Preventing alcohol-related harm in Australia: a window of opportunity
Including addendum for October 2008 to June 2009

Prepared for the National Preventative Health Taskforce by the Alcohol Working Group
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1. Introduction: changing the drinking culture in Australia

1.1 Purpose
This paper has been prepared for the National Preventative Health Taskforce to provide up-to-date and evidence-based information on policies and programs to prevent alcohol-related harm in Australia. While the paper is intended as an overview of the most relevant and generally available evidence, in the interests of brevity it covers many issues in summary only.

The paper attempts to answer three questions:

- What are the key trends in alcohol consumption and related harm in Australia?
- What are the most effective approaches to preventing and reducing alcohol-related harm?
- What are the gaps and opportunities for preventative action in Australia?

The paper is informed by the most current and readily available information on alcohol consumption and related harm, and the scientific literature on approaches to preventing and reducing alcohol-related harm. It draws upon evidence and examples of approaches from both within Australia and internationally. The paper summarises and acknowledges preventative work addressing alcohol-related harm already under way in Australia, and includes some commentary on its effectiveness, and also attempts to highlight gaps and opportunities for further preventative action.

The range of interventions that are reviewed in some detail in the paper include:

- Regulating physical availability
- Taxation and pricing
- Drink-driving countermeasures
- Treatment and early intervention
- Altering the drinking context
- Regulating promotion
- Education and persuasion.

An emerging theme from the paper is that there is currently a unique window of opportunity in Australia for a significant expansion of activity in the prevention of alcohol-related harm. In part, this opportunity grows from increased community and political concern about the harmful consumption of alcohol (especially focused on youth drinking) and a heightened willingness from all levels of government to take action in the area.

Furthermore, there is an increasingly solid base of evidence upon which policy decisions can be made – even from the brief review presented in this paper, it is clear which of the various policies and programs hold the most promise of being effective, and those which offer the least.

It is also apparent that there are potential synergies with other public health efforts to address tobacco, obesity and a range of chronic diseases.
The priorities for preventative action that are suggested in this paper are reflected in the overarching discussion paper *Australia: the Healthiest Country by 2020*.

1.2 The drinking culture in Australia

Alcohol plays many roles in contemporary Australian society – as a relaxant, as an accompaniment to socialising and celebration, as a source of employment and exports, and as a generator of tax revenue. It is intrinsically part of Australian culture. The majority of Australians who regularly drink, do so in moderation. Around three-quarters (72.6%) of Australians drink below levels for long-term risk of harm.\(^1\) However, short-term consumption of alcohol at harmful levels, while only occasional, is also a prominent feature of the drinking culture in Australia. One in five Australians (20.4%) drink at short-term risky/high-risk levels at least once a month.\(^2\) Put another way, this equates to more than 42 million occasions of binge drinking in Australia each year.

While overall levels of alcohol consumption and drinking patterns have not changed markedly over the past decade, there is an increasing community awareness of the problem of harmful consumption of alcohol. These patterns continue to produce substantial costs to the health of Australians. Alcohol consumption accounts for 3.2% of the total burden of disease and injury in Australia: 4.9% in males and 1.6% in females.\(^3\) Beyond its impacts on the health and wellbeing of individuals and communities, the harmful consumption of alcohol also impacts significantly across a range of other areas, including workforce productivity, healthcare services such as hospitals and ambulances, road accidents, law enforcement, property damage and insurance administration.

The annual cost to the Australian community from alcohol-related harm is estimated to be more than $15 billion.\(^4\) In Australia, concern in the general community about alcohol’s adverse health and social effects is growing. A recent survey of Australians revealed that 84% of people are concerned about the impact of alcohol on the community.\(^5\)

1.3 Determinants of drinking behaviour

The current national alcohol strategy\(^6\) observes that Australia’s drinking cultures are driven by a mix of powerful, intangible social forces, such as habits, customs, images and norms, and other interlocking and equally powerful tangible forces relating to the social, economic and physical availability of alcohol, including promotion and marketing, age restrictions, price, outlets, hours of access and service practices\(^6\) (see Fig. 1). Certainly, there is no single factor that determines why people drink at harmful levels. Health-damaging behaviours related to poor diet, inadequate exercise, cigarette smoking, excessive drinking and illicit drug use appear to be embedded in a complex network of social determinants and risk and protective factors, and behaviours are also mediated by cultural influences.\(^7\)
Figure 1: Alcohol-related harm: determinants, behaviours and outcomes


1.4 Alcohol policy and programs in Australia

Preventing alcohol-related harm is a responsibility shared among all levels of government. The Australian Government and the states and territories are working together through the mechanisms of the Ministerial Council on Drug Strategy to implement initiatives as part of the National Alcohol Strategy 2006–2009. (6) The strategy is a plan for action developed collaboratively between governments, industry and community partners. Key action areas initially identified for the strategy include:

- Monitor and review of alcohol promotions
- Increase community awareness and understanding of the extent and impacts of intoxication
- Improve enforcement of liquor licensing regulations
- Support whole-of-community initiatives to reduce alcohol-related health problems
- Develop and implement social marketing campaigns to reduce alcohol-related harms.

At a state and territory level, key alcohol policy and program responsibilities include law enforcement, licensing regulation, the provision of treatment services and drug education in schools. Additionally, all states and territories have strategic plans to address alcohol, which vary in scope and funding. Given the diverse range of adverse outcomes of drinking often experienced at a local community level, local governments also play an important role, including their functions in environmental health, planning, community development, waste disposal and youth services.
Local governments can contribute to the management of the physical availability of alcohol and the creation of safer drinking settings, and engage in environmental design and planning that contributes to and supports community wellbeing. There are many examples of innovative, locally responsive measures in Australia, in part to respond to the modern phenomena of ‘night-time economies’. (8)

Throughout Australia, there is also a considerable amount of community-based activity under way in preventing alcohol-related harm, some of which is government funded and some of which is led by charitable groups. The contribution of community-level action is significant, and is integral to the effective implementation of federal, state and local government policies and programs.

Overall, while rhetoric is aimed at prevention, and there is currently a mood to address the negative side of alcohol use, there is great difficulty in gaining coherent, cooperative, strategic and effective action. This situation might be compared to the place of and responses to tobacco smoking in Australia in the 1960s.

1.5 Recent developments in Australia

**NATIONAL BINGE DRINKING STRATEGY**

On 28 March 2008, the Prime Minister announced a new national strategy to address the binge drinking epidemic among young Australians. (9)

**COUNCIL OF AUSTRALIAN GOVERNMENTS (COAG) BINGE DRINKING AGREEMENT**

The Council of Australian Governments (COAG) recently agreed on the importance of tackling the harmful consumption of alcohol among young people and asked the Ministerial Council on Drug Strategy to report to it in December 2008 on options to reduce binge drinking, including in relation to closing hours, the responsible service of alcohol, reckless secondary supply and the alcohol content in ready-to-drink beverages. The Australia New Zealand Food Regulation Ministerial Council is to request Food Standards Australia New Zealand to consider mandatory health warnings on packaged alcohol. (10)

**MINISTERIAL COUNCIL ON DRUG STRATEGY (MCDS)**

The work of the Ministerial Council on Drug Strategy (MCDS) includes a focus on the assessment of late-night lock-outs for licensed premises and the development of a preferred framework to more effectively target police resources on binge drinking hot spots. It is also focused on a national policy framework for the responsible service of alcohol, a preferred regulatory model to address the secondary supply of alcohol to minors, options for reducing the alcohol content in products (including those aimed at young people), possible standards and controls for alcohol advertising targeting young people, and advice regarding the impact of health warnings on alcohol products. (11)

**NORTHERN TERRITORY INITIATIVE AND OTHER ABORIGINAL AND TORRES STRAIT ISLANDER SPECIFIC INITIATIVES**

Perhaps the most radical experiments in responding to problems, especially among Aboriginal Australians, have been carried out in the Northern Territory. Most recently, the Northern Territory Initiative was implemented by the then Minister for Aboriginal Affairs of the previous Australian government, and is soon to be reviewed after one year of implementation. This is a complex area and this paper will not attempt to summarise interventions specific to Indigenous Australians or presume to provide comprehensive information in this area.
2. Key trends in alcohol consumption

2.1 Alcohol consumption in Australia and other countries

Information on levels and patterns of alcohol consumption is diverse, and it can be difficult to identify the key features for the purposes of monitoring trends in drinking and related harm, and the possible opportunities for intervention. Unfortunately, in Australia at the current time, some of the most significant and valuable data is not readily available to the public health field. For example, alcohol sales data, while it is known to be collected and analysed by the alcohol beverage industry, is not available for the purposes of this paper, nor indeed is it easily accessed for public health research purposes in general. The Taskforce notes with some concern that the continuation of the most accessible data sets on alcohol consumption levels in Australia, collected and compiled by the Australian Bureau of Statistics (ABS), is currently under review. Efforts are therefore urgently required to seek the continuation of these valuable data sets.

Per capita consumption of alcohol is an important measure from a public health perspective because it is ‘to a considerable extent, related to the prevalence of heavy use, which in turn is associated with negative effects’. Total per capita consumption of alcohol in Australia grew rapidly in the 1970s and has not returned to low levels since then; in 2007 it was estimated to be 9.88 litres of alcohol per capita (see Fig. 2). Among the different alcoholic beverage categories, there have been significant changes in per capita consumption over the past 70 years. Since peaking at over 6.4 litres of alcohol per capita in the mid-1970s, per capita consumption of beer has steadily declined and is now at a level similar to that of the late 1950s.

This reduction partly reflects changes in consumer tastes towards wine, and the increase in the availability of relatively low-priced wine. Consumption of wine has increased almost fourfold since the late 1940s, when intake was 0.77 litres of alcohol per capita. In 2005 wine consumption in Australia reached an all-time record of 3.13 litres of alcohol per capita. When interpreting the trend in per capita consumption in Australia, it should be noted that the data does not take into account the ageing of the population; as people age, they generally consume less alcohol. Hence, as the Australian population continues to age over the coming decades, it is expected that per capita alcohol consumption will most likely decrease.

Per capita consumption of alcohol in Australia is high by world standards. Australia is ranked within the top 30 highest alcohol-consuming nations, out of a total of 180 countries. Table 1 shows Australia’s level of per capita alcohol consumption (9.02 litres of pure alcohol) and ranking (#30) compared to other selected countries in 2003. More recent estimates of per capita alcohol consumption for Australia (9.88 litres of pure alcohol in 2007) suggest that our international ranking is now likely to be even higher.
Table 1: Per capita consumption of alcohol by country and rank (out of 180 countries), selected countries*

<table>
<thead>
<tr>
<th>RANK</th>
<th>COUNTRY</th>
<th>PER CAPITA CONSUMPTION†</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Luxembourg</td>
<td>15.56</td>
</tr>
<tr>
<td>2</td>
<td>Ireland</td>
<td>13.69</td>
</tr>
<tr>
<td>7</td>
<td>Germany</td>
<td>11.99</td>
</tr>
<tr>
<td>8</td>
<td>UK</td>
<td>11.75</td>
</tr>
<tr>
<td>10</td>
<td>Spain</td>
<td>11.68</td>
</tr>
<tr>
<td>14</td>
<td>France</td>
<td>11.43</td>
</tr>
<tr>
<td>20</td>
<td>Russian Federation</td>
<td>10.32</td>
</tr>
<tr>
<td>23</td>
<td>Netherlands</td>
<td>9.68</td>
</tr>
<tr>
<td>24</td>
<td>New Zealand</td>
<td>9.68</td>
</tr>
<tr>
<td>30</td>
<td>Australia</td>
<td>9.02</td>
</tr>
<tr>
<td>31</td>
<td>Greece</td>
<td>9.01</td>
</tr>
<tr>
<td>33</td>
<td>USA</td>
<td>8.61</td>
</tr>
<tr>
<td>37</td>
<td>Italy</td>
<td>8.02</td>
</tr>
<tr>
<td>42</td>
<td>Japan</td>
<td>7.59</td>
</tr>
<tr>
<td>62</td>
<td>South Africa</td>
<td>6.72</td>
</tr>
<tr>
<td>63</td>
<td>Sweden</td>
<td>5.96</td>
</tr>
<tr>
<td>70</td>
<td>Thailand</td>
<td>5.59</td>
</tr>
<tr>
<td>74</td>
<td>China</td>
<td>5.20</td>
</tr>
<tr>
<td>120</td>
<td>Papua New Guinea</td>
<td>1.62</td>
</tr>
<tr>
<td>168</td>
<td>Indonesia</td>
<td>0.09</td>
</tr>
</tbody>
</table>

* Values are for various years before and including 2003
† Per capita alcohol consumption (litres of pure alcohol) among adults

Source: WHO 2008[14]

2.2 Drinking patterns among Australians

It is estimated that 83% of Australians are drinkers, and that 1.4 million Australians consume alcohol on a daily basis.[2] In 2007, males (10.8%) were almost twice as likely as females (5.5%) to drink daily.

Two in every five Australians drink on a weekly basis. However, there is a sizable proportion of the population (10.1% in 2007) who, for various reasons, have never drunk any alcohol (see Table 2).

Table 2: Frequency of alcohol consumption, proportion of the population aged 14+ years, Australia, 1991 to 2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>10.2</td>
<td>8.5</td>
<td>8.8</td>
<td>8.5</td>
<td>8.3</td>
<td>8.9</td>
<td>8.1</td>
</tr>
<tr>
<td>Weekly</td>
<td>41.0</td>
<td>39.9</td>
<td>35.2</td>
<td>40.1</td>
<td>39.5</td>
<td>41.2</td>
<td>41.3</td>
</tr>
<tr>
<td>Less</td>
<td>30.4</td>
<td>29.5</td>
<td>34.3</td>
<td>31.9</td>
<td>34.6</td>
<td>33.5</td>
<td>33.5</td>
</tr>
<tr>
<td>Ex-drinker</td>
<td>12.0</td>
<td>9.0</td>
<td>9.5</td>
<td>10.0</td>
<td>8.0</td>
<td>7.1</td>
<td>7.0</td>
</tr>
<tr>
<td>Never</td>
<td>6.5</td>
<td>13.0</td>
<td>12.2</td>
<td>9.4</td>
<td>9.6</td>
<td>9.3</td>
<td>10.1</td>
</tr>
</tbody>
</table>

Source: AIHW, National Drug Strategy Household Surveys,[2] various years

Almost three-quarters (72.6%) of Australians drink below levels that would incur long-term risk of harm. However, among young adults (aged 20–29 years), the prevalence of drinking at levels posing long-term risk of harm is significantly higher (16%) than among other age groups (see Fig. 3).

This pattern of drinking is the equivalent of consuming 29 or more standard drinks per week for males and 15 or more standard drinks per week for females. Among Australian teenagers in 2007, this drinking pattern was considerably higher among females (10.6%) than among males (7%).
Figure 3: Drinking at risky/high risk of harm in the long term by age and year, proportion of the population aged 14+ years, Australia, 2007

While almost half (48.3%) of the Australian population drink at low risk levels, one in five Australians (20.4%) drink at short-term risky/high-risk levels at least once a month. This pattern of drinking is the equivalent of consuming seven or more standard drinks on any one day for males, and consuming five or more standard drinks on any one day for females. In short, this generally equates to drinking to the point of intoxication, or what is often termed as ‘binge drinking’. This sort of drinking is most prevalent among adults aged 20–29 years, one-quarter (24.9%) of whom do so on at least a monthly basis. Overall, Australian males are more likely than females to drink at short-term risky/high-risk levels on regular (at least once a month) occasions (17.1% of females compared to 23.6% of males). However, among teenagers, females are more likely than males to regularly drink at levels of risky/high-risk of harm in the short term; 28.3% of female teenagers compared to 24.5% of male teenagers (see Figs. 4 and 5). Between 2001 and 2007 there were only slight changes in the prevalence of drinking at risky/high risk of harm in the short term across the age groups.

Figure 4: Monthly drinking at risky/high risk of harm in the short term* by age and year, proportion of the male population aged 14+ years, 2001 to 2007

Figure 5: Monthly drinking at risky/high risk of harm in the short term* by age and year, proportion of the female population aged 14+ years, 2001 to 2007

(*Risky/high-risk drinking in the short term = seven or more standard drinks on any one day for males; five or more standard drinks on any one day for females.)
2.3 Product preferences

The most preferred types of alcoholic beverages among Australian female drinkers, in descending order, are bottled wine, bottled spirits and liqueurs, ready-to-drink beverages (RTDs) in a bottle and RTDs in a can. Over the 2001 to 2007 period, the preference for bottled wine had the greatest increase among females, growing from 57.3% to 63.8%. Among males, the most preferred types of alcoholic beverages, in descending order, are full-strength beer, bottled wine, bottled spirits and liqueurs, and RTDs in a can. Over the 2001 to 2007 period, the preference for RTDs in a can had the greatest increase among males, growing from 18.2% to 24.3% (see Figs. 9 and 10).

With regard to which types of alcoholic beverages are most commonly involved in the harmful consumption of alcohol, Stockwell et al. have estimated(16) that straight spirits (79.7%), alcoholic cider (78.9%), pre-mixed spirits (71.8%) and regular strength beer (72.6%) are the top four types of beverages consumed by Australian drinkers on days when they drank at risky/high-risk levels. Among 12- to 17-year-olds, the top three types of beverages are straight spirits (98.9%), regular beer (78.9%) and RTDs (76.7%). Spirit-based beverages held the highest market share, representing 62.7% of total alcohol consumption among this age group, with slightly more consumed as straight spirits than as RTDs.

![Figure 9: Preference for selected alcoholic beverages by year, proportion of the male population, Australia, 2001 to 2007](image)

Source: AIHW[15]

![Figure 10: Preference for selected alcoholic beverages by year, proportion of the female population, Australia, 2001 to 2007](image)

Source: AIHW[15]
The affordability of alcohol in Australia today is reflected in the fact that, on average, Australian households are spending proportionately less on alcohol nowadays compared to the amount they spent 20 years ago, despite total per capita consumption of alcohol changing little over the same period. The proportion of average weekly expenditure by Australian households on alcoholic beverages in 1984 was 3.4% ($12.30), compared to 2.6% ($23.32) in 2003–2004 (ABS 2005).\(^\text{17}\)

**Figure 6**: Prices of alcoholic beverages relative to other consumption (June 1999 $1.00), Australia, September 1980 to March 2008

Source: ABS, various years
3. Key trends in alcohol-related harm

3.1 Health impacts

It is important to consider both the short-term and long-term health impacts of the harmful consumption of alcohol, as both result in significant morbidity and mortality. The typical effects of moderate alcohol consumption are those on the brain, such as feelings of relaxation, wellbeing and loss of inhibitions. However, as intake increases, pleasant effects are lessened by adverse effects such as drowsiness, loss of balance, nausea and vomiting, and other more serious harmful effects such as aggressive behaviours, unconsciousness, kidney failure and increased risk of accidents and injury [18]. Overall, more people die from the acute effects of alcohol than the long-term or chronic effects [18].

Alcohol consumption accounts for 3.2% of the total burden of disease and injury in Australia: 4.9% in males and 1.6% in females [19]. It should be noted that although this percentage is lower than the contribution from tobacco smoking (7.8%) and high body mass (7.5%), there remains some debate over the method to calculate the disease burden attributable to alcohol. That the Australian figure may be an underestimate is suggested by the higher reported burden of disease from alcohol for New Zealand (10% for men and 4% for women) [20].

Alcohol has been causally linked to more than 60 different medical conditions [13]. In Australia, alcohol was linked to 3430 deaths per year and 85,435 disability-adjusted life years (DALYs) per year [3]. In the 10 years between 1992 and 2001, more than 31,000 Australians died from alcohol-attributable injury and disease – a greater number died from acute (usually in the context of acute intoxication) rather than chronic conditions (often related to longer term dependence on alcohol).

Table 3: Deaths and burden (DALYs) attributable to alcohol by specific cause, Australia, 2003

<table>
<thead>
<tr>
<th>SPECIFIC CAUSE</th>
<th>DEATHS</th>
<th>PROPORTION OF TOTAL (%)</th>
<th>DALYS</th>
<th>PROPORTION OF TOTAL (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol abuse</td>
<td>918</td>
<td>0.7%</td>
<td>34,116</td>
<td>1.3%</td>
</tr>
<tr>
<td>Suicides &amp; self-inflicted injuries</td>
<td>553</td>
<td>0.4%</td>
<td>12,245</td>
<td>0.5%</td>
</tr>
<tr>
<td>Road traffic accidents</td>
<td>396</td>
<td>0.3%</td>
<td>11,121</td>
<td>0.4%</td>
</tr>
<tr>
<td>Oesophagus cancer</td>
<td>368</td>
<td>0.3%</td>
<td>4,594</td>
<td>0.2%</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>184</td>
<td>0.1%</td>
<td>4,152</td>
<td>0.2%</td>
</tr>
<tr>
<td>Other</td>
<td>1,012</td>
<td>0.8%</td>
<td>19,207</td>
<td>0.7%</td>
</tr>
<tr>
<td>Total harm</td>
<td>3,430</td>
<td>2.6%</td>
<td>85,435</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

Source: Begg et al. 2005

The most common cause of death due to intoxication was road crash injury, and among the chronic conditions alcohol-related liver cirrhosis accounted for the majority of deaths [21]. Deaths from acute causes are most common among young people, particularly those aged 15–29 years, while deaths from alcohol-attributable chronic diseases are more common among people aged over 45 years.
More males than females died from both acute and chronic alcohol-attributable conditions (21.)

Over half a million hospitalisations were caused by risky and high-risk drinking in Australia in the eight years between 1993/94 and 2000/01. (21) The most numerous conditions among these hospitalisations were for alcohol dependence (87,186), injuries caused by assault (76,115), road crash injuries (47,167) and attempted suicide (20,374). As many as 10,094 hospitalisations were attributed to some form of ‘alcoholic overdose’ from very high blood alcohol levels, including alcohol poisoning and aspiration vomitus. Overall, the majority of hospitalisations were for acute conditions (67.8%). (21)

Future projections of the leading causes of disease burden predict that the proportion due to alcohol will remain stable and within the top 14 leading causes among Australian males by 2023 (see Fig. 7). The proportion of disease burden caused by anxiety and depression is also expected to remain stable by 2023, while ischaemic heart disease and lung cancer are expected to decline. Type 2 diabetes is predicted to be the leading cause of disease burden among Australian males by 2023.

Figure 7: Leading causes of burden (DALYs) in males, Australia, 1993 to 2023
Source: Begg et al. 2007(19)

At low levels of consumption, alcohol may also have some benefits – various studies have found reductions in some forms of heart disease (particularly in middle-aged and older males) and ischaemic stroke (in older females), diabetes, gallstones and dementia. The extent and even the existence of such benefits remain controversial. (22, 23) In terms of population, health, heart disease and stroke are the most important of these potential benefits. Nearly all the potential benefits are confined to males over the age of 45 and women past menopause, and can be gained with a drinking pattern of as little as one drink every second day. Since alternative means of preventing heart and vascular disease are available, the clinical consensus is that people need not take up or maintain drinking for health benefits.

**DRINKING DURING PREGNANCY**

Recent data show that 59% of Australian women drank alcohol at some time during their pregnancy and that 14% reported drinking five or more drinks in a sitting in the three months prior to pregnancy – 58% during the first and second trimester and 54% in the third trimester. (18) Maternal alcohol consumption can result in a spectrum of harms to the fetus. Although the risk of birth defects is greatest with high, frequent maternal alcohol intake during the first trimester, alcohol exposure throughout pregnancy (including before a pregnancy is confirmed) can have consequences for the development of the fetal 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. (24) This uncertainty is reflected in policy regarding alcohol use in pregnancy within Australia and overseas. (25) Although the risks from low-level drinking (such as one or two drinks per week) during pregnancy are likely to be low, a ‘no-effect’ level has not been established, and limitations in the available evidence make it impossible to set a ‘safe’ or ‘no-risk’ drinking level for women to follow in order to avoid causing harm to their unborn baby.
In 2005–2006 there were a total of 145,000 drug treatment episodes recorded in Australia, of which 56,000 (or 39%) were for alcohol problems. (15) While this figure is high, it is perhaps relatively low given the estimated 585,000 Australians who drink at levels considered to be high risk to health in the long term, many whom might be considered the potential target group for treatment. (15) Females accounted for 31% of alcohol treatment episodes in 2005–2006. Persons aged 20–29 years received 22% of treatment episodes. For persons aged 10–19 years receiving treatment, the proportion treated for alcohol problems has increased from 15% to 23% between 2001–2002 and 2005–2006.

The interactions between other drugs (tobacco, illicit and prescription) and alcohol are complex. Australian studies reveal a close association between heroin overdose and alcohol consumption at harmful levels at the time of overdose. Australian research has also found that among cannabis users, alcohol was almost universally used on a regular basis, with most users consuming alcohol at harmful levels. There are also parallels in aetiological research regarding the uptake of one psycho-active substance increasing the likelihood of use of others. There has also been some work done regarding parents’ attitudes and behaviour as a factor in influencing tobacco, alcohol and other drug use. For all of these substances, it is important that prevention efforts focus on delaying the uptake of regular use. This paper does not attempt to deal with the obvious crossover between mental health issues and the harmful consumption of alcohol, and the increasing problem of poly-drug use, but any preventative action needs to bear these factors in mind.

3.2 Social impacts

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. Alcohol-related disturbance and assault ranges from acts of vandalism, offensive behaviour and disruption to far more serious antisocial behaviour, which can result in violence or injury to others. (18,23) While it is not a perfect description of the wider social impacts of the harmful consumption of alcohol, some commentators have coined the term ‘passive drinking’, akin to passive smoking, to refer to the impact of drunken behaviour on third parties.
FAMILIES AND CHILDREN

It is a reality that the most visible effects of drinking on others, including children, result from accidents and injury (including violence) during or after drinking occasions. When families have to deal with a relative’s alcoholism, violence, injury or even death, these serious consequences can cause great suffering. Drinking within families is an important consideration because, depending upon the circumstances, it can be either a positive or negative influence on the drinking behaviour of young people. It is estimated that 13% of Australian children aged twelve years or less are exposed to an adult who is a regular binge drinker. It has been estimated that 31% of parents involved in substantiated cases of child abuse or neglect experience significant problems with alcohol use.

In Australia, it is estimated that 47% of all perpetrators of assault and 43% of all victims of assault were intoxicated prior to the event. It has also been reported that 34% of homicide perpetrators and 31% of homicide victims were alcohol affected at the time of the homicide. In addition, it has been estimated that alcohol is an important factor in 50% of cases of domestic physical and sexual violence. In a single year (1998–1999), there were 8661 people admitted to Australian hospitals with injuries from alcohol-related assaults; 62,534 alcohol-related assaults were reported to police in the same year, and it is estimated that many more went unreported. Of the hospitalisations with injuries from alcohol-related assaults, 74% were male and two-thirds were aged 15–34 years.

An important factor in alcohol-related violence is the setting where drinking occurs. Australian studies have generally confirmed that alcohol-related violence most commonly occurs in and around inner-city hotels, in the early hours of Saturday and Sunday mornings, and usually among young adult males.

Furthermore, it has been shown that the majority of alcohol-related incidents occur in a minority of high-risk licensed venues.

It is not surprising that much of the time and resources of policing in Australia is related to incidents involving alcohol. One study reported that alcohol is involved in 62% of all police attendances, 73% of assaults, 77% of street offences, 40% of domestic violence incidents and 90% of late-night calls, from 10.00pm to 2.00am.

The total social cost of the harmful consumption of alcohol is estimated to be more than $15 billion each year. The majority of these costs are for tangible social costs such as crime ($1.6 billion), health ($1.9 billion), productivity in the workplace ($3.5 billion), productivity in the home ($1.5 billion) and road accidents ($2.2 billion) (see Table 4).

Table 4: Estimated social costs of alcohol abuse, Australia, 2004–2005

<table>
<thead>
<tr>
<th>TYPE OF COST</th>
<th>$M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in workforce and absenteeism</td>
<td>3,579</td>
</tr>
<tr>
<td>Labour in the household</td>
<td>1,571</td>
</tr>
<tr>
<td>Medical</td>
<td>541</td>
</tr>
<tr>
<td>Hospital</td>
<td>662</td>
</tr>
<tr>
<td>Nursing homes</td>
<td>401</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>298</td>
</tr>
<tr>
<td>Ambulances</td>
<td>75</td>
</tr>
<tr>
<td>Road accidents</td>
<td>2,202</td>
</tr>
<tr>
<td>Police</td>
<td>747</td>
</tr>
<tr>
<td>Criminal courts</td>
<td>86</td>
</tr>
<tr>
<td>Prisons</td>
<td>142</td>
</tr>
<tr>
<td>Property</td>
<td>67</td>
</tr>
<tr>
<td>Insurance administration</td>
<td>14</td>
</tr>
<tr>
<td>Productivity of prisoners</td>
<td>358</td>
</tr>
<tr>
<td>Resources used in abusive consumption</td>
<td>1,689</td>
</tr>
<tr>
<td>Loss of life</td>
<td>4,135</td>
</tr>
<tr>
<td>Pain and suffering (road accidents)</td>
<td>354</td>
</tr>
</tbody>
</table>

Source: Collins & Lapsley 2008
3.3 Health inequalities

**GEOGRAPHIC**

There are variations in alcohol consumption across Australia and different impacts on specific high-risk population groups. Per capita alcohol consumption varies significantly between urban and rural areas, and between Australian states and territories. For instance, while the prevalence of drinking at short-term risky/high-risk levels at least monthly is 18.7% in New South Wales and 19.4% in Victoria, it is 28.4% in the Northern Territory. Alcohol consumption levels (and alcohol-attributable mortality and morbidity) are consistently found to be lower for people living within major cities when compared to outer regions. In 2004 it was estimated that the proportion of Australians who drank at risky/high-risk levels for short-term harm, residing in outer regional (24%) and remote/very remote (28%) locations was between 20% and 40% greater than for residents of major cities. The proportion of the population residing in outer regional and remote/very remote locations who drank at risky/high-risk levels for long-term harm were 11% and 16% respectively, compared to 9.5% in major cities. Not surprisingly, there are also geographic differences in the rates of alcohol-related harm in Australia. The Northern Territory has the highest rate of alcohol-attributable deaths and hospitalisations in the country.

**INDIGENOUS AUSTRALIANS**

Indigenous Australians are about twice as likely to abstain from alcohol as non-Indigenous Australians, but those who do drink may be up to six times more likely to drink at high-risk levels than non-Indigenous people. A survey estimated that 38% of Indigenous people aged 14 and over drank at risky/high-risk levels for acute harm, compared to 20% among non-Indigenous people; and that 23% drank at risky/high-risk levels for chronic harm, compared to about 10% of non-Indigenous people. However, a less recent, but better designed, Indigenous-specific survey of substance misuse found that about 58% of all Indigenous respondents drank at risky/high-risk levels. Among Indigenous people who live in remote parts of Australia, levels of alcohol consumption are particularly high.

In 2002–2003 the rate of hospital admission among Indigenous males for conditions related to high levels of alcohol use was between two and seven times greater than for non-Indigenous males. Such conditions include acute alcohol intoxication, alcoholic liver disease, harmful use and alcohol dependence. In addition, between 1999 and 2003 about 71% of Indigenous homicides occurred in situations where both the perpetrator and victim were drinking (as opposed to 19% of non-Indigenous homicides). Other studies have shown that the rates of death from wholly alcohol-caused conditions among residents of Western Australia, South Australia and the Northern Territory are almost eight times greater for Indigenous males than for non-Indigenous males and 16 times greater for Indigenous females than for other females. The level of alcohol-attributable death among young Indigenous Australians (15–24 years) has also been shown to be almost three times greater than for their non-Indigenous counterparts – with the divergence between the two populations apparently increasing in recent years.
Rates of risky drinking in Australia peak amongst young people, and alcohol-related harm is substantial for both adolescents and young adults. Drinking contributes to the three leading causes of death among adolescents – unintentional injuries, homicide and suicide – along with risk-taking behaviour, unsafe sex choices, sexual coercion and alcohol overdose. A recent study of self-reported harm found 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, and the rates are also somewhat elevated among drinkers aged 15–17 years. Furthermore, initiation of alcohol use at a young age may increase the likelihood of negative physical and mental health conditions, social problems and alcohol dependence. Regular drinking in adolescence is an important risk factor for the development of dependent and risky patterns of use in young adulthood. 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 could moderate alcohol intake.

Like adolescents, young adults continue to be greater risk takers than older adults, but their decision-making skills remain undeveloped – factors that are reflected in the high levels of injuries sustained by this age group. Alcohol affects brain development in young people; thus, drinking, particularly ‘binge drinking’, at any time before brain development is complete (which is not until around 25 years of age) may adversely affect later brain function. In addition, young adults are also the adult age group most likely to take mood altering drugs.

Trends in youth drinking are unclear, with neither school survey data (ASSADS) nor the National Drug Strategy Household Survey (NDSHS) demonstrating clear trends in drinking amongst adolescents or young adults in the last decade. While a recent examination of Victorian data relating to young people aged between 12 and 24 found no clear trend in rates of risky drinking, it revealed that rates of hospitalisation and presentation at emergency departments have increased dramatically over recent years. The study suggests that the relationship between survey-derived estimates of alcohol consumption and rates of alcohol-related harms is not as clear-cut as expected, and raises concerns about the sensitivity of population surveys in detecting changes in harmful drinking patterns.

Drinking can also lead to poorer outcomes for people who have a mental health condition, whether it is a high-prevalence condition such as depression or a low-prevalence condition such as schizophrenia.

There has been little analysis of the patterns of consumption and trends in alcohol-related dysfunction or harm in older people in Australia. Older people are more vulnerable to the effects of alcohol due to changes in their body composition, decreased metabolic capacity, the presence of co-morbid conditions and the medications that regulate these conditions. Older people express concern about reduced perceptions of safety associated with public place drinking. Women in the baby boomer age group, now aged in their 50s to 70s, are more likely than their parents to be alcohol consumers and it might be anticipated that this will produce an increase in alcohol-related morbidity in their older years, but this is yet to be documented.

Certain occupational groups are also known to regularly drink at risky/high-risk levels, especially tradespeople and unskilled workers, and those working in the hospitality, agricultural and mining industries.
4. Best practice in prevention

4.1 Current activity

Considerable activity aiming to prevent alcohol-related harm is currently under way in Australia. The extent to which the considerable preventative desire and activity (planned or under way) is likely to be effective, and how well this activity reflects an evidence-based approach, is considered in the next section of this paper. In general, the measures that are most often called for by community members tend to be the least effective, while the most effective measures are the least popular and are thus probably the most difficult for governments to introduce, usually requiring strong leadership and well-planned implementation.

WHAT IS PREVENTION IN THIS AREA?

The stated aim of Australia’s current National Drug Strategy is to ‘prevent the uptake and minimise the harmful effects of drug use in Australian society’. Known as ‘harm minimisation’, this approach has been defined as encompassing:

- **Supply reduction** strategies designed to restrict the harmful supply of drugs
- **Demand reduction** strategies designed to prevent the uptake of harmful drug use
- **Harm reduction** strategies to reduce drug-related harm for individuals and communities.

The approach of harm minimisation, while complex and requiring continuing support from public advocates, is based on scientific evidence and underpins the definition of prevention adopted for the review of alcohol-related interventions in this paper. It can encompass universal as well as targeted interventions (both selective: particular high-risk sub-populations; and indicated: those with emerging problems).

Though not explored in detail in this paper, the concept of the prevention paradox assists in understanding prevention approaches in the areas of public health and public safety. This approach suggests that more (net) harm may be prevented through universal interventions – focusing on the majority who are less seriously involved in harmful alcohol/drug use, rather than through interventions that only target the smaller proportion of high-risk users.

WHAT WORKS IN ALCOHOL-RELATED PREVENTION?

The following discussion is informed by recent reviews of the available research evidence. This includes:

- the World Health Organization’s (WHO) international review of alcohol-related research and public policy[13]
- a recent Australian research monograph on the prevention of substance use, risk and harm[7]
- a recent update of the latter, with a focus on prevention interventions targeting adolescents.[41]

Other recent reviews have also been drawn upon, to a lesser extent, including Stockwell 2004,[42] Loxley et al. 2005[7, 43] and NDRI 2007.[36]

The conclusions reached in the WHO report[13] with regard to the respective strengths and weaknesses of different types of interventions, according to the available international research evidence, are summarised in Table 6. Included in this table are Australian-authored evaluations of the equivalent interventions provided by Loxley et al.[7] and Toumbourou et al.[41] The scales used to rate the interventions by the respective authors are summarised in Table 5 below.
This rating scale applies to the WHO’s international review (13) and Australian reviews.(14).

Of the 39 interventions listed in Table 6, at least half of these are universal (targeted at the whole population) and approximately half are targeted at high-risk groups. The international review by Babor et al. concludes that interventions targeting the whole population generally have higher effectiveness ratings and are less costly to implement and maintain, on average, than those targeting high-risk groups.(13) In general, the types of interventions that are considered most effective according to the ratings are, in order:

1. Regulating physical availability.
2. Taxation and pricing.
3. Drink-driving countermeasures.
4. Treatment and early intervention.

The types of interventions for which there is somewhat less evidence of effectiveness are, in order:

5. Altering the drinking context
6. Regulating promotion
7. Education and persuasion

There are differences in the ratings of some interventions between the international review(13) and the Australian review.(7) (for example, the treatment of alcohol problems and mass media campaigns). Also, importantly, it should be recognised that although the effectiveness of some interventions do not rate highly, in some cases this may be due to the limited research evidence that is available to inform the rating (for example, advertising content controls).

<table>
<thead>
<tr>
<th>RATING</th>
<th>EVIDENCE OF EFFECTIVENESS</th>
<th>BREADTH OF RESEARCH SUPPORT</th>
<th>TEST ACROSS CULTURES</th>
<th>AUSTRALIAN EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Lack of effectiveness</td>
<td>No studies undertaken</td>
<td>Not tested</td>
<td>Limited investigation</td>
</tr>
<tr>
<td>★</td>
<td>Limited effectiveness</td>
<td>1 well-designed study</td>
<td>Tested in 1 country</td>
<td>Evidence for</td>
</tr>
<tr>
<td></td>
<td></td>
<td>completed</td>
<td></td>
<td>implementation</td>
</tr>
<tr>
<td>★★</td>
<td>Moderate effectiveness</td>
<td>2–4 studies completed</td>
<td>Tested in 2–4 countries</td>
<td>Evidence for outcome</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>effectiveness</td>
</tr>
<tr>
<td>★★★</td>
<td>High degree of</td>
<td>5+ studies completed</td>
<td>Tested in 5+ countries</td>
<td>Evidence for effective</td>
</tr>
<tr>
<td></td>
<td>effectiveness</td>
<td></td>
<td></td>
<td>dissemination</td>
</tr>
<tr>
<td>?</td>
<td>No evidence available</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>●</td>
<td></td>
<td></td>
<td></td>
<td>Warrants further</td>
</tr>
<tr>
<td>✗</td>
<td></td>
<td></td>
<td></td>
<td>research</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Evidence is contra-indicative</td>
</tr>
</tbody>
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Table 6: Ratings of policy-relevant strategies and interventions

<table>
<thead>
<tr>
<th>STRATEGY OR INTERVENTION</th>
<th>EFFECTIVENESS</th>
<th>BREADTH OF RESEARCH</th>
<th>CROSS-CULTURAL TESTING</th>
<th>COST TO IMPLEMENT</th>
<th>AUSTRALIAN EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulating physical availability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total ban on sales</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>High</td>
<td>★ ★</td>
</tr>
<tr>
<td>Minimum legal purchase age</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
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<td>Low</td>
<td>★ ★</td>
</tr>
<tr>
<td>Hours and days of sale restrictions</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
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<td>Low</td>
<td>★ ★</td>
</tr>
<tr>
<td>Restrictions on density of outlets</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Low</td>
<td>★ ★</td>
</tr>
<tr>
<td>Staggered closing times for bars and clubs</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
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<td>Low</td>
<td>★ ★</td>
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<tr>
<td>Server liability</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
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<td>★ ★</td>
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<tr>
<td>Different availability by alcohol strength</td>
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<td>★ ★</td>
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<td>Taxation and pricing</td>
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</tr>
<tr>
<td>Alcohol taxes</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
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<td>Low</td>
<td>★ ★</td>
</tr>
<tr>
<td>Hypothecated tax to pay for treatment / prevention</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Setting floor prices / banning discounting</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
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<td>Low</td>
<td>★ ★</td>
</tr>
<tr>
<td>Drink-driving countermeasures</td>
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<tr>
<td>Sobriety checkpoints</td>
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<td>★ ★</td>
</tr>
<tr>
<td>Random breath testing</td>
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<tr>
<td>Lowered BAC limits</td>
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<td>★ ★</td>
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<tr>
<td>Administrative licence suspension</td>
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<td>Moderate</td>
<td>★ ★</td>
</tr>
<tr>
<td>Low BAC for young drivers</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
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<td>★ ★</td>
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<td>Graduated licensing for novice drivers</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
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<td>★ ★</td>
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<td>Designated drivers and ride services</td>
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<td>★ ★</td>
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<td>Ignition interlocks</td>
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<td>Treatment and early intervention</td>
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<tr>
<td>Brief intervention in primary health settings</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
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<td>★ ★</td>
</tr>
<tr>
<td>Alcoholic problems treatment</td>
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<td>★ ★</td>
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<td>Thiamine supplementation</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Moderate</td>
<td>★ ★</td>
</tr>
<tr>
<td>Workplace interventions</td>
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</tr>
<tr>
<td>Mutual help/self-help attendance</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Low</td>
<td>★ ★</td>
</tr>
<tr>
<td>Mandatory treatment of repeat drink drivers</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Moderate</td>
<td>★ ★</td>
</tr>
<tr>
<td>Altering the drinking context</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bans on serving intoxicated persons</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Moderate</td>
<td>★ ★</td>
</tr>
<tr>
<td>Training staff to prevent intoxication / aggression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voluntary codes of bar practice</td>
<td>0</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Low</td>
<td>★ ★</td>
</tr>
<tr>
<td>Enforcement of on-premises regulations and laws</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>High</td>
<td>★ ★</td>
</tr>
<tr>
<td>Promoting alcohol-free events</td>
<td>0</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>High</td>
<td>★ ★</td>
</tr>
<tr>
<td>Community mobilisation</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>High</td>
<td>★ ★</td>
</tr>
<tr>
<td>Plastic or tempered-glass serving containers</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★</td>
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<td>Food service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Regulating promotion</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Advertising bans</td>
<td>?</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Low</td>
<td>★ ★</td>
</tr>
<tr>
<td>Advertising content controls</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Low</td>
<td>★ ★</td>
</tr>
<tr>
<td>Education and persuasion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol education in schools</td>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>High</td>
<td>★ ★</td>
</tr>
<tr>
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<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>High</td>
<td>★ ★</td>
</tr>
<tr>
<td>Parent education</td>
<td>?</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>High</td>
<td>★ ★</td>
</tr>
<tr>
<td>Public service messages / Mass media campaigns</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Moderate</td>
<td>★ ★</td>
</tr>
<tr>
<td>Warning labels / National drinking guidelines</td>
<td>0</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>★ ★ ★ ★ ★ ★ ★ ★</td>
<td>Low</td>
<td>★ ★</td>
</tr>
</tbody>
</table>

Source: Adapted from Babor et al. (2003),[13] Loxley et al. (2004),[7] Toumbourou et al. (2007)[41]
4.2 Regulating the physical availability of alcohol

Regulating physical availability refers to the accessibility or convenience of the alcohol products, and relates to policies that aim to prevent alcohol-related harm through controls on the condition of sale to the drinker as a retail customer.\(^\text{(13)}\) In Australia, there has been a recent review of the evidence for restricting the sale and supply of alcohol by the National Drug Research Institute.\(^\text{(36)}\) While regulation of the ‘economic’ availability of alcohol (i.e. the price of alcohol) is, currently, exclusively a federal responsibility in Australia, via measures such as taxation, the physical availability of alcohol is generally regulated by state and territory governments, and to a limited extent by local governments.

Restricting the hours and days of sale of alcohol is a standard component of alcohol policy and regulation, and there is a substantial body of international and Australian work that has examined the impact of changes to trading hours for licensed premises on levels of alcohol consumption and rates of related harms. Most Australian studies have shown that increased trading hours have been accompanied by significantly increased levels of alcohol consumption and/or harms.\(^\text{(36)}\) A recent Australian study by Chikritzhs and Stockwell\(^\text{(44)}\) found that small extensions of trading hours for licensed hotels in Perth, Western Australia, significantly increased the numbers of drink-driver road crashes. More specifically, this study demonstrated that the relationship between trading hours and increased drink-driver road crashes was mediated by the quantity of alcohol purchases. The National Drug Research Institute (NDRI) reports that several studies have indicated that young males and regular heavy drinkers are especially likely to take advantage of longer trading hours.\(^\text{(36)}\)

Restrictions on density of outlets can be achieved by requiring minimum distances between outlets or limiting the number of outlets in a particular location. Liquor licensing systems or planning controls can potentially be used to limit the number of places where alcohol can be sold. In recent years in Australia there has been a significant liberalisation of licensing laws and a corresponding growth in outlets, both on- and off-premises. Recent research from three states,\(^\text{(45-49)}\) has demonstrated consistent links between the availability of alcohol in a region and the alcohol-related problems experienced there. In particular, these studies have linked rates of violence to density of alcohol outlets. A longitudinal study in Melbourne has highlighted that changes in the number of outlets in an area are directly related to changes in the rates of night-time assaults occurring there. The links between outlet density and other outcomes are less clear cut, although some international evidence suggests higher outlet density is related to higher rates of: risky alcohol consumption,\(^\text{(50)}\) motor vehicle accidents,\(^\text{(51)}\) risky sexual behaviour,\(^\text{(52)}\) pedestrian injury,\(^\text{(53)}\) child maltreatment,\(^\text{(54)}\) and neighbourhood amenity problems.\(^\text{(55)}\) The results of this research are clear: liberalising alcohol availability is likely to increase alcohol-related problems. The results certainly call into question the general assumption behind actions in recent decades that have been made in accordance with National Competition Policy such as the state-led liberalisation of liquor licensing regimes – that the number of a type of outlet should be determined by market demand for the product, without consideration of community amenity or impacts.

Apart from issues of outlet density, there is the question of whether particular types of outlets or their design and location are particularly likely to cause problems. There is good evidence that certain premises contribute disproportionately to problems,\(^\text{(32)}\) highlighting the need to further examine the types of outlets that are related to assaults. Further data, such as alcohol sales, opening hours, capacity and venue style, could provide substantial insights into how different outlets contribute to the effect of outlet density on assault.
GROWTH IN ALCOHOL OUTLETS
While not completely deregulated, liquor licensing laws and regulations in most jurisdictions have been significantly relaxed over the past decade, generally coinciding with the required reviews under the National Competition Policy. One of the effects of this has been a proliferation in the number of new licensed premises in some jurisdictions (see Fig. 8).

Along with an increase in the total number of licensed premises, there has been an increase in the numbers of premises with extended trading hours, the numbers of licences to sell packaged liquor (i.e. take away) and over time, an increased concentration of licences held by just a few businesses.

Figure 8: Number of liquor licences by year, Victoria, 1986 to 2006
Source: Consumer Affairs Victoria, unpublished data

Restricting availability by alcohol strength is known to be an effective intervention, both internationally and in Australia. In Australia, it has been estimated that full-strength beer makes the largest single contribution to all risky and high-risk alcohol consumption (39%).

The National Drug Research Institute (NDRI) reports that studies that have examined the relationship between alcoholic beverage type and levels of alcohol-related harm have found increasing evidence that beer consumption is more commonly associated with drink-driving.

The NDRI also observes that while most studies identify wine as a comparatively low-risk beverage, a study by Stockwell et al. (1998) found that certain types of wine that offer high alcohol content at a relatively low price were strongly associated with hospitalisations for alcohol-related road injuries, falls, assaults and suicides. Some small regional or remote communities in Australia, with relatively large indigenous populations, have introduced sales bans on cask wine and cask fortified wine. According to the NDRI, evaluations of some of these bans show that such restrictions can result in reduced alcohol-related harm in the communities where the bans exist.

The issue of the server liability for injuries to intoxicated people or third parties affected by the actions of a person affected by alcohol is a complex and controversial area of the law. In the US, ‘Dram Shop’ laws and court decisions under common law in many states allow people injured through the actions of an intoxicated person to recover damages from a licensee or licensed premises owner. Such licensees are, in most Dram Shop legislation, also vicariously liable for their employees’ actions in serving an (intoxicated) patron.

Loxley et al. report that studies show Dram Shop laws have a modest deterrent effect, and that the underlying rationale for discouraging service of intoxicated persons is sound and there is no likelihood of adverse consequences. A recent Australian review of the key aspects of law and the implications of recent court decisions has reported that there is now a less onerous duty of care imposed on licensees and their staff with regard to the consequences of serving alcohol.

Minimum legal purchase age refers to the age at which alcohol can actually be purchased by a person. This is distinct from the age at which alcohol can be consumed, sometimes referred to as the legal drinking age.
The distinction is important because while all state and territory laws in Australian prohibit a minor from purchasing alcohol, they do not necessarily prohibit consumption in certain circumstances. Babor et al. emphasise that consistent enforcement of laws regarding purchase age is critical if reduced alcohol consumption and related harm among young people is to be achieved. (13) Although the minimum legal purchase age for alcohol in all Australian jurisdictions is 18 years, the average age at which Australians have their first full serve of alcohol is 17 years, and as detailed earlier in this paper, there is a high prevalence of underage drinking that has not changed significantly in the past 20 years. In the US, where the minimum legal purchase age for some time ranged between 18 and 21 years, several studies have found that increasing the age limit is an effective means of reducing road crash death and injury among teenagers and young adults. The NDRI reports (36) that some studies have also found that the higher legal minimum drinking age is associated with reductions in alcohol consumption among young people. There is, therefore, some evidence that raising the purchase age to 21 can reduce teenage drinking, as well as harms. Kypri’s account (59) of recent attempts to increase the minimum purchase age in New Zealand to 20 demonstrated that popular debate convinced a majority of the public that raising the age would be an appropriate way to reduce young people’s harm from drinking. Toumbourou et al. here in Australia have recommended that a first step in this direction would be better monitoring of alcohol-related developmental harms using longitudinal and other developmental research. (41)

It must be acknowledged that consumption of alcohol by children and adolescents in the home and in certain social settings is often sanctioned by parents, often in the belief that it is relatively harmless or might be helpful in educating young people about alcohol. (60) The majority of young Australians who report drinking at home also report parents as being the primary suppliers of their alcohol. (61)

In New South Wales, it is now an offence to supply alcohol to minors in a private home without the direct approval of a parent or guardian. This has often been referred to as the NSW secondary supply law. While the impact of this law on youth drinking is not yet known, legislation of this kind has been welcomed by advocates against alcohol-related harm and there is currently considerable lobbying of government to support the introduction of similar laws in other Australian jurisdictions. (60)

Another example of restrictions on the physical availability of alcohol, which is known to be effective in reducing alcohol-related harm in some Australian Indigenous communities, is referred to as dry community declarations. (36) Some remote Indigenous communities in Western Australia, the Northern Territory and South Australia have declared themselves “dry”, using provisions of state/territory legislation. The key element of such dry area declarations is a combination of Indigenous community control and statutory authority, along with police enforcement for ensuring that dry community declarations reach their potential. Evidence suggests that although there are shortcomings (for example, sly grogging) and associated costs to this approach, overall there are reductions in consumption and alcohol-related harm. It should be noted that dry community declarations are distinct from local dry area alcohol bans, as the latter relate to restrictions on drinking in designated public places and are usually imposed where there are high rates of alcohol-related public disorder. (36) While local dry area bans have been found to decrease public order problems in designated areas, overall it is not yet fully known if they reduce public order offences, alcohol-related hospitalisations or police detentions of intoxicated persons. Often dry area restrictions simply displace drinkers to other areas where there are no, or fewer, restrictions, and dry area declarations are often seen as inherently discriminatory because of the negative impacts on Indigenous people already at risk of alcohol problems. (36)
Currently receiving considerable attention in some Australian jurisdictions are measures related to restricting the hours of sale of alcohol, known as lockouts. These do not restrict trading hours per se, however, because outlets are permitted to continue trading until their usual closing times. However, after a certain time, such as 2:00am or 3:00am, new patrons and those wishing to re-enter the premises are not permitted to do so. Lockouts aim to reduce the movement of people between clubs after a certain time, since it is this movement of people between venues that police have reported as being a major cause of alcohol-related incidents late at night. There are examples of lockout programs in operation in locations throughout Australia, such as in Ballarat and Bendigo in Victoria, and across Queensland, where a 3.00am lockout now applies to all late-night licensed premises. The Victorian government has also trialled a 2.00am lockout throughout four inner-city municipalities of Melbourne. The NDRI reports(36) that, as yet, there is limited formal evidence of the effectiveness of lockout programs, in part because they often occur as one element within a range of programs aimed at reducing late-night alcohol-related problems (for example, CCTV cameras, street lighting, public transport, police presence).

While they are not usually focused solely on issues that relate to the physical availability of alcohol, community-based prevention programs have become increasingly popular in recent years because of emerging understandings of how environmental and social conditions contribute to alcohol problems.(7) A detailed discussion on the range and scope effects of community based programs is not provided here, but can be obtained elsewhere (see Loxley et al. 2007:(7) pp166–167).

4.3 Taxation and pricing

The price of alcohol clearly impacts on consumption patterns. There are more than 50 studies from around the world showing that when alcohol increases in price, consumption is reduced.(12, 39-42) The World Health Organization (WHO) is one of many international and national health organisations that strongly endorse the use of increased alcohol taxation (higher prices for alcohol products) as an effective preventative strategy to reduce alcohol-related harm.(62) At the same time, it is important to recognise that there is a complex relationship between price and consumption.(63, 64) Patterns of alcohol consumption can vary considerably according to individual factors such as the age, sex and income levels of the drinker. Other factors such as availability, the cultural setting, the marketing and image of the product are also important. Studies consistently show that lower socio-economic groups and people with limited disposable income (young people, Indigenous groups and heavy drinkers) are more directly impacted by the price of alcohol products. Higher income drinkers tend to drink more expensive alcohol, and while price may lead them to reduce their consumption marginally, they are also able to alter drinking preferences to cheaper alternatives.(65, 66) The nature of the alcohol product is also a key variable. An Australian study identified considerable variations in price elasticity (the amount that price needs to change before it impacts on consumption) for different alcohol products. It concluded that spirits are twice as price sensitive as wine and beer.(67)

Given the complexity of the relationship between alcohol price and consumption, increasing alcohol taxation does not necessarily lead to a linear reduction in the levels of alcohol-related harm. It is important that the relationship between the price of individual alcohol products and consumption amongst particular groups of drinkers is carefully modelled against known price elasticity and existing consumption patterns.
While increasing the price through taxation is likely to lead to a reduction in per capita consumption, increasing the price of individual products may not necessarily achieve this goal. In some cases, product-based changes can create opportunities for new products and drinking patterns that increase levels of harm. (68) In this context, it is important to recognise that the production costs of alcohol products vary considerably between product types (e.g., spirits are relatively inexpensive to manufacture compared to beer and wine products) which in turn has a bearing on the cost price to consumers.

Australia’s alcohol tax system can best be understood as a constantly changing reflection of the history of alcohol consumption in Australia, and the status of various alcohol products. It also reflects changing powers of taxation between state and territory governments and the Australian Government. As a consequence, different products—wine, spirits, beer, ciders, fortified wines—are all taxed differently. The excise duties arrangements can generally be described as a volumetric tax system, because the amount of excise duty depends on the volume of alcohol contained in the particular product. Wine equalisation tax can be described as an ad valorem tax system, because the rate of tax depends on the value of the retail selling price of the particular product. Customs duties are a combination of both volumetric and ad valorem systems. GST is set at a fixed rate of 10% of the product price, on top of all other taxes (see Table 7).

Table 7: Summary of the types of alcohol taxes applied by category of alcohol product

<table>
<thead>
<tr>
<th></th>
<th>BEER</th>
<th>SPIRITS &amp; RTDS</th>
<th>WINE</th>
<th>CIDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>GST</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Excise duty</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>WET</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Customs duty (ad valorem)</td>
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<td>Yes (imported)</td>
<td>No</td>
</tr>
<tr>
<td>Customs duty (volumetric)</td>
<td>Yes (imported)</td>
<td>Yes (imported)</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Within some categories there are various concessions and exceptions. Smaller wineries, for instance, are largely exempt from their value added tax (the Wine Equalisation Tax) for all cellar door sales.

Recent estimates show that the Australian Government will collect over $6 billion as a result of the production and consumption of alcohol during the 2008/09 financial year. (68, 4) However, a substantial disparity exists between the amount of tax revenue received by the Australian Government from risky drinking compared with the overall amount spent in attempting to prevent harmful consumption of alcohol. For example, it has been estimated that Australian adolescents (aged 12–17 years) spent approximately $217 million on alcoholic beverages in 2002, netting the Australian Government approximately $112 million in tax revenue. (69) This means that for every dollar spent on alcohol interventions aimed at adolescents, the government receives around $7 in alcohol tax revenue. (69)

The current taxation rates translate into a wide variety of taxation per standard drink of alcohol (see Fig. 13). For those who argue that alcohol should be taxed according to the amount of alcohol in each product and container, the current system represents a massive distortion of this principle.
Figure 13: Tax payable per standard drink* of alcohol, various products, Australia, as at 1 August 2008*

Note: *Includes a 1.15% ABV excise-free concession for beer. WET payable per standard drink of wine is based on a four-litre cask of wine selling for $13 (incl. GST) (‘Cask Wine’), a 750ml bottle of wine selling for $15 (incl. GST) (‘Bottled Wine 1’), a 750ml bottle of wine selling for $30 (incl. GST) (‘Bottled Wine 2’) and a 750ml bottle of port selling for $13 (incl. GST) (‘Port, Sherry’). A standard drink is equal to 0.001267 litres or 10 grams of pure alcohol.

As noted above, Australia has been through a continuous process of change in relation to the taxation and pricing of various alcohol products. There are three changes that are particularly interesting to note. In the late 1980s, states and territories adopted various forms of licensing for all alcohol sales. As part of this system, most jurisdictions offered low-alcohol beer (less than 3.5% alcohol by volume) for a significant concession in fees. The license fee concession translated into cheaper low-alcohol beer and, in combination with intense market competition in the beer market and the introduction of harm-reduction measures such as random breath testing, created an ideal environment for low-alcohol beer. Producers recognised the benefit of investing considerable developmental and marketing investment into low-alcohol beer.

As a consequence, low-alcohol beer increased its sales very significantly and captured approximately 20% of the total Australian beer market.(70) The Northern Territory’s ‘Living with Alcohol’ program provides another example of how changes in price through government taxation increases contributed to a reduction in per capita consumption. In 1992, the Northern Territory government used a hypothecation approach by placing a levy of 5 cents per standard drink on the sale of alcohol products with more than 3% alcohol by volume and used the revenue to fund a range of alcohol-prevention measures in the territory. (71) Evaluations of the ‘Living with Alcohol’ program found that the increase in price had contributed to a major reduction in the level of alcohol-related harm within the Northern Territory. (72, 73)

Over the last 15 years, there have been a series of changes in the level of excise and taxation applied to various forms of the ready to drink (RTD) product segment of the Australian alcohol market.
These changes have resulted in major shifts in drinking patterns across Australia, particularly in relation to brown spirit pre-mixed drinks (mostly around 5% alcohol by volume in 375ml cans) and white spirit pre-mixed bottled drinks (mostly around 5% alcohol by volume in 375ml bottles). With each price change, sales of these RTDs have increased or decreased quite significantly. While there is considerable evidence that these increases and decreases in sales represent shifts in product preferences (market share) rather than shifts in per capita drinking, the patterns of consumption have clearly been directly influenced by taxation and pricing. There is substantive evidence that the higher the price, the lower the consumption of these products, and the lower the price, the higher the consumption of these products. Perhaps just as importantly, the shifts in consumption patterns are more marked amongst the young and lower social-economic groups.

The principle of alcohol taxation reform most often discussed by public health advocates is usually that of applying excise taxes to all categories of alcoholic beverages. That is, taxing the beverages on their alcohol content, as a mild discouragement of consumption. Along with taxation reform of this kind, there have been calls to raise the price of the cheapest forms of alcohol. This is referred to as the floor price of alcohol. Given that price is being used as the lever, it is the floor price that should be given more attention in order to achieve a real shift in per capita consumption, rather than just product preference. Within this context, it is important to acknowledge that the impact of any increase in the floor price for alcohol will impact more on young people, Indigenous communities, heavy drinkers and lower socio-economic groups.

It appears that the most likely model that can effectively reduce alcohol-related harm would be based on an across-the-board excise model that also includes regulating the floor (minimum) price, especially with regard to small containers. The excise tax could be scaled within different product types to ensure there were strong financial incentives for the production of lower alcohol products (for example, low-strength beer, wine and RTDs), and so that the highest-risk alcohol products (i.e. spirits, which can more easily cause overdose) are taxed at an appropriately higher rate. In combination with a volumetric taxation system, in which all products are taxed according to alcohol content, all products could effectively have a floor price based on their alcohol content in a 300ml container.

Modelling this alcohol taxation system would be a very challenging exercise, particularly when health advocates have very limited access to actual sales data. As noted above, competing in the alcohol market requires extensive market testing and monitoring. This generates a level of detailed information that is not available to health researchers and policy makers. Perhaps just as importantly, this model would have a negative impact on some segments – particularly cask wine and cider – while advantaging other market segments – spirits and spirit-based RTD products. It would be very difficult to gain broad political support for such a model, given the level of public and political opposition from powerful alcohol producers. There has been some modelling undertaken that considered a range of alcohol taxation scenarios that would move the alcohol excise and taxation system closer to a true volumetric base, while remaining revenue neutral within each market segment. These models are publicly available, but have attracted limited support as they increase the price of cask wine and ciders while more expensive wines are reduced in price.

Until public health researchers and advocates have access to accurate sales data, and economic modelling can be implemented on the combination of floor price and a more volumetric approach to alcohol taxation, it is difficult to strongly put forward a particular model. At the same time, there is a substantive history in Australia that illustrates the danger of changing taxation levels of particular products without considering the implications both on consumption patterns and the development and marketing of alternative alcohol products.
4.4 Drink-driving countermeasures

Drink-driving laws and the associated programs of enforcement and social marketing are considered to be one of the great public health success stories of the late 20th century. In Australia, state and territory laws allow a Blood Alcohol Content (BAC) of up to 0.05% while driving for full licence holders, 0.00% for learner drivers and 0.00 per to 0.02% for provisional drivers, depending on the state or territory. Those who operate commercial aircraft, public or heavy vehicles, commercial vessels, machinery and mobile plant or farm equipment must observe the BAC restrictions required by their employer, as well as those required by law. For most adults, drinking no more than two standard drinks on an occasion will maintain their BAC below 0.05%. The evidence for the deterrent effect of such laws is strong, although the effects can erode over time and hence some countries have continued to lower BAC limits.[13] From the 1970s, Australian states were world leaders in driving down rates of drink-driving through random breath tests and other means.

There is some evidence, albeit tentative, that having lower BAC limits for young drivers reduces the risk of road fatalities, especially if the BAC limit is 0.00%.[7] More broadly, there is good evidence that lower BAC limits, delayed access to full licence and curfews for young drivers can be effective in reducing drink-driving among young people; graduated licensing schemes can potentially incorporate all of these measures within a single system.[13]

Random breath testing (RBT) has been shown to be effective in several countries, including Australia, in reducing road crashes, injuries and fatalities.[7] The defining feature of RBT is that any motorist at any time may be required to take a breath test, and there is nothing they can do to influence their chances of being tested.[13] More broadly, there is good evidence that lower BAC limits, delayed access to full licence and curfews for young drivers can be effective in reducing drink-driving among young people; graduated licensing schemes can potentially incorporate all of these measures within a single system.[13]

Random breath testing (RBT) has been shown to be effective in several countries, including Australia, in reducing road crashes, injuries and fatalities.[7] The defining feature of RBT is that any motorist at any time may be required to take a breath test, and there is nothing they can do to influence their chances of being tested.[13] Research suggests that there is a strong tendency for motorists to comply with drink-driving laws in jurisdictions that use RBT programs because of the uncertainty about the real risk of detection.[13] Herein lies part of the impressive cost effectiveness of random breath testing. RBT is considered a superior method of enforcing drink-driving laws than sobriety checkpoints, which only check drivers who are judged to have been drinking.[13] In Australia, creating the public perception that there is a high chance of being caught drink driving through RBT has been achieved by a combination of high-visibility policing (road blocks, ‘booze buses’) and frequent social marketing campaigns that emphasise the likelihood of drink drivers being detected.[7]

Among the range of punishments for drink driving, the penalty that appears to have had the most consistent impact is licence suspension.[13] Increasing the severity of fines and imposing penalties such as imprisonment for drink driving have not been shown to result in reduced rates of drink driving or car accidents.[13] However, it is estimated that up to 70% of people who lose their licence continue to drive while unlicensed, as the risk of apprehension is relatively low.[43] The major concerns with disqualified drivers continuing to drive are that it undermines the effectiveness of licence suspension and is also linked to a range of other high-risk behaviour such as repeated drink driving and speeding.[43] Court diversion of drink drivers to educative and mandatory treatment interventions and the incapacitation of vehicles using ignition interlock devices are regarded as effective means of increasing compliance with licence suspension and reducing recidivism.[7, 13]

While there is no evidence that on-premise designated driver programs produce negative effects, the impact of such programs is very modest and even with concerted promotions they only produce a small positive effect.[13] An Australian review of these schemes was somewhat more supportive, pointing to research findings that the programs do have some positive influence on the behaviour of young people in selecting a sober driver, and that given the cost of such programs is usually borne by licensed premises, there is no opportunity cost in recommending such schemes.[7]
4.5 Treatment and early intervention

This paper considers treatment and early intervention as essential components of a preventative approach to the harmful consumption of alcohol. While treatment and prevention are traditionally viewed as separate and sometimes unrelated activities, it is critical that they be embraced as part of a holistic approach to tackling alcohol problems from a public health perspective. While treatments are primarily designed to serve the needs of individuals, there are a number of ways that treatment can also have a positive impact at a whole-of-population level:

- By raising public awareness of alcohol problems
- Influencing national and community agendas
- Involving health professionals in advocacy for prevention
- Providing secondary benefits for families, employers and road users.[13]

Brief interventions in primary health settings. For early-stage alcohol problems, brief interventions are consistently identified as a key ingredient in a comprehensive alcohol-prevention strategy because they are regarded as relatively inexpensive, they take very little time and they can be implemented by a wide range of health and welfare professionals.[7] Their benefit as preventative measures arises from the relative effectiveness in treating early-stage problem drinking, obviating the need for later more intense and costly treatment.[43] Brief interventions are designed to motivate high-risk drinkers to moderate their alcohol consumption, and typically involve one to three sessions before or soon after the onset of problem drinking.[13]

In Australia, brief interventions, as yet, are a relatively untapped opportunity, due in part to the need for greater recognition of the role that the primary health workforce can play. (43) Efforts during the 1980s and early 1990s to introduce more systematic screening, early identification and potentially brief or extended responses were variously tried.

These included the Coordinator of Alcohol and Drug Education in Medical Schools (CADEMS) that supported curriculum development for undergraduate medical students, a range of General Practice trials (especially in New South Wales, sometimes in association with other specific interventions including tobacco and even efforts to develop a combined risk-screening instrument for a number of conditions) and studies of the use of screening instruments (especially AUDIT) in hospital settings. Follow-up has been patchy, and even where the uptake and utility under experimental conditions was promising, the longer term effort and cost required to achieve widespread involvement has not been sustained. With a sense of déjà vu, the authors note a recent study of the effectiveness of brief interventions in hospital emergency departments, which suggests that these can potentially reduce subsequent alcohol-related injuries significantly.[75] For assessments and brief interventions to become part of routine practice of doctors, nurses and other health professionals, an approach at the health system level accompanied by funding and promotion is needed. It is unrealistic to expect overstretched health service providers to implement brief interventions without reimbursement or other recognition.

While this paper especially addresses primary prevention, it is worth noting that there remains a serious lack of accessible and available evidence-based treatment services for later stage alcohol dependence and other alcohol-related disorders across Australia (in private and public as well as in city and remote locations). With a still evolving specialist clinical workforce, there remains a relative vacuum for training and professional development at senior clinical levels, and it is this group that ultimately set the standard and nature of practice in any field. A comment from a senior clinician on the more recent development of Medicare support for private practice GPs and clinical psychologists is pertinent: ‘it means that I get all these patients treated under the mental health items with fundamental alcohol-related problems where alcohol was not properly managed’.
Workplace interventions. Australian workplaces are another setting with great potential for brief interventions with at risk drinkers. There are two main rationales for workplace interventions with regard to the harmful consumption of alcohol: to improve productivity; and to improve workplace safety. In the Australian context, approaches to workplace alcohol issues are influenced by occupational health and safety laws and policies, and devising prevention strategies must be considered in this context. Historically, alcohol problems in the workplace have been dealt with through employee assistance programs (EAPs) and employers’ policies on alcohol and drug use; however, there has been insufficient research to determine the effectiveness of EAPs in responding to and/or preventing alcohol issues in the workplace. Nonetheless, EAPs do provide the potential opportunity for interventions that are known to be effective, such as brief interventions for high-risk drinkers. A recent study of alcohol consumption by Australian workers and the impact on absenteeism has pointed to the need for workplace education to influence young employees’ attitudes and behaviours regarding alcohol use. The study also suggests that there is a need to take a whole-of-workplace approach when designing and implementing prevention strategies that target both ‘problem drinkers’ and workers who drink at short-term risk levels, even infrequently, because the latter have an elevated risk of alcohol-related workplace absenteeism. Others have pointed to the need for addressing structural factors in the workplace as a more sustainable prevention measure, such as reducing stressful working conditions that may lead to health-damaging behaviour such as the harmful consumption of alcohol.

Alcohol problem treatment. Internationally, and particularly in Australia, the evidence base with regard to the treatment of alcohol problems is very well developed and is now at the stage of determining what is best practice rather than attempting to determine if treatment can work. Effective alcohol treatment options include motivational interviewing, brief interventions, social skills training, community reinforcement approach, relapse prevention and some aversion therapies. There is evidence that mutual help programs such as 12-Step Facilitation Therapy, which encourages attendance at Alcoholics Anonymous (AA) meetings, are particularly effective for severely dependent drinkers with low levels of social support. Although popular and widely used, there are also treatments that have little evidence of efficacy, including insight-orientated psychotherapy, confrontation counselling, relaxation training, general ‘alcoholism counselling’, education and milieu therapy. Pharmacotherapies for alcohol dependence include disulfiram, naltrexone and acamprosate. Reviews have found that naltrexone and acamprosate are the safest and most effective of the three pharmacotherapies in the long and intermediate terms, respectively.

Thiamine supplementation. A unique preventative measure to address the risk of serious brain damage from thiamine deficiency (known as Wernicke-Korsakoff’s syndrome) that can result from heavy consumption of alcohol over many years, along with poor nutrition, is thiamine supplementation. Since 1991, all baking flour in Australia has been supplemented with thiamine as a universal method to increase thiamine levels in the diet of at risk populations. This is included here as an example of a preventative measure that requires ongoing consideration, as there has been advocacy for the removal of supplements (including thiamine) by the pure food advocates and there is concern that the reach of thiamine in bakers flour might not be the most cost-effective population measure in preventing this condition.

Since the 1980s, sobering-up centres have been established in many parts of Australia, particularly Indigenous communities, as humane forms of care for publicly intoxicated individuals, and as an alternative to individuals being arrested and held in police cells and watch houses.
However, there have been very few evaluations of sobering-up centres, despite their popularity in Australia.[79] In many ways, sobering-up centres function primarily as a broad harm-reduction measure, rather than as a treatment program. As Brady et al. describes them,[80] sobering-up centres are not a detoxification centre, nor are they aimed at long-term rehabilitation; rather, their role is to keep people out of police custody to reduce alcohol-related harm and to offer practical care in a safe environment for a limited time, including protection, shelter and food. Nevertheless, they could provide an opportunity for interventions that can be effective.

Sometimes related to these are night patrols, which are a particularly common alcohol harm-reduction strategy in many Indigenous communities.[7] Night patrols provide transport to safe locations for intoxicated persons, particularly in remote areas.[7] Evaluations of the effectiveness of night patrols, on their own, as an intervention is somewhat equivocal, although they have been rated as being effective in communities in reducing alcohol-related violence and getting intoxicated people off the streets.[7]

4.6 Altering the drinking context

Because drinking takes place in a social, cultural and community context, it follows that the harmful consumption of alcohol or the harmful consequences of this may be prevented or ameliorated though strategies that modify this context.[13] Such harm-reduction measures are important elements of an overall alcohol policy, as they are generally more socially and politically palatable. However, harm-reduction measures should not be considered as an equal substitute for the measures known to be most effective, as measures that aim to alter the drinking context are comparatively under-evaluated and generally possess less potential for reducing alcohol-related harm.[13]

It is clear that effective law enforcement is the key ingredient to ensure the efficacy of strategies that aim to alter drinking contexts as a way of preventing the harmful consumption of alcohol. While all Australian jurisdictions do have bans on serving intoxicated persons and underage persons, it is the extent to which these laws are adequately enforced that determines their effectiveness. Similarly, although very popular, the effectiveness of responsible service of alcohol (RSA) programs (also referred to as responsible beverage service, RBS) is also contingent on proper enforcement.[36] Without concerted efforts by police and/or liquor licensing authorities to enforce existing liquor laws, the imposition of RSA policies and/or training, while potentially raising awareness of relevant issues, has limited impact on the behaviour of servers or intoxication levels of patrons.[36] When highly publicised, the threat of substantial financial penalty has been shown to be particularly effective at motivating behaviour change among licensees, which has in turn resulted in reduced levels of alcohol-related harms, but it is not clear whether such financial penalties remain effective in the long term without frequent and highly visible examples of enforcement.[36] There is evidence of RSA programs being effective when they include a mandatory component combined with effective enforcement.[13] While mandatory server training has led to an increase in the number of servers undertaking training, program quality and content differ significantly between jurisdictions, and the high mobility of the workforce makes it difficult to sustain and monitor.

Mosher et al. assessed training programs offered by states and territories that have either mandatory or incentive-based laws, and found that the quality of programs is generally low, with only two jurisdictions meeting minimum standards.[81] A further criticism of RSA training programs has been that they focus solely on training servers, and do not include a more comprehensive community plan to address wider environmental issues, a factor that limits their potential.[82] To date, only a limited
The number of RSA training programs have been evaluated in Australia. In addition to training bar staff in the responsible service of alcohol, there have also been programs designed to train staff in managing aggressive behaviour, given the reality that some patrons may have become already intoxicated elsewhere and that some aggressive behaviour may not be necessarily alcohol-related at all. There have been very few evaluations of such programs, although there is evidence that they can improve staff and patron interactions generally, but the long-term sustainability of these improvements relies on maintaining training and standards of practice.

Proactive policing or intelligence-led policing has been successful in some parts of the world and has been partially adopted in some Australian jurisdictions. It involves monitoring alcohol-related incidents in and around licensed premises, combined with regular police visits to the licensed premises that are most often linked to alcohol problems. For example, the New South Wales police have adopted a system of enforcing liquor laws through the collection of data such as feedback to police about alcohol-related crimes that have followed drinking at a specific licensed premises. Known as the ‘Alcohol Linking Program’, the intelligence-led enforcement system has been shown to reduce alcohol-related crime, and similar approaches are now being trialled and implemented in other jurisdictions.

Voluntary codes of bar practice typically take the form of ‘liquor accords’ in Australia. The emergence of liquor accords as a means of reducing alcohol-related problems in late-night entertainment centres began in Victoria in the early 1990s, and since then there has been a rapid proliferation throughout several states. Accords are local, community-based initiatives to involve licensees, other businesses, local government authorities, community representatives and police, but which are implemented and largely coordinated by the latter to reduce alcohol-related harm in the late-night drinking environment. There are many possible components of accords, such as RSA, drink discounting bans, trained security personnel, provisions of food, use of safe glassware and alcohol containers, and environmental modifications to reduce conflict and thereby reduce the risk of violence. Few accords have been formally evaluated, and among those that have, most have been unable to demonstrate effectiveness in either the short- or (particularly) long-term reduction of alcohol-related harms. The appeal of accords probably rests more on the development of local communication networks, the facilitation of local input, a sense of local ‘control’ and improving public relations through open negotiations than in the actual reduction of harm. Even so, improved communication and participation may also be perceived as desirable and worthwhile outcomes in some circumstances. Loxley et al. acknowledge that there is no doubt that accords can be an effective vehicle for introducing some harm-reducing practices into licensed drinking venues; however, it is recommended that voluntary regulation such as this is accompanied by effective law enforcement.

The promotion of alcohol-free events, while popular in many countries, including Australia, has not been found on its own to be effective in reducing alcohol problems. Alcohol restrictions for large sporting and leisure events have usually been implemented as part of a range of initiatives, making it difficult to determine their specific impact. Based on evidence that some injuries from alcohol-related violence were linked to the use of drinking glasses and bottles as weapons, a number of licensed premises around the world now serve alcohol only in toughened glass or plastic containers. However, the soundness of this approach has been called into question by a study that found that injuries to bar staff actually increased when toughened glass was used.

Providing food service on premises that serve alcohol, as a way of encouraging eating while drinking and hence reducing the effects of alcohol, is a popular element in liquor accords.
4.7 Regulating promotion

Alcohol marketing and promotion is a global activity, with the largest corporations promoting their products across the world. Marketing strategies include an integrated mix of advertising on television, radio, print media, point of sale promotions, product design (including the packaging and naming of alcohol beverages) and the internet. Sponsorship of sports and cultural events is also a common marketing strategy used by alcohol companies, particularly in Australia. The key questions from a public perspective are:

- what is the impact of marketing and promotion on overall consumption and particularly the misuse of alcohol in the community?
- what are the most effective measures for preventing the adverse impacts of alcohol marketing and promotion?

Total alcohol advertising expenditure in Australia in 2007 was reported to be $128 million (see Table 8). However, this figure is highly conservative, given that it generally relates to the advertising of products rather than of alcohol outlets, for which alcohol advertising expenditure is now very significant. Nor does it include sponsorship, ‘below the line’ advertising or internet advertising, the latter being a significant growth area in recent years. In Australia, the main sectors in which alcohol advertising expenditure occurs, and through which the greatest exposure is achieved, are through commercial television advertising (38%) and outdoor advertising (32%). Globalised alcohol manufacturers (for example, Diageo; Pernod Ricard Pacific) are among the biggest spending advertisers in Australia. The amount spent on advertising by spirits and wine producers combined, now equals that of the traditionally dominant beer market in Australia, reflecting an increasingly competitive alcohol beverage market.
Table 8: Alcohol advertising in Australia by sector, advertiser and beverage category, 2007

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>PERCENTAGE SHARE</th>
<th>RANK</th>
<th>ADVERTISER</th>
<th>MILLIONS</th>
<th>$ MILLIONS</th>
<th>ANNUAL CHANGE</th>
<th>BEVERAGE CATEGORY</th>
<th>PERCENTAGE SHARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro TV</td>
<td>33%</td>
<td>1</td>
<td>Diageo</td>
<td>19.1</td>
<td>29%</td>
<td></td>
<td>Beer</td>
<td>47%</td>
</tr>
<tr>
<td>Regional TV</td>
<td>5%</td>
<td>2</td>
<td>Carlton &amp; United Beverages</td>
<td>14.4</td>
<td>-24%</td>
<td></td>
<td>Spirits</td>
<td>26%</td>
</tr>
<tr>
<td>Metro press</td>
<td>5%</td>
<td>3</td>
<td>Tooheys Brewery</td>
<td>14.0</td>
<td>10%</td>
<td></td>
<td>Wine</td>
<td>21%</td>
</tr>
<tr>
<td>Regional press</td>
<td>1%</td>
<td>4</td>
<td>Boag J &amp; Son</td>
<td>9.9</td>
<td>13%</td>
<td></td>
<td>Premix / cider</td>
<td>6%</td>
</tr>
<tr>
<td>Magazines</td>
<td>14%</td>
<td>5</td>
<td>Pernod Ricard Pacific</td>
<td>6.9</td>
<td>60%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio</td>
<td>5%</td>
<td>6</td>
<td>Beringer Blass Wine Estates</td>
<td>5.3</td>
<td>93%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cinema</td>
<td>5%</td>
<td>7</td>
<td>Southcorp Wines</td>
<td>4.8</td>
<td>191%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outdoor</td>
<td>32%</td>
<td>8</td>
<td>Suntory</td>
<td>4.8</td>
<td>421%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct mail</td>
<td>1%</td>
<td>9</td>
<td>Carlton Special Beverages</td>
<td>4.7</td>
<td>238%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others not in top 10</td>
<td>39.9</td>
<td>10</td>
<td>Heineken</td>
<td>3.9</td>
<td>36%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Nielsen Media Research AdEx 2008

The impact of advertising on individuals can be seen as having both immediate effects, such as influencing decision making with regard to brand preference, as well as longer term effects such as reinforcing pro-drinking messages. In this way, it is both the content and frequency of exposure to advertising that can have an impact on individuals’ attitudes and behaviours. The impact of alcohol advertising on young people is an area where there has been considerable research, but of somewhat poor quality, yielding conflicting results that range from positive associations between young people who have been exposed to and/or enjoy alcohol advertising and an increased risk of harmful consumption of alcohol, to negative associations or inconclusive results. Numerous studies have found a link between alcohol advertising and alcohol-related knowledge, beliefs and intentions of young people.

Unlike tobacco advertising, which was banned in Australia in 1995, there are no alcohol advertising bans in Australia, although some restrictions, including advertising content controls, do apply (see further below). In Australia, alcohol advertising is subject to a number of different laws and codes of practice.

The Australian Association of National Advertisers Code of Ethics covers general advertising issues. Other applicable laws and codes include:
- The Trade Practices Act
- State and territory fair trading legislation
- The Commercial Television Industry Code of Practice
- The Commercial Radio Code of Practice
- The Outdoor Advertising Code of Ethics.

The Commercial Television Industry Code of Practice states that advertisements can only be shown during M, MA or AV classification periods. However, on weekends and public holidays, alcohol advertisements can be shown as an accompaniment to the live broadcast of a sporting event. Alcohol advertising is covered in detail by the Alcohol Beverages Advertising Code (ABAC) Scheme. The main aims of the scheme are to ensure that alcohol advertising presents a responsible approach to drinking, and does not have appeal to children or adolescents. Among other rules in the code, the administration of the following is often questioned by community members: ‘Advertisements for alcohol beverages must not depict the consumption or presence of alcohol.'
beverages as a cause of or contributing to the achievement of personal, business, social, sporting, sexual or other success’ (ABAC 2008, Clause C (i)).

The ABAC Scheme is funded and administered entirely by the alcohol industry. Commonwealth and state and territory governments are involved through one government representative on the ABAC Management Committee.

Despite the ABAC Scheme’s rules, which discourage advertising that has ‘strong or evident appeal to children or adolescents’, research shows that a substantial amount of alcohol advertising is communicated to young people. For example, several advertisements for alcoholic beverages screened on television in metropolitan Melbourne were found to be more likely to reach 13- to 17-year-olds than adults (see Table 9).

Table 9: Advertising on metro Melbourne television, year to March 2005

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>TOTAL ANNUAL SPEND</th>
<th>FREQUENCY OF ADS</th>
<th>RELATIVE EXPOSURE (OF 13–17-YEARS-OLDS VS 18–29-YEAR-OLDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heineken Lager</td>
<td>$ 94,000</td>
<td>110</td>
<td>1.12</td>
</tr>
<tr>
<td>Cougar Bourbon</td>
<td>$ 45,000</td>
<td>103</td>
<td>1.04</td>
</tr>
<tr>
<td>Archers Spri Schnapps</td>
<td>$ 57,000</td>
<td>110</td>
<td>1.04</td>
</tr>
<tr>
<td>Bundaberg Rum Dry &amp; Lime Mix</td>
<td>$ 36,000</td>
<td>88</td>
<td>1.06</td>
</tr>
<tr>
<td>Orlando Jacobs Creek Sparkling Rose</td>
<td>$ 89,000</td>
<td>34</td>
<td>1.11</td>
</tr>
</tbody>
</table>

Source: King, Taylor and Carroll (2005)(86)

As a self-regulatory scheme, ABAC’s effectiveness largely depends on the independence of its complaints body with the powers to sanction.(43) Recent research has revealed that less than three in 10 (28%) people surveyed reported an awareness of restrictions or regulations covering the advertising of alcohol, in terms of what can be said or shown. It is estimated that only 3% of the total adult population are aware of the existing ABAC scheme and know what it relates to.(87)

Among the 30% of people who reported being concerned about any alcohol advertising, only 2% had made a formal complaint. Some of the reasons why those who were concerned did not make a complaint included the belief that it would not achieve anything (30%), not having time (25%) and not knowing who/how/where to complain (15%). ABAC currently has no powers to sanction advertisers who breach the code rules; however, a Senate Committee inquiry currently under way is considering proposed federal legislation that would introduce sanctions on advertisers who breach the code, which would be determined by an independent adjudicating panel.(88)

In 2003, the Ministerial Council on Drug Strategy considered a report on the effectiveness of the ABAC Scheme that identified the following issues of concern:

- The current system does not address public health concerns about alcohol advertising and use. In particular, most complaints about alcohol advertising are dealt with under the general advertising complaints resolution system rather than the alcohol-specific system.
- The high dismissal rate for complaints about alcohol advertisements heard by the ASB does not engender community confidence in the complaint system and may discourage people from making complaints about alcohol advertisements.
- The general public is largely unaware of the complaint resolution system and, in particular, how to make complaints.
- The system lacks transparency. In particular, there is insufficient reporting of the outcomes of complaints.
- The current system does not apply to all forms of advertising: for example, packaging, electronic advertising, sponsorships, point of sale advertising and promotions.
The effectiveness of the current system is compromised by the amount of time taken to resolve complaints (MCDS 2003, unpublished).

While some of these concerns have been addressed, pressure remains to move to a more tightly regulated advertising environment with strict government controls. The WHO recently recommended that governments be supported:

- to effectively regulate the marketing of alcoholic beverages, including effective regulation or banning of advertising and of sponsorship of cultural and sports events, in particular those that have an impact on younger people
- to designate statutory agencies to be responsible for monitoring and enforcement of marketing regulations
- to work together to explore establishing a mechanism to regulate the marketing of alcoholic beverages, including effective regulation or banning of advertising and sponsorship, at the global level.

One of the most formidable obstacles to effective education and persuasion strategies regarding alcohol (which are discussed in the next section below) is product advertising by the alcohol industry that intentionally promotes pro-drinking messages to the general population, much of which also reaches young people. In response, the governments of some countries have sponsored counter-advertising programs. These might include public services announcements, or warning messages within actual product advertisements. However, studies suggest that counter-advertising usually has only limited effectiveness, often because it is communicated at low frequencies and in poorer quality productions compared to alcohol beverage advertising. In contrast, counter advertising in the tobacco field is of proven effectiveness, primarily because in that context hard-hitting messages were possible (essentially that the tobacco industry was not in business for the consumer’s good). Counter advertising may be a more politically realistic option than banning advertising altogether, and should be strongly supported from a public health perspective, but it is important that its message not be compromised. Although rare, there are examples of well-planned and implemented counter-advertising programs that have had some success, particularly in building support for public health-oriented alcohol controls, and there is very strong evidence from other public health areas such as tobacco about the value of such approaches.

4.8 Education and persuasion

International reviews of education and persuasion strategies suggest that even with adequate resources, such approaches have limited potential for success on their own. Part of the reason for this is the counter effect of powerful forces that underpin unsafe and unhealthy drinking cultures, such as the price, availability and promotion of alcohol products. Recent Australian research for the development of a national alcohol social marketing initiative reports that “the challenge for communication is that intoxication is closely linked to alcohol per se. When we simply asked participants about their earliest memories in relation to alcohol there was an overwhelming tendency to leap to their first drunk experience. Further, these experiences were recalled with a sense of pride and nostalgia, even though the stories inevitably involved some embarrassment.” A key element to the success of social marketing in the public health area is effective integration with and reinforcement by other complementary strategies. For instance, the success of social marketing in promoting quitting smoking and road safety, including anti-drink-driving campaigns, is indicative that education and persuasion strategies can be effective when coupled with other measures such as support services, changes to the environment, regulation and enforcement.

Throughout the world, alcohol education in schools is an enormously popular approach to addressing the issue of harmful consumption of alcohol among young people. The traditional alcohol education programs that are based
on an informational approach, while still very common, have not been shown to prevent or reduce the harmful consumption of alcohol by young people, and in some cases have actually been counterproductive by stimulating an interest in drinking among young people. In recent years, there has been a shift towards normative education, which aims to correct young people’s perceptions about their peers’ drinking and thus de-normalise the harmful consumption of alcohol. While this makes intuitive sense, it has been found that such school-based educational interventions, in general, produce only modest results that are short-lived unless accompanied by ongoing booster sessions. Importantly, given there are considerable risks involved in school-based education, it has been recommended that investment in such programs be accompanied by a proportionate investment in evaluation. There are some examples of sound outcomes but these are relatively unusual. These generally involve whole-of-community efforts and they are usually associated with a close evaluation that ensures they are implemented (with modifications through feedback) as planned. In Australia, these include the School Health and Harm Reduction Project (SHAHRP) in Western Australia and the Gatehouse Project in Victoria, whose primary target was reduced school bullying but where the side benefit was a comparative reduction in the use of tobacco and alcohol. Related to alcohol education programs for school students are parent education programs. While some reviews cite promising signs of effectiveness, in general there remains a lack of research to fully determine the value of such programs.

**Low-risk drinking guidelines** have been adopted in many countries, including Australia, to provide advice on the health risks and benefits of drinking at various levels for the general adult population, and for particular sub-groups. Despite their popularity, there is very little research that demonstrates the effectiveness of guidelines. However, guidelines do potentially fulfill an important function as supporting information for other measures known to be effective, such as brief interventions in primary care, and as the basis for health promotion messages and social marketing campaigns. In Australia, the current alcohol guidelines are under review. New draft guidelines prepared for public consultation are due to be finalised and released in late 2008. The new draft guidelines have been informed by updated modelling on the health risks of drinking, which have produced new estimates of the lifetime risks of alcohol-related harm. Emerging evidence also indicates that previous studies claiming the significant health benefits of alcohol consumption have tended to overestimate the effects. The consultation draft indicates the main changes are expected to include a new simplified, universal guideline level for alcohol intake for both short-term and long-term risks, a new guideline with special precautions for children and adolescents, and a new guideline for pregnant or breastfeeding women.

**Warning labels** on alcohol products, while not required in Australia, have a high level of public support. Evaluations of alcohol warning labels are generally limited to the US experience, where labels were implemented in 1989. While there is some evidence of effects on knowledge and attitudes, there is no evidence that warning labels influence drinking behaviour. By contrast, the tobacco labelling experience offers strong evidence that warning labels can be effective, not only in increasing information and changing attitudes but also in changing behaviour. These successes of tobacco warning labels suggest that alcohol warning labels should be graphic and attention-getting, should occupy a considerable portion of the package surface, and should involve rotating and changing messages. Perhaps most importantly, they should complement and be complemented by a wider range of strategies aimed at changing drinking behaviour.
5. Policy imperatives

5.1 The state of alcohol policy in Australia

A recent report by the WHO warns that ‘the difference between good and bad alcohol policy is not an abstraction, but very often a matter of life and death’. (13) Nonetheless, it is acknowledged internationally that ‘alcohol policy is often the product of competing interests, values and ideologies’, and hence is not always based entirely on scientific evidence. (13) More specifically, the cultural significance of alcohol in many societies, along with its economic importance and the political influence wielded by the global and domestic alcohol beverage industries, create a hostile environment for public health policies, especially those aimed at reducing consumption overall as a way of preventing and reducing alcohol-related harm.

While we can see that it is politically necessary to have ‘collaborative and cohesive’ alcohol policy where all interested parties are included, this poses significant impediments to the implementation of the most effective preventative interventions. Notwithstanding this, Australia has been assessed as being comparatively progressive and among the best in the world in terms of evidence-based alcohol policy. (93) In a recent commentary on national alcohol control policies in 18 countries, Babor and Winstanley (94) report that ‘contrary to the generally pessimistic reports about alcohol policies, the case of Australia provides cause for optimism’. This assessment probably speaks to the relative low level of well-integrated policies globally, rather than an opportunity for complacency in Australia.

Stockwell (2004:(42)) has judged that while there are ‘some significant disappointments’, there are also ‘some wonderful examples of successful Australian public policies around alcohol from the past two decades’. Among the population-wide strategies that have been successful in reducing alcohol-related harm in Australia, Stockwell highlights taxation and drink-driving legislation/enforcement. For high-risk groups, the compulsory fortification of bakers flour with thiamine and liquor licensing restrictions in some Indigenous communities are considered as successes. Among the strategies not likely to have been effective, Stockwell points to the dissemination of national drinking guidelines, the introduction of standard drink labelling on alcohol containers, and efforts to encourage GPs to deliver brief interventions and advice about low-risk drinking. Stockwell also underlines some significant ‘setbacks’ in Australian alcohol policy, such as the relaxation of liquor licensing laws, which has led to the proliferation of outlets in many Australian jurisdictions; changes to the tax rate on wine, which has encouraged the production and harmful consumption of cheap wine; and, since 1997, the inability of states and territories in Australia to collect levies on the sale of alcohol products.

The recent review of alcohol policies in 30 OECD nations rated Australia as fifth overall, behind Norway (1st), Poland, Iceland and Sweden. (93) The study rated the state of alcohol policy in each of the 30 countries by creating a composite score based on the extent to which the country had adopted policies in various policy domains such as the physical availability of alcohol, prices, drinking context, alcohol advertising and road safety.
The best mix of interventions

While some interventions are more effective than others, there is no single strategy that can offer a ‘quick fix’ or ‘silver bullet’ to the prevention of harmful consumption of alcohol. The review undertaken by Babor et al. (2003) (13) concludes that an integrated approach is required that includes a combination of the strategies that are known to be effective and suitable for the particular context in which they are to be implemented. The NDRI emphasises(36) that it is important to consider the quality, rather than the quantity, of interventions. For example, ‘a single targeted restriction (for example, hotel closing at midnight) may be more effective than an entire suite of half-heartedly implemented, watered-down or ill-considered restrictions’. (36)

Importantly, choosing high-quality interventions does not mean choosing the most expensive. In fact, many of the most effective strategies are the cheapest. A recent analysis of studies into the cost effectiveness of various alcohol-prevention measures found that there are very substantial differences in costs and effects, both between interventions and between world regions. See Table 10. (99) Random breath testing (due to the need for regular sobriety checkpoints administered by police) and brief advice in primary care (the intervention itself, plus costs associated with training) are the most costly interventions to achieve equivalent savings in years of health, expressed as disability-adjusted life years (DALYs). With regard to taxation, cost effectiveness appears to depend in part on the efficiency of the tax system and the degree of anti-drinking sentiment. In the Americas and Europe, where like Australia, the prevalence of heavy drinking is high, taxation was the most effective and cost-efficient strategy. However, by contrast, tax is actually least effective and least efficient in South East Asia, where low rates of heavy drinking appear to favour more targeted approaches such as random breath testing and brief physician advice. (99)
The study estimates that through the adoption of these interventions it would be possible to achieve a 48% reduction in alcohol-attributable deaths, along with significant reductions in the social costs of alcohol-related harm. These include a $5.94 billion saving from higher alcohol taxation, a $5.83 billion saving from brief interventions, a $2.45 billion saving from partial advertising and marketing controls, and a $0.94 billion saving from greater enforcement of drink-drive laws.

Table 10: Cost-effectiveness (average cost per DALY) of interventions for reducing the burden of alcohol in three WHO sub-regions (at different levels of economic development)

<table>
<thead>
<tr>
<th>INTERVENTION</th>
<th>AMERICAS</th>
<th>EUROPE</th>
<th>SOUTH EAST ASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief physician advice</td>
<td>776</td>
<td>2,612</td>
<td>856</td>
</tr>
<tr>
<td>Random breath testing</td>
<td>1,919</td>
<td>2,741</td>
<td>701</td>
</tr>
<tr>
<td>Excise tax (current)</td>
<td>364</td>
<td>370</td>
<td>5,420</td>
</tr>
<tr>
<td>Excise tax (current + 20%)</td>
<td>326</td>
<td>321</td>
<td>7,414</td>
</tr>
<tr>
<td>Excise tax (current + 50%)</td>
<td>297</td>
<td>287</td>
<td>9,418</td>
</tr>
<tr>
<td>Reduced retail access</td>
<td>484</td>
<td>1,208</td>
<td>1,406</td>
</tr>
<tr>
<td>Comprehensive ad ban</td>
<td>536</td>
<td>660</td>
<td>1,807</td>
</tr>
</tbody>
</table>

Source: Chisholm et al. (2006)[99]

A more recent, Australian-based study has identified the interventions for which strong Australian or international evidence exists as to their potential benefits, and has attempted to evaluate these benefits in terms of the reduction in the social costs of alcohol-related harm it would be possible to achieve.[100] Interventions identified as being effective and for which benefits are quantifiable, include:

- Higher alcohol taxation, including differential tax rates on forms of alcohol that are particularly subject to abuse
- Partial or complete bans on the advertising and promotion of alcohol
- Measures to reduce drink driving: more intensive enforcement of random breath testing and lowering the legal blood alcohol concentration (BAC) level
- Brief interventions by primary care physicians to reduce hazardous alcohol consumption.

The study estimates that through the adoption of these interventions it would be possible to achieve a 48% reduction in alcohol-attributable deaths, along with significant reductions in the social costs of alcohol-related harm. These include a $5.94 billion saving from higher alcohol taxation, a $5.83 billion saving from brief interventions, a $2.45 billion saving from partial advertising and marketing controls, and a $0.94 billion saving from greater enforcement of drink-drive laws.
5.3 Challenges in implementation

Australia’s international score card in the area of alcohol policy appears to be quite impressive, as the reviews mentioned above testify, and many would argue that incremental policy change, rather than radical approaches, is the most appropriate way to proceed. However, some have cautioned against taking comfort in this approach because of the “cultural inertia” surrounding alcohol policy in Australia, which can be a formidable barrier to meaningful policy changes. “Drinking forms part of the Australian legend, and there is good precedent in Australian history to suggest that a radical alcohol reform agenda could provoke community backlash – beware the ‘wowser’ label.”[98] An example of radical policy change that has been successful is the introduction of random breath testing, thanks in part to the accompanying social marketing campaigns that have highlighted both the seriousness of the problem and the effectiveness of the policy response. The level of public support in Australia for new alcohol policy interventions and/or the extension of existing interventions is encouraging in some areas (see Fig. 14); for example, the level of public support for measures known to be effective, such as the strict monitoring of late-night licensed premises (75%), is relatively high. While support for measures such as increasing tax on alcohol to pay for health, education and the treatment of alcohol-related problems is relatively lower (41%), it is a reasonably sufficient base of public support on which to build through public education and social marketing about the rationale and potential benefits of such a measure.

Figure 14. Support for alcohol measures, proportion of the population aged 14+ years, Australia, 2007

Source: AIHW 2008[2]
There are some specific challenges that go beyond public understanding and attitudes. These have been raised throughout this paper and include:

- National Competition Policy, as it relates to liquor licensing systems, regulating alcohol prices and restricting alcohol promotions
- The division of responsibilities between levels of governments for key alcohol policy areas and the historic complexity in achieving coordinated action
- The economic and political importance, and thus influence, of the alcohol beverage and related industries.

These challenges arise in the context of broad, community-wide changes in the nature of work, education and social connectedness, and occur at a time when:

- Alcohol sponsorship of sporting and cultural activities has replaced and is now prominent in many areas previously occupied by the tobacco industry.
- Alcohol consumption is symbolically associated with positive and pleasurable life in portrayals of Australia’s history and culture, including the ongoing promotion of alcohol as a necessary ingredient of entertainment, celebration and all ‘rite of passage’ life course transitions.
- The ‘menu’ of psychoactive and performance-enhancing substances is increasing in scope and complexity within a society that is encouraged to focus on pleasure and performance, and where alcohol is seen, comparatively, as the ‘known’ commodity and thus ‘unchallengeable’ (or at least acceptable).

- The debate regarding the positive health benefits of small doses of alcohol makes forthright messages for social marketing purposes awkward and less memorable, and where compromise is extracted in every effort to implement effective alcohol harm prevention measures.
- Intoxicated behaviour is regarded by many community members as ‘normal’ and by many young people as desirable.
- The significantly lower life expectancy of Indigenous people is intrinsically linked to layered aetiology, including historic and structural issues, social and service exclusion, patterns of alcohol consumption, where there is great sensitivity to progressing evidence-based approaches in some communities and where the consequent immobilisation and inaction from the broader society is the most ready response. There is a parallel dilemma of too much too fast, and the possibility of even greater broad dysfunction if not managed carefully.

- ‘Consumer’ is a complex concept in this field. It can include both alcohol consumers (who generally seek liberal access to their favoured drug) and service users who are very often extremely reluctant to seek ‘help’. Those who experience the ‘second-hand’ effects of harmful consumption of alcohol are a somewhat untapped group (including parents, who are the most identifiable group, but extending well beyond this sub-category).

- The extent and level of detail of data available precludes the evaluation of the outcomes of the incremental and planned changes to the levers that influence alcohol-consumption patterns, and patterns of related harm over the past decades, and similarly make effective modelling or assessment of the likely impact of future directed changes incomplete and thus less reliable.
While there are few well-qualified specialists, there are many middle-managing health and welfare personnel implementing interventions that they sometimes have little faith in, and the concomitant low expectations of success with patients or clients can be self-fulfilling. In this context there is now good evidence of what works and we know that treatment, for example, can be successful. Although many will agree with this statement, few in the responding industry seem to believe it or lack the skills to utilise the most effective means to achieve it.

The views of community members tend to be closer to the alcohol beverage industries’ preferred preventative approaches, such as advocating for measures including school-based alcohol education, the responsible service of alcohol training, parent support and information, and education programs for specific target populations on fetal alcohol effects.

5.4 Opportunities for action

Reflecting on the evidence regarding the determinants of harmful consumption of alcohol, as gleaned from the review of interventions earlier in this paper, is perhaps a starting point for considering what the priorities for action should be. In general:

- When alcohol availability increases, alcohol-related harms are likely to increase
- When alcohol availability decreases, alcohol-related harms are likely to decrease
- When alcohol prices decrease in real terms, alcohol-related harms are likely to increase
- When alcohol prices increase in real terms, alcohol-related harms are likely to decrease

In summary, changing the physical and economic availability of alcohol is probably the most effective and reliable way of reducing the harmful consumption of alcohol.

As the NDRI (2007) suggests, ‘where the ultimate aim of decision makers is to minimise or reduce the negative impact of alcohol on the public health, safety and amenity of a population, best practice is that which is evidence-based and at very least, avoids implementing changes likely to increase overall availability above the current status quo’.

Government decision making relating to the availability in Australia, whether it be liquor licensing decisions or changes to the excise rates of particular alcohol products, tends to be reactionary. As an alternative, NDRI (2007) suggests that ‘authorities and decision makers might consider adopting a pro-active style – one which acknowledges the links between alcohol availability and harms and which plans accordingly. Optimally, such an approach would include policy and strategies based on sound research evidence for efficacy and/or have a solid theoretical grounding; include processes which support the ongoing, systematic collection of detailed objective data for monitoring and evaluation purposes; employ evaluation findings to inform and support future evidence-based decisions and reliable monitoring of community sentiment.’

Of course, ‘supply reduction’ measures that restrict availability are not the single solution to addressing the harmful consumption of alcohol – harm reduction and demand reduction measures are also important and very necessary. Maintaining and building on Australia’s impressive track record in drink-driving countermeasures is an obvious element to include in an overall preventative strategy, but it should not be taken for granted, especially given the powerful cultural forces surrounding alcohol in Australia that could undermine, stall or, worse still, reverse the gains made in preventing and reducing alcohol-related road injuries and fatalities. Brief interventions are known to be one of the most effective preventative measures and more work is needed to examine the most appropriate setting for such an approach. Along with the usual health settings considered, workplaces provide a window of opportunity for reaching
thousands of Australians at the early stages of problematic drinking. This also opens an opportunity for novel partnerships. The success of prevention in other areas of public health, such as tobacco control, tells us that social marketing is a key element that is necessary to inform target audiences, shift attitudes and positively reinforce behaviour changes being driven by other complementary measures, such as restrictions on availability, regulation and enforcement.

5.5 Priorities

The intent of this paper has been to provide background information about alcohol-related harm in Australia, and summarise international best practice in alcohol-prevention policies and programs, rather than to articulate a particular course of action. However, some priorities for preventative policies and programs, and for research, are most important and most urgent, and should be singled out, because they represent a gap in current practice or knowledge in Australia or because they would enhance and/or inform existing and new practices. In the first instance, the major imperatives for Australia are to:

1. **Reshape consumer demand towards safer drinking through:**
   - Managing both the physical availability (access) and economic availability (price). The high accessibility of alcohol – in terms of outlet opening hours, density of alcohol outlets and discounting of alcohol products – is an issue in many Australian communities.
   - Addressing the cultural place of alcohol. Carefully planned, targeted and research-based social marketing and public education are required, and will be more effective if the marketing of alcoholic beverages is restricted, including curbing advertising and sponsorship of cultural and sporting events.

2. **Reshape supply towards lower-risk products through:**
   - Changes to the current taxation regime to stimulate the production and consumption of low-alcohol products.
   - Improved enforcement of current legislative and regulatory measures (such as Responsible Serving of Alcohol or bans on serving intoxicated persons and minors, or continuing to lower the blood alcohol content in drink-driving laws).

3. **Strengthen, skill and support primary health care to help people in making healthy choices:**
   - Supporting brief interventions as part of routine practice by health professionals and other health workers in primary healthcare settings can assist changes in drinking behaviour and attitudes to alcohol consumption. This support should include consideration of building appropriate reimbursements and other incentives into health system funding.

4. **Close the gap for disadvantaged communities:**
   - There is a need for tailored approaches and services to reach Indigenous and other disadvantaged groups.

5. **Improve the evaluation of interventions through:**
   - Monitoring and evaluation of regulatory measures and other programs to underpin the further evolution of prevention strategies directed at inappropriate alcohol consumption.
   - Developing effective models of safer patterns of alcohol consumption in different communities through changes to alcohol taxation arrangements, and an understanding of the impact of different types of alcohol outlets and their density on hospitalisation, violence and crime rates.
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School and university settings
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Introduction


This update comprises a summary listing of selected references to relevant data, research and policy-related publications that have become available since the September 2008 report was prepared.

References in this update addendum are presented in categories which reflect the structure of the September 2008 report, including:

1. Alcohol consumption and alcohol-related harm
2. Indigenous Australians and at-risk populations
3. Regulating physical availability
4. Taxation and pricing
5. Drink driving counter-measures
6. Treatment and early intervention
7. Altering the drinking context
8. Regulating promotion
9. Education and persuasion
1. Alcohol consumption and alcohol-related harm.

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Pregnancy (Including Fetal Alcohol Spectrum Disorder)


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**Taxation**


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Youth & Family


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