

6 Attributable mortality in 1998

Tables 6.1 to 6.3 show the number of deaths attributable to tobacco, alcohol and illicit drugs in 1998, classified by age, the drug involved and the cause of death, for males, females and persons. Tables 6.4 to 6.6 show the number of PYLL attributable to tobacco, alcohol and illicit drugs in 1998, classified by age, the drug involved and the cause of death, for males, females and persons. These are summary results for groups of causes of death. Detailed tables for individual causes of death are available from the Institute on request.

6.1 Alcohol

Alcohol has both a causative and an apparent preventive effect on deaths. The largest number of alcohol-related deaths among men are due to alcoholism and alcoholic liver cirrhosis. The second largest number are due to cancer. Close to half (44%) of the male alcohol-related cancer deaths are due to oesophageal cancer, while around a quarter (24%) are due to liver cancer.

The pattern is different for women. The largest number of female alcohol-related deaths are due to cancer. More than half of these deaths (55%) are due to breast cancer; oesophageal cancer and liver cancer account for 24% and 13% of alcohol-related cancer deaths respectively. Alcoholism and alcoholic liver cirrhosis account for the second-largest number of alcohol-related deaths among females.

For both men and women the third largest category of alcohol-related deaths is road injuries. The number of alcohol-related road injury deaths is much larger for men than for women, with the majority of these deaths occurring in the 15 to 34 years age range.

Alcohol has an apparent protective effect against some conditions classified in the 'other' category for both men and women. It should be noted, however, that this estimate is a net figure that includes an increased death rate due to some causes offset by a reduced death rate from other causes. The protective effect of alcohol relates mainly to a reduced risk of death from ischaemic heart disease and stroke with moderate alcohol consumption. However, as noted in Appendix A, high alcohol consumption is related to an increased risk of death from a number of causes in this category—including an increased risk of death from stroke.

The largest cause of alcohol-related PYLL for men is alcoholism and alcoholic liver cirrhosis. However, the second largest cause of male alcohol-related PYLL is road injuries rather than cancer. This reflects the fact that, although there are more alcohol-related cancer deaths than road injury deaths among males, the road injury deaths tend to happen at a younger age and hence contribute more PYLL.

Alcohol is related to a net increase in PYLL in the 'other' category for men, despite being related to a net decrease in deaths. This is because of causes such as suicide and assault: they contribute a moderate number of male alcohol-related deaths at young ages but a large number of PYLL, which offsets the reduced number of PYLL at older ages related to ischaemic heart disease and stroke.

The pattern of alcohol-related PYLL for women is similar to that for alcohol-related deaths for women, with cancer contributing the largest number, followed by alcoholism and

alcoholic liver cirrhosis. As with female alcohol-related deaths, the net effect of alcohol on the causes of death in the 'other' category is a reduction in PYLL.

6.2 Tobacco

For men, the largest number of tobacco-related deaths are caused by cancer, which is responsible for around 43% of all male tobacco-related deaths. These cancer deaths are dominated by lung cancer, which accounts for 77% of male tobacco-related cancer deaths. The remaining tobacco-related male cancer deaths are caused by several different types of cancer—including oesophageal cancer (6%), oropharyngeal cancer (4%), bladder cancer (4%) and pancreatic cancer (3%).

The second- and third- largest causes of male tobacco-related deaths are ischaemic heart disease and chronic obstructive pulmonary disease, which account for 22% and 19% of male tobacco-related deaths respectively. The 'other direct smoking' category accounts for 15% of male tobacco-related deaths. This category comprises a variety of causes, the largest contributors being stroke (43% of the 'other' category), atherosclerosis (29%) and pneumonia (19%).

For women the pattern is a little different. As with men, the largest number of tobacco-related deaths for women are caused by cancer, which is responsible for around 32% of all female tobacco-related deaths. This category is also dominated by lung cancer, which accounts for 75% of female tobacco-related cancer deaths. The remaining tobacco-related female cancer deaths are caused by several different types of cancer—including oesophageal cancer (7%), pancreatic cancer (7%), bladder cancer (4%) and oropharyngeal cancer (3%).

Chronic obstructive pulmonary disease accounts for a larger proportion of female tobacco-related deaths (22%) than does ischaemic heart disease (20%). However, the 'other direct smoking' category is larger than either of these, accounting for 25% of female tobacco-related deaths. Again, this category comprises a variety of causes, the largest contributors being stroke (46% of the 'other' category), atherosclerosis (23%) and pneumonia (17%).

The tobacco-related PYLL for both men and women follow the same pattern as the tobacco-related deaths. Hence the largest number of tobacco-related PYLL for both men and women is due to cancer. However, while more male tobacco-related PYLL are due to ischaemic heart disease than chronic obstructive pulmonary disease, the reverse is true for female tobacco-related PYLL.

6.3 Illicit drugs

The patterns of illicit drug-related deaths for men and women are similar. The largest proportion of these deaths is directly related to opiate dependence, abuse or poisoning (79% for men and 69% for women). The second-largest proportion is due to suicide (13% for both men and women). Hepatitis is a slightly larger cause of illicit drug-related deaths for women (10%) than for men (4%), as are road traffic accidents (4% for women and 2% for men). However, the absolute number of illicit drug-related hepatitis and road traffic accident deaths is small, so these proportions should be interpreted with caution.

The pattern of illicit drug-related PYLL is similar to that for illicit drug-related deaths. The largest proportion of these PYLL is directly related to opiate dependence, abuse or poisoning (79% for men and 73% for women). The second-largest proportion is due to suicide (14% for both men and women). Hepatitis is a slightly larger cause of illicit drug-related deaths for

women (5%) than for men (2%), as are road traffic accidents (3% for women and 2% for men). However, the proportions for PYLL due to illicit drug-related hepatitis and road traffic accident deaths should be interpreted with caution because of the small number of deaths on which they are based.

Table 6.1: Deaths attributable to drug use, by drug involved, cause of death and age: males, 1998

Drug involved/cause of death	Age				All ages
	0-14	15-34	35-64	65 and over	
Alcohol					
Cancer	0	3	245	423	672
Alcoholism and alcoholic liver cirrhosis	0	26	451	226	703
Road injuries	12	245	111	19	387
Other	3	406	129	-1,667	-1,129
Total alcohol	15	680	936	-998	633
Tobacco					
Direct smoking					
Cancer	0	0	1,375	4,207	5,582
Ischaemic heart disease	0	27	1,114	1,707	2,848
Chronic obstructive pulmonary disease	0	0	229	2,275	2,504
Other	43	27	326	1,565	1,961
Environmental tobacco smoke	14	0	2	32	48
Total tobacco	57	54	3,047	9,787	12,944
Illicit drugs					
Drug dependence and abuse					
Cannabis	0	0	0	0	0
Opiates	0	315	151	0	466
Cocaine	0	3	0	0	3
Amphetamines	0	1	1	0	2
Hallucinogens	0	1	0	0	1
Poisoning	0	0	0	0	0
Opiates	0	126	64	2	192
Psychostimulants	0	2	1	0	3
Hallucinogens	0	0	0	0	0
Suicide	0	86	25	0	111
Antepartum haemorrhage	2	0	0	0	2
Low birthweight	1	0	0	0	1
Hepatitis B	0	0	8	4	12
Hepatitis, non-A, non-B	0	1	12	5	19
AIDS	0	2	4	0	6
Infective endocarditis	0	1	0	0	1
Drug psychoses	0	0	0	0	0
Maternal drug dependence	0	0	0	0	0
Newborn toxicity	1	0	0	0	1
Road traffic accidents	1	9	6	2	18
Total illicit drugs	5	547	272	14	838
Total all drugs	77	1,280	4,254	8,802	14,414

Note: Columns may not add exactly to totals due to rounding.

Table 6.2: Deaths attributable to drug use, by drug involved, cause of death and age: females, 1998

Drug involved/cause of death	Age				All ages
	0–14	15–34	35–64	65 and over	
Alcohol					
Cancer	0	8	177	301	485
Alcoholism and alcoholic liver cirrhosis	0	18	132	74	224
Road injuries	3	28	20	3	53
Other	3	80	–34	–3,815	–3,766
Total alcohol	6	134	294	–3,438	–3,004
Tobacco					
Direct smoking					
Cancer	0	0	454	1,506	1,960
Ischaemic heart disease	0	7	225	954	1,186
Chronic obstructive pulmonary disease	0	0	130	1,205	1,335
Other	33	19	179	1,285	1,515
Environmental tobacco smoke	9	0	8	63	80
Total tobacco	42	26	995	5,012	6,075
Illicit drugs					
Drug dependence and abuse					
Cannabis	0	0	0	0	0
Opiates	0	67	32	2	101
Cocaine	0	1	0	0	1
Amphetamine	0	1	0	0	1
Hallucinogens	0	0	0	0	0
Poisoning	0	0	0	0	0
Opiates	0	12	13	2	27
Psychostimulants	0	0	0	0	0
Hallucinogens	0	0	0	0	0
Suicide	0	17	7	0	24
Antepartum haemorrhage	2	0	0	0	2
Low birthweight	1	0	0	0	1
Hepatitis B	0	0	1	2	4
Hepatitis, non-A, non-B	0	0	4	11	15
AIDS	0	0	1	0	1
Infective endocarditis	0	0	0	0	0
Drug psychoses	0	0	0	0	0
Maternal drug dependence	0	0	0	0	0
Newborn toxicity	0	0	0	0	0
Road traffic accidents	1	3	2	2	7
Total illicit drugs	4	102	60	19	185
Total all drugs	51	262	1,350	1,593	3,256

Note: Columns may not add exactly to totals due to rounding.

Table 6.3: Deaths attributable to drug use, by drug involved, cause of death and age: persons, 1998

Drug involved/cause of death	Age				All ages
	0–14	15–34	35–64	65 and over	
Alcohol					
Cancer	0	11	422	724	1,157
Alcoholism and alcoholic liver cirrhosis	0	44	583	300	927
Road injuries	15	273	130	22	440
Other	6	486	95	–5,482	–4,895
Total alcohol	21	814	1230	–4,436	–2,371
Tobacco					
Direct smoking					
Cancer	0	0	1,829	5,713	7,542
Ischaemic heart disease	0	34	1,339	2,661	4,034
Chronic obstructive pulmonary disease	0	0	359	3,480	3,839
Other	76	46	505	2,849	3,476
Environmental tobacco smoke	23	0	10	95	128
Total tobacco	99	80	4,042	14,799	19,019
Illicit drugs					
Drug dependence and abuse					
Cannabis	0	0	0	0	0
Opiates	0	382	183	2	567
Cocaine	0	4	0	0	4
Amphetamine	0	2	1	0	3
Hallucinogens	0	1	0	0	1
Poisoning	0	0	0	0	0
Opiates	0	138	77	4	219
Psychostimulants	0	2	1	0	3
Hallucinogens	0	0	0	0	0
Suicide	0	103	32	0	135
Antepartum haemorrhage	4	0	0	0	4
Low birthweight	2	0	0	0	2
Hepatitis B	0	1	9	6	16
Hepatitis, non-A, non-B	0	2	16	16	34
AIDS	0	2	5	0	7
Infective endocarditis	0	1	0	0	1
Drug psychoses	0	0	0	0	0
Maternal drug dependence	0	0	0	0	0
Newborn toxicity	1	0	0	0	1
Road traffic accidents	2	12	8	4	25
Total illicit drugs	9	649	332	33	1,023
Total all drugs	129	1,542	5,604	10,396	17,671

Note: Columns may not add exactly to totals due to rounding.

Table 6.4: PYLL attributable to drug use, by drug involved, cause of death and age: males, 1998

Drug involved/cause of death	Age				All ages
	0–14	15–34	35–64	65 and over	
Alcohol					
Cancer	0	88	4,215	3,695	7,998
Alcoholism and alcoholic liver cirrhosis	0	675	8,418	2,225	11,317
Road injuries	356	6,637	2,418	160	9,570
Other	101	10,845	3,762	–11,841	2,867
Total alcohol	457	18,244	18,812	–5,761	31,752
Tobacco					
Direct smoking					
Cancer	0	0	22,499	36,169	58,667
Ischaemic heart disease	0	690	19,443	12,667	32,800
Chronic obstructive pulmonary disease	0	0	3,556	17,159	20,715
Other	1,312	720	5,712	10,447	18,191
Environmental tobacco smoke	413	2	39	229	683
Total tobacco	1,725	1,411	51,249	76,670	131,055
Illicit drugs					
Drug dependence and abuse					
Cannabis	0	0	0	0	0
Opiates	0	8,365	3,489	0	11,853
Cocaine	0	78	0	0	78
Amphetamine	0	28	24	0	52
Hallucinogens	0	28	0	0	28
Poisoning	0	0	0	0	0
Opiates	0	3,354	1,445	12	4,811
Psychostimulants	0	54	23	0	77
Hallucinogens	0	0	0	0	0
Suicide	0	2,297	594	0	2,891
Antepartum haemorrhage	63	0	0	0	63
Low birthweight	29	0	0	0	29
Hepatitis B	0	8	161	36	204
Hepatitis, non-A, non-B	0	32	237	45	315
AIDS	0	44	92	3	139
Infective endocarditis	0	15	7	0	22
Drug psychoses	0	0	0	0	0
Maternal drug dependence	0	0	0	0	0
Newborn toxicity	30	0	0	0	30
Road traffic accidents	28	245	114	20	407
Total illicit drugs	149	14,548	6,185	116	20,998
Total all drugs	2,332	34,203	76,245	71,025	183,805

Note: Columns may not add exactly to totals due to rounding.

Table 6.5: PYLL attributable to drug use, by drug involved, cause of death and age: females, 1998

Drug involved/cause of death	Age				All ages
	0–14	15–34	35–64	65 and over	
Alcohol					
Cancer	0	208	3,533	2,701	6,443
Alcoholism and alcoholic liver cirrhosis	0	486	2,779	831	4,095
Road injuries	91	782	473	24	1,369
Other	89	2,221	–288	–24,534	–22,513
Total alcohol	180	3,696	6,496	–20,978	–10,605
Tobacco					
Direct smoking					
Cancer	0	0	7,532	12,336	19,867
Ischaemic heart disease	0	184	3,849	5,816	9,850
Chronic obstructive pulmonary disease	0	0	2,064	8,861	10,925
Other	995	498	3,261	7,296	12,051
Environmental tobacco smoke	278	2	137	413	830
Total tobacco	1,273	685	16,843	34,723	53,523
Illicit drugs					
Drug dependence and abuse					
Cannabis	0	0	0	0	0
Opiates	0	1,802	734	20	2,555
Cocaine	0	27	0	0	27
Amphetamine	0	28	0	0	28
Hallucinogens	0	0	0	0	0
Poisoning	0	0	0	0	0
Opiates	0	327	282	14	623
Psychostimulants	0	0	0	0	0
Hallucinogens	0	0	0	0	0
Suicide	0	462	168	0	630
Antepartum haemorrhage	74	0	0	0	74
Low birthweight	19	0	0	0	19
Hepatitis B	0	8	21	22	50
Hepatitis, non-A, non-B	0	11	76	97	184
AIDS	0	5	21	0	26
Infective endocarditis	0	8	3	0	11
Drug psychoses	0	0	0	0	0
Maternal drug dependence	0	0	0	0	0
Newborn toxicity	0	0	0	0	0
Road traffic accidents	18	71	47	14	151
Total illicit drugs	112	2,748	1,352	166	4,377
Total all drugs	1,565	7,129	24,691	13,911	47,295

Note: Columns may not add exactly to totals due to rounding.

Table 6.6: PYLL attributable to drug use, by drug involved, cause of death and age: persons, 1998

Drug involved/cause of death	Age				All ages
	0–14	15–34	35–64	65 and over	
Alcohol					
Cancer	0	296	7,748	6,397	14,441
Alcoholism and alcoholic liver cirrhosis	0	1,161	11,196	3,055	15,413
Road injuries	447	7,418	2,890	184	10,940
Other	190	13,066	3,473	–36,375	–19,646
Total alcohol	637	21,941	25,309	–26,739	21,147
Tobacco					
Direct smoking					
Cancer	0	0	30,030	48,504	78,534
Ischaemic heart disease	0	874	23,292	18,484	42,650
Chronic obstructive pulmonary disease	0	0	5,620	26,020	31,640
Other	2,307	1,218	8,973	17,743	30,241
Environmental tobacco smoke	691	4	176	642	1,513
Total tobacco	2,998	2,096	68,091	111,393	184,579
Illicit drugs					
Drug dependence and abuse					
Cannabis	0	0	0	0	0
Opiates	0	10,166	4,222	20	14,408
Cocaine	0	104	0	0	104
Amphetamine	0	56	24	0	80
Hallucinogens	0	28	0	0	28
Poisoning	0	0	0	0	0
Opiates	0	3,681	1,727	25	5,434
Psychostimulants	0	54	23	0	77
Hallucinogens	0	0	0	0	0
Suicide	0	2,760	762	0	3,522
Antepartum haemorrhage	137	0	0	0	137
Low birthweight	48	0	0	0	48
Hepatitis B	0	15	181	58	254
Hepatitis, non-A, non-B	0	44	313	142	499
AIDS	0	49	112	3	164
Infective endocarditis	0	23	10	0	33
Drug psychoses	0	0	0	0	0
Maternal drug dependence	0	0	0	0	0
Newborn toxicity	30	0	0	0	30
Road traffic accidents	46	316	161	34	557
Total illicit drugs	261	17,296	7,536	282	25,375
Total all drugs	3,896	41,332	100,936	84,936	231,100

Note: Columns may not add exactly to totals due to rounding.