

Chapter 2 Prevalence of Alcohol Consumption and Related Harms in Australia

Key points

- Using the 2003 definitions, on which all the available data are based, the prevalence of high risk drinking or dependence in Australia was estimated at 5 percent of the population; 15% were considered 'at risk' (considering both definitions of long- and short-term risk of harm) drinkers; 65% were drinking at 'low risk' and 15% stated they were non-drinkers
- Patterns of alcohol misuse differ by age group, place of residence, including regional, rural and remote areas, and also by sex and cultural group, including Indigenous or non-Indigenous status
- Some of the adverse effects associated with excessive alcohol use, apart from acts of violence, accidents and injury, include higher levels of cancers, diabetes, overweight and obesity, cardiovascular disease, and other nutritional deficiencies, as well as mental health effects including cognitive impairment
- Alcohol related harm can also result from the intoxicating effects of the drug and also from its long term toxicity; this includes cancer of the liver and the digestive system (including not only the bowel and colon, but also the mouth and throat) and damaging effects on the brain, the heart, the pancreas, and the peripheral nerves.

Introduction

As is well known, alcohol is commonly consumed in Australia; 83% of the population in the 2007 Drug Strategy Household Survey aged over 14 years reported drinking alcohol in the previous 12 months (AIHW 2008). Between 1996-7 and 2004-5, apparent alcohol consumption (quantity consumed divided by the population aged over 15 years) remained stable at 9.8 litres per person per annum, after declining from 11.5 in 1990 (AIHW 2007). Australia ranks 14th among the OECD (Organisation for Economic Co-operation and Development) countries for per capita pure alcohol consumption, with the UK at 9th place (11.5 litres) and New Zealand at 17th with 9.4 litres (AIHW 2007). Wine consumption has grown over the last 40 years, while beer has remained stable in comparison; however beer remains dominant in apparent consumption, with 4.6 litres consumed per person, wine at 3.1 and spirits at 2.1 litres.

Patterns of consumption

The most comprehensive estimate of patterns and prevalence of drinking in Australia has been obtained from the National Drug Strategy Household Survey which is conducted every three years (AIHW 2002, 2005, 2008). It is recognised that one of the drawbacks of population surveys include the omission of people who are not living in households, such as the homeless and those in institutions, as well as those who refuse to participate. This is taken into account by weighting and is somewhat counterbalanced by the large sample sizes taken, 25,000 respondents in the case of the 12th National Drug Strategy Household Survey and 10,600 in the National Survey of Mental Health and Wellbeing 1997 (Hall et al. 1999).

Results from the 2007 National Drug Strategy Household Survey suggest that current patterns of alcohol consumption are similar to those reported in 1998 and in 2001; the main difference from 2001 to 2007 was that slightly fewer people are abstinent and more are drinking at risky levels (AIHW 2008). The proportion of daily drinkers fell significantly between 2004 and 2007 (from 8.9% to 8.1%).

In 2007, 72.6 percent of all persons aged 14 years and over consumed alcohol in quantities considered to be low risk to health in the long-term and 17.1 were abstainers (AIHW 2008). It was estimated that 6.9 percent of the population consumed alcohol in a manner considered risky and a further 3.4 percent consumed alcohol in a manner considered to be high risk to health in the long term (total 10%). However the National Health Survey 2004-5 showed that 13% of people consumed alcohol at levels which, if continued, would be risky to their health, compared with 11% in 2001 (ABS 2006).

Gender differences in patterns of consumption

Clear gender differences in patterns of alcohol consumption exist. On average men usually begin drinking at a younger age than women (16 years compared to 18 years), and widespread problems in the areas of alcohol misuse and violence have been identified as major health policy issues for men. Further, females are more vulnerable to both the acute and chronic effects of alcohol misuse than males. Females are more likely than males to be non-drinkers and males are more likely than females to consume alcohol at levels considered high risk in the long term (Table 2.1). Males are more likely than females to put themselves at risk of harm in the short term (Table 2.2) and are almost twice as likely to drink daily (AIHW 2008).

Table 2.1: Percentage of the population aged 14 years and over at risk of long-term harm by gender, 2001 and 2007

	<i>Abstinent %</i>	<i>Low risk %</i>	<i>Risky %</i>	<i>High risk %</i>
	<i>2001 (2007)</i>	<i>2001 (2007)</i>	<i>2001 (2007)</i>	<i>2001 (2007)</i>
Males	14.1 (14.0)	75.6 (75.8)	6.7 (6.2)	3.5 (3.9)
Females	20.8 (20.1)	69.8 (69.4)	7.2 (7.6)	2.2 (2.8)
Persons	17.5 (17.1)	72.7 (72.6)	7.0 (6.9)	2.9 (3.4)

Overall, 35 percent of persons aged 14 years and over put themselves at risk of alcohol-related harm in the short term at least once over a 12-month period, and almost 8 percent place themselves at risk for short-term harm at least weekly. At all ages, greater proportions of the population drink at risky or high-risk levels for short-term harm, compared with risk for long-term harm (AIHW 2005).

Table 2.2: Percentage of the population aged 14 years and over at risk of short-term harm by gender, 2001 and 2007

	<i>At least yearly %</i>	<i>At least monthly %</i>	<i>At least weekly %</i>
	<i>2001 (2007)</i>	<i>2001 (2007)</i>	<i>2001 (2007)</i>
Males	15.5 (15.1)	15.3 (14.3)	8.5 (9.3)
Females	12.7 (13.4)	11.6 (10.9)	5.3 (6.2)
Persons	14.1 (14.2)	13.4 (12.6)	6.9 (7.8)

Age differences in patterns of consumption

The proportions of Australians aged 14 years or over abstaining from alcohol increased significantly between 2004 and 2007, with a greater change seen among males than females (AIHW 2008). However, people in the 20-29 year age group were most likely to consume alcohol at a level that put them at risk for long-term (chronic) and short-term harm and were the least likely to abstain (Tables 2.3 and 2.4).

Rates of abstinence, therefore, are lowest in the 20-29 years age group; however they tend to increase with increasing age (Table 2.3).

Table 2.3: Percentage of the population aged 14 years and over at risk of harm in the long term by age group, 2001 and 2007

Age group	<i>Abstinent %</i>	<i>Low risk %</i>	<i>Risky %</i>	<i>High risk %</i>
	<i>2001 (2007)</i>	<i>2001 (2007)</i>	<i>2001 (2007)</i>	<i>2001 (2007)</i>
14-19	26.2 (29.0)	62.1 (62.2)	8.0 (5.6)	3.7 (3.2)
20-29	9.9 (12.9)	75.4 (71.1)	10.2 (10.2)	4.5 (5.8)
30-39	13.0 (12.2)	78.3 (77.5)	6.3 (7.0)	2.5 (3.3)
40-49	13.9 (12.4)	76.5 (76.8)	7.1 (7.7)	2.6 (3.1)
50-59	17.1 (14.0)	73.3 (75.6)	6.6 (6.5)	2.9 (3.9)
60+	27.1 (24.7)	66.8 (68.9)	4.4 (4.8)	1.6 (1.6)

Table 2.4: Proportion of the population aged 14 years and over at risk of harm in the short term by age group, 2001 and 2007

Age group	Risky and high risk*		
	<i>At least yearly</i>	<i>At least monthly</i>	<i>At least weekly</i>
	<i>2001 (2007)</i>	<i>2001 (2007)</i>	<i>2001 (2007)</i>
14-19	13.4 (12.9)	20.5 (17.2)	10.7 (9.1)
20-29	21.1 (19.8)	27.3 (24.9)	12.0 (14.7)
30-39	20.5 (20.3)	16.5 (15.3)	6.3 (8.4)
40-49	16.0 (17.6)	11.1 (12.3)	6.2 (7.5)
50-59	10.2 (11.6)	6.4 (7.1)	5.8 (6.3)
60+	3.7 (5.1)	2.4 (3.2)	2.6 (2.7)

* For males, the consumption of 7 or more standard drinks on any one day; for females 5 or more.

Alcohol consumption among Indigenous Australians

Although the overall proportion of Indigenous Australians who drink alcohol (71 percent) is smaller than in the general population (82 percent), those who do drink tend to drink in larger and more harmful quantities (AIHW 2007). Twenty percent of Indigenous Australians report drinking at risky or high-risk levels for long-term harm.

National statistics show that:

- Heaviest drinking occurs amongst Aboriginal and Torres Strait Islander people aged 25–34 years, while hazardous drinking in the general population is most common among people aged 14–24 years
- 15% of Aboriginal and Torres Strait Islanders consume alcohol at risk of long term alcohol related harm, compared to 9.8% of non-Indigenous Australians

- 31% of Aboriginal and Torres Strait Islanders had not consumed alcohol in the last 12 months, compared to 13% of non-Indigenous Australians (AIHW 2007).

Alcohol- related harm - Indigenous people

- Over the 5 year period from 2000 to 2004, an estimated 1,145 Indigenous Australians died from alcohol-related injury and disease caused by drinking
- Suicide (19%) and alcoholic liver cirrhosis (18%) account for almost 40% of all alcohol-attributable deaths among Indigenous men
- Alcohol liver cirrhosis (27%) haemorrhagic stroke (16%) and fatal injury caused by assault (10%) are the most common causes of alcohol-attributable death among Indigenous women
- Average age at death from alcohol-related causes among Indigenous people is about 35 years (Chikritzhs et al. 2007).

Alcohol-related harm in general

Alcohol is estimated to cause a net harm of 4.4% of the global burden of disease, indicating that the beneficial effects of alcohol are small compared to the detrimental effects. Alcohol causes a greater health burden for men than for women.

Neuropsychiatric disorders, mainly made up of alcohol use disorders, constitute the category linked to most alcohol-attributable burden of disease, with unintentional injury being the second most important category. Contrary to the assumption by many that cirrhosis is the most important form of alcohol induced morbidity and mortality, it only contributes to 10% of the burden of disease caused by alcohol. The health burden is considerable both for acute and chronic health consequences (World Health Organization 2007).

In Australia, alcohol consumption in total causes over 5000 deaths per year, and for each death about 19 years of life are prematurely lost. The burden of deaths is distributed unevenly across the population, with males being over-represented in mortality and morbidity statistics compared to females, as are those living in non-metropolitan regions compared to metropolitan regions. Problems associated with drinking to intoxication are also unevenly distributed; with chronic diseases occurring among people aged over 30 years, whereas deaths and hospitalisations, largely caused by road accidents and violent assault, are much more common among younger people. This may be attributed to different drinking patterns between younger and older age groups (Chikritzhs et al. 2003).

Regional variations in alcohol-related harms

- Rates of alcohol-caused death and hospitalisation were higher in non-metropolitan than in metropolitan areas; the bulk of this was associated with the effects of intoxication
- The Northern Territory had the highest percentages of people aged 15 years or older who drank at risky or high-risk levels for acute harm (30% at least monthly) and for chronic harm (18%) in 2001
- The Northern Territory also had the highest alcohol-caused death and hospitalisation rates of all jurisdictions; however Western Australia and Queensland also had higher rates than other States (Chikritzhs et al. 2003).

Mental health

The 1997 National Survey of Mental Health and Well-Being, the first such national survey conducted in Australia, examined the prevalence of alcohol and other substance use disorders in the population aged 18 years and over. The prevalence of alcohol dependence was estimated to be 3.5 percent, and 3 percent for harmful use, using ICD-10 criteria (Hall et al. 1999), and using the DSM-IV-TR criteria for substance dependence, the prevalence of dependence was 4.1%, with 75% of these being male and 60% in the 18-34 year age group (Proudfoot and Teesson 2002). This survey was conducted again between August and December 2007 but the results were not available at the time of writing. Table 2.4, therefore, represents figures from the 1997 survey. Men are more likely to meet criteria for an alcohol use disorder than women, and prevalence also decreases with age; compared with those aged 55 or older, people aged 18-34 were 6.4 times more likely to have an alcohol use disorder.

Table 2.4: Prevalence of DSM-IV alcohol abuse and dependence by gender

	Harmful use %	Dependence %
Males	4.3	5.2
Females	1.8	1.8
Persons	3.0	3.5

Source: (Hall et al. 1999)

Data from the 2007 Drug Strategy Household Survey report that high-risk drinkers were twice as likely as low-risk drinkers (15.3% vs. 8.5%) to experience high or very high levels of psychological distress, as measured by the Kessler-10; however risky drinkers and abstainers were equally likely to experience high or very high levels of distress (AIHW 2008).

Physical health

In general, higher overall levels of consumption in a population are associated with higher levels of alcohol-related problems. Overall population levels of alcohol consumption have been related to total mortality and to specific causes of death and disease including liver cirrhosis, traffic accidents, suicide and criminal violence.

However, the greatest alcohol-related harm may come from problem drinkers who are not likely to be alcohol dependent, compared with the minority who are, due to the relatively larger numbers of the former. Particularly high rates of alcohol-related harm have been found among low and moderate level drinkers on the occasions they drink to intoxication. One US population-based survey reports that including binge drinking into their calculations of average daily consumption and comparing it with standard quantity- frequency questions raised the level of heavy drinking by 19% to 42%, (Stahre et al. 2006) and as a result half of female binge drinkers and half of binge drinkers aged 55 and older met the criteria for heavy drinking. The former and the recently updated NHMRC guidelines therefore consider pattern as well as quantity of weekly consumption in considering level of risk associated with drinking. It becomes even more important, when taking into account the reported surge in binge drinking among young people, that reducing harm associated with low-dependent drinking patterns, such as episodes of intoxication, is at least as important as reducing harm associated with average consumption level.

The relationship between consumption and harm varies substantially among age and sex cohorts, since alcohol-related risk status is not necessarily stable over a person's lifetime (e.g. young people and males are at greater risk of harm) and also varies between different defined sub-populations (e.g. Indigenous groups, those operating machinery or driving vehicles, and pregnant women are at greater risk of harm) and between different drinking situations (e.g. greater mortality and morbidity associated with drink driving in rural areas). However, the general pattern of the relationship between drinking and alcohol-related harm remains.

Low risk alcohol consumption is thought to have some health benefits, especially in older men, where an association was found between moderate alcohol consumption and decreased risk of myocardial infarction (Mukamal et al. 2003). Australian studies, however, have found that benefits occur for women (Powers and Young 2008) but not for men, specifically when wine is the drink taken (Harriss et al. 2007). Nevertheless, the evidence for other benefits is conflicting. Rather than a linear relationship between consumption and harm, the relationship has been shown to be U-shaped, where overall, moderate drinkers have better physical and outcomes than either non-drinkers or heavy drinkers (O'Keefe et al. 2007). These authors warn that the hypothesis is a two-edged sword; while there is evidence to show that light drinking on a daily basis may significantly reduce the risks of coronary heart disease and all-cause mortality, excessive alcohol intake and binge drinking are implicated in types of cancer and are detrimental to the heart, liver and overall health. It is not recommended, therefore, for non-drinkers to start drinking in order to gain indefinable health benefits.

Social costs

The overall effects of alcohol-related harm extend beyond the individual to include social and economic costs of harm to families, communities and society at large (World Health Organization 2007). Alcohol abuse or intoxication is implicated in violence, both domestic and public, unemployment, financial problems and poverty, drink driving, traffic accidents, industrial and work accidents, fires, falls, and suicide (Crombie et al. 2007).

There has been growing concern in the media both in Australia and in the UK and Europe over youth drinking, especially binge drinking, and its association with violence and accidents. One study that examined data from several Victorian (Australia) surveys reports inconclusive evidence in this regard; both the Victorian Emergency Minimum dataset and the Victorian Admitted Episodes dataset show an increasing trend in hospitalisation for alcohol-related causes among people aged 18-24 years between 1999-2006 (Livingston 2008). Contradictory results provided by the Victorian Population Health Survey and the Victorian Youth Alcohol and Drug Survey found no increases in rates of risky drinking among young people; the authors conclude it is possible that, while the proportion of young people drinking at levels that exceed NHMRC guidelines has not changed, more are drinking at extremely high levels and thus are ending up in hospital (Livingston 2008).

Overall the proportion of respondents to the Drug Strategy Household Survey who reported that they were likely to undertake potentially harmful activities while under the influence of alcohol remained relatively stable between 2004 and 2007- in every case males were more likely to undertake such activities. In 2007, 12.1 percent of adults admitted to driving a motor vehicle while under the influence of alcohol (AIHW 2008). This figure fell slightly from 13.4% in 2004.

Since 1995, there has been a slow decrease in those who experienced verbal abuse in the previous 12 months; down from 33 percent to 26.5 percent in 2001, to 24.9% in 2004 and 25.4% in 2007; the level of physical abuse (as victim) remained steady at 4.5%.

References

- ABS 2006, National Health Survey 2004-5 Summary of Results. Cat no 4364.0. Canberra: Australian Bureau of Statistics.
- AIHW 2002, *2001 National Drug Strategy Household Survey*. Canberra: Australian Institute of Health & Welfare.
- AIHW 2005, *2004 National Drug Strategy Household Survey*. First results. AIHW cat no. PHE 57. Canberra: Australian Institute of Health & Welfare.
- AIHW 2007, *Statistics on Drug Use in Australia 2006*. Canberra: Australian Institute of Health & Welfare.
- AIHW 2008, *2007 National Drug Strategy Household Survey*. First results. . Canberra: Australian Institute of Health & Welfare.
- Chikritzhs, T, Catalano P, Stockwell T et al. 2003, *Australian Alcohol Indicators, 1990-2001: patterns of alcohol use and related harms for Australian States and Territories*. Perth and Melbourne, National Drug Research Institute, Curtin University of Technology and Turning Point Alcohol & Drug Centre.
- Chikritzhs, T, Pascal R, Gray D et al. 2007, *Trends in alcohol-attributable deaths among Indigenous Australians, 1998-2004. National Alcohol Indicators*. Perth, National Drug Research Institute, Curtin University of Technology.
- Crombie, IK, Irvine L, Elliott L et al. 2007, How do public health policies tackle alcohol-related harm: a review of 12 developed countries. *Alcohol Alcohol* 42(5): 492-499.
- Hall, W, Teesson M, Lynskey M et al. 1999, The 12-month prevalence of substance use and ICD-10 substance use disorders in Australian adults: finding from the National Survey of Mental Health and Well-Being. *Addiction* 94(10): 1541-1550.
- Harriss, LR, English DR, Hopper JL et al. 2007, Alcohol consumption and cardiovascular mortality accounting for possible misclassification of intake: 11-year follow-up of the Melbourne Collaborative Cohort Study. *Addiction* 102(10): 1574-1585.
- Livingston, M 2008, Recent trends in risky alcohol consumption and related harm among young people in Victoria, Australia. *Aust NZ J Pub Health* 32(3): 266-271.
- Mukamal, KJ, Conigrave K, Mittleman MA et al. 2003, Roles of drinking pattern and type of alcohol consumed in coronary disease in men. *N Eng J Med* 348(2): 109-118.

- O'Keefe, JH, KA Bybee and CJ Lavie 2007, Alcohol and Cardiovascular Health: The Razor-Sharp Double-Edged Sword. *J Am College Cardiol* 50(11): 1009-1014.
- Powers, JR and AF Young 2008, Longitudinal analysis of alcohol consumption and health of middle-aged women in Australia. *Addiction* 103(3): 424-432.
- Proudfoot, H and M Teesson 2002, Who seeks treatment for alcohol dependence? Findings from the Australian National Survey of Mental Health and Wellbeing. *Soc Psych Psych Epidemiol* 37(10): 451-456.
- Stahre, M, Naimi T, Brewer R et al. 2006, Measuring average alcohol consumption: the impact of including binge drinks in quantity-frequency calculations. *Addiction* 101: 1711-1718.
- World Health Organization 2007, WHO Expert Committee on Problems Related to Alcohol Consumption. World Health Organization. Available at: http://www.who.int/substance_abuse/expert_committee_alcohol/en/index.html