per cent for men and 6 per cent for women.<sup>15</sup>

**Alcohol related deaths\*, UK, 1991-2006<sup>15</sup>**

	Male	Female	Total
<b>1991</b>	2532	1612	4144
<b>1992</b>	2523	1500	4023
<b>1993</b>	2560	1549	4109
<b>1994</b>	2849	1676	4525
<b>1995</b>	3180	1847	5027
<b>1996</b>	3457	1949	5406
<b>1997</b>	3856	2120	5976
<b>1998</b>	4172	2197	6369
<b>1999</b>	4361	2360	6721
<b>2000</b>	4483	2401	6884
<b>2001</b>	4938	2561	7499
<b>2002</b>	5069	2632	7701
<b>2003</b>	5443	2721	8164
<b>2004</b>	5431	2790	8221
<b>2005</b>	5566	2820	8386
<b>2006</b>	5768	2990	8758

\* Alcohol-defined conditions ICD-9 and ICD-10

## Alcohol-related Deaths in England and Wales from 1980-2003<sup>17</sup>

1979	2,506
1980	2,575
1981	2,540
1982	2,476
1983	2,472
1984	2,647
1985	2,935
1986	2,933
1987	3,138
1988	3,278
1989	3,517
1990	3,594
1991	3,631
1992	3,553
1993	3,546
1994	3,821
1995	4,231
1996	4,455
1997	4,922
1998	5,272
1999	5,473
2000	5,543
2001	6,020
2002	6,100
2003	6,580

The table shows the number of deaths from alcohol abuse, dependence and poisoning, and diseases directly related to alcohol use, which are:

**Alcoholic psychoses, alcohol dependence syndrome, non-dependent abuse of alcohol, alcoholic cardiomyopathy, chronic liver disease and cirrhosis, accidental poisoning by alcohol**

Information on the part alcohol may have played in deaths from other causes, including other accidents and violence, is not available from death certificates

## Deaths from alcohol-related conditions, by gender, 1999 to 2004<sup>18</sup>

England and Wales		Numbers				
ICD-10 code <sup>2</sup>		1999 <sup>3</sup>	2001	2002	2003	2004
<b>All persons</b>						
F10	Mental and behavioural disorders due to alcohol	465	477	435	469	538
I42.6	Alcoholic cardiomyopathy	142	120	119	108	92
<b>K70, K73-K74</b>		<b>4,735</b>	<b>5,243</b>	<b>5,376</b>	<b>5,844</b>	<b>5,824</b>
K70	Alcoholic liver disease	2,954	3,464	3,617	3,991	4,037
K73	Chronic hepatitis, not elsewhere specified	81	78	77	60	69
K74	Fibrosis and cirrhosis of liver	1,700	1,692	1,682	1,793	1,718
X45	Accidental poisoning by and exposure to alcohol	138	139	103	159	160
<b>Men</b>						
F10	Mental and behavioural disorders due to alcohol	316	332	311	339	384
I42.6	Alcoholic cardiomyopathy	111	103	90	97	75
<b>K70, K73-K74</b>		<b>2,872</b>	<b>3,271</b>	<b>3,354</b>	<b>3,735</b>	<b>3,651</b>
K70	Alcoholic liver disease	1,928	2,292	2,418	2,700	2,641
K73	Chronic hepatitis, not elsewhere specified	16	23	17	14	18
K74	Fibrosis and cirrhosis of liver	928	956	919	1,021	992
X45	Accidental poisoning by and exposure to alcohol	91	94	60	110	110
<b>Women</b>						
F10	Mental and behavioural disorders due to alcohol	149	145	124	130	154
I42.6	Alcoholic cardiomyopathy	31	17	29	11	17
<b>K70, K73-K74</b>		<b>1,863</b>	<b>1,963</b>	<b>2,022</b>	<b>2,109</b>	<b>2,173</b>
K70	Alcoholic liver disease	1,026	1,172	1,199	1,291	1,396
K73	Chronic hepatitis, not elsewhere specified	65	55	60	46	51
K74	Fibrosis and cirrhosis of liver	772	736	763	772	726
X45	Accidental poisoning by and exposure to alcohol	47	45	43	49	50

## Alcohol Mortality by Region

There are wide geographical variations in alcohol-related death rates in England and Wales.

The Local Authorities with the highest alcohol-related death rates (2001-2003) were<sup>19</sup>

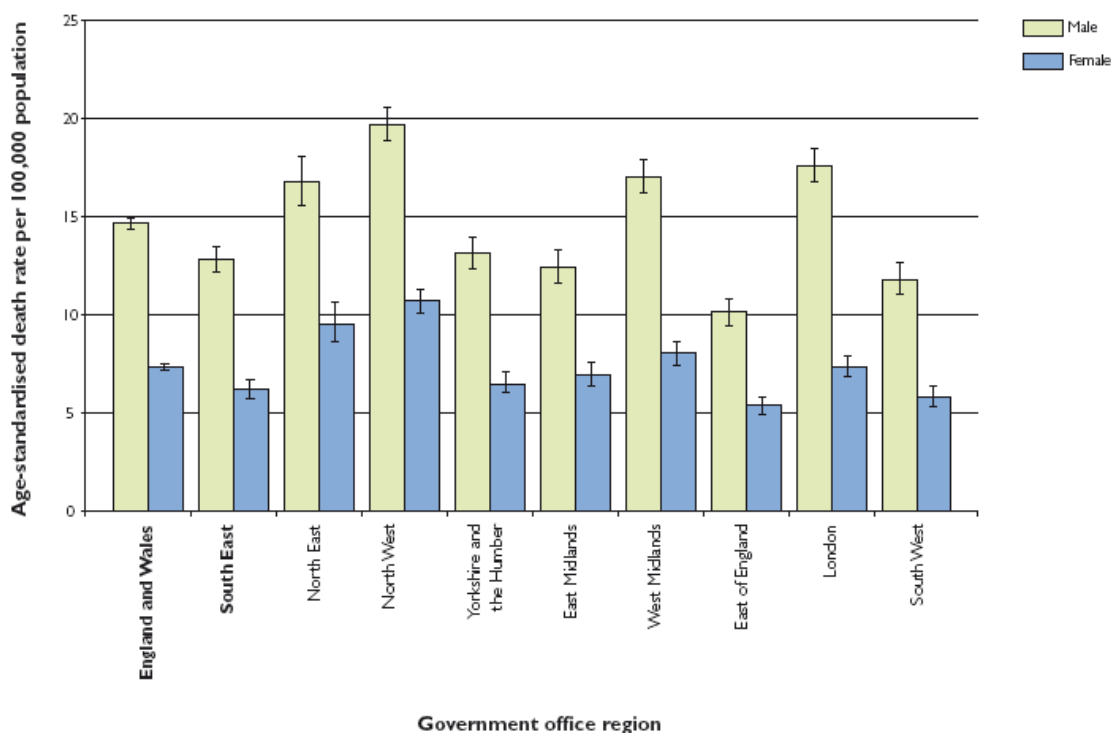
### Males

Local Authority	Rate per 100,000 population
Blackpool	43.9
Brighton and Hove	33.0
Camden	31.6
Manchester	31.0
Preston	29.5
Salford	29.3
Hammersmith and Fulham	29.0
Liverpool	28.6
Hounslow	27.4
Sandwell	26.6

### Females

Local Authority	Rate per 100,000 population
Corby	20.3
Blackpool	17.3
Barrow-in-Furness	16.5
Liverpool	16.4
North West Leicestershire	15.3
Denbighshire	14.9
Manchester	14.8
Sefton	14.1
Penwith	13.9
West Lancashire	13.7

## Alcohol-specific mortality rates by gender and region, England, 2001-2003<sup>20</sup>



Source: Alcohol-related deaths in England and Wales, 2001 to 2003. Office for National Statistics (2003)

## Alcohol-related deaths, by Government Office Region, England and Wales, (2001-2003)<sup>19</sup>

### Males

Government Office Region	Rate per 100,000 population
<b>England and Wales</b>	<b>14.7</b>
North East	16.8
North West	19.7
Yorkshire and The Humber	13.2
East Midlands	12.4
West Midlands	17.1
East of England	10.2
London	17.6
South East	12.9
South West	11.8
Wales	16.0

### Females

Government Office Region	Rate per 100,000 population
<b>England and Wales</b>	<b>7.4</b>
North East	9.6
North West	10.7
Yorkshire and The Humber	6.5
East Midlands	7.0
West Midlands	8.1
East of England	5.4
London	7.4
South East	6.2
South West	5.9
Wales	8.4

The regional differences in mortality reflect regional variations in alcohol consumption. (See IAS Fact Sheet Excessive and Problem Drinking in Great Britain)

### Alcohol-related deaths among residents of Government Office Regions, 2000-2004

Government Office Region [England]	2000 <sup>21</sup>	2001 <sup>21</sup>	2002 <sup>21</sup>	2003 <sup>21</sup>	2004 <sup>22</sup>	2005	% increase
North East	335	346	346	389	430	402	20.0
North West	950	1,053	1,065	1,115	1,179	1,173	23.5
Yorkshire & Humber	428	500	487	580	627	643	50.2
East Midlands	427	420	446	497	497	506	18.5
West Midlands	604	664	710	752	750	776	28.5
East of England	438	454	473	489	491	492	12.3
London	806	809	838	834	772	744	-7.7
South East	725	843	831	882	842	874	20.6
South West	467	500	502	527	537	581	24.4
Wales	345	396	372	416	419	407	18.0
<b>Totals England &amp; Wales</b>	<b>5,525</b>	<b>5,985</b>	<b>6,070</b>	<b>6,481</b>	<b>6,544</b>	<b>6,598</b>	<b>19.4</b>

**Number of deaths with an alcohol-related underlying cause of death<sup>(i)</sup>, government office regions in England <sup>(ii)</sup>, 1997 to 2006 <sup>(iii)</sup> <sup>23</sup>**

<b>Deaths (Persons)</b>										
<b>Area</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
North East	323	331	307	326	337	337	387	426	402	435
North West	860	878	922	931	1040	1054	1105	1166	1173	1209
Yorkshire & the Humber	405	431	446	419	489	475	573	615	643	679
East Midlands	322	307	394	410	408	434	482	482	506	505
West Midlands	497	583	578	588	655	697	737	743	776	801
East of England	319	404	390	426	441	456	484	485	492	556
London	732	773	806	794	787	832	826	758	744	824
South East	607	646	664	700	824	808	870	832	874	921
South West	372	409	428	450	495	489	517	529	581	587

- (i) Cause of death was defined using the International Classification of Diseases, Ninth Revision (ICD-9) for the years 1997 to 2000, and Tenth Revision (ICD-10) for 2001 onwards.
- (ii) Based on boundaries as of 2007
- (iii) All figures are for deaths registered in each calendar year

Scotland:

**1980 – 2004 General Register Office Death Registrations where an alcohol-related condition is recorded as underlying cause, or contributing cause, of death, by sex (Scotland)<sup>24</sup>**

Registration Year	<u>Diagnosis</u>			<u>Sex</u>		
	Underlying Cause of Death			Contributing Cause of Death		
	Both Sexes	Male	Female	Both Sexes	Male	Female
1980	358	238	120	225	176	49
1981	333	236	97	235	166	69
1982	342	235	107	213	168	45
1983	343	228	115	209	163	46
1984	361	219	142	236	180	56
1985	390	257	133	239	177	62
1986	377	251	126	244	195	49
1987	377	260	117	239	183	56
1988	418	291	127	259	192	67
1989	449	304	145	279	205	74
1990	436	294	142	248	183	65
1991	431	279	152	243	181	62
1992	408	279	129	289	221	68
1993	451	314	137	335	253	82
1994	549	387	162	332	267	65
1995	627	425	202	330	255	75
1996	775	522	253	401	315	86
1997	861	607	254	520	386	134
1998	915	637	278	539	403	136
1999	1,021	716	305	573	444	129
2000	1,144	804	340	550	432	118
2001	1,228	869	359	543	442	101
2002	1,333	934	399	624	492	132
2003	1,353	956	397	627	492	135
2004	1,329	943	386	723	572	151

## General acute in-patient discharges with an alcohol-related diagnosis in any position, specific diagnoses, 2005-6<sup>25</sup>

	All Alcohol-related conditions	Alcoholic Cardio-myopathy	Alcoholic Gastritis	Alcohol-induced Pancreatitis	Mental & Behavioural Disorders Due to the Use of Alcohol:					
					Overall	Acute Intoxication	Harmful use	Alcohol Dependence	Alcohol Psychoses	Other
<b>Scotland</b>	<b>39,061</b>	<b>107</b>	<b>747</b>	<b>694</b>	<b>24,869</b>	<b>7,063</b>	<b>11,181</b>	<b>4,379</b>	<b>3,873</b>	<b>67</b>
<i>by NHS board of residence</i>										
Argyll & Clyde	3,930	8	73	98	2,616	913	1,196	220	409	5
Ayrshire & Arran	3,612	9	92	56	2,731	1,230	1,114	449	327	6
Borders	599	5	9	5	481	203	178	62	43	0
Dumfries & Galloway	779	1	13	5	347	106	174	41	32	2
Fife	2,043	3	25	68	1,059	326	416	241	165	0
Forth Valley	1,071	3	27	34	642	225	143	147	133	0
Grampian	3,884	11	66	49	2,047	592	779	493	316	1
Greater Glasgow	9,252	17	188	113	6,368	1,067	3,559	985	1,104	41
Highland	2,225	19	24	25	1,572	499	786	257	257	4
Lanarkshire	3,549	7	96	63	2,213	703	929	194	430	5
Lothian	4,920	14	86	110	2,878	502	1,410	711	443	1
Orkney	173	0	2	2	144	56	13	79	12	0
Shetland	190	0	7	3	140	62	36	18	28	0
Tayside	2,180	9	21	59	1,296	508	428	273	132	2
Western Isles	454	1	18	4	335	71	20	209	42	0
Other / not known <sup>5</sup>	560	2	12	3	400	146	166	47	69	0
<i>by council area of residence</i>										
Aberdeen City	2,114	5	36	34	1,088	313	416	240	188	0
Aberdeenshire	1,164	1	11	11	575	168	249	96	85	1
Angus	446	1	0	8	219	99	48	57	15	2
Argyll & Bute	622	1	16	14	530	188	225	65	65	2
Ayrshire East	1,247	1	31	17	895	401	390	138	108	2
Ayrshire North	1,415	1	27	33	979	366	427	182	125	3
Ayrshire South	1,150	7	34	6	857	463	297	129	94	1
Borders	599	5	9	5	481	203	178	62	43	0
Clackmannanshire	200	1	9	12	100	47	19	20	14	0
Dumfries & Galloway	779	1	13	5	347	106	174	41	32	2
Dunbartonshire East	330	1	7	0	202	36	110	16	31	15
Dunbartonshire West	789	3	20	13	562	144	336	37	120	0
Dundee City	1,022	4	8	37	577	264	127	129	64	0
Edinburgh City	2,955	10	52	50	1,711	269	865	430	281	0
Eilean Siar	454	1	18	4	335	71	20	209	42	0
Falkirk	501	2	5	9	320	100	73	86	64	0
Fife	2,043	3	25	68	1,059	326	416	241	165	0
Glasgow City	7,580	13	154	93	5,270	849	2,996	792	924	26
Highland	2,225	19	24	25	1,572	499	786	257	257	4
Inverclyde	1,160	4	20	39	721	288	244	51	141	3
Lanarkshire North	2,507	4	60	41	1,628	568	601	123	366	4
Lanarkshire South	1,825	5	50	33	1,140	261	590	198	146	1
Lothian East	473	2	9	9	246	31	137	58	37	1
Lothian West	1,018	0	18	44	647	166	231	168	97	0
Midlothian	475	2	7	7	275	37	177	55	28	0
Moray	606	5	19	4	384	111	114	157	43	0
Orkney Islands	173	0	2	2	144	56	13	79	12	0
Perth & Kinross	712	4	13	14	500	145	253	87	53	0
Renfrewshire	1,296	0	21	32	887	282	453	67	122	0
Renfrewshire East	421	1	9	9	256	66	129	50	28	0
Shetland Islands	190	0	7	3	140	62	36	18	28	0
Stirling	370	0	13	13	222	78	51	41	55	0
Other / not known <sup>5</sup>	560	2	12	3	400	146	166	47	69	0

(continued)

Mental & Behavioural Disorders Due to the Use of Alcohol:

	All Alcohol-related conditions	Alcoholic Cardio-myopathy	Alcoholic Gastritis	Alcohol-Induced Pancreatitis	Overall	Acute Intoxication	Harmful use	Alcohol Dependence	Alcohol Psychoses	Other
<i>by age group</i> <sup>6,7</sup>										
Under 15 years	381	0	1	0	260	246	12	2	0	1
15-19 years	1,462	0	19	2	975	704	256	20	9	2
20-24 years	1,778	9	35	4	1,051	572	385	80	48	0
25-29 years	1,585	0	49	37	950	423	350	133	98	2
30-34 years	2,318	1	61	60	1,464	515	589	232	241	1
35-39 years	3,336	0	85	77	2,157	602	905	414	378	7
40-44 years	4,216	12	105	115	2,760	670	1,197	559	551	8
45-49 years	4,788	9	141	154	3,113	727	1,424	619	587	3
50-54 years	4,437	21	85	120	2,869	621	1,305	671	529	7
55-59 years	4,187	15	64	46	2,657	522	1,336	525	488	9
60 years and over	10,573	40	102	79	6,613	1,461	3,422	1,124	944	27

*by gender*<sup>7</sup>

Male	27,812	99	595	558	18,876	5,258	8,512	3,292	3,085	51
Female	11,249	8	152	136	5,993	1,805	2,669	1,087	788	16

(continued)

Alcoholic Liver Disease:

Toxic Effect of Alcohol with:

	Overall	Fatty Liver	Acute Hepatitis	Cirrhosis	Alcoholic Hepatic Failure	Unspecified	Toxic Effect of Alcohol Overall	Accidental Poisoning	Intentional Self-poisoning	Unspecified Poisoning <sup>8</sup>
Scotland	6,016	90	480	1,215	518	3,892	3,723	72	825	2,826
<i>by NHS board of residence</i>										
Argyll & Clyde	684	8	33	95	155	410	111	4	54	53
Ayrshire & Arran	417	2	27	67	15	311	447	2	186	259
Borders	62	0	4	7	5	46	54	0	19	35
Dumfries & Galloway	96	0	9	25	2	60	63	3	38	22
Fife	442	19	32	176	25	209	395	2	12	381
Forth Valley	218	1	24	48	6	144	88	2	26	60
Grampian	488	17	30	128	2	325	613	15	144	454
Greater Glasgow	1,439	16	134	218	78	1,044	487	7	176	304
Highland	234	1	23	68	23	129	176	18	36	122
Lanarkshire	686	6	45	96	104	450	207	11	46	150
Lothian	810	14	67	202	91	462	814	1	51	762
Orkney	21	0	6	6	1	9	4	0	3	1
Shetland	9	1	2	0	1	5	19	0	4	15
Tayside	381	4	40	60	8	285	237	7	22	208
Westmor Isles	29	1	4	19	2	3	8	0	8	0
Other / not known <sup>9</sup>	40	2	3	8	2	28	56	2	13	41

continued

by council area of residence

Aberdeen City	291	12	22	60	2	206	341	0	59	282
Aberdeenshire	136	4	5	53	0	76	203	3	38	162
Angus	126	0	11	30	5	87	37	0	6	31
Argyll & Bute	113	2	9	24	12	68	18	0	7	11
Ayshire East	121	2	5	17	3	95	160	0	62	98
Ayshire North	179	0	9	31	9	134	146	1	10	135
Ayshire South	117	0	13	19	3	82	141	1	114	26
Borders	62	0	4	7	5	46	54	0	19	35
Clackmannanshire	38	0	7	5	1	27	18	0	5	13
Dumfries & Galloway	96	0	9	25	2	60	63	3	38	22
Dunbartonshire East	63	0	3	0	1	62	24	0	2	22
Dunbartonshire West	169	3	9	26	27	108	45	1	31	13
Dundee City	185	4	20	19	2	148	88	2	12	74
Edinburgh City	490	7	38	138	52	270	529	1	15	513
Eilean Siar	29	1	4	19	2	3	8	0	8	0
Falkirk	96	1	10	23	4	61	41	2	14	25
Fife	442	19	32	176	25	209	395	2	12	381
Glasgow City	1,139	12	112	166	63	825	395	6	150	239
Highland	234	1	23	68	23	129	176	18	36	122
Inverclyde	198	1	11	31	73	91	50	1	18	31
Lanarkshire North	482	4	27	64	101	298	134	4	11	119
Lanarkshire South	328	5	28	70	11	223	102	8	39	55
Lothian East	106	2	5	25	12	64	88	0	0	88
Lothian West	139	3	18	25	9	89	92	0	35	57
Midlothian	75	2	6	14	18	39	105	0	1	104
Moray	61	1	3	15	0	43	69	12	47	10
Orkney Islands	21	0	6	6	1	9	4	0	3	1
Perth & Kinross	70	0	9	11	1	50	112	5	4	103
Renfrewshire	236	2	9	15	38	174	19	1	17	1
Renfrewshire East	81	1	4	13	11	55	18	1	1	16
Shetland Islands	9	1	2	0	1	5	19	0	4	15
Stirling	84	0	7	20	1	56	29	0	7	22
Other / not known <sup>5</sup>	40	2	3	8	2	26	56	2	13	41

(continued)

	Alcoholic Liver Disease:					Toxic Effect of Alcohol with:			
	Overall	Fatty Liver	Acute Hepatitis	Cirrhosis	Alcoholic Hepatic Failure	Unspecified	Toxic Effect of Alcohol Overall	Accidental Poisoning	Intentional Self-poisoning

by age group<sup>4,7</sup>

Under 15 years	0	0	0	0	0	0	77	23	38	16
15-19 years	2	0	1	1	0	0	367	14	84	269
20-24 years	23	0	12	0	0	12	492	5	104	383
25-29 years	35	1	9	2	4	19	311	4	71	236
30-34 years	156	4	33	15	19	92	412	4	85	323
35-39 years	425	5	62	50	32	287	551	6	102	443
40-44 years	567	9	64	100	59	353	570	5	129	436
45-49 years	896	17	96	151	87	589	391	3	86	302
50-54 years	992	18	65	174	80	679	234	4	54	176
55-59 years	928	10	46	227	78	596	178	1	41	136
60 years and over	1,992	26	92	495	159	1,265	140	3	31	106

by gender<sup>7</sup>

Male	4,191	61	295	889	366	2,704	1,596	43	347	1,206
Female	1,825	29	185	326	152	1,188	2,127	29	478	1,620

1. Excludes mental illness hospitals, psychiatric units and maternity hospitals, and transfer cases have been excluded.

2. Diseases recorded using the World Health Organisation's International Classification of Diseases 10th Revision (ICD10).

3. Caution is necessary when interpreting these figures. The recording of alcohol misuse may vary from hospital to hospital.

Where alcohol misuse is suspected but unconfirmed it may not be recorded by the hospital.

4. Figures shown include an element of double counting where a patient is recorded as having more than one alcohol-related diagnosis.

5. Patients resident outwith Scotland or those where NHS board or council area of residence is not known, these figures are excluded from the Scotland total.

6. Age on admission.

7. Includes Scottish residents only.

8. Includes discharges where the poisoning diagnosis is undetermined or unspecified.

r Revised.

p Provisional.

Source : ISD Scotland (SMR01).

Data Extracted: 9th October 2006

## Health Benefits of Alcohol

There is evidence to suggest that light drinking may confer some health benefits on some people. The main health benefit is reduced risk of coronary heart disease (CHD). However, this protection, is restricted to middle-aged and older individuals in populations with a high risk of CHD, and even within these populations protection may be confined to certain subgroups.<sup>26</sup> It is not certain that reduced risk of death from CHD results in longer life expectancy.<sup>27</sup> At a population level, any protective effects of CHD may be cancelled out by increases in other causes of death.<sup>28</sup> There is no evidence to show that alcohol is necessary for health. Studies of lifetime abstainers show that they have a longer than average life expectancy.<sup>29</sup>

In the UK, the Strategy Unit estimated that alcohol prevents around 20,000 deaths a year by reducing the risk of CHD, about the same as its estimate of the number of premature deaths caused by alcohol.<sup>30</sup> However, the World Health Organisation estimates that globally alcohol is responsible for 1.8 million deaths per annum in net terms i.e with any lives saved by light drinking already being taken into account.<sup>1</sup>

Other possible benefits of alcohol consumption have been identified in relation to ischaemic stroke, peripheral vascular disease, diabetes, gallstones and cognitive functioning and dementia. However, the picture remains unclear, and the evidence is stronger for some conditions than others.<sup>26</sup> It is also suggested that alcohol may have some psychosocial benefits, such as lessening symptoms of stress. There are reports of low risk consumption of alcohol being associated with improved health status and improved mental wellbeing in older people. However, the evidence here is not conclusive. The evidence here is also inconclusive (see IAS Factsheets Alcohol and Mental Health and Alcohol and the Elderly)

### Institute of Alcohol Studies

5 March 2008

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