

The Social Context of
Alcohol Use
in **Australia**

Ann Roche

Petra Bywood

Toby Freeman

Ken Pidd

Joseph Borlagdan

Allan Trifonoff

Citation details

Roche, A. M., Bywood, P., Freeman T., Pidd, K., Borlagdan, J., Trifonoff, A. (2009). *The Social Context of Alcohol Use in Australia*. Adelaide: National Centre for Education and Training on Addiction.

ISBN 13: 978 1 876897 26 0

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced without prior written permission from the National Centre for Education and Training on Addiction, available from Level 3B Mark Oliphant Building, Science Park, Bedford Park, South Australia 5042, Australia.

Any enquiries about or comments on this publication should be directed to:
Professor Ann Roche
National Centre for Education and Training on Addiction (NCETA)

Flinders University
GPO Box 2100 Adelaide 5001
South Australia
Australia

Published by National Centre for Education and Training on Addiction
www.nceta.flinders.edu.au

Design and Layout by Inprint Design
www.inprint.com.au



Acknowledgements

This report on The Social Context of Alcohol Use in Australia was prepared by the National Centre for Education and Training on Addiction (NCETA) at Flinders University for the Australian Government Department of Health and Ageing. Tania Steenson, Nina Wang and Karen Brandon are thanked for their assistance in formatting the document.

Source Documents

This report on The Social Context of Alcohol Use in Australia was prepared by the National Centre for Education and Training on Addiction (NCETA) at Flinders University. In preparing this document a number of existing source documents were used. Some sections of the text within the report are taken directly from these source documents.

Australian Institute of Health and Welfare (2005). *2004 National Drug Strategy Household Survey - First Results*. Canberra: Australian Institute of Health and Welfare.

Dawes, S., Frye, S., Best, D., Lynch, M., Atkinson, J., Evans, C., et al., (2007). *Drug use in the family: Impacts and implications for children*. Canberra: Australian National Council on Drugs.

Doherty, S., & Roche, A. (2003). *Alcohol and licensed premises: Best practice in policing*. Adelaide: Australasian Centre for Policing Research.

National Health and Medical Research Council (NHMRC) (2009). *Australian guidelines to reduce health risks from drinking alcohol*. Canberra: NHMRC.

National Health and Medical Research Council (NHMRC) (2007). *Revision of Australian Alcohol Guidelines: Health risks and benefits. Alcohol and Acute harms: Systematic literature review*. Canberra: NHMRC.

Nicholas, R. (2008). *Understanding and responding to alcohol-related social harms in Australia. Options for policing*. NDLERF.

Roche, A. M., Bywood, P., Borlagdan, J., Lunnay, B., Freeman, T., Lawton, L., et al., (2007). *Young people and alcohol: The role of cultural influences*. Adelaide: National Centre for Education and Training on Addiction.

Pidd, K., Shtangey, V., & Roche, A. M. (2008). *Alcohol use in the Australian workforce: Prevalence, patterns, and implications: Findings from a secondary analysis of 2004 NDSHS data*. Adelaide: National Centre for Education and Training on Addiction, Flinders University.

Pidd, K., Berry, J. G., Harrison, J. E., Roche, A. M., Driscoll, T. R., & Newson, R. S. (2006). *Alcohol and work: Patterns of use, workplace culture & safety*. Adelaide: Australian Institute of Health and Welfare.

Wolinski, K., O'Neill, M., Roche, A., Freeman, T., & Donald, A. (2003). *Workforce issues and the treatment of alcohol problems: A survey of managers of alcohol and drug treatment agencies*. Canberra: Australian Government Department of Health and Ageing.

WHO Expert Committee on Problems Related to Alcohol Consumption (2006). *Second report*. Geneva: World Health Organization.

Contents

Executive Summary	vii
Chapter 1: Alcohol, No Ordinary Commodity	1
Chapter 2: Cultural and Symbolic Meanings of Alcohol	5
Chapter 3: Emerging Trends and Cultural Changes	11
Chapter 4: Commercial Aspects of Alcohol	19
Chapter 5: Consumption and Risky Use	29
Chapter 6: Costs of Alcohol Use	47
Chapter 7: Effects of Alcohol	53
Chapter 8: Alcohol and Human Behaviour	57
Chapter 9: Social Harms	63
Chapter 10: Morbidity and Mortality	71
Chapter 11: Indigenous and Young People	83
Chapter 12: The Workplace	91
Chapter 13: Structural and Regulatory Factors	97
Chapter 14: Management of the Night-time Economy	109
References	117
Appendix 1	133

List of Tables

Table 5.1	Number of Australian standard drinks in common containers of various alcoholic beverages	31
Table 5.2	Alcohol available for consumption, and apparent consumption for the financial year 2005-2006	34
Table 5.3	Locations where alcohol is usually consumed	35
Table 5.4	Alcohol drinking status: proportion of the population aged 14 years or older, by sex, Australia, 2007	36
Table 5.5	Alcohol drinking status: proportion of the population aged 14 years or older, by age and sex, Australia, 2007	37
Table 5.6	Alcohol consumption, risk of harm in the short term: proportion of the population aged 14 years or older, by age and sex, Australia, 2007	41
Table 5.7	Alcohol consumption, risk of harm in the long term: proportion of the population aged 14 years or older, by age and sex, Australia, 2007	42
Table 5.8	Lifetime risk of alcohol-related death associated with particular patterns of drinking	45
Table 6.1	Total social costs of alcohol use, 2004/05	48
Table 6.2	Intangible social costs of alcohol use, 2004/05	48
Table 6.3	Self-reported alcohol-related absenteeism in the previous 12 months by drinking risk category for employed respondents to the 2001 National Drug Strategy Household Survey	49
Table 6.4	Breakdown of costs of alcohol use borne by each sector of the community 2004/05	50
Table 6.5	Budgetary implications of alcohol use for Federal and State governments 2004/05	51
Table 8.1	Internal and External Factors of the Physical and Social Environment of Licensed Premises that Impact on Alcohol-Related Harms	61
Table 9.1	Alcohol and/or drug-related abuse or intimidation in the workplace experienced by employed recent drinkers, aged 14 years and over	65
Table 10.1	Alcohol-caused hospital bed days and deaths in 2004/05	72
Table 10.2	Conditions resulting or partially resulting from alcohol consumption	74
Table 11.1	Causes of alcohol-attributable deaths and hospitalisation (%) for males and females aged 15 to 24 years (data from 2004 NAIP)	89

List of Figures

Figure 1.1	Relationships among alcohol consumption, mediating factors and alcohol-related consequences	2
Figure 2.1	Cycle of consumerism	8
Figure 3.1	Age specific fertility rates - selected years	12
Figure 3.2	Number of single-parent families in Australia	13
Figure 3.3	Religious affiliation of Australians of all ages	17
Figure 5.1	Percentage of young people who have had a full serve of alcohol, by age and gender	32
Figure 5.2	Reported age of first full serve of alcohol, by age cohort	33
Figure 5.3	Indices of alcohol consumption: Australia, 1964-65 to 2002-03	35
Figure 5.4	Alcohol consumption at risky/high risk levels (at least yearly, monthly and weekly combined) for short-term harm: persons by age and year (%)	43
Figure 5.5	Alcohol consumption at risky/high risk levels for long-term harm: persons by age and year (%)	43
Figure 5.6	Lifetime risk of hospitalisation for alcohol-related injury per 100 male drinkers by number of standard drinks per occasion and frequency of occasions	45
Figure 5.7	Lifetime risk of hospitalisation for alcohol-related injury per 100 female drinkers, by number of standard drinks per occasion and frequency of occasions	46
Figure 6.1	Main categories of alcohol use costs (\$millions) for 2004/2005	49
Figure 6.2	Economic cost (\$millions) of alcohol use in 2004/05 borne by each sector of the community	50
Figure 10.1	The number of alcohol-related hospital admissions in South Australia from 2000-01 to 2006-07	73
Figure 11.1	Estimated numbers and crude population rates (per 10,000 Indigenous residents) of alcohol-attributable Indigenous deaths by (former) ATSI zones, 2000-2004	85
Figure 11.2	Percentage of young males and females consuming alcohol at risky or high risk levels for short-term harms at least monthly	86
Figure 11.3	Perceptions of young people aged 12-24 of their own drinking	87
Figure 12.1	Proportions of respondents to the 2004 NDSHS (aged 14 years and over) by drinking patterns and paid employment status	92
Figure 12.2	Proportions of respondents to the 2004 NDSHS (aged 14 years and over) by drinking patterns and employment category	93
Figure 12.3	Sectors of the community who bore the cost of alcohol use 2004/05	93
Figure 12.4	Proportions of employed respondents to the 2004 NDSHS (aged 14 years and over) by frequent (at least weekly) short-term risky/high risk drinking and industry of employment	94
Figure 12.5	Proportions of employed respondents to the 2004 NDSHS (aged 14 years and over) by frequent (at least weekly) short-term risky/high risk drinking and occupation	94
Figure 12.6	Proportions of employed respondents to the 2004 NDSHS (aged 14 years and over) by frequent (at least weekly) short-term risky/high risk drinking and age	95
Figure 13.1	Growth in the number of licensed premises in Victoria from being below 4,000 in 1986 to 12,000 in 2004	101



Executive Summary

This report by the National Centre for Education and Training on Addiction (NCETA) at Flinders University addresses a range of contemporary issues related to the use of alcohol in Australia.

The report contains 14 separate chapters each addressing a different key issue. Summary content is provided on each of these areas. The report does not provide expansive coverage on all issues. The content of the document should be viewed as introductory rather than comprehensive.

A large and extensive literature is available on alcohol spanning research work undertaken over the past three to four decades. Most research and understanding about alcohol however has been driven by either clinical or epidemiological concerns. Less attention has been directed to the social aspects of alcohol. This report therefore focuses on the social context of alcohol use in Australia. In doing so, it draws on a wide range of issues and different types of literatures, including some of the more traditional clinical and epidemiological studies.

Key themes and content are as follows:

Alcohol, No Ordinary Commodity – Chapter 1

Alcohol is increasingly promoted and positioned within society as a commercial commodity, like milk, bread or orange juice with less consideration given to its potential harmful effects. The counter argument is that 'alcohol is no ordinary commodity' because of its potential to produce or contribute to a wide range of social harms.

In essence, alcohol is:

- » integral to the Australian way of life
- » an important economic commodity
(in terms of revenue, employment, tourism, exports)
- » a major contributor to preventable illness and death.

Alcohol's Cultural and Symbolic Meanings – Chapter 2

Although alcohol is acknowledged as integral to the Australian way of life there has been little examination of how it is embedded with the culture of Australian society. To understand why people drink, and drink the way they do, we need to understand the cultural contexts which make drinking meaningful.

- » although alcohol is normalised in Australian society, it is shaped by cultural and social norms and is thus amenable to change
- » culture is defined here as the knowledge, morals, laws and customs of society
- » in consumer culture, alcohol is highly commodified by marketing and advertising industries
- » the commodified cultural and symbolic meanings of alcohol provide an identity resource that encourages people to participate in a 'leisure lifestyle'
- » consumer culture also encourages constant dissatisfaction and may have negative effects on well-being
- » while pleasure is associated with alcohol, drinking is often structured, organised and managed as a form of 'calculated hedonism'.

Emerging Trends and Cultural Changes – Chapter 3

A wide range of important social changes have occurred in Australian society over the past two to three decades that impact on drinking behaviours. These include:

- » the changing role and position of women in society
- » young Australians get married later, have fewer children and delay home ownership and therefore, have more leisure time and expendable income
- » one in six Australian families are single parent families
- » young people delay leaving the parental home
- » parenting styles are more lenient than in previous generations
- » Australians are less religious than previously.

Commercial Aspects of Alcohol – Chapter 4

There is increased diversity in alcohol products designed for segmented markets. Millions of dollars are spent on alcohol advertising, marketing, and promotions and involves:

- » strong association between exposure to alcohol advertising and young people's drinking
- » image advertisements that are potent and appealing to younger people
- » alcohol products with high alcohol content marketed for 'starter drinkers'
- » alcopops being most appealing to adolescents
- » 2-3 times more money being spent on unmeasured and largely unregulated advertising (point-of-sale, branded merchandise, sponsorships, films)
- » pervasive and prominent alcohol advertising on billboards, bus shelters, buses and trains, where exposure to children is high
- » the self-regulatory Australian Alcohol Beverages Advertising Code (ABAC) failing to adequately control alcohol advertising.

Consumption and Risky Use – Chapter 5

- » the majority of Australians (over 80%) drink alcohol
- » age of initiation has decreased; over 50 per cent have consumed alcohol by the age of 14
- » 61 per cent of alcohol consumed in Australia is estimated to be drunk at risky levels at least occasionally
- » risky and high risk drinking is most prevalent among Australians aged 20-29 years
- » the prevalence of risky and high risk drinking has remained relatively stable from 2001 to 2007.

Costs of Alcohol Use – Chapter 6

- » tangible and intangible costs of alcohol use in 2004/05 exceeded \$15b
- » the costs of alcohol use are associated with low risk drinking and infrequent risky drinking as well as frequent risky drinking
- » over one third of the costs associated with alcohol use results from lost workplace production
- » the alcohol-related revenue received by the Federal government exceeds alcohol-related expenditure.

Effects of Alcohol – Chapters 7, 8

There is significant variability in biological responses to alcohol, which is determined by factors such as sex, body size and composition, age, experience of drinking, genetics, nutrition and individual metabolism. Immediate effects of alcohol include: relaxation, wellbeing, and loss of inhibitions. Higher levels of consumption of alcohol may lead to: drowsiness, loss of balance, nausea and vomiting.

- » consumption of alcohol is disinhibiting and may lead consumers to engage in activities that involve greater risk than they would otherwise
- » there is a strong link between alcohol and aggression
- » physical and regulatory features of licensed premises may influence levels of aggression and other alcohol-related harms (see chapter 13)
- » alcohol increases the risk of unsafe sex (and decreases the likelihood of condom use), and increases risk of sexual coercion
- » studies have found that alcohol, and not drugs, is heavily and predominantly implicated in suspected cases of drink spiking.

Social Harms – Chapter 9

- » the social harms caused by alcohol are often overlooked, and include homelessness, unemployment, crime, assaults, work-related harms, work absenteeism, and child safety issues
- » alcohol use can be a major contributor to homelessness and is an exacerbating condition for homeless people
- » alcohol causes a wide range of work-related harms, including safety issues to do with intoxicated workers and absenteeism, and can contribute to unemployment
- » around 10% of children live with an alcohol or other substance abusing or dependent adult, and alcohol is a major contributing factor to child abuse and neglect.

Morbidity and Mortality – Chapter 10

- » alcohol is second only to tobacco as a preventable cause of drug-related death and hospitalisation, and comprises at least 3.3% of the total burden of disease and injury in Australia
- » there is little epidemiological evidence for the beneficial effects of alcohol, and previous findings may have been due to methodological shortcomings

- » the gross cost of alcohol to the healthcare system is over \$2 billion dollars
- » harms arising from acute effects of alcohol consumption form a large and often overlooked proportion of alcohol-related morbidity and mortality: more people die from the acute effects of alcohol such as road injuries than chronic conditions such as cancer.

Indigenous and Young People – Chapter 11

- » alcohol consumption is an underlying risk factor for poor Indigenous health
- » while Aboriginal and Torres Strait Islander people are less likely than the general population to drink, those who do drink are more likely than non-Indigenous drinkers to consume at risky or high risk levels for long term harm
- » Indigenous men are 9 times and women are 4 times more likely to be hospitalised due to excessive alcohol use compared to the non-Indigenous population, and the rate of alcohol-attributable deaths among Indigenous Australians is approximately twice that for the non-Indigenous population
- » for young people: the risks of alcohol-related accidents, injuries, violence and self-harm are high among drinkers aged under 18 years
- » between 1993 and 2001, 28 per cent of all alcohol-related injury deaths and more than one third of alcohol-related injury hospitalisations were sustained by young people aged 15–29 years, and about half of all serious road injuries involved young people.

The Workplace – Chapter 12

- » the potential of the workplace as an alcohol harm intervention setting has largely been overlooked
- » the workplace offers a high concentration of the demographic groups who engage in risky alcohol use
- » alcohol use is more prevalent among those in paid employment
- » due to the impact of alcohol use on workplace safety and productivity, employers are likely to be motivated to support interventions
- » workplace interventions are likely to be cost effective and efficacious
- » occupational health and safety and industrial relations frameworks exist that can incorporate alcohol-related issues.

Structural and Regulatory Factors – Chapter 13

- » the number of licensed premises has increased substantially in Australia over the past decade
- » in large part, this expansion is due to the National Competition Policy
- » the characteristics of licensed premises are important factors in alcohol-related levels of harms
- » density, hours of operation and price are key factors associated with alcohol-related harm
- » hotels, taverns and nightclubs are the premises associated with most alcohol-related harm largely because of their serving practices.

Management of the Night-Time Economy – Chapter 14

Emergence of the night-time economy has important implications for alcohol-related harms. The night-time economy has both positive and negative features:

- » positive aspects include:
 - regeneration of urban spaces
 - expanded employment opportunities
 - revenue generation
 - increased leisure opportunities
 - creation of a cosmopolitan feel.
- » negative aspects include:
 - increased pressure on emergency services (police, emergency departments)
 - facilitates excessive drinking
 - noise and degradation of community amenity
 - vandalism and other impacts on the day-time economy.

There is an important but under-utilised role for local councils and police in managing the night-time economy.

Chapter 1: Alcohol, No Ordinary Commodity

Key points

- » Alcohol is integral to the Australian way of life.
- » Alcohol is an important economic commodity – employment, tourism, exports.
- » Alcohol is a major contributor to preventable illness and death.
- » Mean consumption has decreased but risky use by women and youth has increased.
- » Economic costs of alcohol-related harm exceeds \$15 billion per annum.

Alcohol plays an integral part in the Australian way of life. It is used to celebrate and commiserate significant life events such as births, deaths, marriage, graduation, promotions and sackings. It is the most popular and widespread psychoactive substance available in Australia. It is legal, socially sanctioned and widely promoted. In Australia, the consumption of alcohol is considered a sociable occasion, to be shared with others, with the principles of mateship and reciprocity exercised through buying 'rounds' or 'shouts' (Kirkby, 2003; Midford, 2005).

People use alcohol for a wide range of reasons and in different social and cultural contexts. They may drink for sociability, cultural participation, religious observance or as a result of peer influence. They may also drink for relaxation, mood alteration, enhanced creativity, intoxication, addiction, boredom, habit, to overcome inhibitions, to escape or forget or to 'drown sorrows'. These reasons are likely to be closely related to age, culture and socioeconomic grouping. Risky alcohol use affects a wide range of people, regardless of race, cultural background, education, religion, gender or age. Reasons for drinking are varied and may be complex.

Alcohol also provides employment for a large and diverse workforce in the hospitality industry as well as in farming, manufacture, advertising and investment industries associated with alcohol production. Alcohol products bring foreign currency into Australia through exports and generate substantial tax revenues for

the government. Given the profits generated for beer and winemakers and other alcohol beverage manufacturers, alcohol is “an important, economically embedded commodity” (Babor, Caetano, Casswell et al., 2003).

At the same time, the benefits are tempered by alcohol-related health and social costs. There are three main mechanisms that explain alcohol’s capacity to cause health and social harm:

- 1) physical toxicity
- 2) intoxication and
- 3) dependence.

These outcomes are related to particular patterns of drinking.

Rapid ingestion of alcohol is associated with acute effects of physical toxicity and intoxication (accidents, injuries, violence), whereas chronic health problems, such as liver and heart disease and depression are associated with frequent heavy use, and if sustained over time may lead to dependence (Babor et al., 2003).

The various relationships that can exist between different patterns of consumption and alcohol-related consequences are shown in Figure 1.1 (Babor et al., 2003).

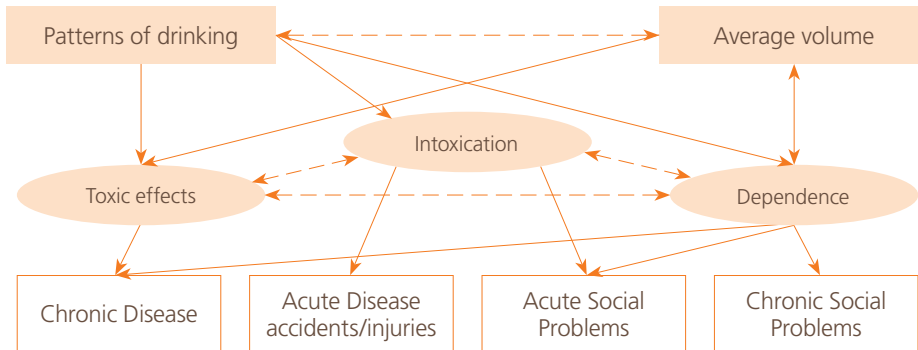


Figure 1.1 Relationships among alcohol consumption, mediating factors and alcohol-related consequences (Source: Babor et al., 2003)

While there has been a downward trend in mean per capita consumption of alcohol in Australia over the past three to four decades, there has been:

- » a parallel increase in production of various alcohol product types (e.g. wine)
- » the emergence of new types of products (e.g. alcopops) designed to appeal to specific sectors of the market
- » greater availability through expanded outlet types (e.g. supermarkets)
- » more relaxed licensing laws (e.g. extended trading hours)
- » more aggressive, creative and pervasive marketing of alcohol
- » the introduction of anti-competition policies.

At the same time that overall mean consumption has decreased, sub-groups (e.g. young people, women) within the population drink more now than in previous generations and at riskier levels.

According to the World Health Organization (WHO), approximately 3.3 per cent of the global burden of disease in 2003 – 4.9 per cent in males and 1.6 per cent in females – was attributed to alcohol consumption (Begg, Vos, Barker et al., 2007). In Australia, alcohol is a major contributor to preventable illness and death, and is responsible for over 3,100 deaths and 72,000 hospitalisations per year (Chikritzhs, Catalano, Stockwell et al., 2003). There is also much widespread and enduring social harm associated with alcohol consumption, including violence, domestic assaults, criminal behaviour, unemployment and homelessness.

The financial cost of problems arising from alcohol consumption has been estimated at \$15.3 billion per annum (Collins & Lapsley, 2008). Recent analysis of the government revenue and expenditure associated with alcohol consumption in adolescents showed substantial disparity between the amount of tax revenue received from adolescent drinkers (12-17 years) and the amount spent on prevention and alcohol-related problems in adolescent drinkers (Doran, Gascoigne, Shakeshaft, & Petrie, 2006). Adolescent Australians spent approximately \$217 million on alcoholic beverages in 2002, netting approximately \$112 million in tax revenue (average \$195 in tax per adolescent drinker). In contrast, approximately \$17 million was spent on adolescent drinking interventions in 2002, equating to about \$10.51 per adolescent on delivery of alcohol interventions. That is, for every dollar spent on alcohol interventions aimed at adolescents, the government received around \$7 in alcohol tax revenue.

Alcohol pricing also influences consumption. Drinkers generally drink more when prices are lowered (e.g. discounted drinks, 'Happy hour') and they drink less when prices rise. Overall, the price of alcohol beverages has decreased over the past 50 years and this can be explained partly by the lack of tax increase with inflation (Babor et al., 2003).



Chapter 2: Cultural and Symbolic Meanings of Alcohol

Key points

- » Culture can be defined as the knowledge, morals, laws and customs of society.
- » To understand why people drink, we need to understand the cultural context which makes drinking meaningful.
- » In consumer culture, alcohol is highly commodified by marketing and advertising industries.
- » The commodified cultural and symbolic meanings of alcohol provide an identity resource that encourages people to participate in a 'leisure lifestyle'.
- » Consumer culture also encourages constant dissatisfaction and may have negative effects on well-being.
- » While pleasure is associated with alcohol, drinking is often structured, organised and managed as a form of 'calculated hedonism'.
- » Although alcohol is normalised in Australian society, it is shaped by cultural and social norms and is thus amenable to change.

Defining culture

Typically we understand culture to refer to a set of values, beliefs and norms that have been historically transmitted from generation to generation. Culture in this sense is all-pervasive; it provides the context for our everyday lives. It orients our perspective by providing a 'cultural lens' with which to view, and make sense of, our social worlds. Culture refers to a "complex whole" that encompasses the knowledge, morals, laws and customs of society (Roche, Bywood, Borlagdan et al., 2007, p. 63; Tylor, 1871).

“Culture is involved in all those practices...which carry meaning and value for us, which need to be meaningfully interpreted by others, or which depend on meaning for their effective operation¹.”

The term ‘drinking culture’ is a popular term that implies a range of behaviours and attitudes. However, it is poorly defined and of limited use when trying to understand the cultural context of alcohol use. When we talk of a drinking culture, we are referring to an ongoing social process where meanings of alcohol are being constructed and reproduced. The term culture can inform how we make sense of the world.

Cultural context of alcohol use

Alcohol as a cultural artefact does not have inherent meaning unless understood in a given context. Historical meanings of alcohol often revolve around national drinking rituals such as:

- » ‘shouts’ (each man in turn buys a round of drinks for the whole group) and
- » ‘work and bust’ (a prolonged drunken spree following a long period of hard work in the bush).

These practices are believed to have promoted widespread heavy drinking (Lewis, 1992, p. 4).

These rituals are often couched within the positively valued Australian ideals of ‘mateship’ and ‘work ethic’ (Roche et al., 2007, p. 67) and as such usually refer to male forms of bonding and solidarity.

Commodification of cultural and symbolic meanings

Contemporary Australian society is increasingly shaped by consumer capitalism and consequently the commodification of alcohol. The prominence of consumption as an organised system of cultural values and meanings in advanced industrial society also marks a wider structural shift whereby social life is now driven by consumption rather than production. Within this consumer culture, we are encouraged to seek happiness, meaning and fulfilment through the consumption of goods. We become accustomed to looking for newness in all things as the ‘culture industries’ support the insatiableness of our desires by providing a constant stream of new products and images for us to consume (Roche et al., 2007, p. 65).

¹ Hall, 1997, p.3.

This shift from a traditional to modern society means that the cultural context in which alcohol is consumed is altered along with the meanings ascribed to drinking. As any other commodity in consumer culture, alcohol is marketed, advertised and stylised to represent a lifestyle in which happiness, social success and fulfilment are available through the consumption of the product (Lury, 1996). Alcohol thus has symbolic significance as a resource from which consumers can construct an identity that fits with a modern leisure lifestyle.

Drinking is made meaningful because it is used by young people as a form of group identification that distinguishes them from other socio-cultural groups and lifestyles (Jarvinen & Gundelach, 2007). This is a social process, as differences between lifestyles only work if they are “socially recognised and legitimated” (Featherstone, 1991). Recent research in this area has found that “what, where and how a person drinks is a simultaneous enactment of class and gender” (Lindsay, 2006).

Changes in women’s drinking

The creation of niche markets has influenced young women. Drinking is no longer bound to the public realm of the drinking hotel but has multiplied into diverse areas including the private sphere and it has become an important part of women’s lifestyles (Roche et al., 2007, pp. 68-69).

The recommodification of alcohol into alcopops and ‘ready to drinks’ (RTDs) has served to target females as well as a younger generation of drinkers (Brain, 2000). The traditional notion of a homogenous national, masculine drinking culture no longer applies. Alcohol has been commodified as a lifestyle choice and a cultural ideal.

Changes in the types of drinks young people consume, specifically with regard to the increasing popularity of ‘alcopops’ and pre-mixed RTDs, have been driven by a larger move to recommodify alcoholic drinks. The re-commodification of alcohol into new products and new brands has resulted in the targeting of new demographics that had traditionally not been drinkers.

It has been argued that alcohol companies created these new types of alcoholic drinks in fear of losing market share to illicit drugs associated with the rise of dance culture in the late 1980s (Brain, 2000; Measham, 2004; Parker, Aldridge, & Measham, 1998). Consequently, many of the values and ideals of youth culture have been appropriated by the alcopops and RTDs. As a marker of broader cultural shifts alcohol companies have therefore commodified the hedonistic values of pleasure and excess that mark consumerism (Roche et al., 2007, p. 81).

The commodification of alcohol

Consumer culture emphasises the cultural values of individualism and materialism. Rather than increasing people's sense of well-being, these values seem to do the opposite. Many studies show that materialism - the pursuit of money and possessions - seems not to breed happiness but dissatisfaction, depression, anxiety, anger, isolation and alienation (Kasser 2002, Eckersley 2005a: 85-96, DeAngelis 2004 in Eckersley, Wierenga, & Wyn, 2006).

Eckersley et al., (2006, p. 34) believe that the human response to this isolation is to seek out tribal groups that "dissolve the boundaries of the self" and which promote belonging and togetherness with others, a function which alcohol and some drugs are viewed as fulfilling.

Other critics maintain that consumer culture results in an endless cycle of desire and boredom: dissatisfaction is largely created by the market through "planned obsolescence" (McKendrick, Brewer, & Plumb, 1982). This is evident in the way advertisers work to constantly highlight and emphasise newness by rendering past products stylistically and emotionally obsolete (Ewen, 1988).

For example, advertisements for alcohol products frequently highlight new additives (e.g. guarana) or maintain that the consumption of alcohol will exceed the consumer's expectations (e.g. drink X will augment your physical attractiveness, social life, sexuality and popularity). In this way, dissatisfaction and a corresponding desire for newness are manufactured. Consequently, a tension exists whereby consumers are pulled between the poles of intense desire and boredom. No longer is it acceptable to simply have, one must also continue to long for, desire and search out new consumer goods that 'fit' with one's lifestyle (Roche et al., 2007).

As a product of the culture industries, which include marketing, advertising and commercial agencies, alcohol is a commodity whose symbolic and cultural meanings are not only those of the consumer, but also of a system geared towards continual desire and inevitable obsolescence as depicted in Figure 2.1 below.

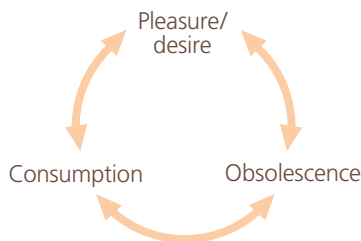


Figure 2.1 Cycle of consumerism

Alcohol and pleasure

Recently researchers have examined new conceptions of drinking that revolve around the management and organisation of pleasure. Alcohol is meaningful to people's lives because it is a commodity emblematic of leisure lifestyle and its attendant pleasures.

Pleasure is not always an inherent motivation of the individual, but its association with alcohol is something that is structured by the market economy and the alcohol industries. Broader shifts in the commercial market have brought about a 'new culture of intoxication' to which the notion of pleasure is central (Measham & Brain, 2005).

Calculated hedonism vs binge drinking

The pursuit of pleasure does not imply a set of unregulated and uncontrolled drinking behaviours. Most commonly, this is conjured through the use of the term 'binge drinking', implying a drinking session in which alcohol is drunk to excess. Most often applied to young people's drinking patterns, 'bingeing' implies that consumers seek a determined drunkenness in which intoxication is the desired end (Measham, 2006). This definition neglects the cultural context that supports this value of consumption and which can work to restrict the amount of alcohol consumed.

There is also a need to consider the pragmatic constraints that limit alcohol consumption (Measham, 2006). Rather than embarking upon excessive or a completely liberated form of consumption, alcohol can best be thought of as a form of "calculating hedonism" (Featherstone, 1991). A "controlled loss of control" occurs when consumers operate in between the two extremes of restraint and abandon (Measham, 2004). In regard to alcohol, the responsibilities of work, family, and education can limit an individual's level of alcohol consumption. In relation to young drinkers, Brain's study of youth in the UK finds that:

“The hedonism of young drinkers is not simply one of uncontrolled abandon to the sensuous pleasures of indulgence, but rather a calculated and planned, rational hedonism. Here, contemporary young drinkers mark out pleasure spaces in which they can plan to 'let loose' and engage in less restrained behaviour than they would have to in the formal, complex structures of institutional interdependence such as school, work or organised leisure or the networks of interdependence in families. This leads to a form of hedonistic but bounded consumption².”

In researching the Australian context, Duff (2003) also highlights that cultural understandings of alcohol need to take into account how people derive physical and social pleasures from drinking.

² Brain, 2000, p.7.

Cultural change

Because culture is maintained and reproduced through shared meanings, it is also amenable to change. Culture is not only a force that we are affected and shaped by, it is also something that we can shape and transform over time through our interactions with one another.

Cultures do not remain static across time or over generations; they are in a constant state of flux. Similarly, the meanings attached to alcohol consumption are always changing. Norms and values that define what, where, when and how we drink, and who we drink with, are mediated between people over time. Consequently, ideas on drinking and drinking practices are constantly changing and contested. As with all socially mediated aspects of culture, meanings of drinking and drinking behaviour are open to transformation (Roche et al., 2007, p. 64).

Duff (2003) emphasises the extent to which drinking alcohol has become normalised in Australian society. In spite of health campaigns and greater public awareness of the health risks associated with alcohol, the cultural acceptance of alcohol in Australian society remains widespread. This is because of:

- » the historical meaning of alcohol in everyday life
- » its centrality in marking rituals, celebrations and holidays through which national and individual identity are formed
- » strong market and commercial forces.

With alcohol embedded in these cultural rituals, links between alcohol and identity formation have become consolidated to the extent that we are only now beginning to question its centrality to Australian culture. However, the normalisation of alcohol does highlight that this is a cultural process and as such it can be transformed. There are opportunities to challenge the most commonly accepted meanings of alcohol in society.

Chapter 3: Emerging Trends and Cultural Changes

Key points

- » Social trends and interpersonal factors impact on drinking behaviours.
- » The changing role and position of women in society has altered.
- » Young Australians get married later, have fewer children and delay home ownership.
- » One in six Australian families are single parent families.
- » Young people delay leaving the parental home.
- » Parenting styles are more lenient than in previous generations.
- » Australians are less religious than previously.

Social trends

There is a wide range of social trends and interpersonal factors that impact on drinking behaviours. These include macro-level social trends in the economy, education, employment and changing social attitudes, gender roles and family dynamics. Each of these factors may influence interpersonal relationships in terms of parenting styles and sibling/peer influences.

Changes in other individual factors, such as early maturation, religion and geographical location may also influence development of social norms and drinking patterns. Alcohol consumption patterns are also influenced by people's perceptions of the severity of consequences, attitudes about alternative activities, perceptions of their own drunkenness, peer approval and, for young people, parental disapproval and monitoring.

Examples of key social changes are outlined below. Note that these are indicative, and not definitive, social changes. A range of other social changes and factors may also be relevant to the development of drinking patterns and norms in different contexts.

Changing roles of women

A higher proportion of women today are represented in the paid workforce (approx. 70% aged 25-34 years) compared to previous generations. Similarly, more women complete post-school education. Women have greater access to birth control and fertility rates have declined substantially from 3.5 births per woman in 1961 to 1.75 in 2003 (Australian Bureau of Statistics, 2004b). Further, the median age of mothers has risen from 28.9 in 1993 to 30.5 in 2003 (Linacre, 2005) (Figure 3.1).

These changing roles impact significantly on young women's lifestyles, leisure activities, socialising and disposable income.

Overall, young people delay parenthood for several reasons including to:

- » complete tertiary education
- » pursue career opportunities
- » establish economic independence
- » seek balance in life, with work and leisure as priorities.

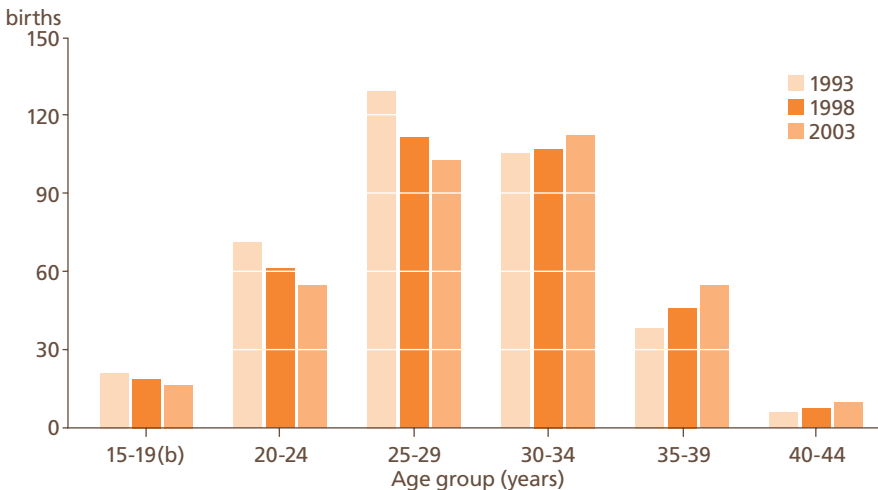


Figure 3.1 Age specific fertility rates - selected years
(reproduced from Australian Bureau of Statistics; Linacre, 2005)

In particular, young people tend to choose travel, work, fun and socialising with friends over the responsibilities of child rearing. In comparison to previous generations, they have more time to participate in recreational and leisure activities, which gives them more freedom to engage in social activities, including those where alcohol and/or intoxication play an integral role.

Family structure

The structure of families has changed substantially over the last century from a large family co-habiting with extended kin at the time of Australian Federation through the nuclear family, with few extended members after the Second World War, to a more diverse range of families today (single-parent, same-sex, blended families, and families with 0-2 children). Extended families often live further away from one another and thus, are less likely to be available for social, financial and emotional support.

The proportion of single-parent families increased from 17 per cent in 1992 to 22 per cent in 2003 and is expected to increase up to 33 per cent in 2026 (Australian Bureau of Statistics, 2006b) (Figure 3.2). The number of single-parent families more than doubled between 1986 and 2006. In 2006, 15.8 per cent of all Australian families reported having only one parent living in the family household.

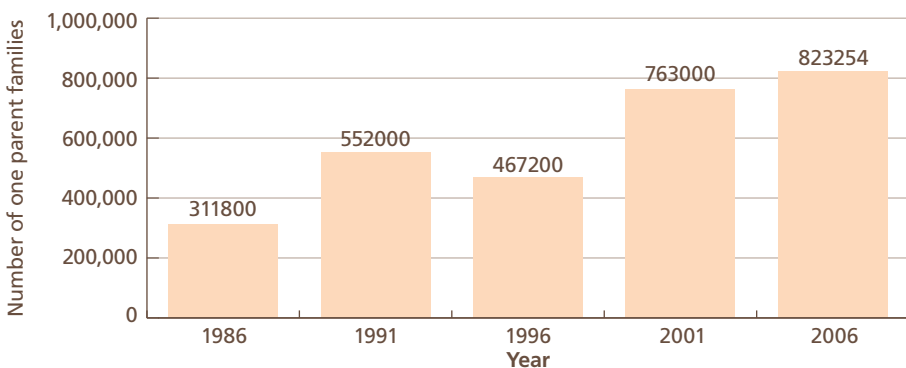


Figure 3.2 Number of single-parent families in Australia
(data from Australian Bureau of Statistics, 1997, 2006b, 2007b)

Children living in single-parent households may be more likely to:

- » experience lower levels of social support
- » seek peer companionship and engage in risk-taking behaviours
- » be vulnerable to developing psychological problems, and less likely to engage in hobbies or constructive leisure activities (Duncan, Duncan, & Strycker, 2006; Griffin, Botvin, Scheier, Diaz, & Miller, 2000; Hayes, Smart, Toumbourou, & Sanson, 2004; Ledoux, Miller, Choquet, & Plant, 2002; Miller, 1997; Spruijt & de Goede, 1997).

Such loosening of family bonds is thought to foster closer attachment to peers and greater involvement in activities such as drinking (Miller, 1997).

Transitions

The structure and composition of the family has also changed in terms of when young people leave the family home to embark on an independent adult life. Compared to previous generations, a larger proportion of young people delay leaving the parental home until their mid to late twenties. In 2001, 30 per cent of people in their twenties were living with at least one parent, in contrast to only 21 per cent of people of this age group living with at least one parent in 1976 (Linacre, 2005).

There are several factors that influence the age at which young people leave home. Living in the parental home provides a number of advantages, including:

- » support while continuing education longer
- » freedom from responsibilities while living at home
- » greater expendable income
- » lack of affordable housing (rental and mortgage rates; accrued HECS/HELP debt).

More relaxed and lenient parenting styles of contemporary parents may also mean greater tolerance of heavy drinking and intoxication by the young adults living in the family home. Increased requirements for higher educational qualifications to enhance employment opportunities has induced more young people to obtain post school qualifications (31% in 1976 vs 45% in 2001) (Linacre, 2005).

Moving from school to university is a time of particular vulnerability for developing risky behaviours (Dowling, Clark, & Corney, 2006). It involves exposure to a culture of alcohol use in the university environment, with approximately 70 per cent of students reporting that they binge drink (Davey, Davey, & Obst, 2002) or drink at hazardous or harmful levels (Roche & Watt, 1999). Young people are particularly susceptible to social influences while attending higher education institutions and, in turn, these social influences may fuel young people's drinking habits (Read, Wood, & Capone, 2005).

The school or university to work transition may also influence drinking patterns. Paid employment is significantly associated with increased levels of alcohol use in adolescents (Breslin & Adlaf, 2005; Johnson & Sheets, 2004; Mihalic & Elliot, 1997; Steinberg & Dornbusch, 1991; Valois, Dunham, Jackson, & Waller, 1999) and in adults (Berry, Pidd, Roche, & Harrison, 2007; Pidd, Berry, Harrison et al., 2006). Cultural norms concerning alcohol use exist within work organisations (Pidd & Roche, 2008). For example, while consumption of alcohol at work may be actively discouraged for safety reasons, workers may be pressured to join co-workers in regular 'end of the working day' drinking rituals. In some work settings, workers who do not normally drink in their own leisure time may find it expected of them

by their colleagues or workplace. Both co-workers' behaviours and the expectations placed upon a worker from fellow colleagues (Frone, 2003), together with workplace drug and alcohol policies restricting use, are also positively associated with alcohol behaviours (Pidd, Boeckmann, & Morris, 2006).

Adolescents in transition from school to work may be particularly susceptible to cultural and social influence processes evident in the workplace and these processes may have a substantial impact on their beliefs and behaviours concerning alcohol. Since the largest percentage of workers who frequently drink at short-term risky or high risk levels are employed in the hospitality industry (Pidd, Berry, Harrison et al., 2006) and many young people obtain employment through this industry, exposure to the alcohol culture may increase the likelihood of young people developing risky drinking behaviours.

Other factors that may influence drinking patterns during transition periods include celebrations related to milestone birthdays, leaving home or finishing secondary school (Milligan, Burke, Beilin et al., 1997; Sher & Rutledge, 2007; Zinkiewicz, Davey, & Curd, 1999). These celebrations are often large organised events, with a strong expectation of unlimited access to alcohol. Parents, siblings and peers may each influence young people's drinking behaviour.

Parental Influence

Parental support (nurturance, affection, acceptance), parental control (monitoring, permissiveness) and parental modelling (parental drinking) are associated with adolescents' use of alcohol (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006). Low family cohesion is also thought to be a risk factor during adolescence, as being a part of a cohesive family unit acts as a protective buffer and helps young people cope with stress (Australian Institute of Health and Welfare, 2007b). Secure relationships with parents, provision of responsive care and implementation of appropriate limits operate as protective factors against substance misuse, including risky drinking (ANCD, 2007).

Parenting styles have changed compared to previous generations. Parents of young children often reject rigid and authoritarian parenting styles and adopt more lenient and relaxed approaches to control and discipline (Farouque, 2007). The weakening of traditional parental roles, and the blurring of distinction between parent and child roles, has important implications for socialisation, modelling and how young people learn self regulation.

While parental disapproval of adolescent drinking and enforcement of rules has been found to be an effective deterrent to problem drinking (Davey et al., 2002; Reifman, Barnes, Dintcheff, Farrell, & Uhteg, 1998; van der Vorst, Engels, Meeus, & Dekovic,

2006), overly strict rules and reactive parenting techniques can result in adolescents drinking more, not less (Guilamo-Ramos, Turrisi, Jaccard, Wood, & Gonzalez, 2004). In contrast, more proactive parenting techniques, such as parental provision of support for their child, involvement in their child's life, establishment of good communication patterns and provision of expressions of warmth and affection, have been found to prevent risky behaviours developing (Guilamo-Ramos et al., 2004).

Parental modelling has also been associated with adolescent drinking patterns. Parental attitudes towards alcohol and parents' own use of alcohol have a significant effect on adolescent drinking behaviour (Bellis, Hughes, Morleo et al., 2007; Reifman et al., 1998). If parents support norms favourable to alcohol use, model such behaviours and reinforce attitudes that promote alcohol use, this in turn will encourage children to imitate this behaviour (Fagan & Najman, 2005).

Parental supply of alcohol, which is the primary source of alcohol supply to 12-18 year olds (White & Hayman, 2006a), is seen by many parents as a means by which to guide young people towards responsible alcohol use. However, evidence pertaining to parental supply of alcohol is mixed. While some researchers suggest that young people may be less likely to consume large amounts of alcohol if it was supplied by their parents as opposed to another source (Bellis et al., 2007; King, Taylor, & Carroll, 2005a; White & Hayman, 2006b), others suggest parental supply is a major cause of risky drinking amongst adolescents (de Bonnaire, Kalafatellis, Whitfield, & Harsant, 2000; Toumbourou, Williams, White et al., 2004; Tutt, 2003). Given this conflicting evidence, it is likely that other socialisation factors, such as family cultural values in regard to drinking and proactive parenting styles, as well as peer and sibling influences, may mediate parental and family influences. Older siblings are more likely to exert an influence on a younger sibling's drinking behaviour where there is similarity in gender and age (Trim, Leuthe, & Chassin, 2006).

During adolescence, the influence of parents reduces and peers play a greater role, particularly if an adolescent's relationship with their parents is poor (Hayes et al., 2004; Hyde, Treacy, Boland et al., 2001). Once initiation to drinking has occurred, those who have tried alcohol may seek out peers who are drinkers (Urberg, Deirmenciolu, & Pilgrim, 1997). Thus, peer influence and peer selection processes compliment one another (Hayes et al., 2004). Consistent evidence shows that perceptions of drinking norms correlate with individual drinking behaviours (Borsari, Bergen-Cico, & Carey, 2003; Kypri & Langley, 2003; Neighbors, Dillard, Lewis, Bergstrom, & Neil, 2006; Neighbors, Oster-Aaland, Bergstrom, & Lewis, 2006; Wild, 2002). That is, young people frequently overestimated their peers' drinking and, when provided with factual data on their peers drinking, their alcohol use reduced (Lintonen & Konu, 2004; Mattern & Neighbors, 2004; Perkins & Craig, 2006; Wild, 2002).

Religion

Australia has experienced a steady decline in levels of affiliation with the denominated forms of religion (Anglican and other Christian denominations) since the mid 1970's and an increase in the proportion of the population with no formal religious affiliation (see Figure 3.3).

Religiosity is inversely related to risk behaviour (Beyers, Toumbourou, Catalano, Arthur, & Hawkins, 2004) and has a positive effect on mental health, with religious and spiritual people experiencing less depression, anxiety and alcohol and drug dependence (Lavelle, 2007). Affiliating with a religion and participating in its group activities is also one way by which people develop social networks and connect with communities (Australian Bureau of Statistics, 2004a).

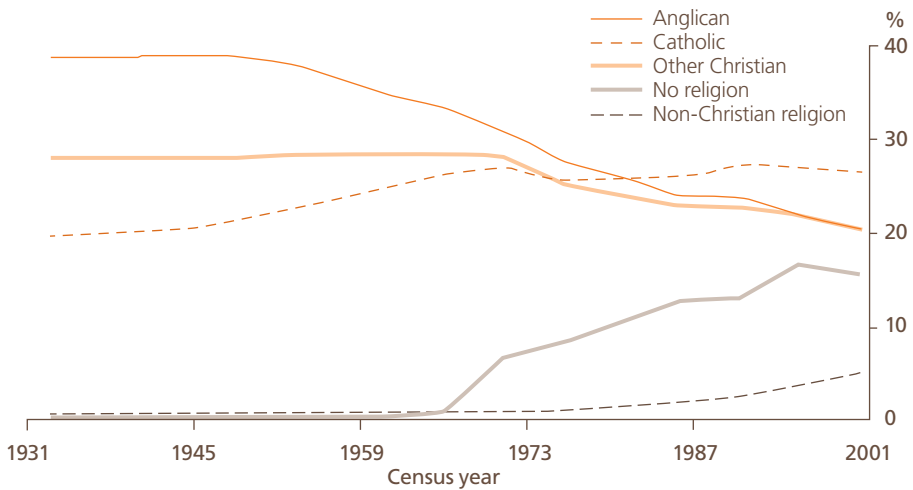


Figure 3.3 Religious affiliation of Australians of all ages
(reproduced from Australian Bureau of Statistics, 2003)

Socioeconomic status

The relationship between socioeconomic status (SES) and alcohol consumption is complex and evidence is often conflicting. Some studies have found that SES was not a strong predictor for drinking, particularly among adolescents (Williams, Sanson, Toumbourou, & Smart, 2000; World Health Organization, 2000), but that other factors, such as maturation, coping strategies, peer group and culture had more influence on alcohol consumption. In contrast, the following studies reported a positive relationship between SES and drinking:

- » lower family and community SES associated with lower rates of heavy episodic drinking in Canada (Breslin & Adlaf, 2005)
- » higher disposable income in young New Zealanders was associated with increased purchase of alcohol (Darling, Reeder, McGee, & Williams, 2006)
- » British students aged 15-16 years who received more than £10 a week and bought alcohol for themselves were more likely to become 'problem drinkers' (Bellis et al., 2007).

Chapter 4: Commercial Aspects of Alcohol

Key points

- » Increased diversity of alcohol products for segmented market.
- » Strong association between exposure to alcohol advertising and young people's drinking.
- » Image advertisements are most potent and appealing to younger people.
- » Alcohol products with high alcohol content are marketed for 'starter drinkers'.
- » Alcopops are most appealing to adolescents.
- » Millions of dollars are spent on alcohol advertising in 'measured' forms (TV, magazines).
- » 2-3 times more money is spent on unmeasured and largely unregulated advertising (point-of-sale, branded merchandise, sponsorships, films).
- » Alcohol products and promotional materials are positioned carefully to gain optimal exposure.
- » Pervasive and prominent alcohol advertising is on billboards, bus shelters, buses and trains, where exposure to children is high.
- » Discounted alcohol products sold through off-premise outlets contributes to pre-loading among young people.
- » The self-regulatory Australian Alcohol Beverages Advertising Code (ABAC) fails to adequately control alcohol advertising.

There is a range of market forces operating at the global level that are thought to influence drinking behaviours in efforts to achieve a greater 'share of throat'. Very large amounts of money are spent on alcohol advertising in Australia not only in measured forms, such as television, magazines, radio and billboards, but also in unmeasured forms of promotion, including branded materials, point-of-sale materials, giveaways, sponsorships and special events.

Studies evaluating the effect of advertising generally fall into two categories:

- 1) econometric studies, which analyse total sales of alcohol in relation to total advertising expenditure; and
- 2) consumer studies, which examine how drinking behaviour and attitudes vary with exposure to alcohol advertising.

While econometric studies demonstrate little or no effect of advertising on aggregate alcohol consumption (Hastings, Anderson, Cooke, & Gordon, 2005), they ignore important differential influences of alcohol on consumption (e.g. age groups, gender). In contrast, consumer studies consistently show a strong association between exposure to alcohol advertising (in magazines, television, in-store displays and sports venues) and young people's drinking behaviour, including:

- » underage drinking
(Atkin, Hocking, & Block, 1984; Austin & Hust, 2005; Collins, Ellickson, McCaffrey, & Hambarsoomians, 2007)
- » 'binge' drinking
(Connolly, Casswell, Zhang, & Silva, 1994; Wyllie, Zhang, & Casswell, 1998)
- » early initiation to alcohol use and/or increased alcohol consumption
(Ellickson, Collins, Hambarsoomians, & McCaffrey, 2005; Hastings et al., 2005; Hughes, MacKintosh, Hastings et al., 1997; Hurtz, Henriksen, Wang, Feighery, & Fortmann, 2007; Snyder, Milici, Slater, Sun, & Strizhakova, 2006; Stacy, Zogg, Unger, & Dent, 2004)
- » and the precursors to drinking:
 - liking for alcohol ads
(Casswell & Zhang, 1998; Connolly et al., 1994; Grube & Wallack, 1994; Martin, Snyder, Hamilton et al., 2002; Pasch, Komro, Perry, Hearst, & Farbaksh, 2007; Snyder et al., 2006; Wyllie et al., 1998)
 - development of positive attitudes towards alcohol
(Donovan, Donovan, Howat, & Weller, 2007)
 - increased intentions to drink
(Chen, Grube, Bersamin, Waiters, & Keefe, 2005; Wyllie et al., 1998).

While arguments are still proffered by commercial interest groups that advertising does not work to increase alcohol consumption per se but merely brand preference, the available evidence from consumer studies indicates that this is not the case. Advertising is a potent and effective means by which to influence drinking levels, particularly in younger people. In addition, the pervasiveness of alcohol advertising is likely to have a cumulative effect not only on the target audience, but also on others who may be incidentally exposed to it.

Advertising can be broadly divided into 'product' and 'image' advertisements. Product advertisements focus on the merits of a product (e.g. taste, quality, and price). Image advertisements attempt to engage the target audience by developing an idealised image or lifestyle associated with the product that reflects the target audience's goals. Themes that appear most prominently in alcohol advertising, particularly in youth-oriented television programs and magazines generally focus on fun, relaxation, adventure and sexual or social acceptance.

Increasingly, image advertisements and promotions are growing in importance as young people find meaning in their lives through their patterns of consumption. Alcohol marketing is believed to influence the formation of young people's social identity, which is, in part, shaped by adopting particular images portrayed through the popular media.

There are mainly two main forms of marketing:

- » advertisements/promotions in the absence of the product (e.g. television, magazine, posters, billboards, internet ads)
- » advertisements/promotions in the presence of the product (e.g. point-of-sale, up-selling strategies, price discounts, promotional merchandise, gift-with-purchase, games, competitions).

Four fundamental elements of marketing

1. Product

Increasingly, alcohol products are developed for a differentiated market. For example, ready-to-drink beverages (RTDs), also known as alcopops due to their similarity to soft drinks, are marketed for young 'starter drinkers' (14-15 year olds) (Jackson, Hastings, Wheeler, Eadie, & Mackintosh, 2000). With increases in alcohol by volume (ABV) and container sizes up to 2.7 standard drinks (Munro & de Wever, 2008), consumption of RTDs has also increased sharply from 0.1L per person in 2001 to 0.87L per person in 2004 (Australian Bureau of Statistics, 2005). The sweet fruity flavour, screwtops for easy portability, bright colours for brand identification, high alcohol content for rapid intoxication, relatively low price and widespread

availability make them very appealing to young adolescents (Copeland, Stevenson, Gates, & Dillon, 2007).

RTDs are the preferred alcohol beverage for 12-15 year old Australians, especially females, and those aged under 18 years believe that RTD products are designed specifically to appeal to their age group (Copeland et al., 2007; Jones & Donovan, 2001; Smith, Edwards, & Harris, 2005; Van Beurden & Davis, 2005).

A 're-commodification' of alcohol products occurred in the late 1990s, when RTDs were marketed using names that evoke drug images (e.g. Raver, Hemp, Cocaine, DNA) in order to appeal to the psychoactive drug users (Brain, 2000).

“By increasing the strength of alcohol products and deliberately breaking down the barriers between the licit and illicit drugs markets, producing drinks that trade on dance club/drug culture, [the alcohol industry] has sought to exploit and reproduce the drinking of alcohol for a psychoactive hit³.”

Novel modes of product delivery, including 'shooters', 'slammers' or 'shots' with multiple measures of different alcohol products are typically high in alcohol and are promoted in ways that encourage rapid ingestion (e.g. squirt guns and drinking countdowns). Similarly, alcohol jellies, inhalers, and RTDs containing soft drinks with stimulants, such as caffeine, guarana and taurine, are appealing to young people who identify with the rave nightclub culture.

Over time, packaging of alcohol products, particularly RTDs, has become more similar to popular soft drinks (Austin & Hust, 2005; MacKintosh, Hastings, Hughes et al., 1997). The blurring of product presentation and packaging between non-alcohol and alcohol beverages makes it easier for a young person to opt to drink an alcohol beverage and more difficult to consciously distinguish between the two types of beverages.

2. Promotion

Gender stereotyping, sexual innuendo, Australian icons and quintessential images of mateship and larrikin behaviour are recurrent themes in many Australian beer commercials and these ads perpetuate male stereotypes of masculinity and/or women as the butt of a joke. Using persuasive themes and stereotypes, alcohol ads often mirror themes that appear in non-alcohol ads (Austin & Hust, 2005). This has a normalising effect such that young people are already familiar with the themes when they first become aware of alcohol ads. Moreover, those who do not yet drink show a strong preference for image advertisements and intention to drink in the future (Kelly & Edwards, 1998).

³ Brain, 2000, p.9.

Young people's exposure to alcohol advertising via a range of media has been monitored routinely in the US (Center on Alcohol Marketing and Youth, 2007a, 2007b) and results consistently show that young people are exposed to more beer, spirits and alcopops ads compared to adults.

Sexualisation of alcohol promotions has also increased, raising concerns about the messages associated with alcohol that are conveyed to young people. Alcohol advertising images define young people according to their sexual appeal and behaviour. A range of alcoholic cocktails containing sexual innuendoes (e.g. 'Screaming orgasm', 'Sex on the beach', 'Slow comfortable screw') are now pre-packaged, making them more readily available and cheaper (Guardian.co.uk, 2005). Advertising for this type of product uses humour to promote alcohol consumption for enjoyment, experimentation and 'letting loose' for the purposes of pleasure (Szmigin, Griffin, Mistral et al., 2007).

In 2004, the Australian alcohol industry spent \$124 million on alcohol advertising, primarily aired on television (57%) (Nielsen Media Research in King, Taylor, & Carroll, 2005b). However, US data (1999) (Jernigan, Ostroff, & Ross, 2005), suggest that two to three times this amount is spent on unmeasured advertising, including:

- » Point-of sale promotions, which promote not only brand loyalty and image, but also encourage those who have never used the product to trial it (e.g. gift with purchase, competitions) and/or increase the volume of purchase by offering discounts for larger volume (Jones & Lynch, 2007).
- » Alcohol branded merchandise, which has expanded into T-shirts, hats, watches and glassware, offer consumers opportunities to 'try on' the image of a drinker (Henriksen, Feighery, Schleicher, & Fortmann, 2008). Branded items, which may be associated with sports (cricket, rugby, motor racing), often find their way into the hands of adolescents (Workman, 2003) and owning alcohol-branded merchandise is associated with initiation of alcohol use (McClure, Dal Cin, Gibson, & Sargent, 2006). Branding uses the 'cultural capital' of an audience to tap into shared understandings with humour, music, style and language.
- » Electronic media has had unparalleled growth, providing a new, and largely unregulated, means to promote alcohol products to a global audience. Alcohol product websites focus on youth-oriented images, including cartoons, animation, music videos and interactive games (often with prizes and incentives) that provide an attractive virtual playground for children and adolescents who easily bypass the age verification page. A range of alcohol beverage websites, which promote brands that are available in Australia, contain elements of strong appeal to young people, including music, extreme sports, arcade games, sexual innuendoes, and competitions to win alcohol products or other prizes (Carroll & Donovan, 2002).

- » Sponsorship of sports, arts, music and other events offers alcohol companies a receptive audience that is primed to have a good time and a chance that new consumers will trial the product. Alcohol brands are represented as part of the entertainment or sporting culture, thus consolidating the association between the product and all the positive effects of having a good time. Alcohol sports sponsorship reinforces sexual stereotyping and links masculinity with sports and alcohol consumption, particularly in young males who are most likely to drink at riskier levels. In turn, alcohol products are embedded into enjoyable leisure activities through the event name, results (eg, Cup, medal, prize with sponsor's name) and commentary of sporting events. Sponsorship by alcohol companies also enhances the perception that the alcohol industry is 'a good corporate citizen', with a genuine interest in promoting a healthy sports-oriented lifestyle.

3. Placement

Alcohol products and promotional materials are carefully positioned to gain optimal exposure. This includes:

- » point-of-sale materials, such as posters, display bins, billboards and price tickets placed inside or outside premises
- » alcohol-branded functional items, such as beer mats, bar towels, T-shirts and caps worn by staff
- » product placement during films and television programs, and in the lyrics of popular music.

Approximately 70 per cent of consumers' final purchase decisions are made within the store and point-of-sale marketing, which is known to increase sales substantially (2-64% increase) (Beverage Industry, 2001), is seen increasingly as the final critical moment of the purchasing decision that leads to a first-time purchase (Isoline & Macomber, 2002). This type of marketing is less regulated than traditional formats, less subject to individual control (e.g. consumers cannot switch channels or turn a page), and colourful displays in high traffic areas targets consumers at the place of purchase, thereby reinforcing previous advertising messages and playing on impulsivity (Howard, Flora, Schleicher, & Gonzalez, 2004).

More than 40 per cent of all glass-door display fridges in Australian bottle shops (Central Coast, NSW) are dedicated to RTDs (Smith et al., 2005). Supplied free by the alcohol industry, fridges are to be used exclusively for their products and displayed in a prominent position that is visible from outside the store. This is an example of 'bracket creep', whereby advertising that is aimed at one target group impacts on another younger group, thereby expanding the target age group to include younger 'new' drinkers.

Ambient advertising is unmeasured advertising, which features pervasively and prominently on billboards, bus shelters, buses and trains, where exposure to children and adolescents is high. An examination of the density of outdoor alcohol advertising situated within 1,500 feet of 63 Chicago schools showed an association between high density of outdoor ads and increasing subsequent intentions to use alcohol in Grade 6 students, even among non-users of alcohol (Pasch et al., 2007).

Product placement in films, television shows, and sports or music events is largely unregulated and unmonitored and alcohol companies pay for prominent placement of brands in films and television (Casswell & Maxwell, 2005). Positive messages of social, sexual, emotional or financial reward associated with alcohol are portrayed in music that appeals strongly to young people (Primack, Dalton, Carroll, Agarwal, & Fine, 2008). Surveys of UK television programs have shown up to 19 alcohol-related behaviours per hour of programming (Verma, Adams, & White, 2007) and seven drinking scenes per hour in soap operas (Hansen, 2003). Alcohol use is typically portrayed as part of a normal lifestyle, with little or no negative consequences associated with getting drunk or drinking at risky levels. Similarly, alcohol imagery in prime-time television (including programs, advertisements and community service messages) in New Zealand (McGee, Ketchel, & Reeder, 2007) was depicted primarily in positive or neutral terms, with 8 per cent of depictions showing negative consequences.

4. Price

Price of alcohol beverages, particularly at the point of sale, has an impact on young people's choice of beverage and quantity consumed. Promotional activities, such as 'happy hour' and special price promotions, have been associated with increased consumption during the promotion period in bars around US campuses (Kuo, Wechsler, Greenberg, & Lee, 2003) and in British pubs (MCM Research, 2004). Similar opportunities for discounted drinks are also available commonly in licensed outlets across Australia.

Discounted alcohol sold in supermarkets is thought to underlie the growth in 'pre-loading' among young people in UK (Addaction, 2007). Bar staff interviewed in pubs in Manchester, London and Nottingham generally agreed that heavily promoted discounted drinks and the practice of 'up-selling'⁴ increased alcohol consumption (MCM Research, 2004). Young people interviewed in the same bars and pubs reported selecting drinking venues on the basis of the discounts and promotions on offer to 'get the evening started' (MCM Research, 2004, p. 15).

⁴ Up-selling refers to the practice of offering the customer an option to purchase more alcohol to get better value for money. For example, bar staff may suggest the customer purchase a bottle if they order two glasses of wine, on the basis that the bottle represents better value.

Young people tend to buy the higher alcohol content product as it provides more 'bang for the buck'. They weigh up their own criteria, including cost-benefits, in deciding which alcohol products to purchase. The cheapest priced alcohol item is cask wine, which barely registers in young people's consumption patterns (<1% males; 3% females) (King et al., 2005a). However, this data misses important sub-groups, such as the homeless, Indigenous and transient populations, who may be more cost-conscious, and may change in light of the recent changes in tax levies and their impact on the price of RTDs.

Policies on alcohol advertising

Alcohol advertising in Australia is currently self-regulated by the alcohol industry via the Australian Alcohol Beverages Advertising Code (ABAC). The stated aim of the ABAC Code is to ensure that alcohol advertising takes into account the need for responsibility and moderation in liquor merchandising and consumption and that it does not encourage consumption by underage persons. ABAC is operated by a Management Committee comprised of alcohol industry, advertising sector and Australian Government representatives. An Adjudication Panel deliberates on complaints lodged and the Panel's Chief Adjudicator and members are appointed by the ABAC Management Committee.

Although the Code was revised in 2003 in response to new media developments and concern about its utility, there remain questions as to whether the complaints mechanism is effective (Donovan et al., 2007). A recent study assessed the frequency and content of alcohol advertisements and promotions in 93 magazines that are popular with young Australians (18-30 years) and evaluated the degree to which the ads complied with the ABAC guidelines (Donovan et al., 2007). Results showed that 52 per cent of the alcohol ads, including promotions and sponsorship, appeared to contravene at least one section of the Code. Moreover, 22 per cent were deemed to have strong appeal to children or adolescents.

The ABAC system depends upon complaints being made and upheld before advertisements are withdrawn. In 2006 a total of 53 complaints (relating to 26 adverts) were received by ABAC. The Panel considered that nine of these complaints fell within the Code and, ultimately, upheld two of the complaints. However, the time lag between complaints being made, reviewed, and subsequently upheld means the intended advertising period has usually finished.

A recent study, examining the effectiveness of the current ABAC system, found the Advertising Standards Board (ASB) may not adequately represent community standards or protect the community from offensive or inappropriate advertisements; is ineffective in regulating one-off promotions and non-conventional forms of advertising such as the internet; and has inadequate processes for distinguishing

between the number of complaints received for particular advertisements (e.g. some advertisements might receive one complaint while others might receive numerous complaints) (Jones, Hall, & Munro, 2008).

It is further noted that ABAC does not address advertising and promotion of alcohol products in supermarkets as its application is limited to advertisements for publication and broadcast. ABAC also seeks to limit its liability in relation to the activities of retail companies and other third parties. Moreover, because the code is entirely voluntary, there is no means of forcing retailers to comply - a fundamental limitation of self-regulation.

Not all forms of marketing and promotions can be addressed by the ABAC Code. These activities either remain unregulated or fall under different codes or other legislation which vary by jurisdiction.

A major form of unmeasured marketing includes promotions conducted on licensed premises. Such promotions include provision of low cost or free drinks (e.g. during 'happy hour' promotions) or giveaways and prizes. A recent NSW study found that despite the existence of a Code of Practice for Responsible Promotion of Liquor Products there were numerous examples of promotions that breached both the spirit and letter of this Code (Jones & Lynch, 2007). For example, the researchers found that a number of promotions which offered free entry for university students, 'student happy hours' and free transport from university campuses to venues and between venues all had the potential to encourage young people to drink at risky levels (Jones & Lynch, 2007).

It is unclear at present to what degree current liquor licensing legislation and the Codes of Practice for Responsible Promotion of Liquor Products across different jurisdictions adequately address: Point-of-Sale advertising; promotions on licensed premises including discounted prices, merchandise and give-aways; and require the education and training of staff in the responsible service of alcohol. There is a need to review existing State and Territory Liquor Licensing legislation and related codes to assess their adequacy, consistency, and the comprehensiveness of their coverage.

As many alcohol-related promotional activities fall under the control of liquor license legislation, questions arise regarding the level of enforcement of such legislation. This issue is of particular importance as it is often a responsibility that is divided between police and liquor licensing authorities. Such divided responsibility can create role ambiguity and the scope for inappropriate promotional activities to go undetected or to fall between the cracks. Where such responsibility largely falls to police, concern has been raised about the adequacy of available resources to deal with the complex range of monitoring activities involved, especially where responsible service of alcohol codes are involved.



Chapter 5: Consumption and Risky Use

Key points

- » The majority of Australians (over 80%) consumed an alcoholic drink in the last 12 months.
- » The age of initiation has decreased over time: over 50 per cent have consumed alcohol by the age of 14.
- » The current (2001) alcohol guidelines define consumption levels associated with risk of short- and long-term harms.
- » 61 per cent of alcohol consumed in Australia is estimated to be drunk at risky levels at least occasionally.
- » Risky and high risk drinking is most prevalent among Australians aged 20-29 years.
- » The prevalence of risky and high risk drinking has remained relatively stable from 2001 to 2007.
- » New alcohol guidelines were released in 2009.

This chapter provides information about the patterns and levels of alcohol use and risky drinking in Australia. Data is drawn from various sources, using the most recent and reliable sources where possible. Where the National Drug Strategy Household Survey (NDSHS) data are used, data may be cited from 2001, 2004 or 2007 depending on what data is available for different purposes and what analyses have been undertaken for each wave of the NDSHS.

Information is also provided about what constitutes a standard drink and how the Australian Drinking Guidelines define risky drinking.

* Please note that for the data presented below, definitions of risky drinking are used from the old 2001 National Health and Medical Council (NHMRC) guidelines (see Appendix 1), as these definitions were used to provide the cutpoints for risky and high risk drinking in the 2001, 2004 and 2007 NDSHS survey data. In 2009 the new NHMRC Guidelines were released and the NDSHS data will be analysed at a later point using the 2009 cutpoints. The new NHMRC guidelines may be found at http://www.nhmrc.gov.au/publications/synopses/_files/ds10-alcohol.pdf and contain the following provisions:

The 2009 NHMRC Alcohol Guidelines

(also see pp 44-46)

Guideline 1. Reducing the risk of alcohol-related harm over a lifetime

For healthy men and women, drinking no more than **2 standard drinks on any day** reduces the lifetime risk of harm from alcohol-related disease or injury.

Guideline 2. Reducing the risk of injury on a single occasion of drinking

For healthy men and women, drinking no more than **4 standard drinks on a single occasion** reduces the risk of alcohol-related injury arising from that occasion.

Guideline 3. Children and young people under 18 years of age

For children and young people under 18 years of age, not drinking is the safest option.

- » Parents and carers should be advised that children under 15 years of age are at greatest risk of harm from drinking and that for this age group, not drinking is especially important.
- » For young people aged 15-17 years, the safest option is to delay the initiation of drinking for as long as possible.

Guideline 4. Pregnancy and breastfeeding

Maternal alcohol consumption can harm the developing fetus or breastfeeding baby. For women who are pregnant or planning a pregnancy, not drinking is the safest option. For women who are breastfeeding, not drinking is the safest option. (National Health and Medical Research Council, 2009)

NCETA has prepared a four page summary overview of the 2009 guidelines called 'Making Sense of Australia's Alcohol Guidelines'. It can be accessed at www.nceta.flinders.edu.au. However, as the new guidelines were not available at the time that the following data analyses were undertaken, the following data is based on the 2001 NHMRC guidelines.

Prevalence

The majority of Australians aged 14 years or over have tried alcohol, and many continue to drink throughout the lifespan:

- » around 90 per cent have tried alcohol in their lifetime; and
- » over 80 per cent have consumed an alcoholic drink in the past 12 months (Australian Institute of Health and Welfare, 2008).

Standard drinks

Alcohol consumption is usually measured according to standard drinks. The standard drink equivalents for alcoholic beverages are shown in Table 5.1.

Table 5.1 Number of Australian standard drinks in common containers of various alcoholic beverages (National Health and Medical Research Council (NHMRC), 2009)

Alcoholic beverage	Standard drinks
Low strength beer (2.7% alcohol)	
1 can or stubbie	= 0.8 standard drinks
285mL glass	= 0.6 standard drinks
425mL glass	= 0.9 standard drinks
Slab of 24x375mL cans or stubbies	= 19 standard drinks
Mid strength beer light beer (3.5% alcohol):	
1 can or stubbie	= 1 standard drink
285mL glass	= 0.8 standard drinks
425mL glass	= 1.2 standard drinks
Slab of 24x375mL cans or stubbies	= 24 standard drinks
Full strength beer (4.9% alcohol) (includes diet beer):	
1 can or stubbie	= 1.4 standard drinks
285mL glass	= 1.1 standard drinks
425mL glass	= 1.6 standard drinks
Slab of 24x375mL cans or stubbies	= 34 standard drinks
Wine (9.5%–13% alcohol):	
100 mL glass	= 1 standard drink
Average restaurant serving (150mL)	= 1.4–1.6 standard drinks
750mL bottle	= 7 to 8 standard drinks
4-litre cask	= 36 to 43 standard drinks
Spirits (37%–40%):	
1 nip (30 mL)	= 1 standard drink
700mL bottle	= 22 standard drinks
Pre-mixed spirits (5%–7% alcohol):	
1 can (375 mL)	= 1.5–2.1 standard drinks
1 275mL bottle	= 1.1–1.5 standard drinks

Initiation to alcohol use

The percentage of young people who have consumed a full serve of alcohol is shown in Figure 5.1 by age and gender (data from 2004 NDSHS). Young people were most commonly supplied their first drink of alcohol by a friend or acquaintance (43%), followed by their parents (35%).

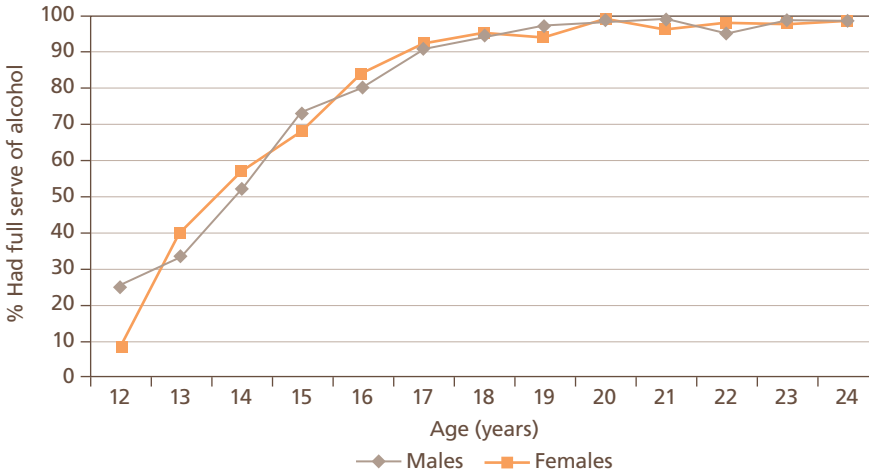


Figure 5.1 Percentage of young people who have had a full serve of alcohol, by age and gender (data from 2004 NDSHS) (Roche et al., 2007).

The age of initiation of alcohol consumption has decreased over time (see Figure 5.2). For each successive generation (defined here in 10-year age-bands) over the past 50 years, initiation into drinking has occurred at earlier and earlier ages. For example, by the age of 14, over twice as many young people aged 20-29 have consumed alcohol compared to 40-49 and 50-59 year olds.

- » less than 20 per cent of today's population aged over 60 had drunk a full glass of alcohol at 16 years of age
- » this contrasts with nearly 70 per cent of the population currently aged between 20 and 29 years who had drunk a full glass of alcohol by the time they were 16 years old.

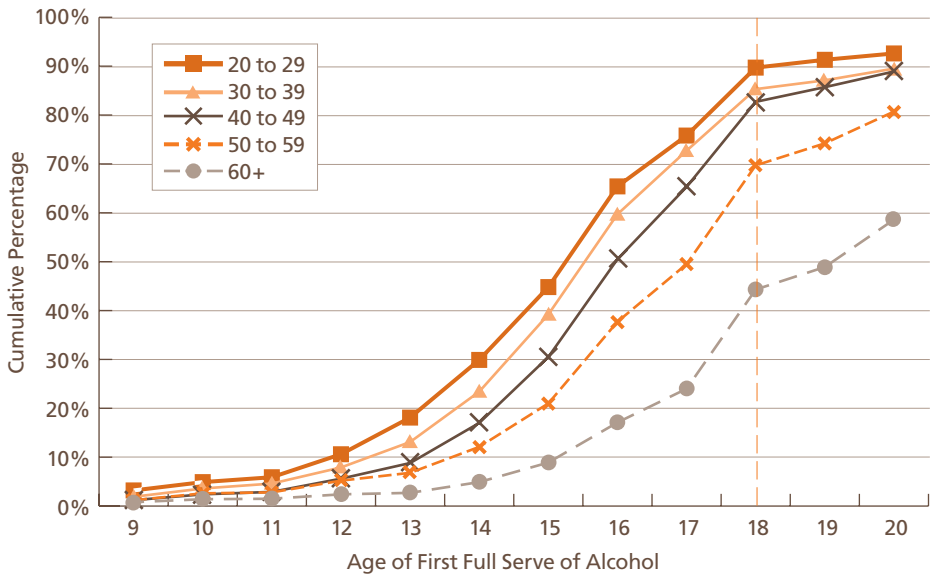


Figure 5.2 Reported age of first full serve of alcohol, by age cohort (Roche et al., 2007)

Note: Dashed line indicates the age alcohol purchase and consumption on licensed premises becomes legal in Australia (e.g. 18 years).

Earlier initiation of alcohol use has been associated with:

- » increased risky drinking at a later age (DeWit, Adlaf, Offord, & Ogborne, 2000; Grant & Dawson, 1997; Grant, Stinson, & Harford, 2001; Pedersen & Skrandal, 1998; Pitkanen, Lyra, & Pulkkinen, 2005; Young, Hansen, Gibson, & Ryan, 2006)
- » increased risk of later dependence, and (Grant, 1998; Grant & Dawson, 1997; Grant et al., 2001; Hingson, Heeren, & Winter, 2006)
- » greater social and mental health issues (McGue, Iacono, Legrand, Malone, & Elkins, 2001; Swahn, Bossarte, & Sullivent, 2008).

Type of alcohol consumed

Table 5.2 shows the amount of alcohol available for consumption in Australia in the financial year 2005-2006, and the apparent consumption per person for that year (Australian Bureau of Statistics, 2007a). Beer is the most commonly consumed form of alcohol, followed by wine, and then spirits; 12 per cent of beer consumed in 2005-2006 was low strength beer (Australian Bureau of Statistics, 2007a).

Table 5.2 Alcohol available for consumption, and apparent consumption for the financial year 2005-2006 (Australian Bureau of Statistics, 2007a)

Available for consumption ¹	'000 L of pure alcohol
Beer	75,371
Wine	51,320
Spirit	35,537
Total	162,227
Apparent consumption ²	L of pure alcohol per person per year
Beer	4.57
Wine	3.11
Spirit	2.15
Total	9.84

¹ Alcohol available for consumption includes estimates of imported alcohol, domestically produced alcohol, and home production.

² Apparent per person consumption data are calculated by dividing the quantity available for consumption by the population of persons aged 15 years and over.

Beverage preferences

Males most commonly consume regular strength beer (Australian Institute of Health and Welfare, 2005b). Premixed spirits in a can are also commonly consumed by males aged 14-19, and bottled wine is also commonly consumed by males aged 40 years and older (Australian Institute of Health and Welfare, 2005b).

Females aged 30 years and older most commonly consume bottled wine. Females aged 14-29 years most commonly consume bottled spirits, liqueurs, and premixed spirits in a bottle (Australian Institute of Health and Welfare, 2005b).

Of the three types of alcohol displayed in Figure 5.3, wine showed the greatest increase in consumption over the last 40 years (Australian Institute of Health and Welfare, 2007a). Between the mid-1960s and the mid-1980s, consumption of wine increased almost fourfold, peaking at 21.6 litres per person in 1985-86. Since the late 1980s the total amount of wine consumed per person per year has ranged between 18 and 21 litres per person.

Relative to wine, consumption of beer and spirits by the Australian population has remained more stable over time (Australian Institute of Health and Welfare, 2007a).

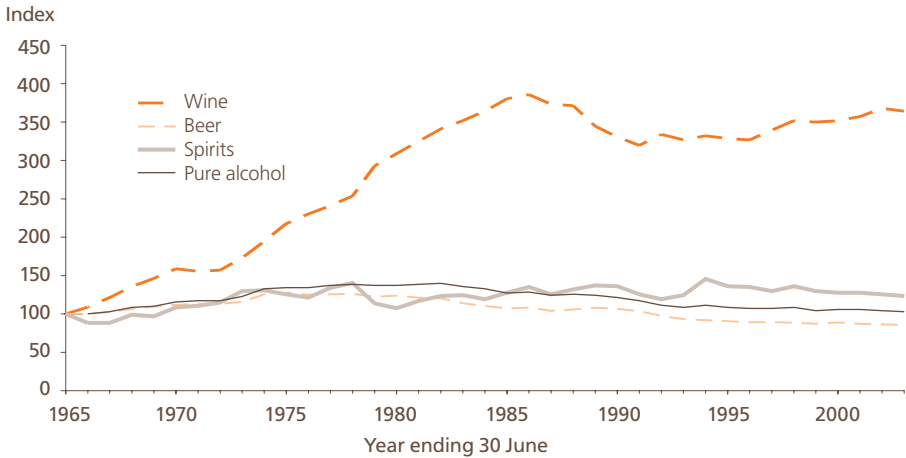


Figure 5.3 Indices of alcohol consumption: Australia, 1964-65 to 2002-03

Note. 1964-65 indexed to 100. Thus, the index indicates the percentage of consumption in 1964-65 (Australian Institute of Health and Welfare, 2007a).

Where alcohol is consumed

Table 5.3 shows the places where alcohol is most commonly consumed (Australian Institute of Health and Welfare, 2005b). Private dwellings (at home, at a friend's house, at a private party) were more common than public locations such as licensed premises, and restaurants/cafes.

Table 5.3 Locations where alcohol is usually consumed (Australian Institute of Health and Welfare, 2005b)

Location	% who usually consume alcohol at that location
In my home	83.0
At friend's house	56.1
At licensed premises	52.5
At restaurants/cafes	52.0
At private parties	48.0
At workplace	6.1
At raves/dance parties	5.4
In public places	3.2
In a car	2.6
At school/TAFE/university etc.	1.3
Somewhere else	2.4

Alcohol use by sex

The alcohol drinking status of Australians aged 14 years or older varied considerably between males and females (Table 5.4).

Table 5.4 Alcohol drinking status: proportion of the population aged 14 years or older, by sex, Australia, 2007 (Australian Institute of Health and Welfare, 2008)

Drinking status	Males (%)	Females (%)	Persons (%)
Daily	10.8	5.5	8.1
Weekly	46.8	35.9	41.3
Less than weekly	28.3	38.5	33.5
Ex-drinker ¹	5.8	8.1	7.0
Never a full glass	8.2	12.1	10.1

¹ Has consumed at least a full serve of alcohol, but not in the previous 12 months

- » in 2007, males (10.8%) were almost twice as likely as females (5.5%) to drink daily
- » the proportion of the population who consumed alcohol daily declined significantly between 2004 (8.9%) and 2007 (8.1%)
- » between 2004 and 2007, weekly drinking increased marginally (from 41.2% to 41.3%) driven by an increase in weekly drinking by females (from 35.0% to 35.9%) contrary to a decline for males (from 47.6% to 46.8%)
- » the proportions of Australians aged 14 years or older abstaining from alcohol (never had a full serve of alcohol) increased significantly between 2004 (9.3%) and 2007 (10.1%), with a greater change seen among males than females, proportionately and absolutely.

Alcohol use by age

The proportion of daily drinkers increased with age; the peak for daily drinkers was for those aged 60 years or older, and the peak for less-than-weekly drinkers was among teenagers (Table 5.5).

Table 5.5 Alcohol drinking status: proportion of the population aged 14 years or older, by age and sex, Australia, 2007 (Australian Institute of Health and Welfare, 2008)

Drinking status	Age group						
	14-19	20-29	30-39	40-49	50-59	60+	14+
Males (%)							
Daily	1.4	2.8	6.1	11.4	15.9	21.4	10.8
Weekly	23.0	55.7	54.8	51.0	49.6	39.2	46.8
Less than weekly	46.4	30.3	28.2	26.7	24.5	22.1	28.3
Recent drinker	70.8	88.9	89.1	89.2	90.1	82.7	86.0
Ex-drinker	3.3	2.8	5.2	5.7	5.7	10.3	5.8
Never a full serve	25.9	8.3	5.7	5.1	4.2	7.0	8.2
Females (%)							
Daily	0.5	1.7	3.0	5.6	7.8	10.5	5.5
Weekly	18.8	39.6	40.4	42.7	38.0	30.6	35.9
Less than weekly	52.0	44.0	43.1	37.7	36.2	27.8	38.5
Recent drinker	71.3	85.2	86.5	86.1	81.9	68.9	79.9
Ex-drinker	2.6	5.8	6.4	6.2	8.4	14.2	8.1
Never a full serve	26.1	8.9	7.0	7.8	9.7	16.9	12.1
Persons (%)							
Daily	1.0	2.3	4.6	8.5	11.8	15.6	8.1
Weekly	20.9	47.8	47.5	46.8	43.8	34.6	41.3
Less than weekly	49.1	37.0	35.7	32.3	30.4	25.1	33.5
Recent drinker	71.0	87.1	87.8	87.6	86.0	75.3	82.9
Ex-drinker	3.0	4.3	5.8	5.9	7.1	12.4	7.0
Never a full serve	26.0	8.6	6.3	6.5	7.0	12.3	10.1

In 2007, a greater proportion of males than females (aged 14 years or older) drank daily, for all age groups tabulated. The proportion of males was twice or more than that for females for all age groups except 20–29-year-olds. For all age groups, drinking alcohol (daily, weekly or less than weekly) was more prevalent than not drinking alcohol. Only for teenagers (71.0%) and those aged 60 years or older (75.3%) was the prevalence of drinking alcohol less than the population average of 82.9 per cent.

For all age groups, a greater proportion of females than males consumed alcohol less than weekly.

Children and young people

The 2002 national survey on the use of alcohol by Australian secondary school students (White & Hayman, 2004) found that experience with alcohol was high among secondary school students. Alcohol consumption became more common as age increased:

- » by the age of 14, around 90 per cent of students had tried alcohol
- » by the age of 17, around 70 per cent of students had consumed alcohol in the month prior to the survey; and
- » the proportion of students drinking in the week prior to the survey increased with age from 19 per cent of 12-year-olds to reach a peak of 50 per cent among 17-year-olds.

Rates of drinking above NHMRC 2001 guideline levels among 14–19 year-olds are similar to the rates for the general population — about 9 per cent for alcohol-related disease risk (long-term harm) and 39 per cent for accident and injury risk (short-term harm) (Australian Institute of Health and Welfare, 2008).

People in the 20–29 year age group show the riskiest drinking profile. About 60 per cent of this group drink above NHMRC 2001 guideline levels for short-term risk and about 16 per cent drink above NHMRC 2001 guideline levels for alcohol-related diseases (Australian Institute of Health and Welfare, 2008). Among school students aged 16–17 years who report drinking in the past week, there has been a slight increase in numbers drinking above NHMRC 2001 guideline levels for accidents and injuries (White & Hayman, 2004). This may be because of changes in the type of alcohol young people are drinking.

The 2002 survey found that among male adolescent drinkers, the proportion consuming beer decreased while consumption of spirits, in either un-premixed or premixed form, increased. Among adolescent female drinkers, the proportion drinking premixed spirits as opposed to un-premixed spirits increased significantly (White & Hayman, 2004).

Young people are discussed in more detail in Chapter 11.

Older people

Although older people tend to consume less alcohol at any one session than younger people, they are more likely to drink every day. About 11 per cent of people aged 60 years or more drink above NHMRC 2001 guideline levels for accidents and injuries; about 6 per cent drink above NHMRC 2001 guideline levels for alcohol-related disease risks (Australian Institute of Health and Welfare, 2008).

Pregnant women

“Recent data show that 59 per cent of Australian women drank alcohol at some time during their pregnancy (Colvin, Payne, Parsons, et al., 2007). Furthermore, 14 per cent reported drinking five or more drinks on an occasion in the three months prior to pregnancy (Colvin et al., 2007). However, many women elect to abstain from alcohol some time during pregnancy — 58 per cent during the first and second trimester and 54 per cent in the third trimester (Colvin et al., 2007). In the first trimester, 15 per cent of women surveyed drank above the NHMRC 2001 guidelines and this proportion decreased to 10 per cent in the second and third trimesters (Colvin et al., 2007). In a recent national survey, 34 per cent of women had drunk alcohol during their last pregnancy and 24 per cent indicated they would drink in a future pregnancy, despite knowledge of the adverse effects of alcohol and the fact that 78 per cent believed that reducing or ceasing alcohol intake in pregnancy may benefit their baby (Peadon, Payne, Henley, et al., 2007)⁵.”

⁵ National Health and Medical Research Council, 2009.

People from Culturally and Linguistically Diverse backgrounds

People whose main language spoken at home is English are more likely to drink alcohol than those whose main language spoken at home is not English (Australian Institute of Health and Welfare, 2005a).

Prevalence of risky and high risk consumption in Australia

Almost two thirds (61%) of alcohol is estimated to be consumed at risky levels in Australia – that is, during occasions when consumption exceeds levels designated as risky or high risk (Stockwell, Donath, Cooper-Stanbury et al., 2004).

The 2007 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2008) found that:

- » of all Australians aged 14 years or over, almost half (48%) reported drinking alcohol at or below NHMRC 2001 guideline levels for short-term harm
- » about one-third (35%) of people drank above NHMRC 2001 guideline levels on at least one occasion in the 12 months before the survey
- » most Australians aged 14 years or over (72%) reported drinking at or below NHMRC 2001 guideline levels to reduce the risk of alcohol-related diseases
- » about 10 per cent reported drinking above NHMRC 2001 guideline levels.

The proportion of Australians drinking at short-term risk levels varies according to age and gender (Table 5.6).

Table 5.6 Alcohol consumption, risk of harm in the short term: proportion of the population aged 14 years or older, by age and sex, Australia, 2007 (Australian Institute of Health and Welfare, 2008)

Age group	Abstainers ^(a)	Low Risk	Risky and high risk ^(b)		
			At least yearly	At least monthly	At least weekly
Males (%)					
14–19	29.2	33.4	12.9	15.7	8.8
20–29	11.1	26.1	19.0	26.6	17.2
30–39	10.9	40.6	21.1	17.5	10.0
40–49	10.8	47.0	18.9	14.5	8.7
50–59	9.9	59.4	12.9	9.5	8.2
60+	17.3	67.8	6.4	4.5	4.0
14+	14.0	47.2	15.1	14.3	9.3
Females (%)					
14–19	28.7	30.1	12.9	18.8	9.5
20–29	14.8	29.2	20.7	23.1	12.2
30–39	13.5	46.9	19.5	13.3	6.8
40–49	13.9	53.4	16.2	10.2	6.3
50–59	18.1	62.5	10.2	4.8	4.4
60+	31.1	61.3	3.9	2.1	1.5
14+	20.1	49.3	13.4	10.9	6.2
Persons (%)					
14–19	29.0	31.8	12.9	17.2	9.1
20–29	12.9	27.6	19.8	24.9	14.7
30–39	12.2	43.8	20.3	15.3	8.4
40–49	12.4	50.2	17.6	12.3	7.5
50–59	14.0	61.0	11.6	7.1	6.3
60+	24.7	64.3	5.1	3.2	2.7
14+	17.1	48.3	14.2	12.6	7.8

(a) Not consumed alcohol in the previous 12 months.

(b) For males, the consumption of 7 or more standard drinks on any one day. For females, the consumption of 5 or more standard drinks on any one day.

Notes

1. Respondents that have been coded 'Can't say/No answer' to all relevant alcohol questions are assumed to be low-risk drinkers for this alcohol risk analysis.

The proportion of Australians drinking at long-term risk levels varies according to age and gender (Table 5.7).

Table 5.7 Alcohol consumption, risk of harm in the long term: proportion of the population aged 14 years or older, by age and sex, Australia, 2007 (Australian Institute of Health and Welfare, 2008)

Age group	Abstainers ^(a)	Level of risk ^(b)		
		Low risk	Risky	High risk
Males (%)				
14–19	29.2	63.7	4.4	2.6
20–29	11.1	73.4	9.3	6.2
30–39	10.9	79.2	6.2	3.7
40–49	10.8	79.6	6.0	3.5
50–59	9.9	78.9	6.1	5.1
60+	17.3	75.3	4.9	2.5
14+	14.0	75.8	6.2	3.9
Females (%)				
14–19	28.7	60.7	6.7	3.9
20–29	14.8	68.8	11.0	5.4
30–39	13.5	75.8	7.7	3.0
40–49	13.9	74.1	9.3	2.6
50–59	18.1	72.3	6.9	2.7
60+	31.1	63.4	4.7	0.8
14+	20.1	69.4	7.6	2.8
Persons (%)				
14–19	29.0	62.2	5.6	3.2
20–29	12.9	71.1	10.2	5.8
30–39	12.2	77.5	7.0	3.3
40–49	12.4	76.8	7.7	3.1
50–59	14.0	75.6	6.5	3.9
60+	24.7	68.9	4.8	1.6
14+	17.1	72.6	6.9	3.4

(a) Not consumed alcohol in the previous 12 months.

(b) For males, the consumption of up to 28 standard drinks per week is considered 'Low risk', 29 to 42 per week 'Risky', and 43 or more per week 'High risk'. For females, the consumption of up to 14 standard drinks per week is considered 'Low risk', 15 to 28 per week 'Risky', and 29 or more per week 'High risk'.

Long-term trends in risky and high risk alcohol use

National Drug Strategy Household Surveys (NDSHS) also indicate that national rates of short-term risky/high risk drinking (episodes of intoxication) have been fairly stable since 2001 (Figure 5.4).

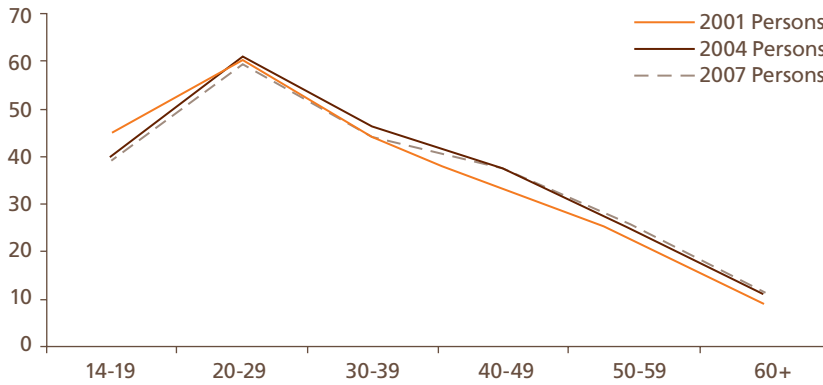


Figure 5.4 Alcohol consumption at risky/high risk levels (at least yearly, monthly and weekly combined) for short-term harm: persons by age and year (%)

National rates of long-term risky/high risk drinking (regular and repeated elevated consumption) have been fairly stable (Figure 5.5). Small non-significant increases were observed between 2001 and 2007 for all age cohorts except the 14-19 year age group.

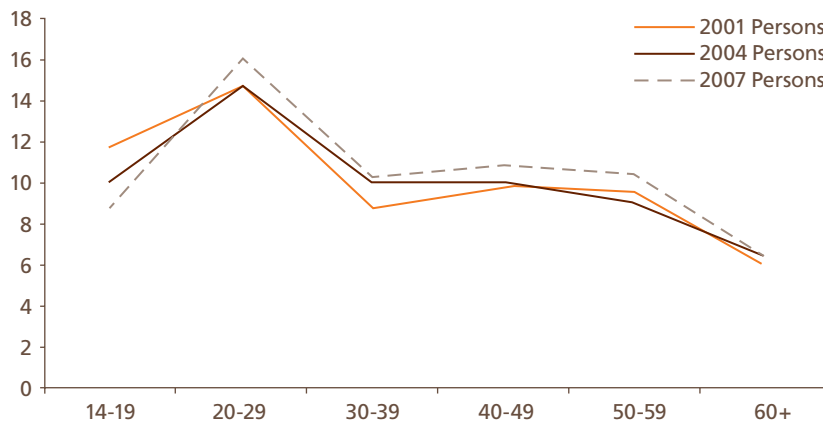


Figure 5.5 Alcohol consumption at risky/high risk levels for long-term harm: persons by age and year (%)

Workforce

The 2001 Australian Alcohol Guidelines were useful for identifying sub populations where risky alcohol consumption was more prevalent. Recent research that examined alcohol consumption patterns among the Australian workforce indicated 44 per cent drank above NHMRC 2001 guideline levels at least occasionally (Berry et al., 2007).

Moreover, this level of consumption was more prevalent among particular occupational groups. Young workers, workers in blue-collar occupations, and workers employed in the hospitality, agriculture, manufacturing, construction, and retail industries were identified as at-risk groups (Berry, Pidd, Roche & Harrison, 2007; Pidd, Berry, Harrison et al., 2006; Pidd, Shtangey & Roche, 2008).

In addition, the burden of harm associated with the alcohol use of Australian workers is not restricted to those traditionally defined as 'heavy' or 'problem' drinkers. It has been estimated that in 2001, nearly 2,700,000 work days were lost due to workers' alcohol use, at a cost of \$437m (Pidd, Berry, Harrison et al., 2006; Pidd, Berry, Roche et al., 2006a). Workers who drank at risky and high risk levels infrequently or occasionally accounted for more than half of this alcohol-related absenteeism (Pidd, Berry, Harrison, et al., 2006; Pidd, Berry, Roche et al., 2006a; Roche, Pidd, Berry, & Harrison, 2008).

New Australian Alcohol Guidelines

The new 2009 Australian Alcohol Guidelines do not make as strong a differentiation between short- and long-term risk as the 2001 guidelines. Rather the new guidelines are based on projections of life time risk associated with increasing consumption in general. The new guidelines are based on statistical modelling that found that consumption of alcohol at any level increases the risk of harm. It also provides evidence that drinking at levels higher than two standard drinks a day is associated with increased life-time risk of alcohol-related injury, disease and death and that consuming four or more drinks per day on a single occasion is associated with increased risk of injury. Table 5.8 shows the lifetime risk of alcohol-related death for drinking weekly or drinking daily. Figure 5.6 shows the lifetime risk of hospitalisation for males and Figure 5.7 shows the lifetime risk of hospitalisation for female drinkers.

Table 5.8 Lifetime risk of alcohol-related death associated with particular patterns of drinking (National Health and Medical Research Council, 2009)

Number of standard drinks							
Daily basis	Total risk of alcohol-related death	Death from alcohol-related disease	Death from injury	Weekly basis	Total risk of alcohol-related death	Death from alcohol-related disease	Death from injury
Men (per 100 people)							
2	0.9	0.4	0.5		0.2	0.1	0.1
4	4.2	2	2.2		0.8	0.3	0.4
6	9	3.8	5.3		1.7	0.5	1.2
8	14.8	5.1	9.7		3	0.7	2.3
Women (per 100 people)							
2	0.8	0.4	0.4		0.2	0.1	<0.1
4	3.8	2.5	1.3		0.7	0.4	0.3
6	8.9	5.9	3		1.4	0.7	0.7
8	13.7	8.4	5.3		2.3	0.9	1.4

Note: The figures in this table represent the risks above the baseline (not drinking). Figures have been rounded to one decimal place and therefore may not add up..

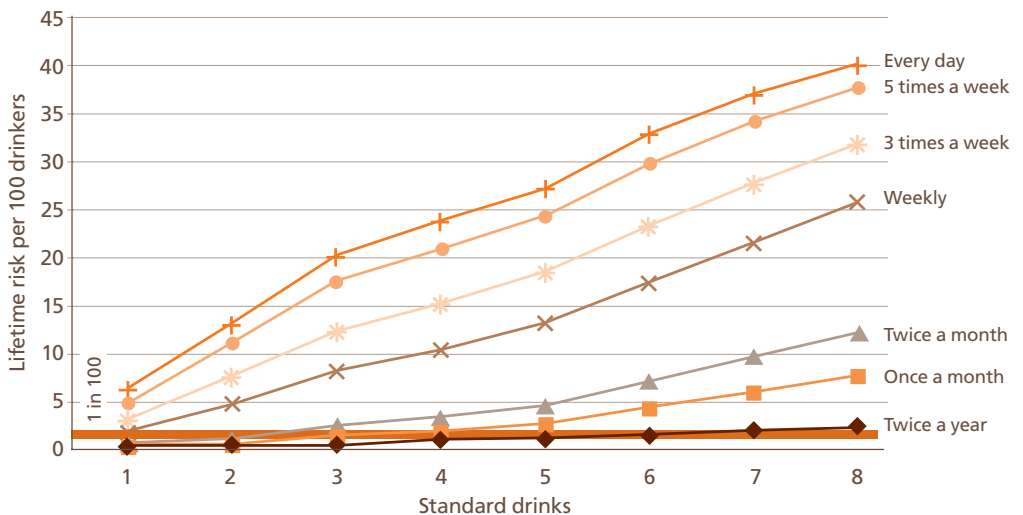


Figure 5.6 Lifetime risk of hospitalisation for alcohol-related injury per 100 male drinkers by number of standard drinks per occasion and frequency of occasions (National Health and Medical Research Council, 2009)

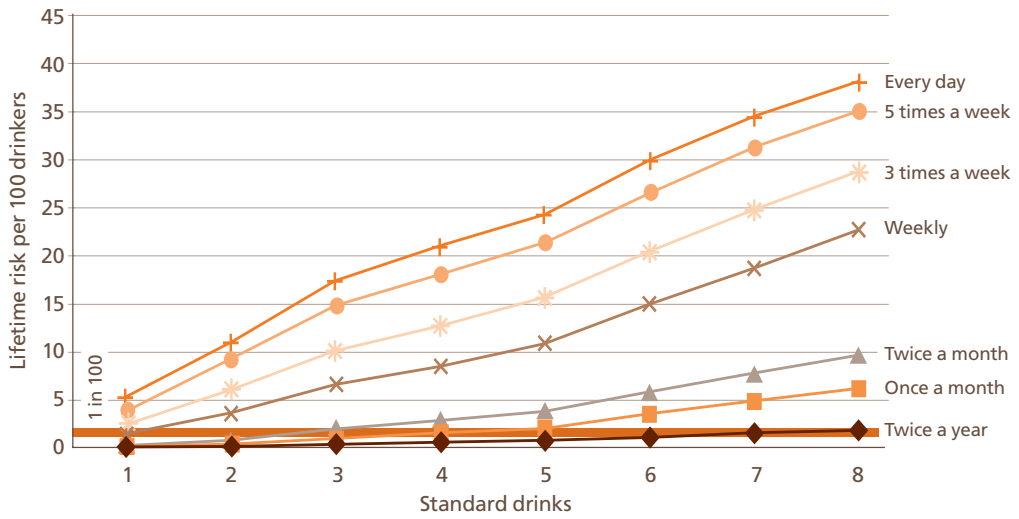


Figure 5.7 Lifetime risk of hospitalisation for alcohol-related injury per 100 female drinkers, by number of standard drinks per occasion and frequency of occasions (National Health and Medical Research Council, 2009)

Chapter 6: Costs of Alcohol Use

Key points

- » Tangible and intangible costs of alcohol use in 2004/05 exceeded \$15b.
- » The costs of alcohol use are associated with low risk drinking and infrequent risky drinking as well as frequent risky drinking.
- » Over one third of the costs associated with alcohol use results from lost workplace production.
- » The alcohol-related revenue received by the Federal government exceeds alcohol-related expenditure.

The most comprehensive estimations of the tangible and intangible economic costs of alcohol use are provided by a series of studies⁶ conducted by Collins and Lapsley (1991, 1996, 2002, 2008). The most recent of these studies (Collins & Lapsley, 2008) provides an estimate of the economic costs for the financial year 2004/05. In all their estimations, Collins and Lapsley adopted a conservative approach where lower cost alternatives were selected when appropriate alternatives existed.

Definitions of cost

Tangible costs are defined by Collins and Lapsley (2008) as:

“*The value of the net resources which in a given year are unavailable to the community for consumption or investment purposes as a result of the effects of past and present drug abuse...*” (p 3)

Intangible costs are defined by Collins and Lapsley (1991) as:

“*...those that when reduced will not yield resources to the community for consumption or investment. These costs are important but they do not represent a call on the productive resources of the community.*” (p 49)

⁶ As a result of recent revisions to the underlying epidemiological information concerning the health effects of alcohol, it is not possible to make a comparison of alcohol costs over time.

Economic cost of alcohol use 2004/05

The total tangible and intangible cost of alcohol use in 2004/05, compared to the costs of all drugs combined are presented in Table 6.1. Alcohol use accounted for 27.3 per cent of the costs of all drugs combined (alcohol, tobacco and illicit drugs). Details of intangible costs are outlined in Table 6.2.

Table 6.1 Total social costs of alcohol use, 2004/05

Costs	Alcohol (\$m)	All drugs (\$m)
Tangible costs	10,829.5	30,828.9
Intangible costs	4,488.7	25,222.9
Total costs	15,318.2	56,051.8
Proportion of total	27.3%	100.0%

Source: Collins & Lapsley, 2008

Table 6.2 Intangible social costs of alcohol use, 2004/05

Intangible costs	Alcohol (\$m)	All drugs (\$m)
Loss of life	4,135.0	24,799.5
Pain and suffering*	353.6	423.4
Total intangible costs	4,488.7	25,222.9
Proportion of total	17.8%	100.0%

* Road accidents.

Source: Collins & Lapsley, 2008

The costs associated with alcohol use are not restricted to alcoholics, or regular heavy drinkers. Rather, costs are incurred across the full range of drinking patterns. This is illustrated in a breakdown of workplace alcohol-related absenteeism costs using Australian Alcohol Guidelines (National Health and Medical Research Council, 2001) for levels of consumption associated with risk of harms (Table 6.3). Nearly 50 per cent of the total costs associated with alcohol-related absenteeism are due to low risk drinkers and those who drink at risky or high risk levels only occasionally.

Loss of production in the workplace forms the largest proportion of the costs associated with alcohol use (see Figure 6.1).

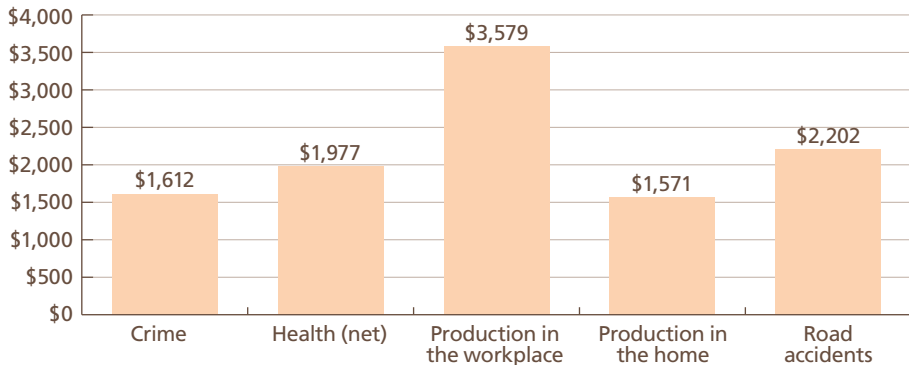


Figure 6.1 Main categories of alcohol use costs (\$millions) for 2004/2005 (Collins & Lapsley, 2008)

Table 6.3 Self-reported alcohol-related absenteeism in the previous 12 months by drinking risk category for employed respondents to the 2001 National Drug Strategy Household Survey

Short-term risk	Estimated population*	Total alcohol-related absenteeism for estimated population	Total cost **
Abstainers	641,962	0	0
Low risk	3,261,254	491,763	\$80,060,000
Risky (at least yearly)	753,038	133,114	\$21,670,000
High risk (at least yearly)	507,982	187,858	\$30,590,000
Risky (at least monthly)	759,435	327,124	\$53,260,000
High risk (at least monthly)	457,470	343,874	\$55,990,000
Risky (at least weekly)	345,198	452,017	\$73,590,000
High risk (at least weekly)	228,768	747,115	\$121,600,000
Total***	6,955,107	2,682,865	\$437,000,000
Long-term risk			
Abstainers	641,962	0	0
Low risk	5,507,727	1,304,227	\$212,000,000
Risky	597,867	815,778	\$133,000,000
High risk	207,551	562,860	\$91,600,000
Total***	6,995,107	2,682,865	\$437,000,000

* Based on 12,449 employed respondents to the 2001 NDSHS.

** Based on the 2001 average daily wage of \$135.68 + 20% on-cost (\$27.13).

*** The totals for short-term and long-term risk are the same as they are the same population grouped according to different risk (e.g., short- or long-term) categories of drinking. Source: Pidd, Berry & Roche (2006b)

Who bears the cost?

The majority of the tangible costs associated with alcohol use are borne by business, as shown in Figure 6.2.

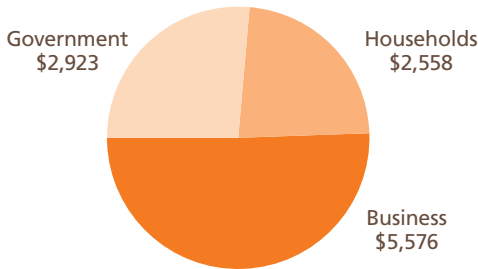


Figure 6.2 Economic cost (\$millions) of alcohol use in 2004/05 borne by each sector of the community (Collins & Lapsley, 2008)

Further details on the costs borne by each sector of the community are outlined in Table 6.4.

Table 6.4 Breakdown of costs of alcohol use borne by each sector of the community 2004/05

	Households (\$m)	Business (\$m)	Government (\$m)	Total (\$m)
Workforce labour	0.0	2,811.9	766.6	3,578.6
Household labour	1,570.8	0.0	0.0	1,570.8
Hospitals	21.6	111.4	529.2	662.2
Medical	60.0	54.9	425.8	540.7
Nursing homes	84.3	1.0	316.0	401.2
Pharmaceuticals	56.2	0.0	241.4	297.6
Ambulances	23.3	8.6	43.0	74.8
Road accidents ^{n.e.i.}	742.0	481.2	106.4	1,329.6
Crime ^{n.e.i.}	n.a.	418.4	494.8	913.2
Resources used in consumption	0.0	1,688.8	0.0	1,688.8
Total tangible costs	2,558.2	5,576.3	2,923.2	11,057.7
Percentage of total costs	23.1%	50.4%	26.4%	100.0%

n.a. signifies not available

n.e.i. signifies not elsewhere included

Source: Collins & Lapsley, 2008.

In terms of government responses to alcohol problems, treatment and care in the health system is only part of the story. For example, of total government expenditure on alcohol problems in Scotland in 2002–03, only 23 per cent was estimated to be in health services, with 20 per cent in welfare services and 57 per cent in police and emergency services (Scottish Health Economics Unit, 2004).

The costs accrue not only to government health and welfare systems, but also to industry through absenteeism (Roche, Pidd, Berry, & Harrison, 2008), premature retirement, and impaired or lost productivity (Rehm, Gnam, Popova et al., 2007). It has been estimated, for example, that alcohol cost the Australian community about \$15.3 billion in 2004–05, when factors such as crime and violence, treatment costs, loss of productivity and premature death were taken into account (Collins & Lapsley, 2008).

Budgetary implications

The alcohol tax arrangements implemented with the introduction of the GST in 2000 resulted in the net alcohol-related revenue received by the Federal Government exceeding the net alcohol-related expenditure (Table 6.5).

Table 6.5 Budgetary implications of alcohol use for Federal and State governments 2004/05

	Federal (\$m)	State (\$m)
Net revenue	3,075.4	976.5
Expenditure	1,272.6	1,363.8
Revenue less expenditure	1,802.8	(387.3)*

*Figures in brackets are negative
Source: Collins & Lapsley, 2008.



Chapter 7: Effects of Alcohol

Key points

- » There is significant variability in biological responses to alcohol, which is determined by factors such as sex, body size and composition, age, experience of drinking, genetics, nutrition and individual metabolism.
- » Immediate effects of alcohol include: relaxation, wellbeing, and loss of inhibitions.
- » Higher levels of consumption of alcohol may lead to: drowsiness, loss of balance, nausea and vomiting.
- » These effects of intoxication described above lead to a range of acute harms, discussed in further chapters.

Metabolism of alcohol

“Alcohol usually starts to affect the brain within about five minutes of being swallowed. The blood alcohol concentration (BAC) reaches its peak about 30–45 minutes after the consumption of one standard drink (10g alcohol). Rapid consumption of multiple drinks results in a higher BAC because the liver has a relatively fixed rate of metabolism regardless of how many drinks are consumed.

It generally takes about an hour to clear one standard drink, although this varies from person to person, and is faster in men than in women. The rate of this metabolism depends on several factors including liver size, body mass and composition, and alcohol tolerance. Differences in the speed of alcohol metabolism between people are also related to individual variation in the genes that control expression of alcohol-metabolising enzymes in the liver (Edenberg, 2007; Li, Beard, Orr, Kwo, & Ramchandani, 1998; Whitfield & Martin, 1994).

Eating when drinking alcohol slows the increase in BAC as food in the stomach reduces the speed at which alcohol is absorbed into the bloodstream. However, activities such as drinking coffee, having a cold shower, vomiting or exercise do not reduce BAC. After a very heavy drinking occasion, it takes many hours for the BAC to return to zero.”⁷

⁷ Section sourced from National Health and Medical Research Council, 2009.

Individual variability

“ There is significant variability in biological response to alcohol, which is determined by factors such as sex, body size and composition, age, experience of drinking, genetics, nutrition and individual metabolism. Due to this individual variability, there is no amount of alcohol that can be said to be safe for everyone. People’s perception of how much alcohol they can ‘handle’ can lead them to believe that they are able to drink more without harm. There is always some risk to the drinker’s health and social well-being, although there are ways to minimise the risks.⁸ ”

“ Factors that affect susceptibility to alcohol

Sex

Women tend to have a smaller body size and a higher proportion of body fat than men. As alcohol is not taken up by fatty tissues, for women, a given amount of alcohol is distributed over a smaller body volume. In addition, the ability to break down alcohol is limited by the size of the liver, and women on average have smaller livers than men. All of these factors lead to a higher BAC in women than for men. On the other hand, the higher level of risk-taking behaviour among men means that, over a lifetime, male risks exceed female risks for a given pattern of drinking.

Age

In general, the younger people are, the less tolerant they are to alcohol. Younger people also have less experience of drinking and its effects. In addition, puberty is often accompanied by risk-taking behaviours (such as an increased risk of drinking, sometimes in association with other dangerous physical activities or risky sexual behaviour). Later in life, as people age, their tolerance for alcohol decreases and the risk of falls, driving accidents and adverse interactions with medications increases.

Mental health and sleeping patterns

People who have, or are prone to, mental health conditions (e.g. anxiety and depression, schizophrenia) may have worse symptoms after drinking. Alcohol can also disrupt the later part of the sleep cycle, which may trigger a variety of mental health conditions in people who are already prone to these conditions.

⁸ Section sourced from National Health and Medical Research Council, 2009.

Medication and drug use

Alcohol can interact with a wide range of prescribed and over-the-counter medications, herbal preparations and illicit drugs. This can alter the effect of either the alcohol or the medication and has the potential to cause serious harm to both the drinker and others.

Specific health conditions that are made worse by alcohol

People who already have health conditions caused or exacerbated by alcohol, such as alcohol dependence, cirrhosis of the liver, alcoholic hepatitis or pancreatitis, are at risk of the condition becoming worse if they drink alcohol.

Family history of alcohol dependence

People who have a family history of alcohol dependence (particularly among first-degree relatives) have an increased risk of developing dependence themselves.⁹ ”

Acute effects

“ *The most obvious and immediate effects of alcohol are on the brain, beginning with feelings of relaxation, wellbeing and loss of inhibitions. However, as the intake of alcohol increases, these effects are counterbalanced by less pleasant effects, such as drowsiness, loss of balance, nausea and vomiting, as well as the other harmful effects described below.*

Alcohol dampens the brain's arousal, motor and sensory centres, reducing reactions to stimuli and affecting coordination, speech, cognition and the senses. The first potentially adverse effect of alcohol consumption is loss of fine motor skills and inhibitions. A BAC of about 0.05g/100mL (or 0.05%), which is the legal limit for driving in Australia, was based on controlled studies testing driving skills (Transport and Road Research Laboratory, 1987). As more alcohol is consumed and the BAC rises, performance and behaviour deteriorate progressively. Alcohol also affects the pituitary gland, suppressing the production of anti-diuretic hormone. This causes the kidneys to fail to reabsorb an adequate amount of water and results in dehydration.

If the BAC reaches a high enough level, it leads to unconsciousness and, eventually, inhibition of normal breathing. This may be fatal, particularly as the person may vomit and can suffocate if the vomit is inhaled.¹⁰ ”

^{9, 10} Section sourced from National Health and Medical Research Council, 2009.

“ The amount of alcohol consumed on a single occasion increases the risks of accidents and injury. An occasion of heavy drinking significantly increases the risk of injury and death for the drinker and may place others at risk. Adolescents and younger adults are particularly vulnerable and heavy drinking in this group can form part of a pattern of risk-taking behaviour (Chikritzhs et al., 2003; Loxley, Toumbouro, Ryder et al., 2004).

Alcohol consumption also increases the likelihood and extent of aggressive behaviours and reduces the cognitive or verbal capacity to resolve conflicts, thereby increasing the likelihood of physical violence (e.g. fights and assaults) (Borges, Cherpitel, & Mittleman, 2004; Borges, Cherpitel, Orozco et al., 2006; Borges, Cherpitel, Macdonald et al., 2004; Cherpitel, Borges, & Wilcox, 2004; Giancola, 2002; Haggard-Grann, Hallqvist, Langstrom, & Moller, 2006; Hingson, Heeren, & Zakocs, 2001; Howard, Qiu, & Boekeloo, 2003; Jewkes, Levin, & Penn-Kekana, 2002; Moraes & Reichenheim, 2002; Mousavi & Eshagian, 2005; Ogle & Miller, 2004).¹¹”

Harms arising from intoxication

The effects of intoxication described above lead to a range of acute harms. These harms cover a wide variety of behaviours across the spectrum of domains from misdemeanours—such as vandalism or offensive behaviour—to acute anti-social activities which can result in affront, violence or injury to others. Acute, intoxication-related harms include:

- » assault; self-harm, violence, suicide, homicide
- » occupational injury and death
- » hangover, overdose, alcoholic poisoning
- » aspiration of vomitus, suffocation and inhalation
- » suicide and self-inflicted injury
- » motor vehicle and pedestrian accidents
- » increased risk taking behaviours, falls, fires, drownings
- » sport and recreational injuries

Harms from alcohol are discussed further in Chapters 8, 9 and 10.

¹¹ Section sourced from National Health and Medical Research Council, 2009.

Chapter 8: Alcohol and Human Behaviour

Key points

- » Consumption of alcohol is disinhibiting and may lead consumers to engage in activities that involve greater risk than they would otherwise.
- » There is a strong link between alcohol and aggression.
- » Physical and regulatory features of licensed premises may influence levels of aggression and other alcohol-related harms.
- » Alcohol increases the risk of unsafe sex (and decreases the likelihood of condom use), and increases risk of sexual coercion.
- » Studies have found that alcohol, and not drugs, is heavily and predominantly implicated in suspected cases of drink spiking.

Risk Taking

Alcohol is a powerful disinhibitor. That is, the consumption of alcohol makes the user more relaxed and more likely to engage in behaviours that they otherwise may be reluctant to. People often become more talkative, louder and more extrovert when they have been drinking. Because of the disinhibiting effects of alcohol, the user can be more inclined to engage in activities that involve greater risk than they would otherwise.

Risky sexual behaviour

“Alcohol use is a particular concern in relation to risky adolescent behaviour. Research has shown an increase in adolescent risky sexual behaviour when alcohol is involved (Coleman & Cater, 2005).

- » Alcohol decreases the likelihood that adolescents will use a condom, especially at their first sexual experience (Dye & Upchurch, 2006). However, diary studies of young adults show that, when young people expect to get drunk, they plan for sexual activity that may occur (Leigh, Vanslyke, Hoppe et al., 2008).
- » Adolescents who drink alcohol are also at risk of sexual coercion (Davis, Norris, George, Martell, & Heiman, 2006). A controlled trial in which 180 youths were given either an alcoholic beverage or a placebo and asked to give their opinion about a hypothetical sexual situation showed that intoxicated participants viewed the woman in the vignette as more aroused, and the man as more justified in his attempts to force the woman to have intercourse with him (Abbey, Buck, Zawacki, & Saenz, 2003).

In general studies have shown that:

- » alcohol increases the prevalence of unsafe sex behaviours (Abbey, Saenz, Buck, Parkhill, & Hayman Jnr, 2006; Coleman & Cater, 2005; Dye & Upchurch, 2006; Lin, Li, Yang et al., 2005)
- » drinking increases the likelihood of making risky choices about sexual activity (Maisto, Carey, Carey, Gordon, & Schum, 2004; Maisto, Carey, Carey, & Gordon, 2002; Testa, VanZile-Tamsen, Livingston, & Buddie, 2006)
- » some people prepare for safe sex when they know that they will be drinking (Leigh et al., 2008)
- » consuming alcohol also increases the risk of sexual coercion (Abbey, Buck et al., 2003; Abbey, Clinton-Sherrod, McAuslan, Zawacki, & Buck, 2003; Davis et al., 2006; Farris, Treat, Viken, & McFall, 2008).¹²”

Studies have also found that alcohol, and not drugs, is heavily and predominantly implicated in suspected cases of drink spiking (Taylor, Prichard, & Charlton, 2004).

¹² Section sourced from National Health and Medical Research Council, 2009.

Aggression

“ *The relationship between alcohol and aggression is complex. A large literature and many years of research have been devoted to this issue. In general, this relationship can be best characterised as one whereby alcohol in and of itself is not likely to make a person aggressive or violent. However, for individuals with a pre-existing predisposition towards aggressive behaviour, alcohol may act as an accelerant or facilitator. This can operate in a variety of ways, some of which are physiological and others are related to the person’s expectations of behaviours that may occur when they have been drinking and/or what is considered socially acceptable or permissible behaviour.*

In addition, there is an important array of factors in the physical setting that can also influence or facilitate the development of aggressive or violent behaviour. The combination of three factors:

- » *drug (the alcohol)*
- » *set (one’s mindset, mood or expectancies), and;*
- » *setting (the physical environment) all need to be considered.*

Aspects of these factors are addressed below.

Turning first to the physical environment and the sale and supply of alcohol: the impact of alcohol sales from licensed premises on levels of alcohol-related assaults is often assessed in terms of assaults which occur on or near premises. While alcohol sales impact on assaults in both public and private settings, most alcohol-related assaults occur in private premises (Chikritzhs, Catalano, Pascal, & Henrickson, 2007), not in or near licensed premises or in street settings.

Increasing the availability of alcohol in a given area increases assaults in private premises to a substantially greater level than it increases assaults in licensed premises. The former are more likely to be family-violence related.

While not all assaults that occur on private premises are family-violence related, examining the links between alcohol and family violence does shed some light on this issue. In his examination of the research concerning the links between alcohol and family violence, Nicholas (2005) reported that these links are complex. While there is little doubt that alcohol does feature in many incidents of family violence, much family violence also occurs in the absence of alcohol use either by perpetrators or victims.¹³”

¹³ Section sourced from: Nicholas, R. (2008) Understanding and responding to alcohol-related social harms in Australia. Options for policing. NDLERF discussion paper (National Drug Research Institute, 2007a).

“Alcohol use does not necessarily lead to family violence. Rather, underlying expectations (expectancies) that the drinker has about the effects of alcohol on their behaviour (for example, believing that alcohol makes them more aggressive or excuses violence) is the primary influence. The underlying belief structure of perpetrators concerning the appropriateness of violence, and their right to control and subjugate their partners is at the heart of much family violence.

There is no evidence of a causal link between alcohol consumption and non-physical abuse (such as economic control, intimidation and possessiveness) that are often concomitant features of physically violent relationships. Nevertheless, there are indications that the use of alcohol by perpetrators may facilitate an escalation from verbal abuse to physical abuse. Alcohol acts to shape patterns of family violence towards more physical manifestations.

Extensive research has identified important, but not always obvious, physical and regulatory features of licensed premises and their environs that impact on individual and group behaviour and increase the probability of alcohol-related harms (Cameron, 2000; Doherty & Roche, 2003; Graham, West, & Wells, 2000; Hauritz, Homel, McIlwain, & Burrows, 1998; Hauritz, Homel, McIlwain, Burrows, & Townsley, 1998; Homel & Clark, 1992; Lang & Rumbold, 1997; McMurrin, 1999; Murgraff, 1999; Parks & Zetes-Zanatta, 1999; Pernanen, 1998; Shepherd, 1998; Tomsen, 1989, 1997).¹⁴”

Factors that influence alcohol-related harms within and around licensed drinking environments are outlined in Table 8.1 below.

“Licensed premises and events are often associated with crowding. Crowding increases the chance of accidental contact and alcohol affects the ability of individuals to appropriately deal with this contact. Crowding and alcohol are both irritants, which, in combination can increase anxiety and reduce tolerance. This may lead to aggression and violence. Crowding also increases anonymity and reduces a sense of accountability. As a consequence, it is less likely that an individual will intervene to prevent conflict situations occurring or worsening. In a conflict situation, the anonymity afforded by crowded settings may have numerous negative consequences including increased severity of injury.¹⁵”

¹⁴ Section sourced from: Nicholas, R. (2008) Understanding and responding to alcohol-related social harms in Australia. Options for policing. NDLERF discussion paper (National Drug Research Institute, 2007a).

¹⁵ Doherty & Roche, 2003.

Table 8.1 Internal and External Factors of the Physical and Social Environment of Licensed Premises that Impact on Alcohol-Related Harms

	Physical Environment	Regulatory Factors
Internal	<ul style="list-style-type: none"> Crowding Entertainment Lighting Seating Bar placement Drinks containers Bar size Ventilation Air-conditioning Entrances and exits Cleanliness Physical hazards Provision of food 	<ul style="list-style-type: none"> Intoxication Drinks promotions Social mix Patron type (age, gender) Permissive attitudes Attitudes re drunken deportment Licensed venue policies and practices Crowd controller/door staff behaviour and practices Bar staff behaviour and practices Management practices and policies Police activities and responses Enforcement of legislation
External	<ul style="list-style-type: none"> Road design Rubbish bins Location of public phones Location of amenities Location of cab ranks Location of bus facilities Number of taxi ranks Cleanliness of environment Design of city, town or entertainment centre Number of licensed venues Density of licensed venues Number and type of other businesses Operating hours of licensed venues Lighting and CCTV Location of fast food outlets Proximity of licensed premises to domestic premises 	<ul style="list-style-type: none"> Visibility of police Communication between security personnel and police Behaviour of licensed premises security staff Behaviour of police Enforcement activities of police Dry zone Type of licensed premises (mix) Enforcement of legislation

Source: Doherty & Roche, 2003



Chapter 9: Social Harms

Key points

- » The social harms caused by alcohol are often overlooked, and include homelessness, unemployment, crime, assaults, work-related harms, work absenteeism, and child safety issues.
- » Alcohol use can be a major contributor to homelessness and is an exacerbating condition for homeless people.
- » Alcohol causes a wide range of work-related harms, including safety issues to do with intoxicated workers and absenteeism, and can contribute to unemployment.
- » Around 10 per cent of children live with an alcohol or other substance abusing or dependent adult, and alcohol is a major contributing factor to child abuse and neglect.

“The morbidity and mortality associated with alcohol consumption represents a major problem facing the community (see Chapter 10). Although public discussion has often focussed on the health impacts of excessive alcohol consumption, the harms associated with alcohol consumption that occur in the social domain are equally important. These harms have been described as ‘the forgotten dimension’ of alcohol-related harms (Klingman & Gmel, 2001, cited in Babor et al., 2003). This category of harm includes issues such as violence, vandalism, public disorder, family and other interpersonal problems, financial problems and educational difficulties (Babor et al., 2003).¹⁶”

The effects of alcohol consumption go beyond diseases, accidents and injuries to a range of adverse social consequences, both for the drinker and for others in the community. These consequences include harm to family members (including children) and to friends and workmates, as well as to bystanders and strangers.

¹⁶ Section sourced from Nicholas, 2008.

Mental health

“Alcohol use, especially when initiated at a young age, elevates the risk of many mental health and social problems (Brown & Tapert, 2004). The existence of psychiatric comorbidities in adolescents who abuse alcohol is common, especially for conditions such as depression, anxiety, bipolar disorder, conduct disorder, and attention-deficit/hyperactivity disorder (Brown & Tapert, 2004; Cargiulo, 2007; Cheng, Wright, Pearson-Fields, Brenner, & The DC Child/Adolescent Injury Research Network, 2006; Deas & Brown, 2006; Turner & Gil, 2002).

The nature of the relationship between alcohol use and mental health in adolescence is somewhat reciprocal. Youths with certain mental health disorders are more likely to initiate alcohol use and accelerate their use throughout adolescence (Brown & Tapert, 2004). In turn, alcohol use may contribute to poor mental health.

In a random sample of more than 27,400 college students from across the United States, Weitzman (2004) found that students with poor mental health were likely to report frequent, heavy and heavy episodic drinking and were also more likely to drink with the intent of getting drunk. In a similar study, Geisner, Larimer, & Neighbors (2004) found that the association between psychological distress and negative drinking consequences was greater for male college students than females.

One of the major complications of adolescent alcohol use is self-harm, having suicidal thoughts and suicide (Miller, Naimi, Brewer, & Jones, 2007). Alcohol use disorders, in conjunction with major depression, represent an especially high-risk profile for adolescent suicidal behaviour and completed suicide (Sher, 2006). In addition, adolescents with alcohol use disorders tend to complete suicide at a greater rate than those without alcohol problems (Sher, 2006). It has been suggested that adolescents who use drinking as a method of coping are more likely to suffer from depression, precipitating heavy drinking, which is itself predictive of suicidal behaviour (Windle, 2004).

- » *Alcohol use is significantly associated with episodes of deliberate self-harm (McCloskey & Berman, 2003), with about one-third of all self-inflicted injuries and suicides linked to alcohol consumption in men (32%) and women (29%) (Ridolfo & Stevenson, 2001). Longitudinal data show that the prevalence of alcohol use around the time of a deliberate self-harm episode has increased for both males and females over the past two decades (Haw, Hawton, Casey, Bale, & Shepherd, 2005; O’Loughlin & Sherwood, 2005).*
- » *The United States National Youth Survey (Swahn & Bossarte, 2007) showed that alcohol use in adolescents, and particularly in pre-teenagers, is a strong predictor of both suicidal ideation and completed suicide for both males and females.¹⁷”*

¹⁷ Section sourced from National Health and Medical Research Council, 2009.

Unemployment, absenteeism, and work-related harms

Recent analyses of the 2001 National Drug Strategy Household Survey data found that 8.7 per cent of the Australian workforce frequently (at least weekly) drank at short-term risky or high risk levels, 18.7 per cent infrequently (at least monthly) drank at short-term risky or high risk levels, and 20.4 per cent very infrequently (at least yearly) drank at short-term risky or high risk levels (Pidd et al., 2006). Nine per cent of the drinking workforce consumed alcohol at long-term risky levels, and 3.4 per cent drank at long-term high risk levels.

Overall, 6.6 per cent of the drinking workforce reported attending work under the influence in the last 12 months, and 10.2 per cent reported usually drinking alcohol at their workplace.

Table 9.1 shows the proportions of all employed recent drinkers aged 14 years and over who experienced being put in fear, or verbally abused, or physically abused by a person affected by alcohol and/or drugs and the proportion of these incidents that occurred in the workplace.

Table 9.1 Alcohol and/or drug-related abuse or intimidation in the workplace experienced by employed recent drinkers, aged 14 years and over

Exposure to an alcohol or drug-related incident in the past 12 months	No unweighted (No weighted)	% of employees reporting incidents (95% CI)	% of incidents that occurred in the workplace (95% CI)
Responded to question on put in fear	12,012 (7,747,177)	–	–
Yes to put in fear	2,343 (1,445,917)	18.7% (17.8%–19.5%)	–
Yes to put in fear in the workplace	303 (180,265)	2.3% (2.0%–2.7%)	13.6% (12.0%–15.5%)
Responded to question on verbal abuse	12,175 (7,852,900)	–	–
Yes to verbal abuse	4,228 (2,656,098)	33.8% (32.8%–34.9%)	–
Yes to verbal abuse in the workplace	618 (369,690)	4.7% (4.3%–5.2%)	14.5% (13.3%–15.9%)
Responded to question on physical abuse	11,772 (7,607,449)	–	–
Yes to physical abuse	701 (464,285)	6.1% (5.6%–6.7%)	–
Yes to physical abuse in the workplace	106 (70,216)	0.9% (0.7%–1.2%)	16.7% (13.5%–20.5%)

As noted in Chapter 5, nearly 2,700,000 work days were lost in 2001 due to workers' alcohol use, at a cost of \$437m (Pidd, Berry, Roche et al., 2006a). Workers who drank at risky and high risk levels infrequently or occasionally accounted for more than half this alcohol-related absenteeism (Pidd, Berry, Harrison et al., 2006; Pidd, Berry, Roche et al., 2006a; Roche et al., 2008).

There is a strong, established link between risky alcohol consumption and unemployment. Unemployed people in the 2004 National Drug Strategy Household Survey had the highest levels of drinking at a risky or high risk levels for short term harms at least weekly, long term risky drinking, and long term high risk drinking (Pidd, Shtangey, & Roche, 2008, see Chapter 12 for more detail). It is likely that the relationship is bi-directional: alcohol-related issues may lead to unemployment, and unemployment may result in increased risky drinking.

Homelessness

The homeless population in Australia is approximately 105,000 (Chamberlain & MacKenzie, 2008). The majority of homeless people are single (57,182 people or 55%), while 20 per cent are couples without accompanying children (20,704 people, or 10,160 couples with 384 accompanying adults). Just over a quarter (26%) are in homeless families with children (26,790 people, or 7,483 families).

More than two-thirds (67%) of the homeless population are adults over 18 years of age, with 12 per cent under 12 years of age, and 21 per cent from 12 to 18 years old (Chamberlain & MacKenzie, 2008). Less than half (44%) of homeless people are female (Chamberlain & MacKenzie, 2008).

A submission to the NSW Alcohol Summit, by the City of Sydney (2003), noted that:

“Whilst there are often complex factors involved in someone becoming homeless, the role that alcohol and alcohol dependence plays in homelessness should not be underestimated. ... The City Street Outreach Service which provides assistance to people who sleep rough on the streets regularly has between 35%-55% of its clients who have a dependence on alcohol. In 2000/01 of the 213 people with whom the Outreach team established a case management plan, 61% self identified as having a problem with drugs or alcohol (separate data not available). Alcohol not only plays a significant role in contributing to some people's homelessness, alcohol dependence also serves to keep people on the streets, contribute to poor health and make people more vulnerable to abuse and violence. There are also a number of homeless people who disclose having an addiction problem and at least one other mental health problem.”

Child Safety

International household surveys and other population estimates suggest that approximately 10 per cent of children live in households where there is parental alcohol abuse or dependence and/or substance dependence (Dawes, Frye, Best et al., 2007).

Recent Victorian figures (Victoria Department of Human Services, 2002) report that approximately one third (31%) of parents involved in substantiated cases of child abuse or neglect in 2000–01 experienced significant problems with 'alcohol abuse.'

Although drug and alcohol misuse were prominent factors in substantiated cases, it was evident that there were many other complex problems in these families. For example, of the parents who had problems with alcohol abuse, 70 per cent had experienced family violence, 18 per cent suffered from a psychiatric disability, and 51 per cent also had a substance misuse problem.

Alcohol-Attributable Crime

“Collins and Lapsley (Collins & Lapsley, 2008) conservatively estimated that the cost of alcohol-attributable crime in Australia in 2004-05 was \$1.735 billion. This comprised:

- » policing costs \$747.1 million
- » criminal courts \$85.8 million
- » property \$67.1 million
- » prisons \$141.8 million
- » insurance administration \$14.3 million
- » violence \$187.5 million
- » loss of productivity of prisoners while incarcerated \$368 million; and
- » loss of life (violence related) \$124.4 million.

*This was estimated to represent 0.2 per cent of Australia's gross domestic product. These estimates do not include the costs associated with crime attributed to alcohol in combination with other drugs. For this reason and a range of methodological factors these estimates are likely to be highly conservative.*¹⁸”

¹⁸ Section sourced from Nicholas, 2008.

Alcohol misuse and assault

“Alcohol-related disturbance and assault range from acts of vandalism, offensive behaviour, disturbance and disruption to far more serious antisocial behaviour, which can result in affront, violence or injury to others. Among respondents to the 2004 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2005b), 21.9 per cent reported that they had been verbally abused in the past 12 months by a person affected by alcohol, 11.8 per cent said that they had been in a frightening situation, and 3.7 per cent stated that they had been physically abused.

Like the links between alcohol and road crashes, the link between alcohol use and assaults is well established (Nicholas, 2008). The AIHW (2005b) reported that Australians were almost twice as likely to be physically or verbally abused or intimidated by an alcohol-affected person, than by a person affected by other drugs.

In 2004 almost a quarter of Australians aged 14 years or older were verbally abused, 4.4 per cent were physically abused and 13 per cent were put in fear by a person affected by alcohol. In all, almost a third of Australians aged 14 and over had experienced an alcohol-related incident of this type. Interestingly, of those who experienced these incidents, 58.5 per cent reported that they had not themselves been using alcohol (or other drugs) at the time of the incident. Also, among this group 90 per cent did not report these incidents to police. Even when they experienced physical abuse, almost 72 per cent did not report it to the police. While many of the respondents regarded the incidents as being too trivial to report to the police, it is probable that the incidents impacted upon the victims' perceptions of their personal safety.

Chikritzhs, Catalano, Stockwell, Donath, et al. (2003) reported that between 1993–4 and 2000–01 there were 76,115 hospitalisations in Australia as a result of alcohol-attributable assaults. Young people were far more likely to be hospitalised for alcohol-related assaults than were older people. The authors attributed this difference to a higher prevalence of binge drinking among younger Australians.¹⁹”

¹⁹ Section sourced from Nicholas, 2008.

“ In their examination of alcohol-related violence in Australia between 1995–96 and 1998–99, Matthews, Chikritzhs, Catalano, Stockwell and Donath (2002) reported that Australia-wide the estimated rates (per 10,000 of population) of alcohol-caused assault injuries were much higher in non-metropolitan regions compared with metropolitan regions. This held true for alcohol assault hospitalisation rates as well as police-reported assaults.

In their examination of alcohol-related violence and disorder in New South Wales (NSW) in 1999–2000, Briscoe and Donnelly (2001) reported that NSW Police flagged 23 per cent of assaults as being alcohol-related. Fifty-eight per cent of offensive behaviour incidents were recorded as alcohol-related. While only 6 per cent of incidents of malicious damage to property were recorded as being alcohol-related, this is likely to stem from the fact that these incidents would usually have been reported some time after the event had occurred. As a result, the degree of influence that alcohol misuse has on these incidents is unclear.²⁰ ”

²⁰ Section sourced from Nicholas, 2008.



Chapter 10: Morbidity and Mortality

Key points

- » Alcohol is second only to tobacco as a preventable cause of drug-related death and hospitalisation, and comprises at least 3.3 per cent of the total burden of disease and injury in Australia.
- » There is little epidemiological evidence for the beneficial effects of alcohol, and previous findings may have been due to methodological shortcomings.
- » The gross cost of alcohol to the healthcare system is over \$2 billion dollars.
- » Harms arising from acute effects of alcohol consumption form a large and often overlooked proportion of alcohol-related morbidity and mortality: more people die from acute effects such as road injuries than chronic conditions such as cancer.

“Alcohol consumption accounted for 3.3 per cent of the total burden of disease and injury in Australia in 2003 — 4.9 per cent in males and 1.6 per cent in females (Begg et al., 2007). This is compared with a contribution of 7.8 per cent for tobacco smoking, 7.5 per cent for high body mass, 7.6 per cent for hypertension and 6.6 per cent for physical inactivity (Begg et al., 2007). However, the dataset used to estimate alcohol consumption may underestimate its contribution to the true burden of disease and injury. This is borne out by the higher figures published for New Zealand (10 per cent for men and 4 per cent for women) (Connor, Broad, Rehm, Vander Hoorn, & Jackson, 2005).²¹”

Recent meta-analytical research suggests that there is little epidemiological evidence for the beneficial effects of alcohol (Fillmore, Stockwell, Kerr, Chikritzhs, & Bostrom, 2006). Previous findings may have been due to methodological issues such as including ex-drinkers in the abstainers comparison group (Fillmore et al., 2006), or that the populations that tend to abstain from alcohol also tend to be older and more prone to ill health (Andreasson, 2007). A systematic review (Fuchs

²¹ Section sourced from National Health and Medical Research Council, 2009.

& Chambless, 2007) and several other recent studies (Baglietto, English, Hopper, Powles, & Giles, 2006; Friesema, Zwietering, Veenstra et al., 2008; Harriss, English, Hopper et al., 2007) have also suggested that the cardioprotective effect may have been overestimated.

“ *In Australia:*

- » *alcohol is second only to tobacco as a preventable cause of drug-related death and hospitalisation (English, Holman, Milne et al., 1995; Higgins, Cooper-Stanbury, & Williams, 2000; Mathers, Vos, & Stevenson, 1999; Ridolfo & Stevenson, 2001)*
- » *between 1992 and 2001, more than 31,000 deaths were attributed to risky or high-risk alcohol consumption (as defined by the NHMRC 2001 guidelines) (Chikritzhs et al., 2003)*
- » *in the eight years between 1993–94 and 2000–01, over half a million completed hospital episodes were associated with alcohol (Chikritzhs et al., 2003)*
- » *among 14–17 year-olds, alcohol accounts for 13 per cent of all deaths: it has been estimated that one Australian teenager dies each week and more than 60 are hospitalised each week from alcohol-related causes (Chikritzhs, Pascal, & Jones, 2004)*
- » *among older Australians, alcohol is also a significant contributor to premature death and hospitalisation— among 65–74 year-olds, almost 600 die every year from injury and disease caused by drinking above the NHMRC 2001 low-risk drinking levels, and a further 6,500 are hospitalised (Chikritzhs & Pascal, 2005).²² ”*

Collins and Lapsley (2008) reported the number of hospital bed days and deaths due to alcohol (see Table 10.1). Internationally, up to one in five general hospital patients reported to have significant alcohol related problems (Foy, 1999; Foy & Kay, 1995; Hanlin, Jonas, Laslett, Dietze, & Rumbold, 2000; Roche, Freeman, & Skinner, 2006).

Table 10.1 Alcohol-caused hospital bed days and deaths in 2004/05 (Collins & Lapsley, 2008)

	Hospital bed days	Deaths
Males	575,773	2,582
Females	455,886	913
Males and females	1,031,660	3,494

²² Section sourced from National Health and Medical Research Council, 2009.

Collins and Lapsley (2008) estimated the gross costs of alcohol to healthcare as:

Medical:	\$562.3m
Hospitals:	\$693.9m
Nursing homes:	\$389.2m
Pharmaceuticals:	\$324.8m
Ambulances:	\$80.4m
Total:	\$2,050.5m

South Australian data indicates that the number of alcohol-related hospital admissions is rising (see Figure 10.1) (South Australian Department of Health, 2008).

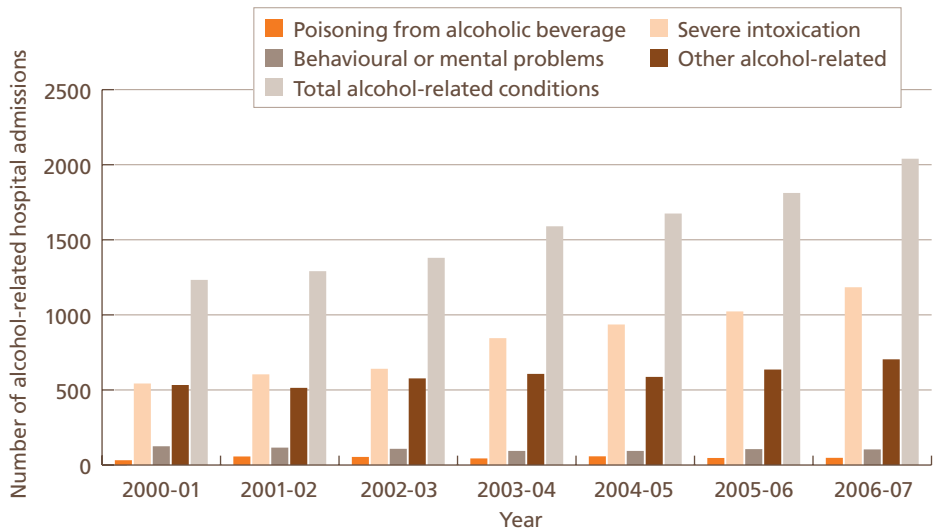


Figure 10.1 The number of alcohol-related hospital admissions in South Australia from 2000-01 to 2006-07 (South Australian Department of Health, 2008)

Table 10.2 summarises alcohol-related causes of morbidity and mortality according to acute harm, chronic harm, or a combination of the two.

“ It is important to note that more people die from the acute effects of alcohol than the long-term or chronic effects. In fact, more people die from alcohol-caused road injury alone than from all alcohol-related cancers, cardiovascular disease and alcohol dependence combined (Chikritzhs et al., 2003).²³ ”

Table 10.2 Conditions resulting or partially resulting from alcohol consumption (Ridolfo & Stevenson, 2001)

Acute	Chronic	Combination
Motorist injuries	Breast cancer	Stroke
Motorcyclist injuries	Heart failure	Suicide
Pedestrian injuries	Unspecified liver cirrhosis	Self-inflicted injury
Fall injuries	Oropharyngeal cancer	
Low birthweight	Oesophageal cancer	
Supraventricular cardiac	Liver cancer	
Dysrhythmias	Laryngeal cancer	
Pancreatitis	Hypertension	
Fire injuries	Ischaemic heart disease	
Drowning	Cholelithiasis	
Aspiration	Psoriasis	
Occupational and machine injuries	Epilepsy	
Assault	Oesophageal varices	
Child abuse	Gastro-oesophageal haemorrhage	
Alcoholic psychosis	Pancreatitis	
Alcohol abuse	Alcohol dependence	
Ethanol toxicity	Alcoholic liver cirrhosis	
Methanol toxicity	Alcoholic poly neuropathy	
Alcoholic beverage poisoning	Alcoholic cardiomyopathy	

²³ Section sourced from National Health and Medical Research Council, 2009.

Injury

“ Unlike the long-term health effects of alcohol where there have been many epidemiological studies and, in recent years, several major meta-analyses, the acute effects of alcohol have not been thoroughly studied. This is because until recently prospective studies have not focused on amounts on a single occasion of drinking, and there have been few controlled studies of drinking events and injury.

However, a number of recent studies of the acute effects of alcohol in injury patients who present to emergency departments show a similar pattern of injury risk (Borges, Cherpitel, & Mittleman, 2004; Borges et al., 2006; Cherpitel, Moskalewicz, & Swiatkiewicz, 2004; Gmel, Bissery, Gammeter et al., 2006; Spurling & Vinson, 2005; Vinson, Maclure, Reidinger, & Smith, 2003).²⁴ The findings of a recent review of international emergency department studies since 1995 supported prior reviews, with injured patients more likely to have consumed alcohol and report drinking prior to injury than non-injured patients, and with the magnitude of the association with alcohol substantially increased for violence-related injuries compared to non-violence-related injuries (Cherpitel, 2007).²⁵ ”

As well as a review of these studies, there are several other datasets that provide useful information about the relationship between alcohol consumption and presentations for injury to emergency departments (Borges et al., 2006; Stockwell, McLeod, Stevens et al., 2002; Watt, Purdie, Roche, & McClure, 2004).

“ Drinking alcohol has been associated with injuries in many settings, including:

- » motor vehicle and bicycle accidents
- » incidents involving pedestrians
- » falls
- » fires
- » drowning
- » sports and recreational injuries
- » alcohol poisoning
- » overdose
- » suffocation
- » inhalation of vomit
- » assault, violence
- » intentional self-harm

(Chikritzhs et al., 2003; Chikritzhs, Stockwell, Heale, Dietze, & Webb, 2000; Ridolfo & Stevenson, 2001).²⁶ ”

²⁴ Section sourced from National Health and Medical Research Council, 2009. NB A variety of methods have been used for assessing the risk of injury from different levels of alcohol consumption and definitive methods of determining risk have not been established. It is possible that some of the methodologies employed may overestimate risk as levels of alcohol consumed are underestimated (Stockwell et al., 2004). However, these studies provide the best available evidence on which to base calculations for risk of alcohol-related injury.

^{25, 26} Section sourced from National Health and Medical Research Council, 2009.

“ The link between alcohol use and road crashes is well established. Collins and Lapsley (2008) examined the costs associated with alcohol-related road crashes in Australia. They concluded that in 2004-05 the human costs amounted to \$1.8 billion, the vehicle costs \$821.6 million, and general costs (travel delays, insurance administration and police) \$496 million. The total cost of alcohol-related road crashes was \$3.12 billion.

The Australian Transport Council (2007) reported that in Australia:

- » more than 20 per cent of drivers and riders killed have a blood alcohol level that exceed the legal limit;
- » approximately 1 in 300 drivers tested at random breath testing stations exceeded the legal alcohol limit;
- » casualty crash risk doubles when driving with an alcohol level just in excess of 0.05mg%, and;
- » a high proportion of recidivist drink drivers have clinical alcohol dependence problems.²⁷”

For Australian men, about one third (33%) of motor vehicle deaths and one quarter (25%) of motor vehicle injuries have been attributed to alcohol consumption; for women the figures are 11 per cent in each case (Ridolfo & Stevenson, 2001). For pedestrians, alcohol accounted for 40 per cent of male and 17 per cent of female deaths; and 37 per cent of male and 6 per cent of female hospitalisations (Ridolfo & Stevenson, 2001).

“ Equally, in their study of attendees at the Royal Adelaide Hospital Trauma Service Griggs, Caldicott, Pfeiffer, et al., (2007) reported that motor vehicle crashes were the most common cause of injury and 22.6 per cent of injured drivers tested positive to alcohol. Of those trauma patients who were involved in car crashes and who tested positive for alcohol, 65.4% had a blood alcohol level above 0.05mg%, 50.4 per cent had a blood alcohol level of 0.11mg% or greater, 30 per cent had a blood alcohol level of 0.16mg% and 15.4 per cent had a blood alcohol level of greater than 0.2mg%.²⁸”

An analysis of adult respondents (aged 18+) in the 2004 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2005b) concerning gender patterns in hazardous behaviour and delinquent behaviour also provides useful data about this relationship.

^{27, 28} Section sourced from Nicholas, 2008.

“ Risk of an injury has been found to increase by between two and 10 times, depending on the amount of alcohol consumed (by calculating the relative risk of injury after drinking specific numbers of drinks compared to not drinking), from studies of injury presentations to emergency departments (Borges, Cherpitel, & Mittleman, 2004; Borges et al., 2006; Cherpitel, Moskalewicz et al., 2004; Gmel et al., 2006; Spurling & Vinson, 2005; Vinson et al., 2003; Watt et al., 2004; Watt, Purdie, Roche, & McClure, 2005). One study found that even one standard drink doubled the risk of injury (Borges et al., 2006).

Studies have found that the risk of injury increased more for people whose level of consumption varied significantly from time to time, and was particularly high for those who occasionally drank much more than their usual amount.

Three studies (Borges et al., 2006; Stockwell et al., 2002; Watt et al., 2004) showed a remarkable degree of similarity in terms of the risk curve associated with an emergency department presentation for an alcohol-related injury. They found that the probability of an alcohol-related injury remained relatively low at no more than four standard drinks on a single occasion of drinking. A case-control study (Watt, Purdie, Roche, & McClure, 2006) found that patients who drank alcohol above low-risk levels or who drank beer in the six hours before being injured were significantly more likely to sustain serious rather than minor injuries.

Several studies have shown a higher proportion of violence-related injuries among those drinking before the incident than for non-alcohol-related injuries (Borges, Cherpitel, & Mittleman, 2004; Borges et al., 2006; Cherpitel, Moskalewicz et al., 2004).²⁹”

Self-harm and suicide

“ Alcohol use is significantly associated with episodes of deliberate self-harm (McCloskey & Berman, 2003), with about one-third of all self-inflicted injuries and suicides linked to alcohol consumption in men (32%) and women (29%) (Ridolfo & Stevenson, 2001). Longitudinal data show that the prevalence of alcohol use around the time of a deliberate self-harm episode has increased for both males and females over the past two decades (Haw et al., 2005; O’Loughlin & Sherwood, 2005). Heavy drinking is a major risk factor for suicide and suicidal behaviour in both males and females across the lifespan (Cherpitel, Borges et al., 2004; Kaminer, Burlison, Goldston, & Burke, 2006; Kolves, Varnik, Tooding, & Wasserman, 2006; Sher, 2006). ‘Binge-drinking’, in combination with depression, is a significant predictor of suicidal ideation, self-harm and suicide (Miller et al., 2007; Sher, 2006; Windle, 2004).³⁰”

^{29, 30} Section sourced from National Health and Medical Research Council, 2009.

Long-term effects

“Alcohol consumption has been associated with a range of long-term diseases that may cause premature death and adverse effects that reduce quality of life. Alcohol is a toxic substance related to more than 60 different disorders (WHO Expert Committee on Problems Related to Alcohol Consumption, 2006). For some chronic health conditions in which alcohol is implicated, such as breast cancer among women, there is an increasing risk with increasing levels of alcohol consumption, with no evidence of a threshold effect (WHO Expert Committee on Problems Related to Alcohol Consumption, 2006).

Additional to the following long term effects, people with alcohol dependence are often immunodeficient and have an increased incidence of infectious diseases (WHO Expert Committee on Problems Related to Alcohol Consumption, 2006). Bacterial pneumonia, for example, is a leading cause of lower respiratory tract infection in this population.³¹”

“**Cardiovascular disease** The effect of alcohol on the cardiovascular system is complex: low levels of alcohol raise high-density lipoprotein cholesterol and reduce plaque accumulations in arteries. It also has a mild anti-coagulating effect. However, alcohol raises blood pressure and may increase the risk of arrhythmias, shortness of breath, cardiac failure, haemorrhagic stroke and other circulatory problems.

Cancers Alcohol has been identified by the International Agency for Research on Cancer (IARC) as carcinogenic to humans (International Agency for Research on Cancer, 1998). Several mechanisms have been identified for alcohol-associated carcinogenesis, including acetaldehyde formation, induction of CYP2E1 leading to formation of reactive oxygen species and enhanced pro-carcinogen activation, and modulation of cellular regeneration. Because of repeated exposure to acetaldehyde after alcohol consumption, individuals with inactive ALDH2 are at increased risk for upper gastrointestinal cancers.

A recent report by the World Cancer Research Fund (World Cancer Research Fund & American Institute for Cancer Research, 2007) found convincing evidence that alcohol causes cancers of the mouth, pharynx, larynx, oesophagus, breast and colorectum in men, and probable evidence that alcohol causes liver cancer and colorectal cancer in women. A literature review conducted by the NSW Cancer Institute (Lewis, Campbell, Proudfoot et al., 2008) found that moderate alcohol consumption corresponding to approximately two drinks per day does not increase the risk of cancer in general. However, the average intake of approximately four drinks per day increases the risk of cancer by 22 per cent. High alcohol consumption averaging approximately eight drinks per day increases the risk of cancer at any site by 90 per cent.³²”

³¹ Section sourced from WHO Expert Committee on Problems Related to Alcohol Consumption, 2006.

³² Section sourced from National Health and Medical Research Council, 2009.

“ **Diabetes** The relationship between alcohol consumption, insulin sensitivity, type 2 diabetes mellitus and the metabolic syndrome that clinically precedes it, is not clear (Hulthe & Fagerberg, 2005). However, alcohol affects the management of diabetes in a number of ways.

Nutrition-related conditions Alcohol consumption is linked to malnutrition, Wernicke-Korsakoff syndrome, folate deficiency, Vitamin A depletion and pellagra.

Overweight and obesity Although the epidemiological data on the relationship between alcohol intake and being overweight or obese are not clear, alcohol adds kilojoules to the normal diet and may increase energy intake and fat storage further by increasing appetite and displacing fat and carbohydrate oxidation. The absolute amount of alcohol consumed, drinking frequency and genetic factors all influence an individual's tendency to gain weight (Suter & Tremblay, 2005).

Liver diseases Alcohol consumption is the most common cause of cirrhosis of the liver, and drinking alcohol over many years can cause cirrhosis in the absence of other causes (National Health and Medical Research Council, 2001). The presence of conditions such as hepatitis B or C increases the effects of alcohol in contributing to development and course of cirrhosis.³³”

“ Alcohol can exacerbate hepatitis C. More than half of all patients with hepatitis C have a past history of alcohol use, and chronic alcohol consumption of more than five drinks per day in individuals with hepatitis C increases the rate of liver fibrosis, and the risk for cirrhosis, hepatocellular carcinoma and, possibly, death from liver disease (Jamal, Saadi, & Morgan, 2005).³⁴”

“ **Mental health conditions** There is growing evidence that alcohol increases the risk of highly prevalent mental health conditions such as depression and anxiety in some people, and may affect the efficacy of antidepressant medication (Loxley, Toumourou, & Stockwell, 2004):

- » alcohol dependence increases the risk of having major depression one year later, and equally, the presence of major depression elevates the risk of having an alcohol dependence disorder one year later;
- » the lifetime prevalence of major depressive disorders in people seeking treatment for alcohol dependence is around 40 per cent; and
- » the co-occurrence of major depression and alcohol-use disorders increases the risks of both violence and suicidal behaviour.

The existence of psychiatric comorbidities among heavy drinkers is common, especially for conditions such as depression, anxiety, bipolar disorder, conduct disorder and attention-deficit/hyperactivity disorder (Brown & Tapert, 2004; Cargiulo, 2007; Chen & Storr, 2006; Deas & Brown, 2006; Turner & Gil, 2002).³⁵”

^{33, 35} Section sourced from National Health and Medical Research Council, 2009.

³⁴ Section sourced from WHO Expert Committee on Problems Related to Alcohol Consumption, 2006.

“**Long-term cognitive impairment** The relationship between chronic heavy alcohol consumption and cognitive impairment is well established (Friend, Malloy, & Sindelar, 2005; Glass, Adams, Nigg et al., 2006; Liappas, Theotoka, & Kapaki, 2005; Rosenbloom, O’Reilly, Sassoon, Sullivan, & Pfefferbaum, 2005). Heavy drinkers exhibit negative structural and metabolic brain changes, and have an increased risk of dementia (Gazdzinski, Durazzo, & Meyerhoff, 2005; Gilchrist & Morrison, 2005).

Brain development Alcohol affects brain development, a process under tight temporal and spatial constraints, with each brain region having its own timetable for development. Alcohol has been shown to selectively exert its effects at the cellular and molecular levels on these developmental processes.³⁶”

Drinking during pregnancy

“**Maternal alcohol consumption can result in a spectrum of harms to the foetus.** Risk of birth defects is greatest with high, frequent maternal alcohol intake during the first trimester. Alcohol exposure throughout pregnancy (including before pregnancy is confirmed) can also have consequences for development of the foetal brain. It is not clear whether the effects of alcohol are related to the dose of alcohol and whether there is a threshold above which adverse effects occur (Royal College of Obstetricians and Gynaecologists, 2006). However, variation in effects can be due to the stage of development of the foetus at the time of exposure and to individual characteristics of the mother.

Systematic reviews of the literature and prospective cohort studies shows that the level of risk is:

- » highest when there is high, frequent maternal alcohol intake;
- » likely to be low if a woman has consumed only small amounts of alcohol before she knew she was pregnant or during pregnancy; and
- » hard to predict as it is influenced by maternal and foetal characteristics.

Foetal alcohol spectrum disorders (FASD) refers to a spectrum of adverse affects resulting for exposure to alcohol. Foetal alcohol syndrome (FAS) has been described in children exposed to high levels of alcohol in utero as a result of either chronic or intermittent maternal alcohol use. (Astley & Clarren, 2000; Hoyme, May, Kalberg et al., 2005; Jones, Smith, Ulleland, & Streissguth, 1973; Lemoine, Harousseau, Borteyru, & Menuet, 1968; Reno, Springen, Meadows, Underwood, & Scelfo, 2007).³⁷”

^{36, 37} Section sourced from National Health and Medical Research Council, 2009.

“ These children have:

- » characteristic facial abnormalities (and often a range of other birth defects),
- » impaired growth and
- » abnormal function or structure of the central nervous system.

The diagnosis may not be evident at birth.

Not all children exposed to alcohol during pregnancy are adversely affected, or affected to the same degree. Expression of FAS appears to depend on other factors including (O’Leary, 2004):

- » the timing of alcohol intake in relation to the stage of foetal development;
- » the pattern and quantity of alcohol consumption (dose and frequency);
- » and socio-behavioural risk factors (maternal age/duration of drinking, low socio-economic status, race, genetic differences, polydrug use).

People with FASD experience lifelong problems, including learning difficulties and disrupted education, increased rates of mental illness, drug and alcohol problems and trouble with the law (Streissguth, Bookstein, Barr et al., 2004).

Australian studies indicate:

- » continuing occurrence of FAS, with many children in foster care and many with an affected sibling suggesting missed opportunities for prevention (Elliott & Bower, 2004; Elliott, Payne, Morris, Haan, & Bower, 2008))
- » a likely under-ascertainment of FAS due to a lack of knowledge among health professionals of the condition and criteria for its diagnosis (Elliott, Payne, Haan, Bower, & Zurynski, 2006; Payne, Elliott, D’Antoine et al., 2005)
- » higher rates of FAS in some Indigenous communities compared with non-Indigenous communities (Bower, Silva, Henderson, Ryan, & Rudy, 2000; Elliott et al., 2008; Harris & Bucens, 2003)
- » an identified need for research into the association between low to moderate alcohol consumption and foetal harm (O’Leary, Heuzenroeder, Elliott, & Bower, 2007)
- » a lack of data on rates of, and need for research on, ARBD and ARND in Australia.

A number of alcohol-related birth defects (ARBD) and alcohol-related neurodevelopmental disorders (ARND) have also been described following exposure to alcohol during pregnancy and can be included, with FAS, under the umbrella term of FASD (Astley & Clarren, 2000; Hoyme et al., 2005). Although children with ARND do not have birth defects, they have significant developmental, behavioural and cognitive problems similar to children with FAS.³⁸”

³⁸ Section sourced from National Health and Medical Research Council, 2009.



Chapter 11: Indigenous and Young People

Key points

- » Alcohol consumption is an underlying risk factor for poor Indigenous health.
- » While Aboriginal and Torres Strait Islander people are less likely than the general population to drink, those who do drink are more likely than non-Indigenous drinkers to consume at risky or high risk levels for long term harm.
- » Indigenous men are 9 times and women are 4 times more likely to be hospitalised due to excessive alcohol use compared to the non-Indigenous population, and the rate of alcohol-attributable deaths among Indigenous Australians is approximately twice that for the non-Indigenous population.
- » The risks of accidents, injuries, violence and self-harm are high among drinkers aged under 18 years.
- » Between 1993 and 2001, 28 per cent of all alcohol-related injury deaths and more than one-third of alcohol-related injury hospitalisations were sustained by young people aged 15–29 years, and about half of all serious road injuries involved young people.

This chapter addresses alcohol related issues as they impact special needs populations. In particular, Indigenous people and Young People are considered high risk groups.

Aboriginal and Torres Strait Islander Peoples

Excessive consumption of alcohol has been linked with cultural dispossession and is related to social stress and disruption among dispossessed Indigenous cultures across the world (Office of Torres Strait Islander Health, 2001).

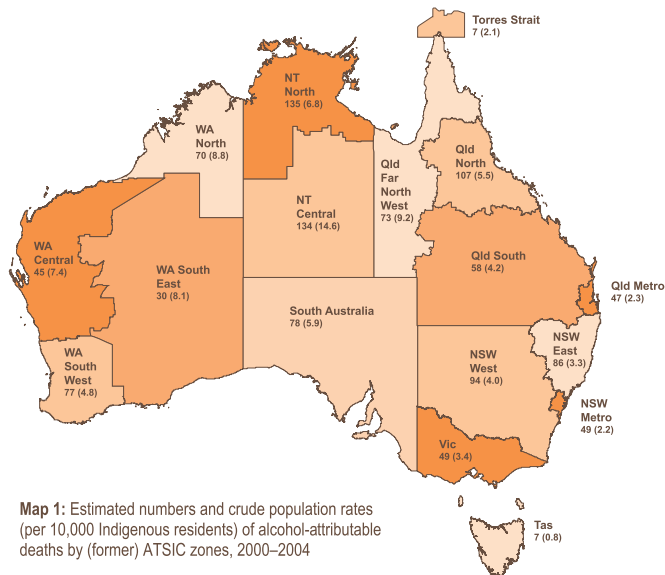
Alcohol consumption is an underlying risk factor for poor Indigenous health. Although most surveys show that Aboriginal and Torres Strait Islander people are less likely than the general population to drink, those who do drink are more likely than non-Indigenous drinkers to consume at risky or high risk levels for long term harm (Pink & Allbon, 2008; Steering Committee for the Review of Government Service Provision (SCRGSP), 2007a).

The 2004 National Drug Strategy Household Survey estimated that 23 per cent of Indigenous adults over 15 consume alcohol at risky or high risk levels for long term harm. For short term harm, 52 per cent of Indigenous adults over 15 consumed alcohol at risky or high risk levels, compared to 36 per cent of non-Indigenous adults (Australian Institute of Health and Welfare, 2007a).

High levels of alcohol consumption are common for both Indigenous males and females across a wide range of ages, but Indigenous men aged between 35-54 years and Indigenous women aged between 25-44 years have the highest prevalence of risky drinking for harm in the long term (Trewin, 2006). The 2004-2005 National Aboriginal and Torres Strait Islander Health Survey, which reported lower prevalence estimates than those provided by the National Drug Strategy Household Survey above, found that long term risky or high risk drinking is more prevalent among Indigenous men (19%) compared to Indigenous women (14%) and is comparable between remote and non-remote areas (Trewin, 2006).

The harms associated with risky levels of alcohol consumption can be physical, psychological, and financial. For many Indigenous people the misuse of alcohol has resulted in a disproportionate number of mental and behavioural disorders and subsequent separation of families (Steering Committee for the Review of Government Service Provision (SCRGSP), 2007b). Almost one in six Indigenous children (less than 14 years old) live in a household with a risky drinker (Pink & Allbon, 2008). There is limited comparable data for non-Indigenous children (Dawe et al., 2007).

Indigenous men are nine times and women are four times more likely to be hospitalised due to excessive alcohol use compared to the non-Indigenous population (Steering Committee for the Review of Government Service Provision (SCRGSP), 2007a). The rate of alcohol-attributable deaths among Indigenous



Map 1: Estimated numbers and crude population rates (per 10,000 Indigenous residents) of alcohol-attributable deaths by (former) ATSIC zones, 2000–2004

Figure 11.1 Estimated numbers and crude population rates (per 10,000 Indigenous residents) of alcohol-attributable Indigenous deaths by (former) ATSIC zones, 2000–2004 (Chikritzhs, Pascal, Gray et al., 2007)

Australians is approximately twice that for the non-Indigenous population (Chikritzhs, Pascal, Gray et al., 2007), with a particularly strong association apparent between alcohol use and suicide among some Aboriginal and Torres Strait Islander people (Hunter, Reser, Baird, & Reser, 1999; Tatz, 2001).

The estimated numbers and population rates (per 10,000 Indigenous residents) of alcohol-attributable deaths of Indigenous people in 2000 to 2004 is shown in Figure 11.1 by (former) ATSIC zones (Chikritzhs, Pascal et al., 2007). Suicide (19%) and alcoholic liver cirrhosis (18%) account for almost 40% of all alcohol-attributable deaths among Indigenous men. For women, the most common alcohol-attributable causes of death were alcohol liver cirrhosis (27%), haemorrhagic stroke (16%), and fatal injury caused by assault (10%).

Indigenous young people in particular are at risk for alcohol-related harm. Approximately 20 per cent of Indigenous males aged 18–24 and 14 per cent of Indigenous females aged 18–24 consume alcohol at risky or high risk levels, compared to 16 per cent and 12 per cent respectively for non-Indigenous Australians (Trewin, 2006). Indigenous young people are 2.3 times more likely to die from an alcohol-attributable cause than non-Indigenous young people (Chikritzhs & Pascal, 2004). Chikritzhs and Pascal (2004) note that while the rate of alcohol-attributable deaths has steadily decreased in non-Indigenous young people since 1994, there has been little decrease in the rate of alcohol-attributable deaths among Indigenous young people.

“ There are differences between the drinking locations of Indigenous and non-Indigenous Australians. Structural, political and social circumstances have led to higher levels of public drinking by Indigenous Australians in locations other than licensed venues. Nevertheless, licensed venues are the dominant source of alcohol. The manner in which a licensed venue is operated, maintained, supervised and policed can impact directly on the potential for alcohol-related harms. A number of unique supply control measures have been implemented in Indigenous communities to reduce the incidence and severity of alcohol-related harms resulting from take-away sales.

Public drinking by Indigenous Australians is a factor that contributes to the greater likelihood of apprehension (or detention) for public drunkenness and alcohol-related violence than that experienced by non-Indigenous Australians. Drinking in public areas may increase the likelihood of intoxication, possibly as a result of fewer controls over the amount of alcohol consumed.³⁹”

Young people

Rates of drinking at harmful levels by 12–17-year olds have doubled in the past two decades (White & Hayman, 2007) and there is strong evidence pointing to the need for special considerations for this age group.

The prevalence of risky drinking for short-term harms is shown split by gender in Figure 11.2. By 18 years of age, approximately 50 per cent of both males and females are risky drinkers. This tapers off slightly for females aged 21-24 years.

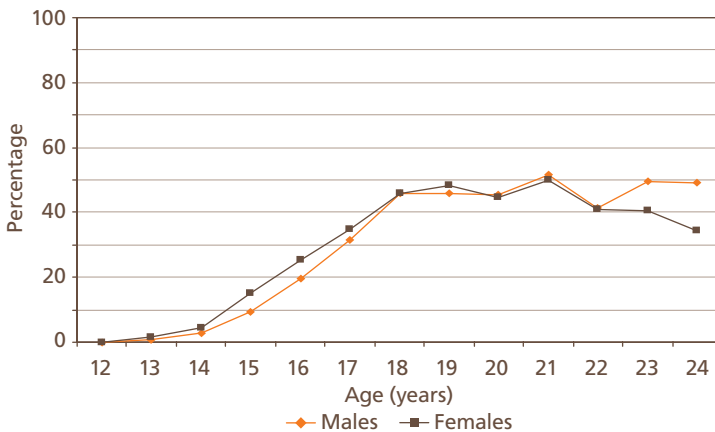


Figure 11.2 Percentage of young males and females consuming alcohol at risky or high risk levels for short-term harms at least monthly (data from 2004 NDSHS) (Roche et al., 2007)

³⁹ Section sourced from Nicholas, 2008.

Importantly, there is a disconnection between young people's perceptions of drinking and established views of alcohol-related harms (Figure 11.3). Despite high rates of risky drinking, most young people who drink at risky levels for short-term harm at least monthly classify themselves as 'light' or 'social' drinkers, with only 3 per cent viewing themselves as 'heavy' or 'binge' drinkers. That is, they do not consider their drinking behaviour to be associated with potentially harmful consequences.

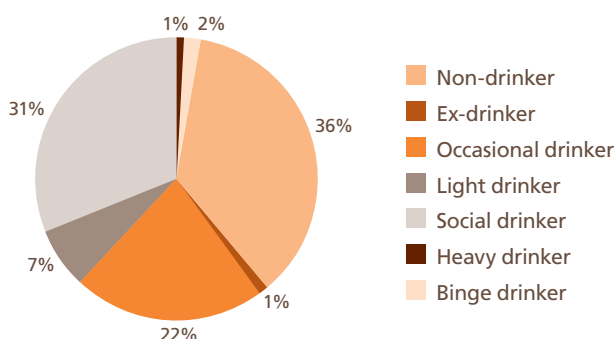


Figure 11.3 Perceptions of young people aged 12-24 of their own drinking (data from 2004 NDSHS) (Roche et al., 2007)

“ Childhood and adolescence are critical times for brain development and the brain is more sensitive to alcohol-induced damage during these times, while being less sensitive to cues that moderate alcohol intake (Brown & Tapert, 2004; De Bellis, Narasimhan, Thatcher et al., 2005; Kelly & Witkiewitz, 2003; White & Swartzwelder, 2005).

Regular drinking in adolescence is an important risk factor for the development of dependent and risky patterns of use in young adulthood (Bonomo, Coffey, Wolfe et al., 2001; Hayes et al., 2004; Hingson et al., 2006; Hingson, Heeren, Zakocs, Winter, & Wechsler, 2003; Pitkanen et al., 2005; Toumbourou et al., 2004; Warner, White, & Johnson, 2007; Wells, Horwood, & Fergusson, 2004).

Alcohol consumption as an adolescent or young adult is associated with physical injury (discussed further below), risky sexual behaviour (discussed in Chapter 9), adverse behavioural patterns and academic failure (Abbey, Buck et al., 2003; Abbey, Clinton-Sherrod et al., 2003; Barnett, Monti, Spirito et al., 2003; Bonomo et al., 2001; Boyd, McCabe, & Teter, 2006; Coleman & Cater, 2005; Davis et al., 2006; Dye & Upchurch, 2006; Fallu, Rehm, Kuntsche et al., 2006; French & Maclean, 2006; Howard et al., 2003; Johnson & Stahl, 2004; Kaysen, Neighbors, Martell, Fossos, & Larimer, 2006; Kebede, Alem, Mitike et al., 2005; Mora-Rios, Natera, & Juarez, 2005; Shepherd, Sutherland, & Newcombe, 2006; Swahn, Simon, Hammig, & Guerrero, 2004; Vinson et al., 2003; Zhang, Welte, & Wieczorek, 2002).⁴⁰”

⁴⁰ Section sourced from National Health and Medical Research Council, 2009.

Rates of alcohol-attributable hospitalisations of young people aged 15 to 24 years are high, estimated at over 10,000 hospitalisations each year (Chikritzhs & Pascal, 2004). This represents approximately 14 per cent of all alcohol-related hospitalisations. Over one in five (22%) of all hospitalisations of young people are alcohol-attributable (Chikritzhs & Pascal, 2004). The most common causes of alcohol-attributable hospitalisations among young people are given in Chapter 11. Alcohol is also associated with high rates of presentations to the Emergency Department. A Queensland study found that 31 per cent of 15-18 year olds and 32 per cent of 19-24 year olds attending the Emergency Department for an injury reported consuming alcohol in the 6 hours preceding their injury. Three in four cases of alcohol-involved injury presentations to the Emergency Department were male (Roche, Watt, Purdie, McClure, & Green, 2001).

“The risks of accidents, injuries, violence and self-harm are high among drinkers aged under 18 years (Chikritzhs et al., 2003; Miller et al., 2007; Shepherd et al., 2006). Risk-taking behaviour (Miller et al., 2007), unsafe sex choices (Coleman & Cater, 2005), sexual coercion (Abbey, Buck et al., 2003; Davis et al., 2006) and alcohol overdose (Chen & Storr, 2006) increase when adolescents drink alcohol. Self-reported harm scores show that drinkers under the age of 15 years are much more likely than older drinkers to experience risky or antisocial behaviour connected with their drinking, with the rates also somewhat elevated among drinkers aged 15–17 years (Room & Livingston, 2007).

Between 1993 and 2001:

- » 28 per cent of all alcohol-related injury deaths and more than one-third (36%) of alcohol-related injury hospitalisations were sustained by young people aged 15–29 years (Chikritzhs et al., 2003); and
- » about half (54%) of all serious road injuries involved young people.⁴¹”

Approximately 264 young people aged 15 to 24 years die each year as a result of risky consumption (Chikritzhs & Pascal, 2004). The most common alcohol-attributable causes of death are shown in Table 11.1.

⁴¹ Section sourced from National Health and Medical Research Council, 2009.

Table 11.1 Causes of alcohol-attributable deaths and hospitalisation (%) for males and females aged 15 to 24 years (data from 2004 NAIP) (Roche et al., 2007)

Deaths	%	Hospitalisations	%
Males			
Road injury	52	Assault	30
Suicide	19	Falls	19
Assault	7	Road injury	17
Pedestrian road injury	9	Alcohol abuse	10
Drowning	4	Alcohol dependence	4
Females			
Road injury	37	Assault	23
Suicide	22	Alcohol abuse	19
Assault	20	Suicide	18
Pedestrian road injury	5	Falls	10
Drowning	3	Road injury	8



Chapter 12: The Workplace

Key points

- » The potential of the workplace as an alcohol harm intervention setting has largely been overlooked in Australia.
- » Indicators of the potential of the workplace include the concentration of particular demographic groups who engage in risky alcohol use in the workplace.
- » Alcohol use is more prevalent among those in paid employment.
- » Due to the impact of alcohol use on workplace safety and productivity, employers are likely to be motivated to support interventions.
- » Workplace interventions are likely to be cost effective and efficacious as variations in consumption patterns between occupational groups allow for targeted interventions.
- » Occupational health and safety and industrial relations frameworks exist that can incorporate alcohol-related issues.

The workplace as an intervention setting

Australia has largely overlooked the potential of the workplace as a setting in which to implement cost effective strategies to prevent and address risky drinking patterns. Despite this oversight, it has been argued that the alcohol-related culture of the work organisation is one of the most important determinants of workers' drinking patterns and can be utilised to promote 'low risk' versus 'risky' drinking norms (Pidd & Roche, 2008). This perspective is consistent with renewed Australian attention to the role of culture in understanding and addressing risky drinking in the Australian context (Roche et al., 2007).

Why the workplace?

There are several reasons why the workplace has potential for prevention and intervention. The workforce comprises a large proportion of the population and concentrated within the workforce sub-populations are the demographic groups most likely to engage in potentially harmful alcohol use. Alcohol use is more prevalent among Australians in the paid workforce compared to those not in the paid workforce (Berry et al., 2007). This is borne out by an examination of the alcohol consumption patterns of Australians identified by the 2004 National Drug Strategy Household Survey (NDSHS) (Figure 12.1).

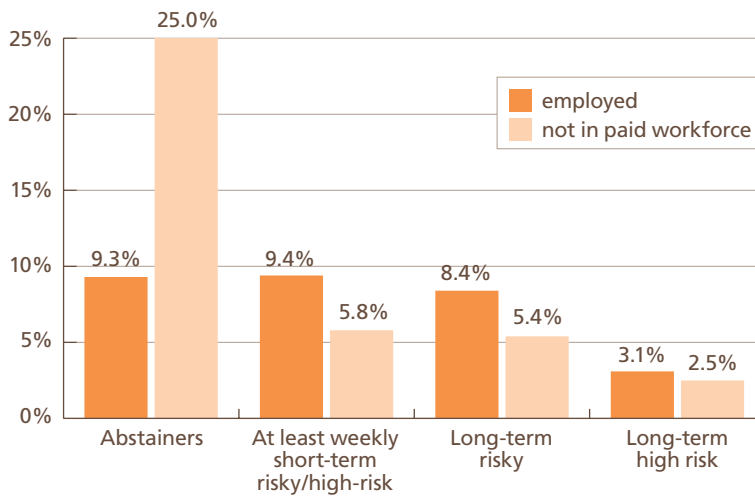


Figure 12.1 Proportions of respondents to the 2004 NDSHS (aged 14 years and over) by drinking patterns and paid employment status (Pidd et al., 2008)

While risky alcohol use is more prevalent among the relatively small numbers of Australians who are able to work, but are unemployed, risky alcohol use is more prevalent among those in the paid workforce (Figure 12.2).

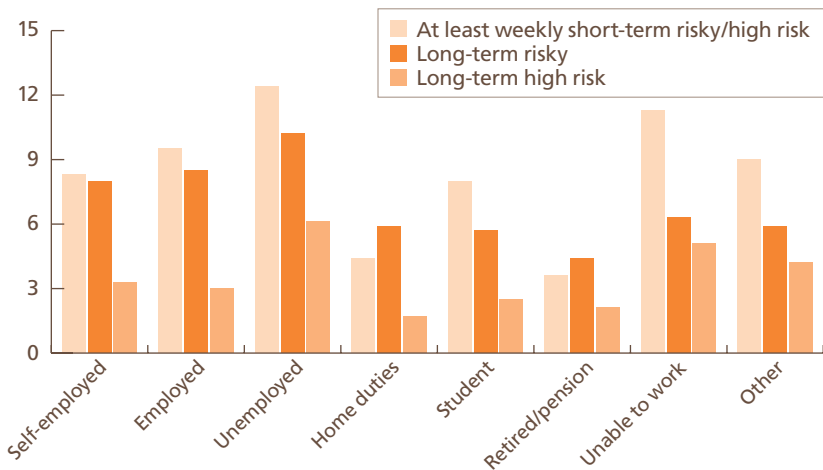


Figure 12.2 Proportions of respondents to the 2004 NDSHS (aged 14 years and over) by drinking patterns and employment category (Pidd et al., 2008)

Both employers and employees are likely to support workplace alcohol interventions as risky alcohol use plays a role in workplace fatalities and traumatic injuries (Phillips, 2001).

There is increasing evidence of the impact of alcohol use on workplace productivity, in particular the high prevalence and cost of alcohol-related absenteeism (Collins & Lapsley, 1996; Pidd, Berry, Harrison et al., 2006; Roche et al., 2008). As demonstrated in Figure 12.3, Australian business bears more than 50 per cent of the economic costs associated with alcohol use.

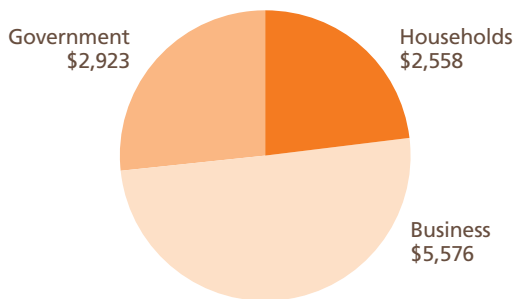


Figure 12.3 Sectors of the community who bore the cost of alcohol use 2004/05 (Collins & Lapsley, 2008)

In addition, industrial relations and occupational health and safety legislation and frameworks exist that can incorporate alcohol-related issues that impact the workplace.

Potential cost effectiveness and efficacy of workplace interventions

There are also several reasons why workplace interventions are likely to be particularly cost effective and efficacious. Prevalence data indicate that alcohol consumption patterns vary significantly between industry (Figure 12.4) and occupation (Figure 12.5) groups.

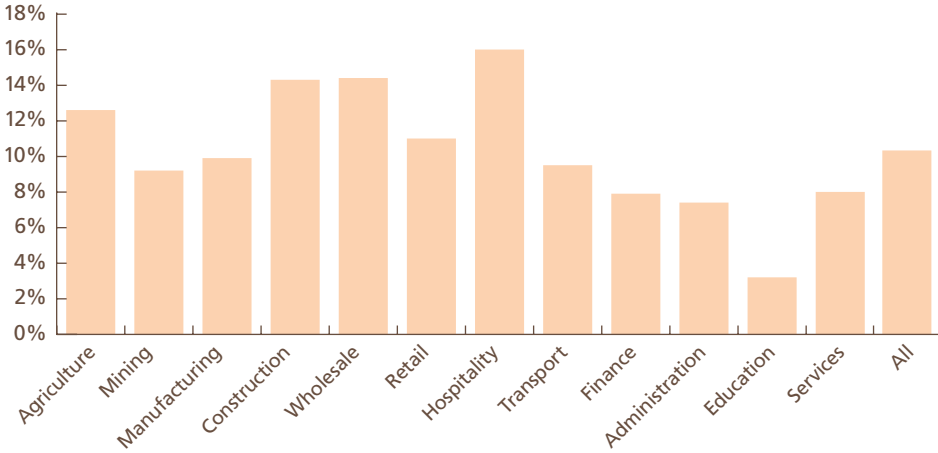


Figure 12.4 Proportions of employed respondents to the 2004 NDSHS (aged 14 years and over) by frequent (at least weekly) short-term risky/high risk drinking and industry of employment (Pidd et al., 2008)

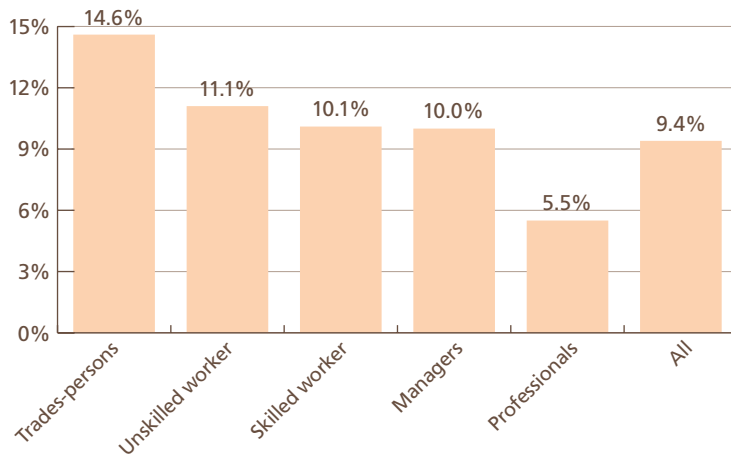


Figure 12.5 Proportions of employed respondents to the 2004 NDSHS (aged 14 years and over) by frequent (at least weekly) short-term risky/high risk drinking and occupation (Pidd et al., 2008)

Prevalence data concerning alcohol use by Australian workers also indicates that young workers are a particular risk group (Figure 12.6).

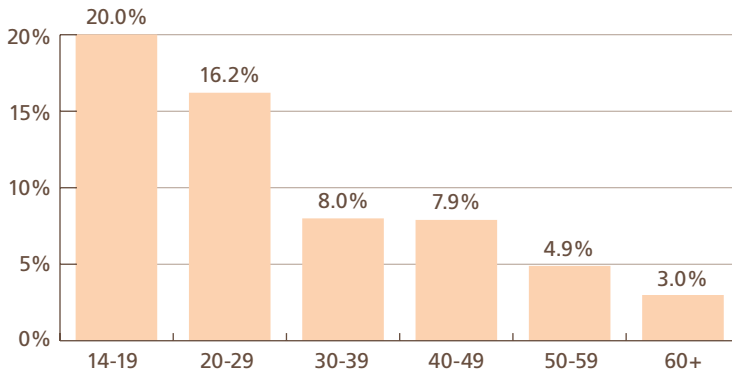


Figure 12.6 Proportions of employed respondents to the 2004 NDSHS (aged 14 years and over) by frequent (at least weekly) short-term risky/high risk drinking and age (Pidd et al., 2008)

Identification of occupational groups where the prevalence of risky alcohol use is high allows for the development and implementation of strategic and targeted interventions. When embedded with an occupational health and safety and workplace productivity framework, these interventions are likely to be effective as employers have substantial influence over employee's work-related behaviours, particularly those that are relevant to workplace safety and productivity. Moreover, social contagion theory (e.g. Skog, 1985) and other social influence theories (e.g. Bandura, 1977) suggest that improvements to an individual worker's consumption patterns would positively impact on their immediate family and the wider community.



Chapter 13: Structural and Regulatory Factors

Key points

- » The number of licensed premises has increased substantially in Australia over the past decade.
- » In large part, this expansion is due to the National Competition Policy.
- » The characteristics of licensed premises are important factors in alcohol-related levels of harms.
- » Density, hours of operation and price are key factors associated with alcohol-related harm.
- » Hotels, taverns and nightclubs are the premises associated with most alcohol-related harm largely because of their serving practices.

The licensed premises

Even though there has been a strong trend in recent years away from drinking in public locations, the licensed premise still features large in the Australian social, economic and cultural landscape. Once the exclusive domain of the 'aussie' male, the licensed premise has transformed into a social centre where the presence of females has been tolerated and, over time, embraced. These public drinking settings are particularly important in the lives of young people as they signify an important rite of passage into adulthood (Roche et al., 2007).

Licensed premises play a significant role in shaping the patterns of young people's alcohol consumption, and in mediating the alcohol-related risk taking behaviour of young people. This is because:

- » riskier drinkers aged 12-24 cite pubs and clubs as their preferred drinking locations
- » licensed premises have the potential to impact on levels of intoxication-related harms
- » characteristics and settings of licensed premises shape the culture of the drinking environment, and the resultant behaviour of young people.

Characteristics and Settings of Licensed Premises

Licensed premises are unique settings which convey images and messages about community norms, standards and values in relation to alcohol, and the act of consumption. They offer both symbolic and actual mechanisms to facilitate, reinforce or curtail a wide range of behaviours, including:

- » excessive consumption
- » intoxication, and
- » risk taking behaviours.

In contrast to 'off premise' consumption⁴², licensed premises are able to directly influence, monitor and shape:

- » what beverage type is consumed on premises
- » how much alcohol is consumed on premises, and
- » who consumes the alcohol on premises (Roche et al., 2007).

Organisational and environmental factors provide important cultural cues to the patrons of licensed premises concerning the acceptable standards of behaviour in those premises (Homel, Carvolth, Hauritz, McIlwin, & Teague, 2004). Consumption patterns and risk taking behaviours are influenced by the licensed premise through various environmental and organisational factors (Doherty & Roche, 2003).

Organisational	Environmental
Drink sizes	Design and furnishing
Drink promotions	Overall style and presentation of the setting
Service behaviours of staff	Cleanliness
Responsible service of alcohol	Noise levels, swearing and rowdiness
Refusal of service	Staffing levels, food service and bar access
Trading hours	Availability and quality of entertainment
Provision of food	Overcrowding, available seating
Employment of security staff	Lighting and ventilation
Dealing with aggression	
ID checks	
Compliance with regulations	

⁴² Opportunity to influence behaviour is limited to the type, strength, and packaging of the alcoholic beverages and the time, costs and location of alcohol sales.

Types of Licensed Premises

Australia has approximately 17,000⁴³ licensed premises (Australian Bureau of Statistics, 2006a) and the number of licensed premises has increased substantially over the past decade. However, not all licensed premises are similar in style, presentation, patronage, and potential consequences.

Drinking environments are increasingly designed, and structured with specific images in mind, to attract particular ages or patron groups. The physical features and management style of licensed premises and their environs impact upon individual and group behaviour in a variety of ways (Roche & Deehan, 2002). Changing just the physical and environmental features of the drinking environment can effectively change the patrons who frequent them, what they consume and how they behave. Therefore, identifying the characteristics of licensed premises that are associated with high levels of risky behaviour and concomitant adverse outcomes for young people is an important first step in positively influencing the culture associated with these problems.

Alcohol-related risky behaviours do not occur with equal frequency across all licensed premises. For example, a 1998 NSW report found that only 5% of 400 licensed premises had a higher than average number of alcohol-related incidents (Considine, Walker, Wiggers et al., 1998).

Hotels, taverns and nightclubs are the type of licensed premises associated with the majority of assaults (Briscoe & Donnelly, 2001), and other categories of alcohol-related harm, including drink driving and involvement in a vehicle crash (Stockwell, Somerford, & Lang, 1992). However, it is not the type of licensed premise per se that was a key predictor of alcohol related harm; rather, the most significant risk factors were:

- » overall amount of alcohol served on the premises, and
- » extent to which obviously intoxicated patrons continued to be served alcohol (Stockwell et al., 1992).

⁴³ Included in this number are hotels, taverns, bars, clubs, licensed cafes and restaurants, cafes and restaurants which are licensed and allow patrons to bring their own alcohol (BYO), and cafes and restaurants which only permit BYO. Excluded from this number are other categories of premises such as wholesale and retail liquor merchants, producers' licenses and residential licenses.

Practices of management and staff of licensed premises

Hotels, taverns, and nightclubs may be the most risky venues, not because of the type of license they hold, but because of their serving practices. The practices of management and staff of licensed premises have a profound influence on the subsequent behaviours of patrons and are pivotal to the culture of licensed premises (Homel et al., 2004). Formal and informal policies have been developed to ensure appropriate management of licensed premises. These policies explicitly specify acceptable and unacceptable behaviour on those premises. This has been referred to as setting “decorum expectations” (Homel et al., 2004, p. 23). Making expectations clear and explicit about what is considered appropriate and inappropriate behaviour on the part of patrons, staff and management has a significant influence on the culture of licensed premises.

Responsible Service of Alcohol

One strategy designed to reduce continued service to intoxicated patrons is Responsible Service of Alcohol (RSA) training programs. These programs aim to enable hospitality staff to:

- » better identify intoxicated patrons, and
- » initiate refusal of service strategies (Doherty & Roche, 2003).

Even though RSA training has been demonstrated to improve responsible service of alcohol practices, there is clearly room for improvement (Scott, Donnelly, Poynton, & Weatherburn, 2007). The utilisation of these programs is not generally legislated and is often over-ridden by considerations of profitability (Doherty & Roche, 2003). As such a multi-modal strategy, involving training for bar staff and more effective enforcement practices, is needed to strengthen the efficacy of these programs.

Density of licensed premises

The impact of licensed premises on the ‘amenity’ of a community is a paramount consideration and features within most states’ liquor licensing legislation. It is increasingly recognised that even though certain types of licensed premises can enhance the overall amenity and cultural values of a community; other types of licensed premises may have a detrimental impact. Research has revealed a strong correlation between alcohol outlet density and:

- » alcohol-related harms (Donnelly, Poynton, Weatherburn, Bamford, & Nottage, 2006)
- » neighbourhoods which report problems with:
 - drunkenness, and
 - property damage (Donnelly et al., 2006).

Negative outcomes for communities may result from a failure to properly manage the closing and effective departure of patrons from the premises and the local community (Doherty & Roche, 2003). Further to this, the often public nature of these outcomes may also contribute to the observable nature of drinking in the Australian community. Tolerance of loud, drunken, disruptive behaviour sends clear messages to young people that such behaviour is not only tolerated, it is facilitated and endorsed by the establishment. These messages make a major contribution to our drinking culture. This is because young people adopt similar normative behaviours and comply with models established by older members of the community.

Figure 13.1 highlights the significant growth (threefold) in the number of licensed premises in Victoria from being below 4,000 in 1986 to 12,000 in 2004.

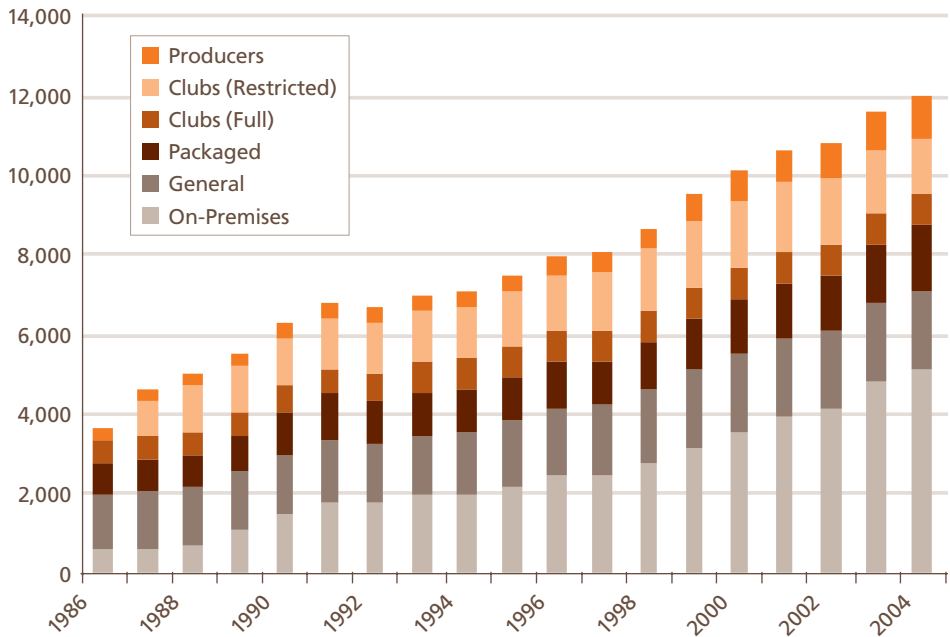


Figure 13.1 Growth in the number of licensed premises in Victoria from being below 4,000 in 1986 to 12,000 in 2004

Source: Consumer Affairs Victoria, 2005

Trading hours of licensed premises

The regulation of trading hours may be affected by moral, economic, and social considerations. There is strong evidence that increasing the trading hours of licensed premises in Australia has had a significant effect on levels of alcohol-related harms (Chikritzhs, Stockwell, & Masters, 2002). Extension of trading hours has been found to:

- » increase the number of assaults occurring in the later trading premises (Briscoe & Donnelly, 2003)
- » reduce the amount that premises with normal trading hours were cited as the last place of drinking for drink drivers
- » impact the time with which drink driving and road crashes occurred (e.g. early hours of the morning) (Chikritzhs et al., 2002)
- » have a significant impact on levels of high blood alcohol concentrations (Chikritzhs & Stockwell, 2006)
- » affect the numbers of impaired drivers involved in motor vehicle crashes who last drank at the hotels with late trading (Chikritzhs & Stockwell, 2006)

The relationship between extended trading hours and drink driving is particularly pertinent to young people, as over 50 per cent of serious alcohol-related road crash injuries occur among young people aged 15-24 years, more than 70 per cent of whom are male (Roche et al., 2007).

Regulatory Frameworks

The alcohol regulatory framework can impact on the culture of alcohol consumption through two principal mechanisms: price and taxation, and liquor licensing. Pricing structures include a range of taxation regimes; and liquor licensing legislation controls access and availability over the sale of alcohol.

The Commonwealth is responsible for taxation and the States and Territories are responsible for liquor licensing legislation. This parallel governance structure has enabled degrees of inconsistency in the objectives of Commonwealth and State and Territory governments to prevail. It is also acknowledged that inherent tensions over price, access and control of alcohol, between State and Commonwealth governments⁴⁴, can be difficult to reconcile (Roche et al., 2007).

⁴⁴ E.g. health departments may have a different perspective and priorities from treasury departments about alcohol issues.

Price

Alcohol is a price sensitive product. It has been demonstrated that when the price of alcohol increases, drinkers will either:

- » decrease their consumption⁴⁵ (Loxley, Toumbouro et al., 2004), and/or;
- » substitute brands.

Brand substitution enables drinkers to maintain their consumption at the same level (Gruenewald, Ponicki, Holder, & Romelsjo, 2006) irrespective of price increases.

Deregulation of the alcohol industry and the introduction of the National Competition Policy (NCP) (also see section below on NCP) saw substantial growth in the number of licensed premises and the emergence of new market players in the form of supermarkets. A substantial proportion of alcohol in Australia is now sold through supermarkets, with Coles and Woolworths increasing their combined share in the liquor market from 32-52 per cent in the past four years (Lee, 2008).

The retailing of alcohol in supermarkets has significant effects on the culture of consumption, price and availability. A strong case has been established regarding why alcohol is “no ordinary commodity” (Babor et al., 2003); however, the introduction of alcohol into Australian supermarkets runs the risk of conveying a message to the contrary. Availability through supermarkets raises the spectre of alcohol being perceived as a common, every-day, and potentially necessary commercial product.

The increased presence of the Coles and Woolworths in liquor retailing has resulted in:

- » reduced prices for many alcoholic beverages
- » increased levels of newspaper and pamphlet advertisements
- » low price product promotion
- » the production of generic brand alcohol products sold at exceptionally cheap prices.

Some products include six-packs of cans of alcohol (each containing approximately 1.8 standard drinks) for the equivalent price per unit (e.g. per can) of \$2. Similarly, six-packs of full bottles of wine can be purchased also for the equivalent of \$2 per bottle. In recent times, supermarkets have also offered inducements to purchase larger quantities of alcohol by providing an associated discount on petrol (which is also owned and operated by the supermarket chain). Cut price offers and generic branding make some supermarket-based alcohol products cheaper to purchase than fruit juice or water (Roche et al., 2007).

⁴⁵ The inverse of this also applies (e.g. low prices = higher consumption).

Taxation

The imposition of taxation measures to control alcohol-related problems is a popular strategy used worldwide (Babor et al., 2003). As well as being relatively easy to implement and enforce, taxation regulations also provide governments with a useful revenue stream. Increasing alcohol taxes has two effects:

- » reduction in consumption, and
- » reduction in “a host of undesirable” alcohol-related harm (Babor et al., 2003).

Australia’s current taxation system for alcohol pricing has been described as an “unruly mix of taxes with significant shortcomings” (Stockwell, 2004). It impacts negatively on:

- » young people, and
- » Indigenous populations (Stockwell, 2004).

In seeking to reduce community harms from alcohol it is important to consider the current anomalies inherent in the systems of supply, control and price. Consideration also needs to be given to aspects of these factors that might contribute to the uptake of risky patterns of consumption.

Liquor licensing legislation and enforcement

Responsibility for the control and supply of alcohol is vested with state and territory governments. The aim of liquor licensing legislation has previously been to:

- » promote the alcohol industry, and
- » ensure that the industry remained viable (Chikritzhs, 2006).

Even where the legislation provides opportunity for licensing bodies to consider the negative social impacts of alcohol consumption, greater regard is given to economic, financial and employment factors (Nicholas, 2008). In effect, liquor licensing legislation has tended to be driven and shaped by:

- » the interests of the alcohol industry
- » the significant revenue stream that it generated for government
- » the hospitality sector and impacts on employment
- » the tourism industry.

The contemporary focus of liquor licensing legislation is to reduce the harm associated with alcohol consumption, and substantial changes have been made to legislation to reflect this imperative (Chikritzhs, 2006). However, the ability of legislation to reduce alcohol related harm is limited by:

- » inadequate definitions of intoxication⁴⁶, and
- » inadequate legislative scope (Chikritzhs, 2006).

The most obvious evidence of the failure of liquor licensing legislation to adequately enforce its objectives may be found in the sale of alcohol from licensed premises to underage patrons. This remains a significant problem in Australia with recent reports indicating that:

- » 8 per cent of 15-17 year olds purchased their alcohol themselves on their last drinking occasion (King et al., 2005a)
- » 11 per cent of 12-15 year olds, and
- » 39 per cent of 16-17 year olds generally purchased their alcohol themselves from a shop or retail outlet (Australian Institute of Health and Welfare, 2005b).

Without adequate legislation, a major commitment to enforcement by police and regulatory authorities is likely to be a futile exercise (Nicholas, 2008).

National Competition Policy

An important factor that is currently impacting on the regulation of the alcohol industry in Australia is the National Competition Policy (NCP) arrangements. The NCP embodies principles of trade liberalisation. It is also the interpretative vehicle for the plethora of international trade agreements⁴⁷ to which Australia is a signatory. Liquor licensing legislation is a focus area for the National Competition Commission (NCC). The NCC has particular concerns in relation to:

- » the impact on competition
- » restrictions on trading hours, and
- » the number and density of licensed premises (Roche et al., 2007).

⁴⁶ Without explicit definition (e.g. an objective standard) the ability of licensing bodies to prosecute licensees for serving intoxicated patrons is severely impeded.

⁴⁷ Trade agreements seek to promote the free flow of goods, services, labour, and investments especially through the reduction of obstacles to free trade and production (Babor et al., 2003). These obstacles include tariff barriers, quantitative trade restrictions, state or private monopoly arrangements, and state subsidies to domestic industries.

The NCC can exempt jurisdictions where this is not in the public interest⁴⁸ (Marsden Jacob Associates, 2005). A current criticism voiced by the NCC is that the liquor licensing legislation in some states and territories restricts competition on commercial grounds, rather than public interest grounds. That is, restrictions have been placed on the entry of more liquor retailers into the industry, primarily to protect the profits of incumbent license holders (Feil, 2006).

States and territories that implement or refuse to change legislation which the NCC deem as anti-competitive are financially penalised. On the advice of the NCC, the Commonwealth has withheld significant proportions of NCC payments to jurisdictions. For example:

- » in 2003-04 the Commonwealth withheld almost \$51 million from NSW
- » this amount represented 1/5 of NSW's competition payments for that year
- » \$12.7 million was for incomplete reform in relation to liquor licensing legislation (New South Wales Parliament, 2005).

As is evident, there is a strong incentive for jurisdictions to comply with NCP and to amend liquor licensing legislation and free up competitive forces in the alcohol industry.

⁴⁸ For instance in relation to reforms that increase levels of public harm.

The role of law enforcement

There are a range of barriers which prevent police and other licensing enforcement agencies from effectively enforcing licensing regulations.

- » enforcement tends to focus on breaches by individuals; rather than by licensees (Briscoe & Donnelly, 2003)
- » licensees tend to be held accountable for technical breaches of legislation (e.g. failing to display adequate signage), rather than substantive breaches (e.g. serving an underage patron). In these circumstances, penalties are low and the incentive to comply is considered “trivial” (Briscoe & Donnelly, 2003, p. 14)
- » social tolerance of deviant behaviours while intoxicated
- » lack of knowledge, understanding and confidence on behalf of police in monitoring adherence to licensing laws
- » duties of police tend to be reactive; rather than proactive
- » inadequate personnel allocation for police responses
- » perceptions of insufficient penalties for liquor law breaches
- » lack of knowledge about the effects of alcohol and a failure to see the potential for harm from drinking
- » shift away from a centralised (or squad) approach to policing licensed premises (Briscoe & Donnelly, 2003).

There is little doubt that liquor licensing legislation can be a powerful tool in reducing the harm associated with alcohol consumption. It is also clear that the enforcement of that legislation in Australia is currently being hampered by imprecision in the legislation itself and enforcement practices that might not be sufficiently targeted or vigorous (Roche et al., 2007).



Chapter 14: Management of the Night-time Economy

Key points

- » Emergence of the night-time economy has important implications for alcohol-related harms.
- » The night-time economy has both positive and negative features.
- » Positive aspects include: regeneration of urban spaces, expanded employment opportunities, revenue generation, increased leisure opportunities, creation of a cosmopolitan feel.
- » Negative aspects include: increased pressure on emergency services (police, emergency departments), facilitates excessive drinking, noise and degradation of community amenity, vandalism and other impacts on the day-time economy.
- » Important but under-utilised role for local councils and police.

What is the night time economy?

The term “night-time economy” was coined by Professor Richard Hobbs in 2003 to describe an expansion in the numbers of bars and clubs operating with extended licenses into the early hours of the morning (Hobbs, 2003).

Accordingly, a combination of changes in the entertainment industry and liquor licensing hours has resulted in dramatic changes to night-time entertainment and the night-time economy has emerged:

- » working and leisured lives have changed.
- » the labour market has been de-regulated, introducing greater multiples of working rhythms:
 - task oriented
 - contractual
 - casual (Rowe & Bavinton, 2004).

New modes of working have produced:

- » new leisure needs, and;
- » different times for recreation (Rowe & Bavinton, 2004).

The night-time economy is considered an integral element of society's shift from industrial to post-industrial economic development. However, the night-time economy produces both a range of benefits and a variety of negative consequences.

In Australia, the extension of late night trading hours has been found to contribute to:

- » increased violent incidents by 70 per cent (Chikritzhs & Stockwell, 2002) with the most frequent time for assaults to occur is between midnight to 3am (Briscoe & Donnelly, 2003)
- » increased alcohol consumption
- » increased blood alcohol levels (BALs) of drivers in road crashes (Chikritzhs & Stockwell, 2002).

Implications of the night-time economy

Purely structural or economic analyses of the night-time economy are limited and pay insufficient attention to associated changes in cultural attitudes (Hayward & Hobbs, 2007). In particular, an analysis needs to be undertaken of “broader attitudinal change, in terms of the culturally acceptable and desirable state of intoxication” (Measham & Brain, 2005, p. 268). This is because many people conceive of their nights out not just in terms of drinking, but the systematic search to get drunk. Where individual and social restraints had previously acted as disinhibitors to public drunkenness these are now ‘notably absent’.

Benefits

- Regenerates urban space: creates thriving forms of southern-European style public sociability
- Symbolic of a new cosmopolitanism in a ‘24-hour city’
- Promises to liberate people from the constraints of ‘industrial time’ (Hayward & Hobbs, 2007)
- Employs many people
- Results in a generous revenue stream for governments
- Benefits individuals by providing:
 - increased leisure opportunities
 - wider choice of places to relax and socialise.

Adverse consequences

1. Significantly contributes to numerous social harms and increased pressure on emergency services such as police, ambulance services and Accident and Emergency Departments. In this context alcohol abuse and the night-time economy can have a significant impact on both the individual and on the wider community.
2. ‘Form of self gratification’ which invites experiential transgression in the form of binge drinking through use of promotional tools and marketing strategies. Strategies such as ‘happy hours’ help make alcohol consumption a core activity for people on a night out.
3. Negotiates a social order which is largely the creation of corporate forces (Rowe & Bavinton, 2004). There are increasingly urgent calls to foster a diverse cultural life rather than one organised around youthful drinking and ‘clubbing’ (Hayward & Hobbs, 2007) in order to combat alcohol-fuelled, anti-social behaviour.
4. Environmental problems associated with the night-time economy include noise emanating from pubs and clubs and from people on their way home when venues close. In addition, they also include concentrations of young people who engage in anti-social behaviour such as arguments, indecent behaviour and vandalism. Day-time and night-time businesses can suffer damage and loss of earnings as a result of vandalism (Rowe & Bavinton, 2004).

Managing the night-time economy

Drinking-related disorder and violent behaviour has generated considerable levels of official, media and public mistrust of young people engaged in night-time leisure. In responding to the problems associated with the night-time economy, a consideration mooted is the imposition of wholesale drinking bans and curfews for specific groups. However, a counter-veiling argument is that drinking-related disorder and violence is a social process. It is not the inevitable outcome of intoxication. New strategies which seek to plan, educate and shape social patterns of drinking, and regulate venues have moved beyond the simple dichotomy of blunt control versus chaos, as authorities attempt to reconcile pleasure seeking activities with safety (Hobbs, 2003).

Listed below are some of the options considered in the United Kingdom for managing the negative consequences of the night-time economy.

Options	Campaigns aimed at:
Raising public awareness about the problems that are associated with alcohol misuse	<ul style="list-style-type: none"> • binge drinking • public drunkenness • anti-social behaviour
Improving working relationships between government, law enforcement and industry	<ul style="list-style-type: none"> • police • liquor licensing authorities • local government • key stakeholders (e.g. licensees)
Increase in visible police presence	<ul style="list-style-type: none"> • reducing levels of crime • reducing public perception and fear of crime
Greater statutory police powers	<ul style="list-style-type: none"> • ensuring adequate compliance and enforcement⁴⁹ • increasing ability of police to develop crime reduction strategies⁵⁰ • enabling greater coordination and cooperation of neighbourhoods in supervising breaches of liquor regulations⁵¹
Considerations for town and city planners	<ul style="list-style-type: none"> • addressing issues around zoning and density of licensed premises • minimising environmental impact of night-time venues (e.g., loud music and large amounts of inebriated young people 'club hopping') • improving public transport links as more young people are engaged in the night-time economy as employees and consumers • increasing public safety measures
Corporate social responsibility	<ul style="list-style-type: none"> • recognising that the alcohol industry is a major driving force behind the development of the night-time economy and a major beneficiary of its continued existence. As such responsible practices need to be developed (Rowe & Bavinton, 2004), and a greater share of the social burden needs to be borne by the industry itself.

⁴⁹ *Anti-Social Behaviour Act 2003*: provides the police with adequate power to address anti-social behaviour including the power to shut down noisy premises.

⁵⁰ *Crime and Disorder Act 1998*.

⁵¹ *Police Reform Act 2002*: gives chief police officers the power to appoint people as Community Support Officers. Community Support Officers are able to issue fixed penalty notices and seize alcohol from young people on the street and to detain people under certain conditions.

Developments in Australia

It has become widely accepted by local and state governments in Australia that the night-time economy, through a serviced based economy such as bars, pubs, clubs and music venues, has an identifiable role to play in the systems of economic production (Hobbs, 2003). Developments in Tasmania⁵², Sydney⁵³, Melbourne⁵⁴ and South Australia⁵⁵ have seen increased tourism coupled with the growth of the entertainment industry and a boost in licensed venues. In Tasmania, managers and owners of licensed venues have responded to increased numbers of patrons and the subsequent greater risk of fights by augmenting safety procedures through use of private security guards or bouncers (Tomkins, 2005).

National Competition Policy and its relationship to the night-time economy

Within the context of the night-time economy, there is a close relationship between the density of licensed premises, their hours of trading, and levels of alcohol-related harm. It has been suggested that any increase in the number and density of licensed premises which could be associated with the influence of National Competition Policy (NCP) could adversely impact the level of alcohol-related harms (Roche et al., 2007).

Without a substantial commitment of new resources to improve enforcement capabilities and effectiveness it is probable that an increase in outlet numbers and/or extension of trading hours will similarly multiply alcohol-related harms (Tomkins, 2005). In addition, the Alcohol and other Drugs Council of Australia (2004) expressed concern that the benefits that accrue as a result of greater competition between those that sell, and seek to sell, alcohol would be more than offset by the costs associated with the subsequent harms.

The introduction of NCP has been an important influence on the liberalisation of Australia's liquor licensing laws. In addition, the national push toward eliminating anti-competitive practices throughout Australia has arguably created some incompatibilities between the Commonwealth and the jurisdictions that administer liquor licensing laws (Alcohol and other Drugs Council of Australia, 2004).

⁵² Salamanca Place.

⁵³ Darling Harbour.

⁵⁴ Yarra River.

⁵⁵ Holdfast Bay and Glenelg.

The role of local government

Local governments have a role to play in managing the night-time economy through:

Mixed use planning	<ul style="list-style-type: none">• encourages diverse day and night economies• minimises alcohol outlet density by ensuring that there is a balance mix of local business and entertainment opportunities.
Managing outlet density and venue operating hours	<ul style="list-style-type: none">• local government argue that good preventative planning approaches limit the potential for binge drinking and the need for measures such as uniform lockouts (Chikritzhs, 2006).
Recognising challenge for local government.	<ul style="list-style-type: none">• 24 hour environments are part of a global trend.• Challenge for local government is to provide a range of opportunities that do not all principally involve alcohol.

There are, however, a number of barriers for local government in trying to fulfil its role in relation to managing the night-time economy. Two of these include:


- » lack of role clarity and responsibility between the key partners (e.g. local government, police and liquor licensing authorities), and
- » lack of an authorising environment in liquor licensing legislation that endorses local government's power to set limits on outlet density on behalf of the local community (Boyd, 2008).

Liquor Licensing Accords

A Liquor Licensing Accord is one apparatus that has been identified as a means of addressing the problems associated with the night-time economy.

Liquor Licensing Accords:

- » are implemented and largely co-ordinated by police with a view to reducing alcohol-related harm in late-night drinking environments
- » generally entail a 'voluntary' agreement between stakeholders
- » establish harm minimisation practices and codes of conduct to improve safety and reduce alcohol-related violence and anti-social behaviour in and around licensed premises
- » encourage collaboration between members, with a common goal of implementing practical solutions to alcohol-related problems and improving community safety and amenity, without the need for mandatory legislation and enforcement (National Drug Research Institute, 2007a).



However, despite their widespread popularity, few Australian accords have been formally evaluated and there is insufficient evidence to demonstrate their effectiveness in either short- or long-term reduction of alcohol-related harms. It has been asserted that the appeal of accords rests more in the:

- » development of local communication networks
- » facilitation of local input
- » sense of local 'control', and
- » improving of public relations through open negotiations than in the actual reduction of harm (National Drug Research Institute, 2007b).

Even so, improved communication and participation may also be desirable and worthwhile outcomes in some circumstances (National Drug Research Institute, 2007b) and offers a small but useful contribution to the management of the challenges presented by the night-time economy.



References

- Abbey, A., Buck, P. O., Zawacki, T., & Saenz, C. (2003). Alcohol's effects on perceptions of a potential date rape. *Journal of Studies on Alcohol*, 64, 669-677.
- Abbey, A., Clinton-Sherrod, A. M., McAuslan, P., Zawacki, T., & Buck, P. O. (2003). The relationship between the quantity of alcohol consumed and the severity of sexual assaults committed by college men. *Journal of Interpersonal Violence*, 18(7), 813-833.
- Abbey, A., Saenz, C., Buck, P., Parkhill, M., & Hayman Jnr, L. (2006). The effects of acute alcohol consumption, cognitive reserve, partner risk, and gender on sexual decision making. *Journal of Studies on Alcohol*, 67(1), 113-121.
- Addaction (2007). 'Pre-loading' trend fuels drinking rise, warns charity. Media release. London: Addaction. <http://www.addaction.org.uk/Pressrel010807.html>.
- Alcohol and other Drugs Council of Australia (2004). Alcohol and other Drugs Council of Australia submission to the Productivity Commission inquiry into National Competition Policy Arrangements. Retrieved from www.adca.org.au/policy/submissions/Productivity_Commission.pdf
- ANCD (2007). *Drug use in the family: Impacts and implications for children*. Canberra: Australian National Council on Drugs.
- Andreasson, S. (2007). The health benefits of moderate consumption called into question. *Addiction Research and Theory*, 15(1), 3-33.
- Astley, M. J., & Clarren, S. K. (2000). Diagnosing the full spectrum of fetal alcohol-exposed individuals: Introducing the 4-digit diagnostic code. *Alcohol*, 35, 400-410.
- Atkin, C., Hocking, J., & Block, M. (1984). Teenage drinking: Does advertising make a difference? *Journal of Communication*, 34(2), 157-167.
- Austin, E. W., & Hust, S. J. (2005). Targeting adolescents? The content and frequency of alcoholic and nonalcoholic beverage ads in video and magazine formats popular among adolescents. *Journal of Health Communication*, 10(8), 769-785.
- Australian Bureau of Statistics (1997). *Australian social trends 1997* (No. 4102.0). Canberra: ABS.
- Australian Bureau of Statistics (2003). *Australian social trends 2003* (No. 4102.0). Canberra: ABS.
- Australian Bureau of Statistics (2004a). *Australian social trends 2004: Social interactions outside the home* (No. 4102.0). Canberra: ABS.
- Australian Bureau of Statistics (2004b). *Births Australia 2003* (No. 3301.0). Canberra: ABS.
- Australian Bureau of Statistics (2005). *Australian social trend 2005: People in their 20s: Then and now* (No. 4102.0). Canberra: ABS.
- Australian Bureau of Statistics (2006a). *Clubs, pubs, taverns and bars Australia*. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics (2006b). *Year book Australia, 2007* (No. 1301.0). Canberra: ABS.
- Australian Bureau of Statistics (2007a). *Apparent consumption of alcohol, Australia, 2005-06*. Canberra: ABS.
- Australian Bureau of Statistics (2007b). *Australian Social Trends 2007: One-parent families* (No. 4102.0). Canberra: ABS.
- Australian Institute of Health and Welfare (2005a). *2004 National Drug Strategy Household Survey - First Results*. Canberra: Australian Institute of Health and Welfare.
- Australian Institute of Health and Welfare (2005b). *2004 National Drug Strategy Household Survey: Detailed findings*. Canberra: Australian Institute of Health and Welfare.

- Australian Institute of Health and Welfare (2007a). *Statistics on drug use in Australia 2006*. Canberra: Australian Institute of Health and Welfare.
- Australian Institute of Health and Welfare (2007b). *Young Australians: Their health and wellbeing 2007*. Canberra: Australian Institute of Health and Welfare.
- Australian Institute of Health and Welfare (2008). *2007 National Drug Strategy Household Survey - First Results*. Canberra: Australian Institute of Health and Welfare.
- Australian Transport Council (2007). *National road safety action plan 2007-2008*. Canberra: Australian Transport Council.
- Babor, T., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Graham, K. et al., (2003). *Alcohol: No ordinary commodity: Research and public policy*. Oxford and London: Oxford University Press.
- Baglietto, L., English, D. R., Hopper, J. L., Powles, J., & Giles, G. G. (2006). Average volume of alcohol consumed, type of beverage, drinking pattern and the risk of death from all causes. *Alcohol & Alcoholism*, 41, 664-671.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, N.J.: Prentice Hall.
- Barnes, G. M., Hoffman, J. H., Welte, J. W., Farrell, M. P., & Dintcheff, B. A. (2006). Effects of parental monitoring and peer deviance on substance use and delinquency. *Journal of Marriage and Family*, 68(4), 1084-1104.
- Barnett, N., Monti, P., Spirito, A., Colby, S. M., Rohsenow, D. J., Ruffolo, L. et al., (2003). Alcohol use and related harm among older adolescents treated in an emergency department: the importance of alcohol status and college status. *Journal of Studies on Alcohol*, 64(3), 342-349.
- Begg, S., Vos, T., Barker, B., Stevenson, C., Stanley, L., & Lopez, A. D. (2007). *The burden of disease and injury in Australia 2003*. Canberra, Australia: Australian Institute of Health and Welfare.
- Bellis, M. A., Hughes, K., Morleo, M., Tocque, K., Hughes, S., Allen, T. et al., (2007). Predictors of risky alcohol consumption in school children and their implications for preventing alcohol-related harm. *Substance Abuse Treatment, Prevention, and Policy*, 2(15).
- Berry, J. G., Pidd, K., Roche, A. M., & Harrison, J. E. (2007). Prevalence and patterns of alcohol use in the Australian workforce: findings from the 2001 National Drug Strategy Household Survey. *Addiction*, 102(9), 1399-1410.
- Beverage Industry (2001). POP proves its worth. *Beverage Industry*, 92(7), 44.
- Beyers, J. M., Toumbourou, J. W., Catalano, R. F., Arthur, M. W., & Hawkins, J. D. (2004). A cross-national comparison of risk and protective factors for adolescent substance use: The United States and Australia. *Journal of Adolescent Health*, 35(1), 3-16.
- Bonomo, Y., Coffey, C., Wolfe, R., Lynskey, M., Bowes, G., & Patton, G. (2001). Adverse outcomes of alcohol use in adolescents. *Addiction*, 96(10), 1485-1496.
- Borges, G., Cherpitel, C., & Mittleman, M. (2004). Risk of injury after alcohol consumption: a case-crossover study in the emergency department. *Social Science & Medicine*, 58(6), 1191-1200.
- Borges, G., Cherpitel, C., Orozco, R., Bond, J., Ye, Y., Macdonald, S. et al., (2006). Multicenter study of acute alcohol use and non-fatal injuries: data from the WHO Collaborative Study on Alcohol and Injuries. 84(6), 453-460. *Bulletin of the World Health Organization*, 84(6), 453-460.
- Borges, G., Cherpitel, C. J., Macdonald, S., Giesbrecht, N., Stockwell, T., & Wilcox, H. C. (2004). A Case-Crossover Study of Acute Alcohol Use and Suicide Attempt*. *Journal of Studies on Alcohol*, 65(6), 708-714.
- Borsari, B., Bergen-Cico, D., & Carey, K. B. (2003). Self-reported drinking-game participation of incoming college students. *Journal of American College Health*, 51, 149-154.
- Bower, C., Silva, D., Henderson, T. R., Ryan, A., & Rudy, E. (2000). Ascertainment of birth defects: The effect on completeness of adding a new source of data. *Journal of Paediatrics and Child Health*, 36, 574-576.
- Boyd, C. J., McCabe, S. E., & Teter, C. J. (2006). Asthma inhaler misuse and substance abuse: A random survey of secondary school students. *Addictive Behaviors*, 31(2), 278-287.
- Boyd, M. (2008). *Local government action on alcohol: using planning opportunities to reduce alcohol-related harm*. Brisbane: National Local Government Drug and Alcohol Advisory Committee.

- Brain, K. J. (2000). *Youth, alcohol, and the emergence of the post-modern alcohol order (Occasional Paper no.1)*. London: Institute of Alcohol Studies.
- Breslin, F., & Adlaf, E. M. (2005). Part-time work and adolescent heavy episodic drinking: The influence of family and community context. *Journal of Studies on Alcohol*, 66(6), 784-794.
- Briscoe, S., & Donnelly, N. (2001). *Temporal and regional aspects of alcohol-related violence and disorder*. Sydney: New South Wales Bureau of Crime Statistics and Research.
- Briscoe, S., & Donnelly, N. (2003). *Liquor licensing enforcement activity in New South Wales*. Sydney: NSW Bureau of Crime Statistics and Research.
- Brown, S. A., & Tapert, S. F. (2004). Adolescence and the trajectory of alcohol use: Basic to clinical studies. *Annals of the New York Academy of Sciences*, 1021(1), 234-244.
- Cameron, M. (2000). Trends and Issues in Crime and Criminal Justice. *Young men and violence prevention*, 154.
- Cargiulo, T. (2007). Understanding the health impact of alcohol dependence. *American Journal of Health-System Pharmacy*, 64, S5-S11.
- Carroll, T. E., & Donovan, R. A. (2002). Alcohol marketing on the internet: New challenges for harm reduction. *Drug and Alcohol Review*, 21(1), 83-91.
- Casswell, S., & Maxwell, A. (2005). Regulation of alcohol marketing: A global view. *Journal of Public Health Policy*, 26(3), 343-358.
- Casswell, S., & Zhang, J. F. (1998). Impact of liking for advertising and brand allegiance on drinking and alcohol-related aggression: A longitudinal study. *Addiction*, 93(8), 1209-1217.
- Center on Alcohol Marketing and Youth (2007a). *Drowned out: Alcohol industry "responsibility" advertising on television, 2001-2005*. Washington, DC: Center on Alcohol Marketing and Youth.
- Center on Alcohol Marketing and Youth (2007b). *Youth Exposure to Alcohol Advertising in Magazines --- United States, 2001--2005. Morbidity and Mortality Weekly Report (MMWR)*, 56(30), 763-767.
- Chamberlain, C., & MacKenzie, D. (2008). *Counting the homeless 2006*. Canberra: ABS.
- Chen, C. Y., & Storr, C. L. (2006). Alcohol use and health-related quality of life among youth in Taiwan. *Journal of Adolescent Health*, 39(5), 752.e759-716.
- Chen, M. J., Grube, J. W., Bersamin, M., Waiters, E., & Keefe, D. B. (2005). Alcohol advertising: What makes it attractive to youth? *Journal of Health Communication*, 10(6), 553-565.
- Cheng, T. L., Wright, J. L., Pearson-Fields, A. S., Brenner, R. A., & The DC Child/Adolescent Injury Research Network (2006). The spectrum of intoxication and poisonings among adolescents: surveillance in an urban population. *Injury Prevention*, 12(2), 129-132.
- Cherpitel, C., Borges, C., & Wilcox, H. (2004). Acute alcohol use and suicidal behavior: A review of the literature. *Alcoholism: Clinical and Experimental Research*, 28, 18S-28S.
- Cherpitel, C., Moskalewicz, J., & Swiatkiewicz, G. (2004). Drinking patterns and problems in emergency services in Poland. *Alcohol & Alcoholism*, 39, 256-261.
- Cherpitel, C. J. (2007). Alcohol and injuries: a review of international emergency room studies since 1995. *Drug and Alcohol Review*, 26(2), 201-214.
- Chikritzhs, T. (2006). Profit versus harm: The paradox of alcohol regulation in Australia. *Centrelines*, 18 (April 2006).
- Chikritzhs, T., Catalano, P., Pascal, R., & Henrickson, N. (2007). *Predicting Alcohol-Related Harms from Licensed Premises Outlet Density: A Feasibility Study*. Hobart: National Drug Law Enforcement Research Fund.
- Chikritzhs, T., Catalano, P., Stockwell, T., Donath, S., Ngo, H., Young, D. et al., (2003). *Australian Alcohol Indicators, 1990-2001 Patterns of alcohol use and related harms for Australian states and territories*. Perth: National Drug Research Institute, Curtin University of Technology.
- Chikritzhs, T., & Pascal, R. (2004). *Trends in youth alcohol consumption and related harms in Australian jurisdictions 1990-2002*. Perth: National Drug Research Institute, Curtin University.
- Chikritzhs, T., & Pascal, R. (2005). *Trends in alcohol consumption and related harms for Australians aged 65 to 74 years (the 'young-old'), 1990-2003. National Alcohol Indicators*. Perth, Western Australia: National Drug Research Institute.

- Chikritzhs, T., Pascal, R., Gray, D., Stearne, A., Siggers, S., & Jones, P. (2007). *Trends in alcohol-attributable deaths among Indigenous Australians, 1998-2004*. Perth: National Drug Research Institute, Curtin University of Australia.
- Chikritzhs, T., Pascal, R., & Jones, P. (2004). *Under-aged drinking among 14–17 year olds and related harms in Australia*. Perth, Western Australia: National Drug Research Institute.
- Chikritzhs, T., & Stockwell, T. (2002). The impact of later trading hours for Australian public houses (hotels) on levels of violence. *Journal of Studies on Alcohol*, 63(5), 591-599.
- Chikritzhs, T., & Stockwell, T. (2006). The impact of later trading hours for hotels on levels of impaired driver road crashes and driver breath alcohol levels. *Addiction*, 101(9), 1254-1264.
- Chikritzhs, T., Stockwell, T., Heale, P., Dietze, P., & Webb, M. (2000). *National Alcohol Indicators Project technical report No. 2: Trends in alcohol related road injury in Australia, 1990-1997*. Perth, Australia: National Drug Research Institute.
- Chikritzhs, T., Stockwell, T., & Masters, L. (2002). *Evaluation of the public health and safety impact of extended trading permits for Perth hotels and night clubs*. Paper presented at the the 2nd Australasian Conference on Drugs Strategy.
- City of Sydney (2003). *Alcohol summit submission 2*. Sydney: City of Sydney.
- Coleman, L., & Cater, S. (2005). A qualitative study of the relationship between alcohol consumption and risky sex in adolescents. *Archives of Sexual Behavior*, 34(6), 649-661.
- Collins, D. J., & Lapsley, H. M. (1991). *Estimating the economic costs of drug abuse in Australia*. Canberra: Australian Government Publishing Services.
- Collins, D. J., & Lapsley, H. M. (1996). *The Social Costs of Drug Abuse in Australia in 1988 and 1992*. Canberra: Australian Government Publishing Service.
- Collins, D. J., & Lapsley, H. M. (2008). *The Costs of Tobacco, Alcohol and Illicit Drug Abuse to Australian Society in 2004/2005*. Canberra: Department of Health and Ageing, Commonwealth Government of Australia.
- Collins, R. L., Ellickson, P. L., McCaffrey, D., & Hambarsoomians, K. (2007). Early adolescent exposure to alcohol advertising and its relationship to underage drinking. *Journal of Adolescent Health*, 40(6), 527-534.
- Colvin, L., Payne, J., Parsons, D., & al, e. (2007). Alcohol consumption during pregnancy in non-indigenous west Australian women. *Alcohol Clin Exp Res*, 31(2), 276 - 284.
- Connolly, G. M., Casswell, S., Zhang, J. F., & Silva, P. A. (1994). Alcohol in the mass media and drinking by adolescents: a longitudinal study. *Addiction*, 89(10), 1255-1263.
- Connor, J., Broad, J., Rehm, J., Vander Hoorn, S., & Jackson, R. (2005). The burden of death, disease, and disability due to alcohol in New Zealand. *Journal of the New Zealand Medical Association*, 118(1213).
- Considine, R., Walker, A., Wiggers, J., Daly, J., Hazwell, T., & Fairhill, S. (1998). *Facilitating the responsible service of alcohol by hotels and clubs: Strategies to reduce alcohol-related harm in the Hunter: Two collaborative approaches*. Paper presented at the Partnerships in Crime Prevention Conference, Hobart.
- Copeland, J., Stevenson, R. J., Gates, P., & Dillon, P. (2007). Young Australians and alcohol: the acceptability of ready-to-drink (RTD) alcoholic beverages among 12-30-year-olds. *Addiction*, 102(11), 1740-1746.
- Darling, H., Reeder, A. I., McGee, R., & Williams, S. (2006). Brief report: Disposable income, and spending on fast food, alcohol, cigarettes, and gambling by New Zealand secondary school students. *Journal of Adolescence*, 29(5), 837-843.
- Davey, J., Davey, T., & Obst, P. (2002). Alcohol consumption and drug use in a sample of Australian university students. *Youth Studies Australia*, 21(3), 25-32.
- Davis, K. C., Norris, J., George, W. H., Martell, J., & Heiman, J. R. (2006). Rape-Myth congruent beliefs in women resulting from exposure to violent pornography: Effects of alcohol and sexual arousal. *Journal of Interpersonal Violence*, 21(9), 1208-1223.
- Dawe, S., Frye, S., Best, D., Lynch, M., Atkinson, J., Evans, C. et al., (2007). *Drug use in the family: Impacts and implications for children*. Canberra: Australian National Council on Drugs.
- De Bellis, M., Narasimhan, A., Thatcher, D., Keshavan, M., Soloff, P., & Clark, D. (2005). Prefrontal cortex, thalamus, and cerebellar volumes in adolescents and young adults with adolescent-onset alcohol use disorders and comorbid mental disorders. *Alcoholism: Clinical and Experimental Research*, 29(9), 1590-1600.

- de Bonnaire, C., Kalafatelis, E., Whitfield, J., & Harsant, M. (2000). *Youth and alcohol: ALAC youth drinking monitor*. Wellington: BRC Marketing & Social Research.
- Deas, D., & Brown, E. (2006). Adolescent substance abuse and psychiatric comorbidities. *Journal of Clinical Psychiatry, 67*, e02.
- DeWit, D. J., Adlaf, E. M., Offord, D. R., & Ogborne, A. C. (2000). Age at first alcohol use: A risk factor for the development of alcohol disorders. *The American Journal of Psychiatry, 157*(5), 745-750.
- Doherty, S., & Roche, A. (2003). *Alcohol and licensed premises: Best practice in policing*. Adelaide: Australasian Centre for Policing Research.
- Donnelly, N., Poynton, S., Weatherburn, D., Bamford, E., & Nottage, J. (2006). *Liquor concentrations and alcohol-related neighbourhood problems*. Sydney: New South Wales Bureau of Crime Statistics and Research.
- Donovan, K., Donovan, R., Howat, P., & Weller, N. (2007). Magazine alcohol advertising compliance with the Australian Alcoholic Beverages Advertising Code. *Drug and Alcohol Review, 26*, 73 - 81.
- Doran, C. M., Gascoigne, M. B., Shakeshaft, A. P., & Petrie, D. (2006). The consumption of alcohol by Australian adolescents: A comparison of revenue and expenditure. *Addictive Behaviors, 31*(10), 1919-1928.
- Dowling, N., Clark, D., & Corney, T. (2006). Responsible drinking knowledge: A comparison of Australian apprentices and university students. *Youth Studies Australia, 25*(3), 42-48.
- Duff, C. (2003). The importance of culture and context: Rethinking risk and risk management in young drug using populations. *Health, Risk and Society, 5*(3), 285-299.
- Duncan, S. C., Duncan, T. E., & Strycker, L. A. (2006). Alcohol use from ages 9 to 16: a cohort-sequential latent growth model. *Drug and Alcohol Dependence, 81*(1), 71-81.
- Dye, C., & Upchurch, D. M. (2006). Moderating effects of gender on alcohol use: Implications for condom use at first intercourse. *Journal of School Health, 76*(3), 111-116.
- Eckersley, R., Wierenga, A., & Wyn, J. (2006). *Flashpoints and signposts: pathways to success and wellbeing for Australia's young people*. : Australia 21 Ltd, Australian Youth Research Centre and VicHealth. Canberra, Melbourne: Australia 21 Ltd, Australian Youth Research Centre and VicHealth.
- Edenberg, H. J. (2007). The genetics of alcohol metabolism: role of alcohol dehydrogenase and aldehyde dehydrogenase variants. *Alcohol Res Health, 30*(1), 5-13.
- Ellickson, P. L., Collins, R. L., Hambarsoomians, K., & McCaffrey, D. F. (2005). Does alcohol advertising promote adolescent drinking? Results from a longitudinal assessment. *Addiction, 100*(2), 235-246.
- Elliott, E. J., & Bower, C. (2004). FAS in Australia: Fact or fiction? *Journal of Paediatrics and Child Health, 40*, 8-10.
- Elliott, E. J., Payne, J., Haan, E., Bower, C., & Zurynski, Y. A. (2006). Diagnosis of foetal alcohol syndrome and alcohol use in pregnancy: A survey of paediatrician's knowledge, attitude, and practice. *Journal of Paediatrics and Child Health, 42*, 698-703.
- Elliott, E. J., Payne, J., Morris, A., Haan, E., & Bower, C. (2008). Fetal alcohol syndrome: a prospective national surveillance study. *Arch Dis Child, 93*(9), 732-737.
- English, D. R., Holman, C. D. J., Milne, E., Winter, M. G., Hulse, G. K., Codde, J. P. et al., (1995). *The quantification of drug caused morbidity and mortality in Australia: 1995 edition*. Canberra, Australia: Commonwealth Department of Human Services and Health
- Ewen, S. (1988). *All consuming images: The politics of style in contemporary culture*. New York: Basic Books.
- Fagan, A. A., & Najman, J. M. (2005). The relative contributions of parental and sibling substance use to adolescent tobacco, alcohol, and other drug use. *Journal of Drug Issues, 35*(4), 869-883.
- Fallu, J. S., Rehm, J., Kuntsche, E. N., Griching, E., Monga, N., Adlaf, E. M. et al., (2006). Volume and profile of alcohol consumption among students and classmates as predictors of aggression and victimization: a multilevel analysis among Swiss adolescents. *Soz Präventivmed, 51*(6), 363-372.
- Farouque, F. (2007, August 12). Gotta drink, its part of growing up. *The Age*.

- Farris, C., Treat, T., Viken, R., & McFall, R. (2008). Sexual coercion and the misperception of sexual intent. *Clinical Psychology Review, 28*, 48-66.
- Featherstone, M. (1991). *Consumer culture and post-modernism*. London: Sage.
- Feil, J. (2006). National Competition Council welcomes report released by NSW Bureau of Crime Statistics and Research. Retrieved from <http://www.ncc.gov.au/articleZone.asp?articleZoneID=183>
- Fillmore, K., Stockwell, T. R., Kerr, W., Chikritzhs, T., & Bostrom, A. (2006). Moderate alcohol use and reduced mortality risk: Systematic error in prospective studies. *Addiction Research and Theory, 14*, 101-132.
- Foy, A. (1999). Alcohol problems in a general hospital. *Addiction Biology, 4*(1), 23-34.
- Foy, A., & Kay, J. (1995). The incidence of alcohol-related problems and the risk of alcohol withdrawal in a general hospital population. *Drug and Alcohol Review, 14*(1), 49-54.
- French, M., & Maclean, J. (2006). Underage alcohol use, delinquency, and criminal activity. *Health Economics, 15*(12), 1261- 1281.
- Friend, K. B., Malloy, P. F., & Sindelar, H. A. (2005). The effects of chronic nicotine and alcohol use on neurocognitive function. *Addictive Behaviors, 30*(1), 193-202.
- Friesema, I. H. M., Zwietering, P. J., Veenstra, M. Y., Knottnerus, J. A., Garretsen, F. L., Kester, A. D. M. et al., (2008). The effect of alcohol intake on cardiovascular disease and mortality disappeared after taking lifetime drinking and covariates into account. *Alcohol, Clinical and Experimental Research, 32*, 645-651.
- Frone, M. R. (2003). Predictors of overall and on-the-job substance use among young workers. *Journal of Occupational Health Psychology, 8*(1), 39-54.
- Fuchs, F. D., & Chambless, L. E. (2007). Is the cardioprotective effect of alcohol real? *Alcohol, 41*, 399-402.
- Gazdzinski, S., Durazzo, T., & Meyerhoff, D. (2005). Temporal dynamics and determinants of whole brain tissue volume changes during recovery from alcohol dependence. *Drug and Alcohol Dependence, 78*, 263-273.
- Geisner, I. M., Larimer, M. E., & Neighbors, C. (2004). The relationship among alcohol use, related problems, and symptoms of psychological distress: Gender as a moderator in a college sample. *Addictive Behaviors, 29*(5), 843-848.
- Giancola, P. R. (2002). Irritability, acute alcohol consumption and aggressive behavior in men and women. *Drug and Alcohol Dependence, 68*(3), 263-274.
- Gilchrist, G., & Morrison, D. (2005). Prevalence of alcohol related brain damage among homeless hostel dwellers in Glasgow. *European Journal of Public Health, 15*, 587-588.
- Glass, J. M., Adams, K. M., Nigg, J. T., Wong, M. M., Puttler, L. I., Buu, A. et al., (2006). Smoking is associated with neurocognitive deficits in alcoholism. *Drug and Alcohol Dependence, 82*, 119-126.
- Gmel, G., Bissery, A., Gammeter, R., Givel, J.-C., Calmes, J.-C., Yersin, B. et al., (2006). Alcohol-attributable injuries in admissions to a Swiss emergency room - an analysis of the link between volume of drinking, drinking patterns, and preattendance drinking. *Alcoholism: Clinical and Experimental Research, 30*(3), 501-509.
- Graham, K., West, P., & Wells, S. (2000). Evaluating theories of alcohol-related aggression using observations of young adults in bars. *Addiction, 95*(6), 847-863.
- Grant, B. F. (1998). The impact of a family history of alcoholism on the relationship between age at onset of alcohol use and DSM-IV alcohol dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Alcohol Health and Research World, 22*, 144-147.
- Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 9*, 103-110.
- Grant, B. F., Stinson, F. S., & Harford, T. C. (2001). Age at onset of alcohol use and DSM-IV alcohol abuse and dependence: a 12-year follow-up. *Journal of Substance Abuse, 13*, 493-504.
- Griffin, K. W., Botvin, G. J., Scheier, L. M., Diaz, T., & Miller, N. L. (2000). Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: moderating effects of family structure and gender. *Psychology of Addictive Behaviors, 14*(2), 174-184.

- Griggs, W., Caldicott, D., Pfeiffer, J., Edwards, N., Pearce, A., & Davey, M. (2007). *The impact of drugs on road crashes, assaults and other trauma: A prospective trauma toxicology study*. NDLERF monograph series No. 20. Payneham, South Australia: National Drug Law Enforcement Research Fund.
- Grube, J. W., & Wallack, L. (1994). Television beer advertising and drinking knowledge, beliefs, and intentions among schoolchildren. *American Journal of Public Health, 84*(2), 254-259.
- Gruenewald, P. J., Ponicki, W. R., Holder, H. D., & Romelsjo, A. (2006). Alcohol prices, beverage quality, and the demand for alcohol: Quality substitutions and price elasticities. *Alcoholism: Clinical and Experimental Research, 30*(1), 96-105.
- Guilamo-Ramos, V., Turrisi, R., Jaccard, J., Wood, E., & Gonzalez, B. (2004). Progressing from light experimentation to heavy episodic drinking in early and middle adolescence. *Journal of Studies on Alcohol, 65*(4), 494-500.
- Haggard-Grann, U., Hallqvist, J., Langstrom, N., & Moller, J. (2006). The role of alcohol and drugs in triggering criminal violence: A case-crossover study. *Addiction, 101*(1), 100-108.
- Hall, S. (1997). *Representation: Cultural representations and signifying practices*. Sage, London.
- Hanlin, K., Jonas, H., Laslett, A. M., Dietze, P., & Rumbold, G. (2000). Patterns and trends in alcohol-related hospitalisations in Victoria, Australia, 1987/88-1995/96. *Drug and Alcohol Review, 19*(4), 381-390.
- Hansen, A. (2003). *The portrayal of alcohol and alcohol consumption in television news and drama programs: A research report for alcohol concern*. Leicester: University of Leicester, Centre for Mass Communication Research.
- Harris, K. R., & Bucens, I. K. (2003). Prevalence of fetal alcohol syndrome in the Top End of the Northern Territory. *Journal of Paediatrics and Child Health, 39*, 528-533.
- Harriss, L. R., English, D. R., Hopper, J. L., Powles, J., Simpson, J. A., O'Dea, K. et al., (2007). Alcohol consumption and cardiovascular mortality accounting for possible misclassification of intake: 11-year follow-up of Melbourne Collaborative Cohort Study. *Addiction, 102*, 1586-1587.
- Hastings, G., Anderson, S., Cooke, E., & Gordon, R. (2005). Alcohol marketing and young people's drinking: A review of the research. *Journal of Public Health Policy, 26*(3), 296-311.
- Hauritz, M., Homel, R., Mclwain, G., & Burrows, T. (1998). Reducing Violence in Licensed Venues through Community Safety Action Projects: The Queensland Experience. *Contemporary Drug Problems, 25*, 511-551.
- Hauritz, M., Homel, R., Mclwain, G., Burrows, T., & Townsley, M. (1998). Reducing violence in licensed venues: Community safety action projects. *Trends and Issues in Crime and Criminal Justice, 101*.
- Haw, C., Hawton, K., Casey, D., Bale, E., & Shepherd, A. (2005). Alcohol dependence, excessive drinking and deliberate self-harm: trends and patterns in Oxford, 1989-2002. *Social psychiatry and psychiatric epidemiology, 40*(12), 964-971.
- Hayes, L., Smart, D., Toumbourou, J. W., & Sanson, A. (2004). *Parenting influences on adolescent alcohol use. Report prepared by the Australian Institute of Family Studies for the Australian Government Department of Health and Ageing*: Australian Institute of Family Studies.
- Hayward, K., & Hobbs, D. (2007). Beyond the binge in 'booze Britain': market-led liminalization and the spectacle of binge drinking. *The British Journal of Sociology, 58*(3), 437-456.
- Henriksen, L., Feighery, E. C., Schleicher, N. C., & Fortmann, S. P. (2008). Receptivity to alcohol marketing predicts initiation of alcohol use. *Journal of Adolescent Health, 42*(1), 28-35.
- Higgins, K., Cooper-Stanbury, M., & Williams, P. (2000). *Statistics on drug use in Australia 1998* (Vol. AIHW Cat No PHE 16). Canberra, Australia: Australian Institute of Health and Welfare.
- Hingson, R., Heeren, T., & Winter, M. (2006). Age at drinking onset and alcohol dependence: age at onset, duration, and severity. *Archives of Pediatrics & Adolescent Medicine, 160*(7), 739-746.
- Hingson, R., Heeren, T., & Zakocs, R. (2001). Age of drinking onset and involvement in physical fights after drinking. *Pediatrics, 108*(4), 872-877.
- Hingson, R., Heeren, T., Zakocs, R., Winter, M., & Wechsler, H. (2003). Age of First Intoxication, Heavy Drinking, Driving after Drinking and Risk of Unintentional Injury among US College Students. *Journal of studies on alcohol, 64*(1), 23-31.
- Hobbs, R. (2003). *Alcohol and the night-time economy*. London: Alcohol Concern.

- Homel, R., Carvolth, R., Hauritz, M., Mclwin, G., & Teague, R. (2004). Making licensed venues safer for patrons: What environmental factors should be the focus of interventions? *Drug and Alcohol Review*, 23(1), 19-29.
- Homel, R., & Clark, J. (1992). The prediction and prevention of violence in pubs and clubs. *Crime Prevention Studies*, 3, 1-46.
- Howard, D., Qiu, Y., & Boekeloo, B. (2003). Personal and social contextual correlates of adolescent dating violence. *Journal of Adolescent Health*, 33(1), 9-17.
- Howard, K. A., Flora, J. A., Schleicher, N. C., & Gonzalez, E. M. (2004). Alcohol point-of-purchase advertising and promotions: Prevalence, content, and targeting. *Contemporary Drug Problems*, 31(13), 561-583.
- Hoyme, H. E., May, P. A., Kalberg, W. O., Kodituwakku, P., Gossage, J. P., Trujillo, P. M. et al., (2005). A practical clinical approach to diagnosis of fetal alcohol spectrum disorders: Clarification of the 1996 Institution of Medicine criteria. *Pediatrics*, 115, 39-47.
- Hughes, K., MacKintosh, A. M., Hastings, G., Wheeler, C., Watson, J., & Inglis, J. (1997). Young people, alcohol, and designer drinks: Quantitative and qualitative study. *British Medical Journal*, 314(7078), 414-418.
- Hulthe, J., & Fagerberg, B. (2005). Alcohol consumption and insulin sensitivity: A review. *Metabolic Syndrome and Related Disorders*, 3(1), 45-50.
- Hunter, E., Reser, J., Baird, M., & Reser, P. (1999). *An Analysis of Suicide in Indigenous Communities of North Queensland: The Historical, Cultural and Symbolic Landscape*: University of Queensland, Department of Social and Preventive Medicine.
- Hurtz, S. Q., Henriksen, L., Wang, Y., Feighery, E. C., & Fortmann, S. P. (2007). The relationship between exposure to alcohol advertising in stores, owning alcohol promotional items, and adolescent alcohol use. *Alcohol and Alcoholism*, 42(2), 143-149.
- Hyde, A., Treacy, M., Boland, J., Whitaker, T., Abaunza, P. S., & Knox, B. (2001). Alcohol consumption among 11-16 year olds: 'getting around' structural barriers? *Nursing and Health Sciences*, 3(4), 237-245.
- International Agency for Research on Cancer (1998). *Alcohol drinking. IARC monographs on the evaluation of carcinogenic risks to humans*. Geneva: World Health Organization.
- Isoline, C., & Macomber, A. (2002). Good packaging does a multifaceted job. *Marketing News*, Nov 11(36), 23.
- Jackson, M. C., Hastings, G., Wheeler, C., Eadie, D., & Mackintosh, A. M. (2000). Marketing alcohol to young people: implications for industry regulation and research policy. *Addiction*, 95 Suppl 4, S597-608.
- Jamal, M. M., Saadi, Z., & Morgan, T. R. (2005). Alcohol and hepatitis C. *Digestive Diseases*, 23(285-296).
- Jarvinen, M., & Gundelach, P. (2007). Teenage drinking, symbolic capital and distinction. *Journal of Youth Studies*, 10(1), 55-71.
- Jernigan, D. H., Ostroff, J., & Ross, C. (2005). Alcohol advertising and youth: a measured approach. *Journal of Public Health Policy*, 26(3), 312-325.
- Jewkes, R., Levin, J., & Penn-Kekana, L. (2002). Risk factors for domestic violence: findings from a South African cross-sectional study. *Social Science & Medicine*, 55(9), 1603-1617.
- Johnson, T., & Stahl, C. (2004). Sexual experiences associated with participation in drinking games. *Journal of General Psychology*, 131(3), 304-320.
- Johnson, T. J., & Sheets, V. L. (2004). Measuring college students' motives for playing drinking games. *Psychology of Addictive Behaviors*, 18, 91-99.
- Jones, K. L., Smith, D. W., Ulleland, C. N., & Streissguth, P. (1973). Pattern of malformation in offspring of chronic alcoholic mothers. *Lancet*, 1, 1267-1271.
- Jones, S. C., & Donovan, R. J. (2001). Messages in alcohol advertising targeted to youth. *Australian and New Zealand Journal of Public Health*, 25(2), 126-131.
- Jones, S. C., Hall, D., & Munro, G. (2008). How effective is the revised regulatory code for alcohol advertising in Australia? *Drug and Alcohol Review*, 27(1), 29-38.
- Jones, S. C., & Lynch, M. (2007). Non-advertising alcohol promotions in licensed premises: Does the Code of Practice ensure responsible promotion of alcohol? *Drug and Alcohol Review*, 26(5), 477-485.
- Kaminer, Y., Bureson, J. A., Goldston, D. B., & Burke, R. H. (2006). Suicidal ideation among adolescents with alcohol use disorders during treatment and aftercare. *American Journal on Addictions*, 15, 43-49.

- Kaysen, D., Neighbors, C., Martell, J., Fossos, N., & Larimer, M. E. (2006). Incapacitated rape and alcohol use: A prospective analysis. *Addictive Behaviors, 31*(10), 1820-1832.
- Kebede, D., Alem, A., Mitike, G., Enquesselassie, F., Berhane, F., Abebe, Y. et al., (2005). Khat and alcohol use and risky sex behaviour among in-school and out-of-school youth in Ethiopia. *BMC Public Health, 5*(1), 109.
- Kelly, A., & Witkiewitz, K. (2003). Accessibility of alcohol-related attitudes: A cross-lag panel model with young adults. *Alcoholism: Clinical and Experimental Research, 27*(8), 1241-1250.
- Kelly, K. J., & Edwards, R. W. (1998). Image advertisements for alcohol products: Is their appeal associated with adolescents' intention to consume alcohol? *Adolescence, 33*(129), 47-59.
- King, E., Taylor, J., & Carroll, T. (2005a). *Alcohol consumption patterns among Australian 15-17 year olds from 2000 to 2004*. Sydney: Australian Government Department of Health and Ageing.
- King, E., Taylor, J., & Carroll, T. (2005b). *Australian alcohol beverage advertising in mainstream Australian media 2003 to 2005: Expenditure, exposure and related issues*: Australian Department of Health and Ageing.
- Kirkby, D. (2003). "Beer, glorious beer": Gender politics and Australian popular culture. *The Journal of Popular Culture, 37*(2), 244-256.
- Kolves, K., Varnik, A., Tooding, L. M., & Wasserman, D. (2006). The role of alcohol in suicide: A case-control psychological autopsy study. *Psychological Medicine, 36*, 923-930.
- Kuo, M., Wechsler, H., Greenberg, P., & Lee, H. (2003). The marketing of alcohol to college students: The role of low prices and special promotions. *American Journal of Preventive Medicine, 25*(3), 204-211.
- Kypri, K., & Langley, J. D. (2003). Perceived social norms and their relation to university student drinking. *Journal of Studies on Alcohol, 64*(6), 829-834.
- Lang, E., & Rumbold, G. (1997). Effectiveness of community-based interventions to reduce violence in and around licensed premises: A comparison of three Australian models. *The Contemporary Drug Problems, 24*, 805.
- Lavelle, P. (2007). Can god make you better? Retrieved 6th June 2007, from <http://www.abc.net.au/health/thepulse/s1938683.htm>
- Ledoux, S., Miller, P., Choquet, M., & Plant, M. (2002). Family structure, parent-child relationships, and alcohol and other drug use among teenagers in France and the United Kingdom. *Alcohol and Alcoholism, 37*(1), 52-60.
- Lee, J. (2008, 7th August). Woolies battles Pure Blonde beer barons. *National Rural News*,
- Leigh, B. C., Vanslyke, J. G., Hoppe, M. J., Rainey, D. T., Morrison, D. M., & Gillmore, M. R. (2008). Drinking and condom use: Results from an event-based daily diary. *AIDS and Behavior, 12*(1), 104-112.
- Lemoine, P., Harousseau, H., Borteyru, J. P., & Menuet, J. C. (1968). Les enfants des parents alcooliques: Anomalies observees a propos de 127 cas. [The children of alcohol parents: Anomalies observed in 127 cases]. *Quest Medical, 25*, 476-482.
- Lewis, M. (1992). *A rum state: Alcohol and state policy in Australia, 1788-1988*. Canberra: AGPS Press.
- Lewis, S., Campbell, S., Proudfoot, E., Weston, A., Cotter, T., & Bishop, J. F. (2008). *Alcohol as a cause of cancer*. Sydney, Australia: Cancer Institute NSW.
- Li, T. K., Beard, J. D., Orr, W. E., Kwo, P. Y., & Ramchandani, V. A. (1998). Gender and ethnic differences in alcohol metabolism. *Alcohol Clinical Experimental Research, 22*(3), 771-772.
- Liappas, I., Theotoka, T., & Kapaki, E. (2005). Neuropsychological correlates of Greek alcohol patients who report memory disturbances. *Psychological Reports, 96*, 197-203.
- Lin, D., Li, X., Yang, H., Fang, X., Stanton, B., Chen, X. et al., (2005). Alcohol intoxication and sexual risk behaviours among rural-to-urban migrants in China. *Drug and Alcohol Dependence, 79*(1), 103-112.
- Linacre, S. (2005). *Australian social trends 2005*. Canberra: Australian Bureau of Statistics.
- Lindsay, J. (2006). A big night out in Melbourne: Drinking as an enactment of class and gender. *Contemporary Drug Problems, 33*(1), 29-61.
- Lintonen, T. P., & Konu, A. I. (2004). The misperceived social norm of drunkenness among early adolescents in Finland. *Health Education Research, 19*(1), 64-70.
- Loxley, W., Toumboou, J., Ryder, D., Stockwell, T., Haines, B., Scott, K. et al., (2004). *The prevention of substance use, risk and harm in Australia: A review of the evidence*. Canberra: Commonwealth Department of Health and Ageing.

- Loxley, W., Toumourou, J., & Stockwell, T. (2004). *The prevention of substance use, risk and harm in Australia. A review of the evidence*. Canberra, Australia: Commonwealth Department of Health and Ageing.
- Lury, C. (1996). *Consumer culture*. Cambridge: Polity Press.
- MacKintosh, A. M., Hastings, G., Hughes, K., Wheeler, C., Watson, J., & Inglis, J. (1997). Adolescent drinking: The role of designer drinks. *Health Education Journal*, 97(6), 213.
- Maisto, S., Carey, M., Carey, K., Gordon, C., & Schum, J. (2004). Effects of alcohol and expectancies on HIV-related risk perception and behavioral skills in heterosexual women. *Experimental & Clinical Psychopharmacology*, 12, 288-297.
- Maisto, S., Carey, M., Carey, K. B., & Gordon, C. (2002). The effects of alcohol and expectancies on risk perception and behavioral skills relevant to safer sex among heterosexual young adult women. *Journal of studies on alcohol*, 63, 476-485.
- Marsden Jacob Associates (2005). Identifying a framework for regulation in packaged liquor retailing. Retrieved from <http://www.ncc.gov.au/document.asp?documentID=3842>
- Martin, S. E., Snyder, L. B., Hamilton, M., Fleming-Milici, F., Slater, M. D., Stacy, A. et al., (2002). Alcohol advertising and youth. *Alcoholism: Clinical and Experimental Research*, 26(6), 900-906.
- Mathers, C., Vos, T., & Stevenson, C. (1999). *The burden of disease and injury in Australia: Summary report* (Vol. AIWH Cat No PHE17). Canberra, Australia: Australian Institute of Health and Welfare.
- Mattern, J. L., & Neighbors, C. (2004). Social norms campaigns: Examining the relationship between changes in perceived norms and changes in drinking levels. *Journal of Studies on Alcohol*, 65(4), 489-493.
- Matthews, S., Chikritzhs, T., Catalano, P., Stockwell, T. R., & Donath, S. (2002). *Trends in alcohol-related violence in Australia 1991/92-1999/00. Bulletin No. 5*. Perth, Western Australia: National Drug Research Institute.
- McCloskey, M. S., & Berman, M. E. (2003). Alcohol intoxication and self-aggressive behavior. *Journal of Abnormal Psychology*, 112(2), 306-311.
- McClure, A. C., Dal Cin, S., Gibson, J., & Sargent, J. D. (2006). Ownership of alcohol-branded merchandise and initiation of teen drinking. *American Journal of Preventive Medicine*, 30(4), 277-283.
- McGee, R., Ketchel, J., & Reeder, A. I. (2007). Alcohol imagery on New Zealand television. *Substance Abuse Treatment, Prevention, and Policy*, 2(1), 6.
- McGue, M., Iacono, W. G., Legrand, L. N., Malone, S., & Elkins, I. (2001). Origins and consequences of age at first drink. 1. Associations with substance-use disorders, disinhibitory behavior and psychopathology, and P3 amplitude. *Alcoholism: Clinical and Experimental Research*, 25(8), 1156-1165.
- McKendrick, N., Brewer, J., & Plumb, J. H. (1982). *The birth of a consumer society: The commercialization of eighteenth-century England*. Bloomington: Indiana University Press.
- MCM Research (2004). *WTAG binge-drinking research. Report of research and consultation for Wine Intelligence*. Oxford: MCM Research Ltd.
- McMurran, M. (1999). Alcohol and violence. *Child Abuse Review*, 8, 219-230.
- Measham, F. (2004). Play space: Historical and socio-cultural reflections on drugs, licensed leisure locations, commercialisation and control. *International Journal of Drug Policy*, 15(5-6), 337-345.
- Measham, F. (2006). The new policy mix: Alcohol, harm minimisation, and determined drunkenness in contemporary society. *International Journal of Drug Policy*, 17(4), 258-268.
- Measham, F., & Brain, K. (2005). 'Binge' drinking, British alcohol policy and the new culture of intoxication. *Crime, Media, Culture*, 1, 262-283.
- Midford, R. (2005). Australia and alcohol: Living down the legend. *Addiction*, 100(7), 891-896.
- Mihalic, S. W., & Elliot, D. (1997). Short- and long-term consequences of adolescent work. *Youth and Society*, 28(4), 464-498.
- Miller, J. W., Naimi, T. S., Brewer, R. D., & Jones, S. E. (2007). Binge Drinking and Associated Health Risk Behaviors Among High School Students. *Pediatrics*, 119(1), 76-85.
- Miller, P. (1997). Family structure, personality, drinking, smoking and illicit drug use: A study of UK teenagers. *Drug and Alcohol Dependence*, 45(1-2), 121-129.

- Milligan, R. A. K., Burke, V., Beilin, L. J., Richards, J., Dunbar, D., Spencer, M. et al., (1997). Health-related behaviours and psycho-social characteristics of 18 year-old Australians. *Social Science and Medicine*, 45(10), 1549-1562.
- Mora-Rios, J., Natera, G., & Juarez, F. (2005). Alcohol expectancies in the prediction of alcohol abuse among young people. *Salud Mental*, 28, 82-90.
- Moraes, C. L., & Reichenheim, M. E. (2002). Domestic violence during pregnancy in Rio de Janeiro, Brazil. *International Journal of Gynecology and Obstetrics*, 79(3), 269-277.
- Mousavi, S. M., & Eshagian, A. (2005). Wife abuse in Esfahan, Islamic Republic of Iran, 2002. *East Mediterr Health J*, 11(5-6), 860-869.
- Munro, G., & de Wever, J. (2008). Culture clash: alcohol marketing and public health aspirations. *Drug and Alcohol Review*, 27(2), 204-211.
- Murgraff, V. (1999). Risky single-occasion drinking amongst young people-definition, correlates, policy, and intervention: a broad overview of research findings. Review. *Alcohol and Alcoholism*, 34(1), 3-14.
- National Drug Research Institute (2007a). Restrictions on the Sale and Supply of Alcohol: Evidence and Outcomes. Perth: Curtin University of Technology.
- National Drug Research Institute (2007b). Trends in alcohol-attributable deaths among Indigenous Australians, 1998–2004. *National Alcohol Indicators*, 11.
- National Health and Medical Research Council (2001). *Australian alcohol guidelines. Health risks and benefits*. Canberra: Commonwealth of Australia.
- National Health and Medical Research Council (2009). *Australian guidelines to reduce health risks from drinking alcohol*. Canberra: National Health and Medical Research Council.
- Neighbors, C., Dillard, A. J., Lewis, M. A., Bergstrom, R. L., & Neil, T. A. (2006). Normative misperceptions and temporal precedence of perceived norms and drinking. *Journal of Studies on Alcohol*, 67(2), 290-299.
- Neighbors, C., Oster-Aaland, L., Bergstrom, R. L., & Lewis, M. A. (2006). Event- and context-specific normative misperceptions and high-risk drinking: 21st birthday celebrations and football tailgating. *Journal of Studies on Alcohol*, 67(2), 282-289.
- New South Wales Parliament (2005). National Competition Policy Liquor Amendments (Commonwealth Financial Penalties) Bill 2004 Retrieved 10/06/2007, from <http://143.119.255.90/isysquery/2ecf194a-7e9c-4709-85ed-917ffff5e990/1/doc/>
- Nicholas, R. (2005). *The role of alcohol in family violence. Discussion paper prepared for the Commissioners' Drugs Committee of the Conference of Police Commissioners of Australasia and the South West Pacific Region*. Adelaide: Australasian Centre for Policing Research.
- Nicholas, R. (2008). *Understanding and responding to alcohol-related social harms in Australia. Options for policing.*: NDLERF.
- O'Leary, C. M. (2004). Fetal alcohol syndrome: Diagnosis, epidemiology, and developmental outcomes. *Journal of Paediatrics and Child Health*, 40(2-7).
- O'Leary, C. M., Heuzenroeder, L., Elliott, E. J., & Bower, C. (2007). A review of policies on alcohol use during pregnancy in Australia and other English-speaking countries, 2006. *Medical Journal of Australia*, 186, 466-471.
- O'Loughlin, S., & Sherwood, J. (2005). A 20-year review of trends in deliberate self-harm in a British town, 1981-2000. *Social psychiatry and psychiatric epidemiology*, 40(6), 446-453.
- Office of Torres Strait Islander Health (2001). *Better health care: Studies in the successful delivery of primary health care services for Aboriginal and Torres Strait Islander Australians*. Canberra: Commonwealth of Australia.
- Ogle, R. L., & Miller, W. R. (2004). The effects of alcohol intoxication and gender on the social information processing of hostile provocations involving male and female provocateurs. *Journal of Studies on Alcohol*, 65(1), 54-62.
- Parker, H., Aldridge, J., & Measham, F. (1998). *Illegal leisure: The normalization of adolescent recreational drug use*. London: Routledge.
- Parks, K. A., & Zetes-Zanatta, L. M. (1999). Women's bar-related victimization. *AGGRESSIVE BEHAVIOR*, 25, 349-364.
- Pasch, K. E., Komro, K. A., Perry, C. L., Hearst, M. O., & Farbaksh, K. (2007). Outdoor alcohol advertising near schools: What does it advertise and how is it related to intentions and use of alcohol among young adolescents? *Journal of Studies on Alcohol and Drugs*, 68(4), 587-596.

- Payne, J., Elliott, E., D'Antoine, H., O'Leary, C., Mahony, A., Haan, E. et al., (2005). Health professionals' knowledge, practice and opinions about fetal alcohol syndrome and alcohol consumption in pregnancy. *Australian and New Zealand Journal of Public Health*, 29, 558-564.
- Peadon, E., Payne, J., Henley, N., & al, e. (2007). Alcohol and Pregnancy: Australian women's knowledge, attitudes and practice. Abstracts of the Paediatrics and Child Health Division, RACP Annual Scientific Meeting, May 2007. *Paediatric Child Health*, 43(7-8), A1-A22.
- Pedersen, W., & Skrandal, A. (1998). Alcohol consumption debut: Predictors and consequences. *Journal of Studies on Alcohol*, 59, 32-42.
- Perkins, H. W., & Craig, D. W. (2006). A successful social norms campaign to reduce alcohol misuse among college student-athletes. *Journal of Studies on Alcohol*, 67(6), 880-889.
- Pernanen, K. (1998). Prevention of Alcohol-Related Violence. *Contemporary Drug Problems*, 25(3), 477-509.
- Phillips, M. (2001). The prevalence of drug use and risk of drug-related harm in the workplace. In S. Allsop & M. Phillips (Eds.), *Drug and Work: Responding to Alcohol and Other Drug Problems in Australian Workplaces* (pp. 20-41). Melbourne: IP Communication.
- Pidd, K., Berry, J. G., Harrison, J. E., Roche, A. M., Driscoll, T. R., & Newson, R. S. (2006). *Alcohol and work: Patterns of use, workplace culture & safety*. Adelaide: Australian Institute of Health and Welfare.
- Pidd, K., Berry, J. G., Roche, A. M., & Harrison, J. E. (2006a). Estimating the cost of alcohol-related absenteeism in the Australian workforce: The importance of consumption patterns. *Medical Journal of Australia*, 185(11/12), 637-641.
- Pidd, K., Boeckmann, R., & Morris, M. (2006). Adolescents in transition: The role of workplace alcohol and other drug policies as a prevention strategy. *Drugs: Education, Prevention and Policy*, 13(4), 353-365.
- Pidd, K., & Roche, A. M. (2008). Changing workplace cultures: An integrated model for the prevention and treatment of alcohol-related problems. In D. Moore & P. Dietze (Ed.), *Drugs and Public Health* (pp. 49-59). Melbourne, Australia: Oxford University Press.
- Pidd, K., Shtangey, V., & Roche, A. M. (2008). *Alcohol use in the Australian workforce: Prevalence, patterns, and implications: Findings from a secondary analysis of 2004 NDSHS data*. Adelaide: National Centre for Education and Training on Addiction, Flinders University.
- Pidd, K. J., Berry, J. G., Roche, A. M., & Harrison, J. E. (2006b). Estimating the cost of alcohol-related absenteeism in the Australian workforce: the importance of consumption patterns. *Med J Aust*, 185(11-12), 637-641.
- Pink, B., & Allbon, P. (2008). *The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples 2008*. Canberra: Australian Bureau of Statistics.
- Pitkanen, T., Lyyra, A. L., & Pulkkinen, L. (2005). Age of onset of drinking and the use of alcohol in adulthood: a follow-up study from age 8-42 for females and males. *Addiction*, 100(5), 652-661.
- Primack, B. A., Dalton, M. A., Carroll, M. V., Agarwal, A. A., & Fine, M. J. (2008). Content analysis of tobacco, alcohol, and other drugs in popular music. *Archives of Pediatrics & Adolescent Medicine*, 162(2), 169-175.
- Read, J. P., Wood, M. D., & Capone, C. (2005). A prospective investigation of relations between social influences and alcohol involvement during the transition into college. *Journal of Studies on Alcohol*, 66(1), 23-34.
- Rehm, J., Gnam, W., Popova, S., Baliunas, D., Brochu, S., Fischer, B. et al., (2007). The costs of alcohol, illegal drugs, and tobacco in Canada, 2002. *J Stud Alcohol*, 68(6), 886-895.
- Reifman, A., Barnes, G. M., Dintcheff, B. A., Farrell, M. P., & Uhteg, L. (1998). Parental and peer influences on the onset of heavier drinking among adolescents. *Journal of Studies on Alcohol*, 59(3), 311-317.
- Reno, J., Springen, K., Meadows, S., Underwood, A., & Scelfo, J. (2007). Girls gone wild Retrieved 01/03/2007, from bulletin.ninemsn.com.au/article.aspx?id=225480&print=true
- Ridolfo, B., & Stevenson, C. (2001). *The quantification of drug-caused mortality and morbidity in Australia, 1998* (Vol. AIHW Cat No PHE29). Canberra, Australia: Australian Institute of Health and Welfare.
- Roche, A., Freeman, T., & Skinner, N. (2006). From data to evidence, to action: Findings from a systematic review of hospital screening studies for high risk alcohol consumption. *Drug and Alcohol Dependence*, 83(1), 1-14.

- Roche, A. M., Bywood, P., Borlagdan, J., Lunnay, B., Freeman, T., Lawton, L. et al., (2007). *Young people and alcohol: The role of cultural influences*. Adelaide: National Centre for Education and Training on Addiction.
- Roche, A. M., & Deehan, A. (2002). Women's alcohol consumption: Emerging patterns, problems and public health implications. *Drug and Alcohol Review, 21*(2), 169-178.
- Roche, A. M., Pidd, K., Berry, J. G., & Harrison, J. E. (2008). Workers' drinking patterns: the impact on absenteeism in the Australian work-place. [Article]. *Addiction, 103*(5), 738-748.
- Roche, A. M., & Watt, K. (1999). Drinking and university students: From celebration to inebriation. *Drug and Alcohol Review, 18*, 389-399.
- Roche, A. M., Watt, K. A., Purdie, D., McClure, R., & Green, D. (2001). Injury and alcohol: A hospital emergency department study. *Drug and Alcohol Review, 20*(2), 157-168.
- Room, R., & Livingston, M. (2007). *Variation by age in the harm per drinking volume and heavier drinking occasion*. Fitzroy, Victoria: AER Centre for Alcohol Policy Research, Turning Point Alcohol and Drug Centre.
- Rosenbloom, M., O'Reilly, A., Sassoon, S. A., Sullivan, E. V., & Pfefferbaum, A. (2005). Persistent cognitive deficits in community-treated alcoholic men and women volunteering for research: Limited contribution from psychiatric comorbidity. *Journal of Studies on Alcohol, 66*, 254-265.
- Rowe, D., & Bavinton, N. (2004). *On the Bounce: The Challenge of the Night-time Economy*. Paper presented at the Cultural Industries and Practices Research Centre Symposium.
- Royal College of Obstetricians and Gynaecologists (2006). *Alcohol consumption and the outcomes of pregnancy*. London, UK: Royal College of Obstetricians and Gynaecologists.
- Scott, L., Donnelly, N., Poynton, S., & Weatherburn, D. (2007). *Young adults' experience of responsible service practice in NSW: An update*: NSW Bureau of Crime Statistics and Research.
- Scottish Health Economics Unit (2004). *Cost of society of alcohol misuse in Scotland*. Scotland: Health Economics Unit, Scottish Executive.
- Shepherd, J. (1998). The circumstances and prevention of bar-glass injury (Editorial). *Addiction, 93*(1), 5-7.
- Shepherd, J. P., Sutherland, I., & Newcombe, R. G. (2006). Relations between alcohol, violence and victimization in adolescence. *Journal of Adolescence, 29*(4), 539-553.
- Sher, K. J., & Rutledge, P. C. (2007). Heavy drinking across the transition to college: Predicting first-semester heavy drinking from precollege variables. *Addictive Behaviors, 32*(4), 819-835.
- Sher, L. (2006). Alcoholism and suicidal behaviour: A clinical overview. *Acta Psychiatrica Scandinavia, 113*, 13-22.
- Skog, O. J. (1985). The Collectivity of Drinking Cultures: A Theory of the Distribution of Alcohol Consumption. *British Journal of Addiction, 80*(1), 83-99.
- Smith, A., Edwards, C., & Harris, W. (2005). Bottleshops and 'ready-to-drink' alcoholic beverages. *Health Promotion Journal of Australia, 16*(1), 32-36.
- Snyder, L. B., Milici, F. F., Slater, M., Sun, H., & Strizhakova, Y. (2006). Effects of alcohol advertising exposure on drinking among youth. *Archives of Pediatric & Adolescent Medicine, 160*(1), 18-24.
- South Australian Department of Health (2008). *Alcohol related hospital admissions. Media statement Tuesday 3rd June, 2008*. Adelaide: South Australian Department of Health.
- Spruijt, E., & de Goede, M. (1997). Transitions in family structure and adolescent well-being. *Adolescence, 32*(128), 897-911.
- Spurling, M. C., & Vinson, D. C. (2005). Alcohol-related injuries: Evidence for the prevention paradox. *The Annals of Family Medicine, 3*(1), 47-52.
- Stacy, A. W., Zogg, J. B., Unger, J. B., & Dent, C. W. (2004). Exposure to televised alcohol ads and subsequent adolescent alcohol use. *American Journal of Health Behavior, 28*(6), 498-509.
- Steering Committee for the Review of Government Service Provision (SCRGSP) (2007a). *Overcoming Indigenous disadvantage: Key Indicators 2007 Report*. Canberra: Steering Committee for the Review of Government Service Provision.
- Steering Committee for the Review of Government Service Provision (SCRGSP) (2007b). *Report on Government Services 2007, Indigenous Compendium*. Canberra: Steering Committee for the Review of Government Service Provision.

- Steinberg, L., & Dornbusch, S. M. (1991). Negative correlates of part-time employment during adolescence: Replication and elaboration. *Developmental Psychology, 27*(2), 304-313.
- Stockwell, T. (2004). Australian alcohol policy and the public interest: a brief report card. *Drug and Alcohol Review, 23*(4), 377-379.
- Stockwell, T., Donath, S., Cooper-Stanbury, M., Chikritzhs, T., Catalano, P., & Mateo, C. (2004). Under-reporting of alcohol consumption in household surveys: A comparison of quantity-frequency, graduated-frequency and recent recall. *Addiction, 99*, 1024-1033.
- Stockwell, T., McLeod, R., Stevens, M., Phillips, M., Webb, M., & Jelinek, G. (2002). Alcohol consumption, setting, gender and activity as predictors of injury: A population-based case-control study. *Journal of Studies on Alcohol, 63*(3), 372-379.
- Stockwell, T., Somerford, P., & Lang, E. (1992). The relationship between license type and alcohol-related problems attributed to licensed premises in Perth, Western Australia. *Journal of Studies on Alcohol, 53*(5), 495-498.
- Streissguth, A. P., Bookstein, F. L., Barr, H. M., Sampson, P. D., O'Malley, K., & Kogan Young, J. (2004). Risk factors for adverse life outcomes in fetal alcohol syndrome and fetal alcohol effects. *Journal of Developmental and Behavioral Pediatrics, 25*, 228-238.
- Suter, P. M., & Tremblay, A. (2005). Is alcohol consumption a risk factor for weight gain and obesity? *Critical Reviews in Clinical Laboratory Sciences, 42*(3), 197-227.
- Swahn, M., Simon, T., Hammig, B., & Guerrero, J. (2004). Alcohol-consumption behaviors and risk for physical fighting and injuries among adolescent drinkers. *Addictive Behaviors, 29*(5), 959-963.
- Swahn, M. H., & Bossarte, R. M. (2007). Gender, early alcohol use, and suicide ideation and attempts: Findings from the 2005 youth risk behavior survey. *Journal of Adolescent Health, 41*(2), 175-181.
- Swahn, M. H., Bossarte, R. M., & Sullivent, E. E. I. (2008). Age of alcohol use initiation, suicidal behavior, and peer and dating violence victimization and perpetration among high-risk, seventh-grade adolescents. *Pediatrics, 121*(2), 297-305.
- Szmigin, I., Griffin, C., Mistral, W., Bengry-Howell, A., Weale, L., & Hackley, C. (2007). Re-framing 'binge drinking' as calculated hedonism - Empirical evidence from the UK. *International Journal of Drug Policy.*
- Tatz, C. (2001). Aboriginal and Maori suicide: A portrait of life and self-destruction. Abstracts for the Royal Australian and New Zealand College of Psychiatrists 36th Annual Congress. *Australian and New Zealand Journal of Psychiatry, 35*, A26.
- Taylor, N., Prichard, J., & Charlton, K. (2004). *National project on drink spiking: Investigating the nature and extent of drink spiking in Australia*. Canberra: Australian Institute of Criminology.
- Testa, M., VanZile-Tamsen, C., Livingston, J., & Buddie, A. (2006). The role of women's alcohol consumption in managing sexual intimacy and sexual safety motives. *Journal of Studies on Alcohol, 67*(5), 665-674.
- Tomkins, K. (2005). Bouncers and Occupational Masculinity. *Current Issues in Criminal Justice, 17*(1), 154-161.
- Tomsen, S. (1989). *Alcohol, violent crime and social power*. Perth: Australian Institute of Criminology.
- Tomsen, S. (1997). A top night social protest, masculinity and the culture of drinking violence. *British Journal of Criminology, 37*(1), 90-102.
- Toumbourou, J. W., Williams, I. R., White, V. M., Snow, P. C., Munro, G. D., & Schofield, P. E. (2004). Prediction of alcohol-related harm from controlled drinking strategies and alcohol consumption trajectories. *Addiction, 99*(4), 498-508.
- Transport and Road Research Laboratory (1987). *The facts about drinking and driving*. Crowthorne, Berkshire: Transport and Road Research Laboratory.
- Trewin, D. (2006). *National Aboriginal and Torres Strait Islander Health Survey 2004-05*. Canberra: Australian Bureau of Statistics.
- Trim, R. S., Leuthe, E., & Chassin, L. (2006). Sibling influence on alcohol use in a young adult, high-risk sample. *Journal of Studies on Alcohol, 67*(3), 391-398.
- Turner, R., & Gil, A. (2002). Psychiatric and substance use disorders in south Florida. *Archives of General Psychiatry, 59*, 43-50.

- Tutt, D. (2003). *'I'd rather they were drinking where I can see them...'*. Teenage alcohol consumption promoted by adults. Paper presented at the Winter School in the Sun; 2003.
- Tylor, E. (1871). *Primitive culture*. London: John Murray.
- Urberg, K. A., Deirmenciolu, S. M., & Pilgrim, C. (1997). Close friend and group influence on adolescent cigarette smoking and alcohol use. *Developmental Psychology, 33*(5), 834-844.
- Valois, R. F., Dunham, A. C., Jackson, K. L., & Waller, J. (1999). Association between employment and substance abuse behaviors among public high school adolescents. *Journal of Adolescent Health, 25*(4), 256-263.
- Van Beurden, E., & Davis, J. (2005). *Young people's perceptions of alcohol advertising, in relation to the revised alcohol beverages advertising code*: Australian Government Department of Health and Ageing.
- van der Vorst, H., Engels, R. C., Meeus, W., & Dekovic, M. (2006). The impact of alcohol-specific rules, parental norms about early drinking and parental alcohol use on adolescents' drinking behavior. *Journal of Child Psychology and Psychiatry, 47*(12), 1299-1306.
- Verma, T., Adams, J., & White, M. (2007). Portrayal of health-related behaviours in popular UK television soap operas. *Journal of Epidemiology and Community Health, 61*(7), 575-577.
- Victoria Department of Human Services (2002). *An integrated strategy for child protection and placement services*. Melbourne: Department of Human Services, Community Care Division.
- Vinson, D., Maclure, M., Reidinger, C., & Smith, G. S. (2003). A population-based case-crossover and case-control study of alcohol and the risk of injury. *Journal of Studies on Alcohol, 64*(3), 358-366.
- Warner, L., White, H., & Johnson, V. (2007). Alcohol initiation experiences and family history of alcoholism as predictors of problem-drinking trajectories. *Journal of Studies on Alcohol, 68*(56-65).
- Watt, K., Purdie, D. M., Roche, A. M., & McClure, R. (2006). Injury severity: Role of alcohol, substance use and risk-taking. *Emergency Medicine Australasia, 18*(2), 108-117.
- Watt, K., Purdie, D. M., Roche, A. M., & McClure, R. J. (2004). Risk of injury from acute alcohol consumption and the influence of confounders. *Addiction, 99*(10), 1262-1273.
- Watt, K., Purdie, D. M., Roche, A. M., & McClure, R. J. (2005). The relationship between acute alcohol consumption and consequent injury type. *Alcohol and Alcoholism, 40*(4), 263-268.
- Weitzman, E. R. (2004). Poor mental health, depression, and associations with alcohol consumption, harm, and abuse in a national sample of young adults in college. *The Journal of Nervous and Mental Disease, 192*(4), 269-277.
- Wells, J. E., Horwood, L. J., & Fergusson, D. M. (2004). Drinking patterns in mid-adolescence and psychosocial outcomes in late adolescence and early adulthood. *Addiction, 99*(12), 1529-1541.
- White, A. M., & Swartzwelder, H. S. (2005). Age-related effects of alcohol on memory and memory-related brain function in adolescents and adults. *Recent Development Alcohol, 17*, 161-176.
- White, V., & Hayman, J. (2004). *Australian secondary students' use of alcohol in 2002*. Canberra: Department of Health and Ageing.
- White, V., & Hayman, J. (2006a). *Australian secondary school students' use of alcohol in 2005. Monograph Series No. 58*. Canberra: Australian Government Department of Health and Ageing.
- White, V., & Hayman, J. (2006b). *Australian secondary school students' use of over-the-counter and illicit substances in 2005. Monograph Series No. 60*. Canberra: Australian Government Department of Health and Ageing.
- White, V., & Hayman, J. (2007). *Results from the 2005 Australian secondary students' alcohol and drug survey*. Melbourne: Centre for Behavioural Research in Cancer and Victorian Department of Human Ageing.
- Whitfield, J. B., & Martin, N. G. (1994). Alcohol consumption and alcohol pharmacokinetics: Interactions within the normal population. *Alcohol Clinical Experimental Research, 18*(2), 238-247.
- WHO Expert Committee on Problems Related to Alcohol Consumption (2006). *Second report*. Geneva: World Health Organization.
- Wild, T. C. (2002). Personal drinking and sociocultural drinking norms: a representative population study. *Journal of Studies on Alcohol, 63*(4), 469-475.

Williams, B., Sanson, A., Toumbourou, J. W., & Smart, D. (2000). *Patterns and predictors of teenagers' use of licit and illicit substances in the Australian Temperament Project cohort*. Melbourne: Ross Trust.

Windle, M. (2004). Suicidal behaviours and alcohol use among adolescents: A developmental psychopathology perspective. *Alcoholism: Clinical and Experimental Research*, 28, 295-375.

Workman, J. E. (2003). Alcohol promotional clothing items and alcohol use by underage consumers. *Family and Consumer Sciences Research Journal*, 31(3), 331-354.

World Cancer Research Fund, & American Institute for Cancer Research (2007). *Food, nutrition, physical activity and the prevention of cancer: A global perspective*. Washington DC: American Institute for Cancer Research.

World Health Organization (2000). *Health and health behaviour among young people*: World Health Organization.

Wyllie, A., Zhang, J. F., & Casswell, S. (1998). Responses to televised alcohol advertisements associated with drinking behaviour of 10-17-year-olds. *Addiction*, 93(3), 361-371.

Young, S. Y. N., Hansen, C. J., Gibson, R. L., & Ryan, M. A. K. (2006). Risky alcohol use, age at onset of drinking, and adverse childhood experiences in young men entering the US Marine Corps. *Archives of Pediatric & Adolescent Medicine*, 160(12), 1207-1214.

Zhang, L., Welte, J., & Wieczorek, W. (2002). The role of aggression-related alcohol expectancies in explaining the link between alcohol and violent behaviour. *Substance Use & Misuse*, 37(4), 457-471.

Zinkiewicz, L., Davey, J., & Curd, D. (1999). Sin beyond Surfers? Young people's risky behaviour during Schoolies Week in three Queensland regions. *Drug and Alcohol Review*, 18, 279-285.

Appendix 1

2001 Australian Alcohol Guidelines

The old Australian Alcohol Guidelines (National Health and Medical Research Council, 2001) defined consumption levels associated with risk of short- and long-term harms, as outlined below:

National Health and Medical Research Council Australian Alcohol Guidelines (2001)

Risk of short-term harm	Low risk	Risky	High risk
Males (on any one day)	Up to 6* standard drinks	7 to 10	11 or more
Females (on any one day)	Up to 4* standard drinks (*no more than 3 days per week)	5 to 6	7 or more
Risk of long-term harm	Low risk	Risky	High risk
Males (per day)	Up to 4 standard drinks	5 to 6	7 or more
Males (per week)	Up to 28 standard drinks	29 to 42	43 or more
Females (per day)	Up to 2 standard drinks	3 to 4	5 or more
Females (per week)	Up to 14 standard drinks	15 to 28	29 or more