

Evidence review: The social determinants of inequities in alcohol consumption and alcohol-related health outcomes

Ann Roche, Victoria Kostadinov, Jane Fischer and Roger Nicholas



Victorian Health Promotion Foundation
PO Box 154 Carlton South
Victoria 3053 Australia
T +61 3 9667 1333 F +61 3 9667 1375

vichealth@vichealth.vic.gov.au
vichealth.vic.gov.au
twitter.com/vichealth
facebook.com/vichealth

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Ann Roche, Victoria Kostadinov, Jane Fischer and Roger Nicholas

Australian's National Research Centre on AOD Workforce Development
Flinders University

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Executive summary

The National Centre for Education and Training on Addiction (NCETA), Flinders University, was commissioned by VicHealth to undertake a review of alcohol consumption and related harms from a social determinants and inequalities perspective. This report examines the literature on these issues, presents the main findings on interventions that hold potential to address inequalities in relation to alcohol, and identifies gaps and makes recommendations for future work in this area. It summarises the evidence and identifies practical options to reduce the level and unequal distribution of alcohol-related harm in Australia, through approaches which address the social determinants of alcohol misuse and related health, social and economic consequences.

The framework used when undertaking the development of this report was *Fair Foundations: The VicHealth framework for health equity*. Fair Foundations describes how social contexts influence individuals' social position and in turn their health and wellbeing outcomes. These contexts can be categorised into three 'layers of influence':

- Socioeconomic, political and cultural context
- Daily living conditions
- Individual health-related factors.

This report uses the three layers of influence to examine the evidence base regarding inequalities in alcohol consumption and alcohol-related harms, and best practice strategies for addressing them. The structure of the report therefore corresponds with the three layers of influence. As a result, there may be a slight degree of overlap and/or repetition between sections. Cross referencing has been applied where applicable to help address this.

Health inequities

There are widespread health inequities both between and within groups in Australia. Health inequities are defined as systematic differences in health that can be avoided by appropriate policy intervention, and that are therefore deemed to be unfair. It is now well established that opportunities to be healthy are not equally distributed throughout society. Instead, they are related to the unequal distribution of power and resources, and the resultant differences in early childhood experiences, education, work conditions and employment opportunities, housing and living conditions. These wider determinants influence exposure and vulnerability to a range of potentially health-damaging behaviours and conditions, including risky alcohol use.

Alcohol in Australia

Australia has a high level of alcohol consumption and alcohol-related harms. The serious consequences of risky alcohol use are a major policy concern. Between 2003 and 2006 there were 11,250 alcohol-attributable deaths in Australia, but this burden was much higher for certain groups. Age, sex, Indigenous status, being in prison, living in a rural area, and socioeconomic status (SES) are all associated with levels of alcohol consumption and related harms.

Addressing these inequities in alcohol consumption and alcohol-related harms is vital. However, if vulnerable drinkers are more concentrated in socially disadvantaged groups, but key policy interventions are most effective in advantaged groups, then there will be less impact overall in reducing consumption and related harms. When developing national- and local-level alcohol policies, it is thus essential to consider the equity implications in conjunction with the best available evidence. This is important to ensure that policy choices:

- (i) Do not make inequities worse
- (ii) Reduce inequities in harm.

The below model was proposed by the World Health Organization (WHO) (1) as an incremental, step-wise method for reducing health inequities. It may assist in the development of policies which appropriately address inequities in alcohol consumption and alcohol-related harms.



Key findings

While Australia has extensive and detailed data on alcohol and alcohol-related issues, relatively little work has been undertaken from a social determinants perspective. This is not dissimilar to the trend that prevails in other developed countries; WHO recently reported that very little attention had been directed to this issue globally (1). Nonetheless, both national and international data yield some helpful findings to inform the selection of policies, strategies and interventions that may be effective at minimising alcohol-related inequities in Australia. Key findings are summarised below:

- Alcohol becomes an increasingly prominent part of everyday life when economies prosper.
- To date, the distribution of alcohol use and alcohol-related problems from an inequities and social determinants perspective has largely been neglected.
- Social inequities in alcohol use and related harm are characterised by complex relationships. They do not follow a consistent pattern, and vary from group to group.

- Inequities in alcohol use and associated harm may be related to SES, age, education, gender, marital status, ethnicity and place of residence.
- In general, lower socioeconomic groups experience higher levels of alcohol-related harm than wealthier groups with the same level of alcohol consumption. In addition, concurrent experience of several forms of socioeconomic disadvantage exacerbates inequities in alcohol-related harm.
- Addressing health inequities requires a combination of universal and targeted intervention strategies.
- While Australia has implemented a comprehensive suite of alcohol-related interventions and policies, most do not explicitly target inequalities, and some may inadvertently exacerbate existing inequities.

Effectiveness of alcohol Interventions

Indicative examples of how alcohol interventions may impact inequalities are shown below. Note that interventions which are classified as ineffective in reducing inequalities may still be effective in reducing per capital alcohol consumption and harms.

1. Interventions with the greatest potential to decrease inequalities in alcohol consumption and alcohol-related harms include:
 - Town planning, zoning and licensing to prevent disproportionate clustering of outlets in disadvantaged areas (section 3.1.2)
 - Interventions targeting vulnerable populations (section 3.2.7)
2. Interventions with weak–moderate potential to decrease inequalities¹ include:
 - Screening (section 3.3.3)
 - Brief interventions (section 3.3.3)
 - Early childhood interventions (section 3.2.1)
 - Interventions within schools, workplaces and sports clubs (section 3.3.1)
3. Interventions with neutral impact on inequalities include:
 - Random breath testing (section 3.3.2)
 - Minimum drinking ages (section 3.1.1)
 - Maximum BAC (section 3.1.1)
4. Interventions which may worsen inequalities include:
 - National guidelines/campaigns (section 3.1.1)
 - Technological interventions (section 3.3.1)

¹ While these interventions have some potential to decrease inequalities, a number of complex issues must be considered during implementation. A discussion of these issues can be found in section 4.1.2.

- Street drinking bans (section 3.2.3)
5. Interventions which require further research include:
- Increasing the price of alcohol² (section 3.1.2)
 - Restricting alcohol trading hours (section 3.1.2)
 - Social participation initiatives (section 3.2.2)
 - Banning alcohol marketing and advertising (section 3.1.3)
 - Fire alarms (section 3.3.2)
 - Ignition locks/vehicle impounding/DUI courts (section 3.3.3)

Implications

A key finding of this report is that linear relationships often do not exist between social determinants (such as SES), patterns of alcohol consumption and related harms. Instead, risky consumption and harms appear as ‘clusters of problems’, affecting different groups in different ways. As a result, the best available evidence should be used to implement a blend of measures appropriate for particular groups and settings. Furthermore, as our understanding of community patterns of alcohol consumption and related harms becomes more sophisticated, all health workers and professionals will require a comprehensive understanding of the mechanisms and manifestations of alcohol-related inequities. Intensive professional development will be necessary to achieve this.

Gaps and recommendations

One of the principal gaps identified in this report was the lack of relevant data, or the lack of attention directed to available data, on this issue. Overall, there is very little Australian (or international) information on alcohol consumption that can be disaggregated by socioeconomic factors beyond age and sex. There are also very few published studies of interventions to reduce alcohol-related harm which focus on equity or the distribution of impacts across the population. Improvements to data collection and its disaggregation will enhance capacity to monitor the differential impacts of policies and interventions on social groups, and increase knowledge about how best to reduce inequities in alcohol-related harm.

This report also highlights a need for further research in regard to alcohol interventions specifically targeting:

Those with comorbid physical or mental health problems

- Those living in rural or remote areas
- Refugees
- Older people
- Aboriginal and Torres Strait Islanders.

² This strategy for reducing alcohol consumption and related harms is acknowledged to have particularly complex implications, which are discussed in section 3.1.2.

Where to from here?

Inequities in alcohol consumption and alcohol-related harms are ultimately preventable. However, addressing this issue requires concerted political will and significant modification to Australia's current health promotion paradigm. It is imperative to undertake much needed research into effective mechanisms to curtail alcohol-related inequities. Moreover, it is essential to ensure that unintended consequences and/or displacement effects do not result from policies introduced to manage alcohol problems. To inform and improve policy decision making and intervention selection, WHO recently developed an alcohol checklist. The checklist outlines key considerations to employ when determining the allocation of resources or the development of alcohol-related policies. As an initial step forward in this area, it is recommended that the checklist be widely disseminated and applied among decision makers and its principles applied when scope exists to do so.

Checklist: are you on track?
1. Do you routinely measure alcohol consumption and alcohol-related harm by socioeconomic group (e.g. gender, ethnicity, education level)?
2. Have you identified which groups experience most harm (health and/or social) from alcohol, and are they clearly prioritized in your strategies and plans?
3. Do you routinely assess the equity impact of alcohol control policies and plans before they are implemented?
4. Can the most marginalized groups in society meaningfully participate in decision-making processes about alcohol control policies?
5. Do you have robust policies in place with the following specific goals? a. To increase the price of alcohol. b. To reduce availability of alcohol, especially in disadvantaged areas. c. To improve access to primary care, alcohol services, and social support. d. To reduce the harmful consequences of alcohol in vulnerable groups (places to sober up, community patrols, and so on).
6. Do you have effective policies in place to address the root social determinants of inequities in alcohol-related harm? Such measures should include: a. social protection, especially for families with children and the unemployed; b. high-quality early childhood education and parenting support; c. active labour force programmes for unemployed people, including skills development; d. policies to reduce social exclusion; e. policies to reduce household overcrowding; f. improving psychosocial working conditions for low-income workers.
7. Do you evaluate the impact of all alcohol control interventions on different social groups?
8. Have you set targets for reducing alcohol-related harm in different social groups?
9. Is there clear accountability and leadership for reducing inequities in alcohol-related harm?

Source: Loring B. Alcohol and Inequities: Guidance for Addressing Inequities in Alcohol-Related Harm. Copenhagen: WHO, 2014.

Section 1: Introduction and background

1.1. Health inequities and social determinants

In recent decades, developed countries such as Australia have seen continued growth and concomitant increases in living standards. However, the relationship between economic growth and good health and wellbeing has weakened (2). Today, countries with higher average incomes or living standards do not necessarily have the best health outcomes. Instead, the countries that fare best are those with low levels of inequity (2).

There is growing recognition that the primary influences on individuals' health lie in their social and material environments. However, opportunities to be healthy and lead a flourishing life are not equally distributed throughout society (3). Disadvantaged individuals are typically at least twice as likely to experience serious illness or premature death compared to more advantaged individuals (3). These systematic, unfair and avoidable differences in health are known as health inequities.

Health inequities are largely a result of inequalities in the social determinants of health (4). Social determinants are the conditions in which individuals are born, grow, live, work and age. They include early childhood experiences, education, work conditions and employment opportunities, housing and living conditions. The social determinants of health are shaped by political, social and economic forces, and the unequal distribution of power, income, goods and services. They result in differential exposure and vulnerability to a range of potentially health-damaging behaviours and conditions (4, 5).

Governments and healthcare professionals are beginning to focus on social determinants in an effort to address the dual goals of improving health and promoting equity (5). One example of this is alcohol consumption, which is increasingly being understood and addressed within a social determinants paradigm. This report builds on previous work by considering the social determinants of alcohol consumption and alcohol-related harms, as well as inequities therein. As such, it goes beyond existing commentary to explore patterns of alcohol use and associated harms in Australia, how they differ between individuals and groups, and how these differences may be affected by intervention strategies.

1.2. Fair Foundations: a planning tool

To guide health promotion policy and practice in reducing inequalities in the social determinants of health, VicHealth recently released a planning tool known as *Fair Foundations: The VicHealth framework for health equity*. Fair Foundations draws on the conceptual framework developed by WHO on the social determinants of health, and demonstrates how health and wellbeing outcomes vary along the social gradient in a systematic, avoidable and unfair manner.

Fair Foundations describes how social contexts influence individuals' social position and in turn their health and wellbeing outcomes. These contexts can be categorised into three 'layers of influence' (see Figure 1):

- Socioeconomic, political and cultural context

- Daily living conditions
- Individual health-related factors.

The layers of influence illustrate how the governance, policy, norms and values of a given society create a process of social stratification, whereby power, economic resources and prestige are unequally distributed according to one's social status. This results in the differential exposure of social groups to suboptimal environments. Individuals' health-related knowledge, attitudes and behaviours, and ultimately their health outcomes, thus stem from these broader social contexts.

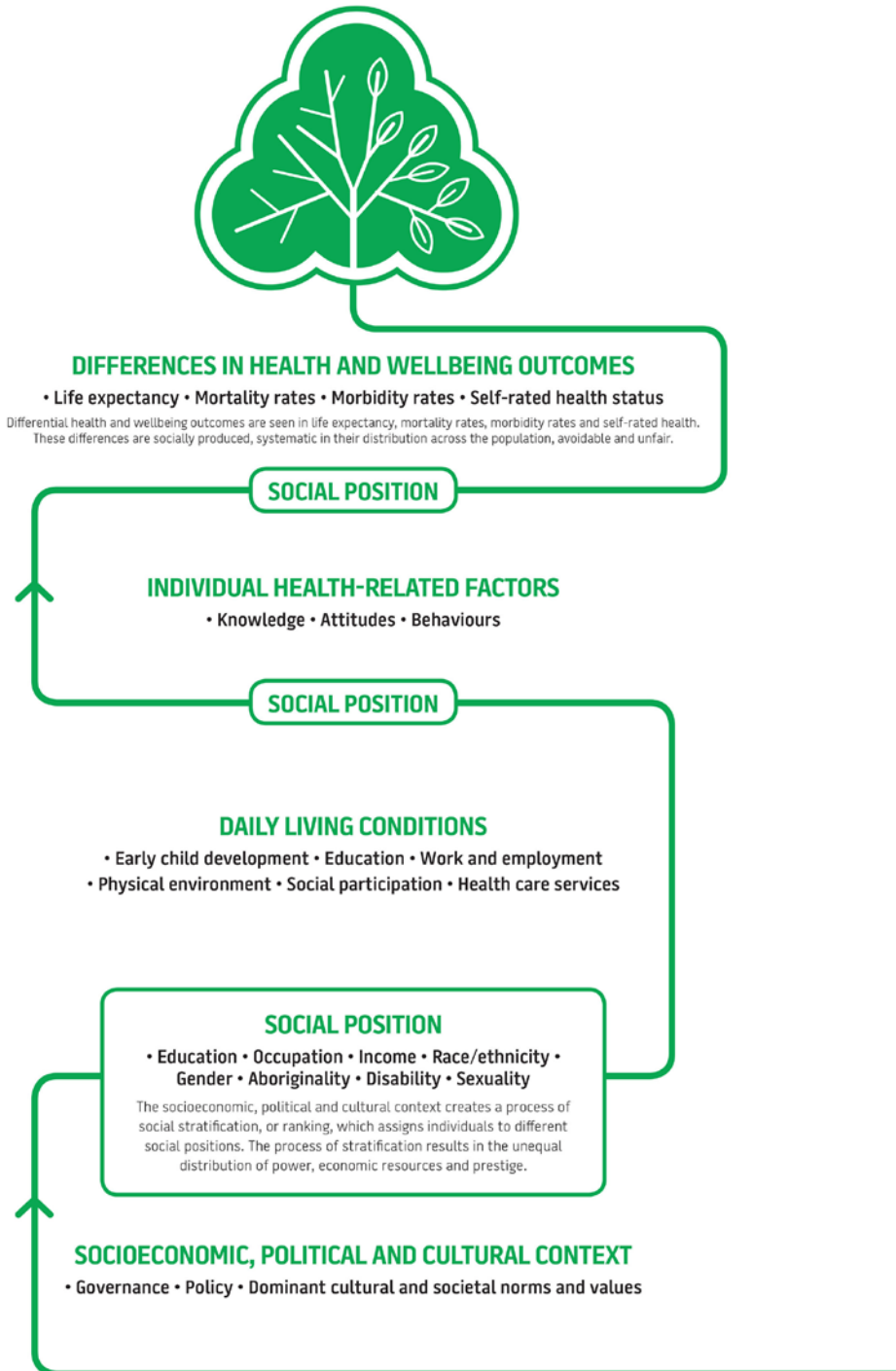
1.3. Report aims and objectives

This report addresses the social determinants of inequalities in alcohol consumption and alcohol-related health outcomes³. It is well known that alcohol consumption and alcohol-related health outcomes are not evenly distributed across the Australian population. However, little research has explored the social determinants of alcohol use and associated harms, and how they interact at the cultural, social and individual levels. Furthermore, there has been little consideration of inequities in alcohol use and related harms between different groups. An understanding of these social behaviours, processes and contexts is necessary to implement effective change, influence differential patterns and reduce alcohol-related harm across the population. This report uses Fair Foundations as a framework to comprehensively examine these issues and current best practice for addressing them.

The aim of this report is therefore to provide an overview of the current evidence base regarding inequalities in alcohol consumption and alcohol-related health outcomes, and highlight promising approaches for promoting health equity. Specifically, the report has four objectives:

1. Synthesise and describe Australians' alcohol consumption patterns and alcohol-related health outcomes using a social determinants perspective
2. Illustrate how these patterns are shaped by the three layers of influence:
 - Socioeconomic, political and cultural context
 - Daily living conditions
 - Individual health-related factors
3. Identify best or promising practice in addressing one or both of the following areas:
 - Inequalities in alcohol consumption and alcohol-related health outcomes
 - Alcohol consumption in the general population (i.e. without considering distributional effects)
4. Identify limitations and gaps in the evidence base and make recommendations for future research.

³ VicHealth has commissioned a total of eight evidence reviews in the areas of healthy eating, physical activity, mental wellbeing, tobacco, alcohol, early child development, and settings for health equity promotion, in order to complement the use of Fair Foundations in guiding health promotion activities.



Fair Foundations: The VicHealth framework for health equity
 The social determinants of health inequities: The layers of influence and entry points for action

Figure 1. Fair Foundations: The VicHealth framework for health equity

1.4 Method

The broad scope and rapid nature of this project precluded a comprehensive systematic literature search. Instead, the search strategy aimed to provide an overview of the social determinants of inequalities in alcohol consumption and alcohol-related health outcomes, as well as best-practice or promising interventions to address these inequities at each level of the Fair Foundations Framework.

Search strategy

The search was conducted in three phases:

1. Identification and synthesis of current, high quality data regarding inequities in alcohol consumption and alcohol-related health outcomes
2. Review of literature regarding the social determinants of alcohol consumption and alcohol-related health outcomes
3. Review of best practice interventions and policies.

Search terms (see Appendix A) were specific to the aims of the project. They were applied using a combination of MeSH, keyword terms and words in the text and titles appropriate for each database. The search strategy was applied to five electronic databases during March 2014. The databases searched comprised: Medline, PsycInfo, Scopus, Web of Science and PubMed. In addition, searches of relevant Australian websites, research centres and datasets were conducted.

Studies were limited to those published between 2000 and 2014, and written in English. In Phases 1 and 2, all studies meeting these criteria which concerned the social determinants of alcohol consumption and alcohol-related health outcomes were considered for inclusion. In Phase 3, the search focused on high quality systematic reviews and reviews of reviews, experimental studies, and policy and program evaluations. Where these were not available, modelling studies (including cost–benefit analyses) and observational studies were considered. Theoretical, conceptual and process evaluation papers were excluded. While priority was given to studies conducted in Australia, where no appropriate research was available the search was widened to include other developed countries.

Screening and extraction

The literature search and screening process is outlined in Figure 2. Citations from all sources were saved into an Endnote X6 library with a total of 4920 references included prior to removal of duplicates and incorrect citations. After duplicates and irrelevant references were removed there were 1901 references. In the second screen, three reviewers assessed the title and abstract of each article for inclusion and a further 1349 citations were removed. This left a total of 552 for final selection. During the final stage, reviewers assessed study quality and completed data extraction. Each study was reviewed, data extracted and if relevant included in the final review. If a reviewer was unsure about inclusion status, this was resolved by team consensus. In the case of inconsistencies or ambiguity during the data extraction and appraisal process, articles were re-examined and discussed by both the original and additional reviewers for clear consensus. This resulted in a final list of 214 references.

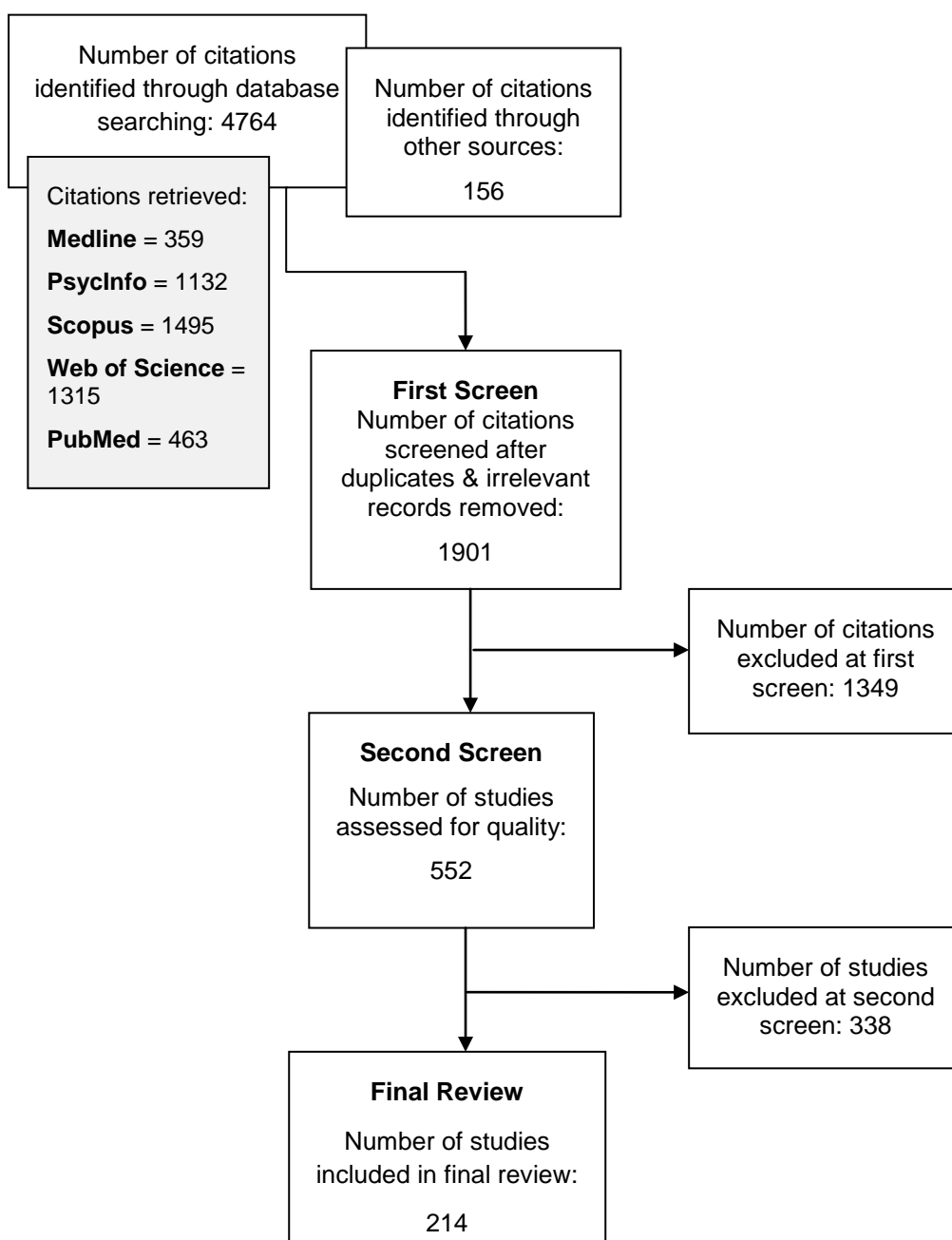


Figure 2. Data-retrieval and screening process

Section 2: the social determinants of alcohol consumption and alcohol-related harms

2.1. Alcohol use in Australia

Alcohol plays many roles in contemporary Australian society. It is a relaxant, an accompaniment to socialising and celebration, a source of employment and exports, and a generator of tax revenue. It is an intrinsic part of Australian culture (6). Although per capita consumption of alcohol in Australia has declined since the 1980s, it remains high by world standards (7). Much consumption occurs at levels beyond those identified as low risk, and is associated with a range of short- and long-term harms. Furthermore, the pattern of alcohol consumption and related harms is unevenly distributed across society. Policies and strategies designed to address or ameliorate alcohol-related problems are therefore increasingly tasked with not only decreasing harms, but also with ensuring that inequities are not increased.

2.2. Consumption patterns and prevalence

Alcohol consumption is highly prevalent in Australia, supported by cultural norms which condone and often encourage use (8). In 2012-13, there were 183.6 million litres of pure alcohol available for consumption in Australia, and in 2013 per capita consumption was 9.88 litres. As a standard drink consists of 12.5ml of pure alcohol, this is equivalent to an average of 2.2 standard drinks per person⁴ per day (7).

In 2010, 1 in 5 Australians⁵ consumed alcohol at levels that put them at long-term risk of harm from alcohol-related disease or injury, and around 2 in 5 drank at levels that put them at short-term risk of alcohol-related injury (9). In 2011, around three-quarters of Australian secondary school students⁶ had ever tried alcohol, and 51% had consumed alcohol in the past 12 months. Involvement with alcohol increased with age, with the proportion of students drinking in the last seven days increasing from 8% of 13 year olds to 37% of 17 year olds (10).

2.3. Alcohol-related harms

While the majority of Australians drink alcohol at low-risk levels⁷ (9), excessive consumption is associated with significant harms for both individuals and society. At a societal level, alcohol consumption contributes to violence, crime, car crashes (11), suicide (12), mental health issues (13), child abuse and neglect (14), and domestic violence (15). High levels of alcohol use can also reduce productivity through industrial accidents and absenteeism (16). It has been estimated that the tangible costs of alcohol use to Australian society are almost \$11 billion per year (11).

⁴ Aged 15 years and over.

⁵ Aged 14 years and over.

⁶ Aged between 12 and 17 years.

⁷ As defined by Australia's alcohol consumption guidelines. See: http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/ds10-alcohol.pdf.

At an individual level, alcohol use can lead to severe acute and chronic harms, including injuries, psychological distress, cancers, diabetes, and cardiovascular and liver disease. Globally, 6.2% of all male deaths, 1.1% of all female deaths and 3.9% of disability-adjusted life years are attributable to alcohol (17, 18). In Australia there were 11,250 alcohol-attributable deaths between 2003 and 2006 (19), and an estimated 367 deaths and almost 14,000 hospitalisations due to the drinking of others in 2005 alone (15).

There has been considerable controversy regarding the relationship between level of alcohol consumption and mortality. A seminal study in the 1980s reported a 'U' or 'J' shaped curve, whereby both non-drinkers and heavy drinkers had higher mortality rates than moderate drinkers (20). However, since then it has been suggested that biases or errors in the classification of non-drinkers may artificially inflate their mortality rates (21), or that uncontrolled variables, self-report methodologies and recall bias, variation in drinking levels over time, and different consumption patterns may confound this relationship (22). To date, this issue has not been conclusively resolved, with no consensus on the potential health benefits of moderate alcohol consumption.

2.4. Influences on consumption

While the aggregate rates of alcohol consumption and related harms in Australia are well established, differential patterns have been less thoroughly examined. As with many other health and wellbeing factors, alcohol use and alcohol-related harms are not evenly distributed throughout Australian society. Instead, they vary in response to a range of variables. These are discussed below.

2.4.1. Availability

Pricing

Over the past two decades alcohol has become more affordable in Australia relative to household income (6). As with many commodities, alcohol sales are responsive to price, with price decreases generally leading to sales increases. Similarly, international experience suggests that if the price of alcohol is increased through means external to market forces (such as increased taxation), alcohol consumption generally declines. This is particularly the case where increases in price occur at the lower end of the price spectrum (e.g. increases in the minimum price of alcohol) (23).

Physical availability

In recent years, Australia has seen an unprecedented increase in alcohol availability, as evidenced by:

- An increased number of licensed premises
- An increased number of different licence types
- Increased hours of availability
- An increased range of beverage types (24-26).

The increase in alcohol availability has been particularly pronounced in Victoria, where there was a 120% increase in the number of licensed premises between 1996 and 2010 (27). Evidence indicates that as alcohol

becomes more readily available, consumption and harms increase (23). Correspondingly, limiting availability (e.g. through total or partial bans, regulating retail outlets, reducing outlet density, or reducing hours and days of trade) is intended to increase the economic and opportunity costs associated with obtaining alcohol, and thus reduce consumption and related problems (28).

2.4.2. Age

Patterns of alcohol consumption vary by age. In 2010, Australians aged 70 years or older were those most likely to consume alcohol daily, while those aged 40-60 were most likely to drink weekly. However, while older Australians tend to drink alcohol with the greatest frequency, Australians aged 18-29 years tend to drink the largest quantities of alcohol (9). As a result, young Australians are at greatest risk of alcohol-related accidents and injuries, and other acute outcomes associated with excessive consumption. By contrast, older Australians may experience adverse outcomes relating to the interaction of alcohol with other health issues or medications.

2.4.3. Gender

Evidence consistently reports greater alcohol consumption among men compared to women, both in Australia and internationally (29, 30). Young women may also be especially vulnerable to adverse outcomes that can accompany intoxication, including injury and sexual assault. It has been suggested that differences between men and women's drinking are largely a function of their differential positions in society. That is, the higher women's position in society, the smaller the difference in men and women's drinking rates (31). While efforts towards gender equity should not be curtailed in the name of health promotion, specific prevention strategies targeted at women, especially those in more senior or 'male-matched' roles, are consistent with an equity focus.

2.4.4. Marital status

Marital status is a strong predictor of alcohol consumption. Specifically, Australians who have never been married or are divorced/separated are more likely to consume alcohol at risky levels than those who are married (32). Similarly, individuals who misuse alcohol have been found to have a higher probability of relationship breakdown (33). American research suggests that the relationship between consumption and marital status may be influenced by individual and societal pre-disposing factors (e.g. age of initiation and peer group alcohol use), as well as severity of problem drinking (34).

2.4.5. Rurality

Rurality also appears to influence rates of risky drinking. In 2010, Australians living in remote or very remote areas were more likely to drink at levels associated with both short- and long-term harm than those living in other areas. This pattern was consistent even after adjusting for age (9).

2.4.6. Aboriginal and Torres Strait Islander peoples

In 2010, Aboriginal and Torres Strait Islander Australians were 1.4 times as likely as non-Aboriginal Australians to abstain from drinking alcohol, but were also about 1.5 times as likely to drink alcohol at risky levels (9). That

is, Aboriginal and Torres Strait Islanders tend to drink less often than non-Aboriginal Australians, but when they do drink, it is more likely to be at risky levels.

Aboriginal and Torres Strait Islander Australians additionally experience a disproportionate level of alcohol-related harms. Between 2003 and 2006 this group experienced 7-7.5% of the total national mortality burden resulting from alcohol use while making up only 2.5% of the population. At ages 15 to 74 years, rates of alcohol-attributable death and years of life lost among Aboriginal and Torres Strait Islanders were 2-3 times higher than the national average. At ages 25 to 54, the alcohol-attributable mortality rates among Aboriginal and Torres Strait Islanders were 4-6 times higher than the national average (19).

2.4.7. Employment

Different occupational groups often have different patterns of alcohol consumption. In Australia short-term risky drinking is least common in the education industry, and significantly more common in the hospitality, agriculture, manufacturing and construction industries. Long-term risky drinking is also more prevalent in the agriculture, retail and manufacturing industries, compared to the education industry. Furthermore, drinking patterns associated with both short- and long-term harm are more prevalent for blue-collar workers than professionals (35, 36). Secondary analyses of the 2010 National Drug Strategy Household Survey data conducted by NCETA show the prevalence of risky drinking in different industry groups in Figure 3.

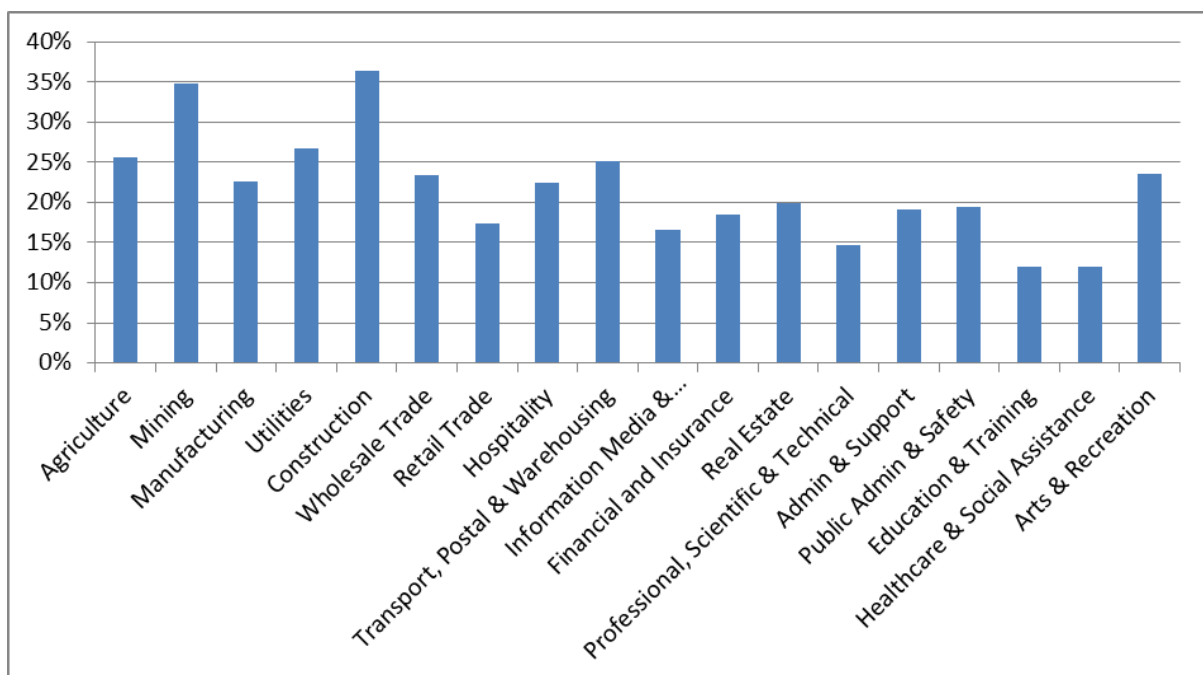


Figure 3. Prevalence of short-term risky drinking by industry type. Source: 2010 National Drug Strategy Household Survey.

2.4.8. Prisoners

In 2012, almost half of all prison entrants (46%) reported consuming alcohol at risky levels during the previous 12 months. Entrants most likely to consume alcohol at risky levels were Aboriginal and Torres Strait Islanders, young people and men. The proportion of discharged prisoners who reported accessing an alcohol treatment program while in prison was low (12%) relative to the proportion who were at high risk of alcohol-related harm on entry (37).

2.4.9. Sexual orientation

Rates of risky drinking appear higher among lesbian, gay, bisexual, transsexual and intersex (LGBTI) communities than the general population (38-41). Some research has shown that LGBT individuals in treatment for substance use tend to have more severe problems than heterosexual clients (42). This may be due to a reluctance to enter treatment earlier for fear of discrimination or inappropriate services.

2.4.10. Culturally and linguistically diverse communities

Research findings concerning alcohol consumption among culturally and linguistically diverse (CALD) communities are patchy, with results suggesting a complex picture of variations based on cultural traditions, background, age, gender and other factors. Nevertheless, it appears that alcohol use is less prevalent among CALD communities compared with the broader Australian population. The possible exception to this is among Pasifika communities, where patterns of alcohol consumption consistent with short-term harms are more prevalent (43).

2.4.11. Socioeconomic status

Globally, the alcohol-related disease burden is closely associated with levels of consumption. However, for every unit of exposure, alcohol-related harms are greater among people with lower socioeconomic status (SES) and other marginalised groups (44). There are complex and nuanced relationships between social characteristics and levels of alcohol consumption and harm. In exploring these relationships, it is important to differentiate between the influence of SES on risky consumption and on actual levels of harm. A further important consideration is the way in which SES is defined, as different outcomes can be obtained from different measures of SES. Finally, the impact of SES may also be mediated by factors such as age and gender.

Influence of socioeconomic status on consumption

International data indicates that there is a close correlation between countries' per capita purchasing power and alcohol consumption. Figure 4 demonstrates that the proportion of abstainers declines as per-capita income increases. Similarly, Figure 5 shows a positive relationship between per capita GDP and alcohol consumption. These figures suggest that alcohol increasingly becomes a part of everyday life when economies start to prosper. That is, after a certain GDP threshold is reached, most people can afford to purchase alcohol and therefore the relationship between affluence and consumption is weaker (45). Thus, because most Australians can afford to buy alcohol, income may influence consumption levels less than do other factors (e.g. gender).

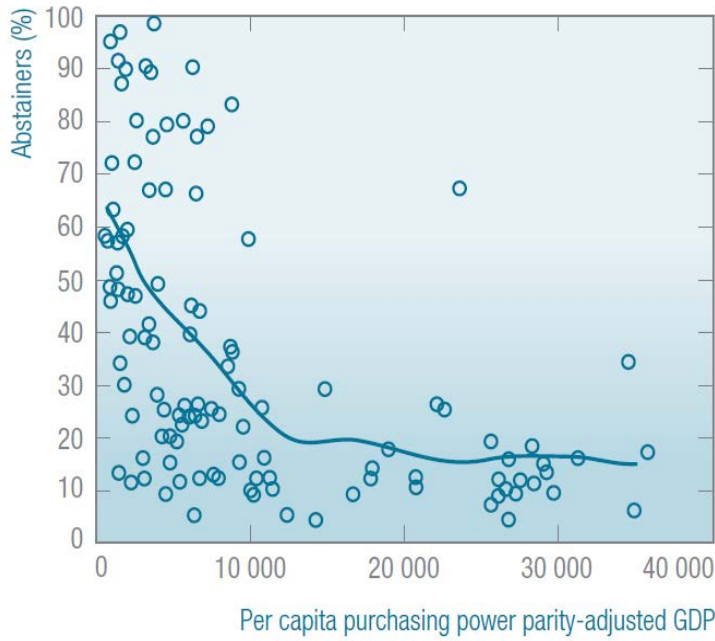


Figure 4. Relationship between per capita purchasing power parity (\$US) adjusted GDP and proportion of male abstainers, 2002 (weighted by adult population size). Source: Schmidt L et al., 2010, p. 15.

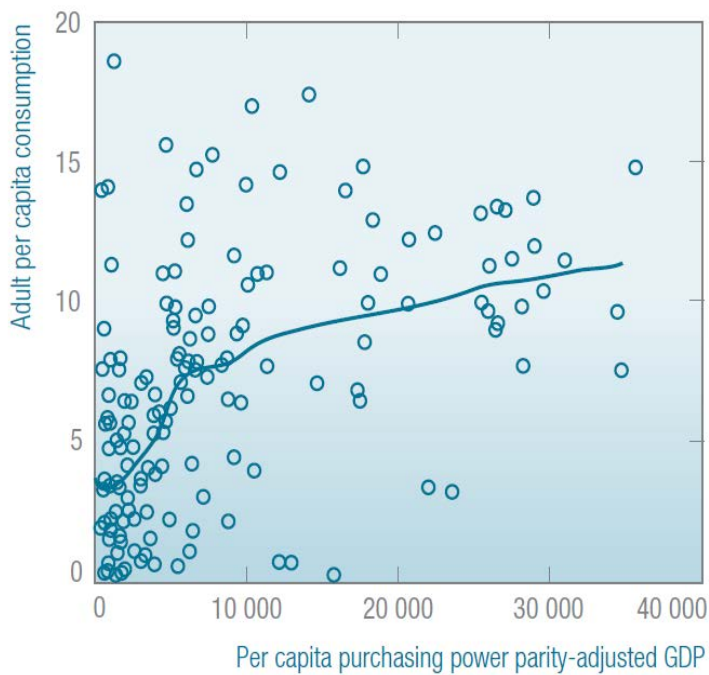


Figure 5. Relationship between per capita purchasing parity (\$US) adjusted GDP and adult consumption (litres) of alcohol per year, 2002 weighted by adult population size. Source: Schmidt L et al., 2010, p. 15.

Studies of the relationship between SES and alcohol consumption have typically found that higher SES tends to be associated with drinking more frequently, while lower SES tends to be associated with drinking larger quantities (46, 47). However, this relationship is complex. Factors such as education levels, income and gender may influence the relationship between SES and alcohol consumption, and these factors in turn may vary within different countries (46, 48, 49). Socio-demographic differences can further confound results, as interrelationships exist between gender, marital status, accommodation, education and occupation (50, 51). Finally, different measures of SES, including neighbourhood deprivation, country-level SES and individual-level SES, may influence consumption levels differently (52-54).

As a result, it is difficult to predict level and pattern of alcohol consumption from SES alone; myriad other factors must be taken into account. This has important implications for interventions efforts, which are unlikely to be successful if they target individual risk factors in isolation.

Influence of socioeconomic status on harms

There is a broad body of international and Australian literature which examines links between socioeconomic status and alcohol-related harms. European research has consistently found that acute and chronic alcohol-related harms (including mortality) are more common among disadvantaged individuals (55). In one study, SES was more strongly associated with alcohol-related death or hospitalisation than extent or pattern of consumption (56). In other cases, the strength of this association varied by age, with the greatest inequalities between advantaged and disadvantaged individuals evident in those aged 25-44 years (57, 58). Australian research demonstrates similar findings, and indicates that the disproportionate burden of alcohol-related harms among disadvantaged populations appears to have grown worse over time (59).

Socioeconomic status has also been associated with alcohol-related harms such as road traffic accidents and domestic violence. Drink drivers have commonly been found to be male, have lower incomes, have completed Year 10 or less at secondary school, be unemployed or employed in blue-collar occupations (60), be single, have low self-esteem, and to be from low to middle income socioeconomic backgrounds⁸ (61). Similarly, a significant negative association has been found between domestic violence and SES, whereby disadvantaged neighbourhoods have higher rates of reported domestic violence (62). This association is important given the role played by alcohol in a large proportion of domestic violence incidents (63).

It has been suggested that it could be income inequality (rather than SES per se) which influences patterns of alcohol consumption and harms. Income inequalities arise when income is unequally distributed across a given population, irrespective of the absolute income levels of that population. For example, an Australian study found a curvilinear relationship between income inequality and acute and chronic alcohol-related causes of

⁸ It is important to note that these findings refer to drink driving convictions, rather than drink driving per se. Higher SES groups may be less frequently convicted of drink driving due to their vehicles being less likely to come to the attention of police; being able to obtain legal representation to avoid conviction; and being able to afford to use taxis to avoid drink driving.

hospitalisation. That is, increases in inequality were initially associated with declining rates of hospitalisation, but this was followed by large increases as income inequality levels widened (64).

Summary

The relationship between SES, alcohol consumption and alcohol-related harms is complex. At the international level, there is a close relationship between a country's level of affluence and levels of alcohol consumption (45). At the individual level, those in higher SES groups are typically more likely to be drinkers and to drink more often (particularly light-to-moderate drinking occasions), than their lower SES counterparts. On the other hand, drinking occasions that involve hazardous consumption are typically more common for lower SES individuals (45).

Importantly, for a given level of consumption, socioeconomically disadvantaged groups may experience higher levels of alcohol-attributable harm (45). Inequities in the burden of alcohol-related harms can lead to other problems, including loss of earnings, family disruption, interpersonal violence and stigmatisation, thus worsening the socioeconomic divide. The accumulation of socioeconomic disadvantages over time may additionally heighten the risk of alcohol harms that occur in combination with other health problems, again potentially widening socioeconomic disparities (45). The relationship between SES and alcohol-related harms is therefore reciprocal in nature.

2.4.12. Synthesis

Identifying the role played by social determinants in alcohol consumption and related harms is not a straightforward task. Some of the challenges involved in interpreting research in this area are listed below:

- The way in which variables (such as SES and alcohol consumption) are measured can influence research findings.
- Social determinants can interact with and reinforce each other in complex, reciprocal relationships.
- The influence of each social determinant can be mediated by other factors which are themselves social determinants.
- Vulnerable populations may be influenced by a combination of several risk factors. For example, Aboriginal and Torres Strait Islanders are likely to experience stigma and discrimination, social exclusion, stress and economic disadvantage.

At present, the greatest social determinant impacting alcohol consumption and related harms in Australia is the availability of alcohol (see (65)). All other factors need to be considered in the context of unprecedented levels of physical and economic access to alcohol. The role of social determinants is therefore best viewed as mediating the interface between individuals and communities and a highly alcohol-rich environment.

Age, sex, Indigenous status, being in prison, and living in a rural area all appear to be related to levels of alcohol consumption and related harms. However, a more complex relationship is found with socioeconomic status. While higher SES groups tend to drink more frequently, lower SES groups drink larger quantities and are

at greater risk of associated harms. The reasons for this have not been fully elucidated, but there are a number of potential explanations.

Lower SES groups may have less access to, or awareness of, health services that could interrupt the causal links between risky alcohol use and health effects. They may also be more likely to be caught in a spiral of adverse effects from alcohol use, reinforced by marginalisation and stigma (66). It is also possible that lower SES groups are disproportionately exposed to alcohol advertising and/or outlets (67, 68). In addition, individuals of higher SES may have more resources to protect themselves from the hazards associated with drinking. They may, for example, be able to choose to drink in safer environments or to take a taxi home instead of driving (56).

Disadvantaged individuals (particularly men) are also less likely to be married, compared to their more advantaged counterparts (69). The social support, financial and time commitments associated with marriage may facilitate health behaviours, and consequently contribute to greater alcohol consumption among lower SES (unmarried) men. In addition to social support from a partner, support from employers may also play a role. Prestigious or professional workplaces may invest more resources in preventing or addressing the alcohol problems of staff (56).

Finally, as countries become more affluent, alcohol becomes more affordable, particularly to lower SES groups. Costs of production also decrease as alcohol industries become more efficient, thereby putting downward pressure on prices. From this perspective, there may have been an increase in consumption among lower SES groups (relative to higher SES groups) as a result of increased affordability.

It seems inevitable that higher rates of alcohol use and alcohol-related problems accompany increased affluence. Clearly it would not be appropriate to attempt to curtail national prosperity, but a better understanding of these relationships may help to avert their negative impact. A unifying model which explores the social determinants of alcohol consumption was developed by Schmidt and colleagues (45), and is presented in Figure 6. This model proposes that socioeconomic position and context, in combination with differential vulnerability, shape alcohol consumption patterns. Health outcomes from consumption are in turn shaped by differential exposure and vulnerability, and can lead to socioeconomic consequences. Socioeconomic consequences additionally impact upon differential vulnerability levels.

Section 3 of this report describes and critiques interventions which have been used in Australia and abroad to prevent and/or minimise alcohol consumption and related harms.

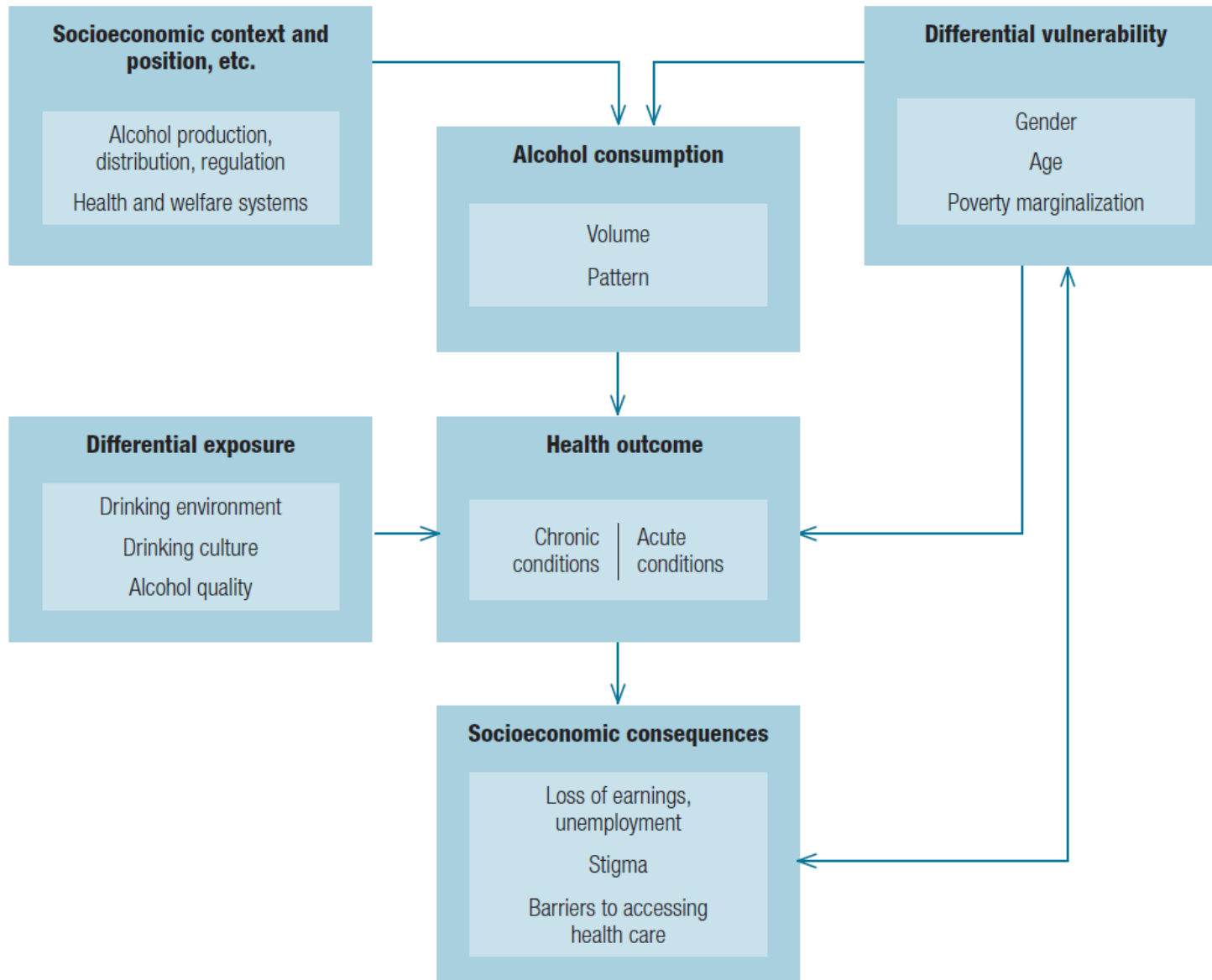


Figure 6. Unifying model of the social determinants of alcohol consumption. Source: Schmidt L et al., 2010.

Section 3: Addressing the social determinants of inequities in alcohol consumption and alcohol-related health outcomes

The previous section outlined the high rates of alcohol consumption and related harms apparent in Australia, and showed that these consumption patterns and outcomes are influenced by a range of social determinants. There is a clear need for effective and practical interventions which both prevent/minimise alcohol harms, and which take these social determinants into account. This section summarises and critiques interventions⁹ which seek to address:

- a) Inequalities in alcohol consumption and alcohol-related health outcomes
- b) Alcohol consumption in the general population (i.e. without considering distributional effects).

While Australia expends substantial resources on reducing per capita alcohol consumption and related harms, comparatively little attention has been directed towards the social determinants of consumption and reducing inequalities (17). As a result, most literature addresses alcohol consumption in the general population, without consideration of any distributional effects.

The interventions considered here are grouped according to Fair Foundations' three layers of influence:

- The socioeconomic, political and cultural context
- Daily living conditions
- Individual health-related factors.

It is noted that many interventions address multiple layers simultaneously, while others may fit equally well within several layers. Thus, categorisation should be viewed as indicative only. It is further noted that there may be a slight degree of overlap and/or repetition between the sections. Cross references have been applied where applicable to help address this.

3.1. Socioeconomic, political and cultural context

The field of public health is increasingly cognisant of socioeconomic, political and cultural influences on health behaviours and outcomes. This section reviews key interventions which target the socioeconomic, political and cultural context in Australia in order to reduce alcohol consumption and related harms. In doing so, examination is also made of the scope for such interventions to address inequities. For example, in some instances interventions may actually exacerbate inequalities in alcohol consumption and related harms, as it is typically easier for more advantaged groups to change their behaviour in response to an intervention (70).

⁹ The term 'intervention' is here used to refer to any program, strategy, policy or other mechanism which aims to reduce alcohol consumption and/or related harms.

3.1.1. Alcohol policies and guidelines

Numerous national policies with relevance to alcohol consumption and related harms have been implemented in Australia in recent years. These include both legally binding legislation and suggested guidelines or recommendations. Key policies and their implications are discussed below.

Australia, like many other countries, has developed a range of mechanisms to reduce the health risks from alcohol. Central among these are national guidelines to inform low-risk drinking¹⁰. Healthy drinking guidelines play an important role in reducing alcohol consumption and alcohol-related harms. Not only do they provide accurate information in order to allow the public to make informed decisions about their drinking, but they also form the basis of 'risky consumption' assessments in screening, brief interventions and other approaches targeting heavy drinkers (71) (see section 3.3). Furthermore, the guidelines are a central component of much of Australia's alcohol-related policy, practice and research.

However, interrelationships with other factors make it difficult to assess the unique contribution of national guidelines to reducing alcohol consumption and related harms. In addition, while it has been argued that risky drinking guidelines play an important role in the broader national health strategy (72), the effect of guidelines on behaviour remains inconclusive (73). Reservations include:

- Lack of awareness of guidelines, particularly among young people (74-76)
- Limited understanding of the guidelines (77)
- Not all drinkers are motivated to drink moderately (74)
- Those aware of the guidelines may still drink to excess (78).

It is also feasible that guidelines have a greater impact on the risky drinking behaviours of better educated and higher SES individuals who may be more health literate, more receptive to health messages, and have greater capacity to implement behaviour change due to the wider range of supports and resources available to them.

In addition to health promotion guidelines, governments may also implement legislation to enforce safer alcohol consumption practices, such as minimum drinking age laws. These laws specify an age below which it is illegal to purchase or publically consume alcohol; in Australia this is 18 years. Wagenaar and Toomey (79) conducted a systematic review that found an inverse relationship between minimum legal drinking age and alcohol-related harms. However, they noted that factors such as sources of alcohol, ease of access to alcohol, underage service at bars, fake IDs and policy enforcement can mediate this relationship. Shults and colleagues (80) similarly found that minimum legal drinking age laws (particularly those setting the minimum age as 21) were effective in preventing alcohol-related traffic accidents and associated injuries.

Related to minimum drinking age laws are policies concerning the maximum blood alcohol concentration (BAC), above which operating a vehicle is illegal. In Australia this level is 0.05. As with minimum age of consumption laws, enforcing maximum BAC levels can reduce drink-driving casualties (81).

¹⁰ For a description of the healthy drinking guidelines, see https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/ds10-alcohol.pdf.

WHO (17) notes that broader health, education and welfare policies may also shape the distribution of alcohol consumption and related harms. These policies can influence access to health and social services, and have potential to reduce the negative effects of alcohol consumption. For example, policies promoting good nutrition can act as a 'buffer' for heavy drinkers against cirrhosis mortality, and appropriate policies in the criminal justice and child welfare sectors can help identify problematic drinkers and direct them into treatment.

Policies and guidelines regarding alcohol consumption do not exist in isolation. To assess the overall impact of a suite of alcohol-related policies, Brand and colleagues (82) developed the Alcohol Policy Index (API). The API is a composite measure of the strength of a country's alcohol policies. When applied to the 30 member countries of the Organisation for Economic Co-operation and Development, a strong negative correlation was found between API score and per capita alcohol consumption, equivalent to a 1-litre decrease in per capita consumption for each 10-point increase in API score. Encouragingly, Australia was ranked 5th out of the 30 countries, with a score of 62.8. This study endorses the proposition that policies can have a tangible effect on alcohol consumption, and provides support for Australia's current suite of policies.

3.1.2. Availability of alcohol

One of the most important ways the socioeconomic, political and cultural context can influence alcohol consumption is by shaping the overall availability of alcohol via production, importation, advertising, distribution and pricing (17). Importantly, these mechanisms can have differential effects on consumers according to their position on the socioeconomic gradient (17).

Pricing

It is well established that, all things being equal, an increase in the price of alcohol typically leads to lower consumption, while a decrease in price leads to higher consumption (72). A recent meta-analysis of 112 studies found that higher prices for alcoholic beverages led to reduced consumption across all beverage types and all populations of drinkers (from light to heavy drinkers) (83). A subsequent meta-analysis found alcohol prices to be inversely related to morbidity, mortality, violence, traffic crash fatalities and drink driving, rates of sexually transmitted infections and risky sexual behaviours, other drug use, and crime (84).

The issue of alcohol pricing comes into sharp relief when considering alcohol discounting. Alcohol is subject to price discounting in both on-premise (e.g. happy hours) and off-premise (e.g. alcohol as a loss leader in supermarkets) environments. There is considerable evidence that alcohol price discounting leads to increases in sales (23). Given that changes in the price of the cheapest forms of alcohol have the greatest impact on consumption, some countries have established minimum floor prices for alcohol in an attempt to reduce the extent to which alcohol is sold very cheaply (85).

The most common method for controlling the price of alcoholic beverages is taxation. The current Australian taxation system is acknowledged to be sub-optimal in this regard, with the Federal Government stating that 'the social costs of alcohol abuse by individuals are not effectively targeted by current tax and subsidy arrangements for alcohol' (86). Economic and epidemiological modelling has shown that comprehensive taxes

on alcoholic beverages would be a cost-effective way to reduce alcohol consumption and related harms, as well as increase revenue¹¹ (87).

However, previous research has found relatively low levels of public support for price increases to reduce alcohol consumption and related harms. In the 2010 National Drug Strategy Household Survey, less than a third (29%) of respondents supported increasing the price of alcohol; this was the lowest level of support for the 16 proposed strategies to control consumption. However, 43% of respondents were in favour of increasing the tax on alcohol to pay for health, education and treatment of alcohol-related problems (9).

While research indicates that pricing is an effective mechanism to reduce alcohol-related harms, its efficacy across all strata of society is yet to be fully established. There is some preliminary evidence that alcohol pricing strategies may have a disproportionately negative affect on disadvantaged populations. Little Australian research has examined this issue, but international literature has found that different populations drink different quantities of alcohol, spend different amounts of money on alcohol and drink different types of alcoholic beverages (88). Correspondingly, various populations may be differentially affected by increases in alcohol prices (88). It has therefore been argued that alcohol taxation is regressive, because it confiscates a higher proportion of disadvantaged drinkers' income compared to that of advantaged groups (17).

By contrast, other research has argued that increases in the price of alcohol could be particularly effective among disadvantaged populations, as they may be more sensitive to price (89). However, this effect is likely to vary according to the overall affordability of alcohol. As alcohol in Australia is relatively inexpensive, a price increase may not render it unaffordable even for low SES groups. Further research concerning this approach in an Australian context is required to fully understand the implications of alcohol pricing on disadvantaged populations.

Physical availability

Controlling the physical availability of alcohol can also lead to significant reductions in consumption and harm (72). One method commonly utilised in Australia is restricting the trading hours of licensed premises. Reducing the hours or days during which alcohol is sold can lead to fewer alcohol-related harms, including rates of homicide and assault (81). Correspondingly, increasing the times when alcohol is served by more than two hours can increase harms such as injuries, crime and assault (90). However, the extent to which alcohol consumption and related harms are impacted by trading hours is likely to vary by location, timing of extensions or reductions (e.g. evening vs night), cultural practices, social norms, drinking patterns, policy enforcement and prevalence of harms (91). Moreover, restricting trading hours may differentially impact various segments of the community in intended or unintended ways.

Reducing the density of alcohol outlets is another approach to controlling the availability of alcohol. This strategy increases the effort required to obtain alcohol, limits competition between venues and avoids

¹¹ For example, applying a universal tax to all alcohol beverages (equivalent to a 10% increase in the current excise applicable to spirits and ready to drink beverages) would raise an estimated \$4.3 billion per year, and reduce alcohol consumption by 10.6%, averting 220,000 Disability Adjusted Life Years and saving \$3.2 billion in healthcare costs.

'clustering' of outlets (92). Outlet density may influence alcohol consumption and harms via a combination of *proximity* (the ease of access to alcohol) and *amenity* (the effect of outlets on the characteristics of the surrounding area) (92). While the effect of outlet density is equivocal (93), greater density is typically associated with increased consumption and higher rates of alcohol-related harms (81, 94).

Importantly, an association has been established between outlet density and neighbourhood socioeconomic status. New Zealand research conducted by Hay and colleagues (95) found that individuals living in deprived urban areas were in closer proximity to pubs, bars, clubs and bottle-shops than those in wealthier areas. The difference was greatest for bars, amounting to a 112 metre decrease in travel distance per deprivation decile. As a result, New Zealanders living in disadvantaged areas are more readily able to access alcohol than those in wealthier areas (greater proximity), and could also be expected to be exposed to more alcohol advertising, as well as more intoxicated patrons (poorer amenity).

Similarly, a Victorian study found considerable socioeconomic variation in exposure to alcohol outlets in Melbourne, with hotels and restaurants more likely to be found in advantaged areas, and bottle-shops and clubs more likely in disadvantaged areas. In rural Victoria all types of outlets were found to be more prevalent in disadvantaged neighbourhoods (96, 97).

It is therefore likely that the unequal distribution of alcohol outlets contributes to the unequal distribution of alcohol consumption and related harms. As such, neighbourhood planning and zoning may have a role in controlling the availability of alcohol and reducing consumption¹². Importantly, these strategies also have potential to reduce differential exposure to alcohol-related risks, and may go some way towards addressing alcohol inequalities.

3.1.3. Marketing and advertising of alcohol

Alcohol is marketed in Australia through a variety of means, including advertising in mainstream media, linking alcohol brands to sports and cultural activities, sponsorship and product placement (81). Marketing may seek to either increase market share ('convert' current consumers from competing products), or increase market size (encouraging higher levels of consumption) (98).

In Australia alcohol advertising is regulated primarily by the Alcoholic Beverages Advertising Code (ABAC)¹³, as well as a number of other applicable laws and codes (99). However, compliance with the ABAC code is voluntary, with no penalties for non-compliance or legal obligations to remove non-compliant advertisements (100). As a result, the effectiveness of the current system in regulating alcohol marketing has been questioned (99).

Advertisements for alcohol remain a common feature of Australian television and print media, and while research investigating the relationship between alcohol marketing and consumption has found mixed results,

¹² Restricting the physical availability of alcohol has also played a central role in many interventions targeting rural and remote Indigenous communities. This issue is discussed further in section 3.2.

¹³ See: <http://www.abac.org.au/publications/thecode/>.

there is some indication that greater exposure to advertising may be related to increased consumption, particularly among adolescents (93, 94).

To date, little Australian or international research has examined whether the impact of alcohol promotion differs according to socioeconomic status. It is possible, for example, that disadvantaged populations engage in activities that expose them to more advertising. Individuals with lower educational levels may also respond differently to advertisements. Further exploration of this issue is required to shed light on the association between socioeconomic status, alcohol consumption and alcohol-related harms.

3.1.4. An equity perspective

While approaches such as pricing and availability restrictions may be effective in curbing alcohol consumption and related harms on a per capita basis, few cultural or political interventions were identified that specifically, intentionally and explicitly addressed inequalities in consumption and harms. This lack of attention to (and possibly awareness of) social inequities in alcohol consumption is indicative of the broader Australian policy context, which principally aims to modify individuals' behaviour rather than address social determinants (70). It is likely that focusing on universal policies is simpler and more politically viable than acknowledging the role of social determinants. However, the disproportionate alcohol-related harms that accrue to disadvantaged populations are more difficult to rectify if relevant cultural, environmental and social factors are not addressed.

The challenge of addressing social determinants within Australia's national policies has been raised by several commentators. Nutbeam (101) suggests that the complexity of the issues involved has resulted in 'analysis paralysis', whereby there exists an increasing literature base examining the issue of social determinants, but relatively little concrete action being undertaken to address inequalities. He proposes that researchers must play a role in encouraging policy makers to consider social determinants, by ensuring that their work explicitly addresses policy implications and practicalities, and is effectively disseminated to ensure that the necessary information is available and in an appropriate format to guide political decisions.

Graham (102) suggests that the social determinants of health could be taken into account during policy target setting, development and evaluation. For example, policy targets could focus on addressing health inequalities rather than health outcomes; policy development could focus on interventions directed towards disadvantaged groups; and policy evaluations could assess the impact of policies on social determinants over time. Similarly, WHO (1) recommends that an incremental, step-wise approach be taken to develop policies that target health inequalities (see Figure 7).

Developing and maintaining a national focus on the social determinants of health is an achievable goal, but will require strong political will supported by an empowered public sector, inter-sectoral collaboration, a progressive health sector and good research (103).



Figure 7. Incremental approach to reducing inequalities. Source: Loring B, 2014.

3.2. Daily living conditions

Interventions targeting the ‘daily living conditions’ layer of the Fair Foundations Framework aim to address the circumstances in which individuals are born, grow, live, work and age. Addressing these factors can in turn influence individuals’ drinking patterns and vulnerability to alcohol-related harm. Importantly, these interventions have considerable scope to modify the social determinants of alcohol consumption and alcohol-related harms directly, and to reduce inequalities therein.

3.2.1. Early childhood development

A number of interventions have been trialled in Australia and overseas which aim to provide an optimal developmental environment for young children. Given that a disadvantaged upbringing is associated with a greater risk of problematic alcohol consumption and alcohol-related harms (104), such interventions have considerable potential to decrease the health gradient and reduce alcohol consumption and related harms in later life.

Available evidence suggests that family home visiting, parental education, school preparation programs, family interventions, and school organisation and behaviour management have moderate effects on improving outcomes for children (72). Preventing/delaying pregnancy in young and vulnerable mothers and enhancing health service provision for maternal and child health require further investigation¹⁴ (72).

3.2.2. Social participation

Social participation encompasses factors such as supportive relationships, involvement in community activities and civic engagement. While little research has specifically examined these factors in relation to alcohol, the

¹⁴ For a more detailed examination of early childhood interventions, see Loxley W, et al., *The Prevention of Substance Use, Risk and Harm in Australia: A Review of the Evidence*. Canberra: Commonwealth Department of Health and Ageing, 2004.

related concept of social capital¹⁵ has been found to be inversely related to rates of alcohol use and dependence (105, 106). This suggests that programs which foster community participation and trust may reduce or protect against risky alcohol consumption. Despite this, social participation and/or social capital interventions which seek to modify alcohol consumption and related harms are rare. However, social capital interventions which broadly aim to increase the health and wellbeing of particular neighbourhoods or populations have seen some success (107, 108), suggesting that scope exists to apply similar principles to alcohol interventions. Until further work is done in this area, it is not possible to estimate the potential of social participation interventions to reduce inequities in alcohol consumption and related harms.

3.2.3. Physical environment

In a bid to control high levels of alcohol consumption and related harms, many Western countries (including Australia) restrict drinking in certain public spaces (109). However, a recent review by Pennay and Room (109) found that despite perceptions of safety being improved by street drinking bans, there were significant unintended consequences. Marginalised populations such as Aboriginal and Torres Strait Islanders, homeless and young people were negatively affected. Street drinking bans may prevent these populations from congregating in social groups; lead to the accumulation of fines; and make it difficult for individuals to be found by their friends, family and health workers (as they are not in their usual location). In addition, they commonly result in drinkers moving to more covert (but potentially less safe) places to consume alcohol. As a result, in some cases bans on drinking in public spaces may further marginalise vulnerable groups, while also demonstrating limited effectiveness in decreasing alcohol consumption and related harms.

3.2.4. Crime and violence

Crime and violence have a complicated and reciprocal relationship with alcohol consumption. They share many of the same risk factors, and involvement with one can reinforce and facilitate involvement with the other. As a result, interventions addressing these issues will often overlap (72). In general, research shows that the most effective interventions address multiple risk factors for crime/alcohol use, as well as enhancing protective factors at the community, family, individual and peer levels (110). By contrast, traditional criminal justice approaches (e.g. incarceration) have the potential to increase rates of alcohol consumption (as well as associated inequities) if implemented without consideration of the health needs of this population (111-113).

As with many of the issues considered in this report, research which explicitly considers the role of social determinants in reducing alcohol-related crime is scarce. It is likely that addressing the social, cultural and environmental factors implicated in both crime and alcohol consumption (e.g. low SES, poor early childhood, low social capital, peer networks, physical environments etc.) would be beneficial. However, a more detailed exploration of these factors is warranted.

¹⁵ Social capital refers to patterns of engagement, cohesion, trust and reciprocity among individuals. See Putnam, RD. *The Prosperous Community. The American Prospect*, 4, 1993.

3.2.5. Sport

Sport and sporting clubs play an important role in Australian society, and can represent both a significant influence on health behaviours, and an important health promotion setting (114). Belonging to a community sports club can facilitate risky levels of alcohol consumption (115). In order to address this, the Australian Drug Foundation developed a unique intervention seeking to change the culture of Australian sporting associations: the Good Sports Program (GSP)¹⁶.

GSP is a voluntary, 3-5 year, three-stage accreditation process, provided free of charge and with the assistance of a dedicated project officer (115). During the accreditation process clubs implement multiple strategies to reduce the supply, demand and harm of alcohol. Evaluations of the program have been positive; participating clubs have lower levels of alcohol consumption than non-participating clubs, and accreditation level is inversely related to short- and long-term risky drinking (115).

GSP is one successful example of changing the culture and norms of a particular environment in order to promote healthier behaviours. However, alcohol marketing and sponsorship remains a prominent feature of professional sport in Australia, and the heavy drinking habits of some elite athletes are often well publicised. Interventions which span all aspects of sporting life in Australia are therefore required to comprehensively promote healthier drinking behaviours. However, such interventions are unlikely to be implemented without governmental and sporting industry support.

3.2.6. Employment

The majority of workplace alcohol interventions typically seek to modify individual behaviour¹⁷. However, employment conditions may also influence alcohol consumption via such mechanisms as the physical and psychosocial aspects of work, and resultant work-related resources and opportunities (116, 117). In addition, workplaces which are psychologically and physically healthy environments can reduce stressors that may lead to alcohol use, and also facilitate staff with alcohol problems being efficiently referred, treated and supported, thereby preventing an escalation of harms.

Consequently, various specialist interventions seek to address the workplace and environmental factors that may be conducive to the initiation or continuation of risky alcohol consumption (118). Examples include the Building Industry Safety and Rehabilitation Program, and the Australian Defence Force Alcohol, Tobacco and Drug Service. Both of these programs target organisational policies and practices in order to bring about cultural change concerning alcohol use (117).

It is important to note that employment may act as both a determinant and an outcome of risky alcohol use. For example, certain workplaces may facilitate risky consumption behaviours among staff, but the resultant health consequences can lead to difficulties in maintaining employment, which in turn can lead to greater

¹⁶ For a discussion of individual behaviour-change interventions implemented within sporting clubs, see section 3.3.

¹⁷ A discussion of these interventions can be found in section 3.3.

stress and thus greater consumption. The complex and non-linear nature of these relationships can make it difficult to implement effective preventive strategies.

3.2.7. Populations

Different population groups have differential levels of alcohol consumption, as well as differential vulnerabilities to alcohol-related harm (17). As a consequence, different groups have varying levels of need for alcohol-related treatment and interventions. The success of alcohol interventions for these populations may be influenced by a range of factors, including:

- Availability and consumer knowledge of services
- Costs involved in accessing services (e.g. travel, child care, lost wages or actual payment for healthcare and medication)
- Attendance at local healthcare services (as provision of alcohol-related interventions often occurs at the instigation of a healthcare provider)
- Stigmatisation and/or economic barriers making mainstream alcohol services inaccessible or inappropriate
- Lack of privacy or anonymity in public healthcare facilities (especially in smaller communities).

As a result, tailored strategies targeting particular groups may be needed. Examples of interventions tailored to the needs of population groups are provided below.

Indigenous and Torres Strait Islander peoples

Services aiming to prevent or reduce problematic alcohol consumption among Aboriginal and Torres Strait Islander peoples are provided by state and territory government agencies, Indigenous community-controlled substance misuse and health service organisations, and (to a lesser extent) non-Indigenous controlled non-government organisations (72). Interventions may take the form of individual treatment or rehabilitation, health promotion and/or supply reduction (119). A recent review of Aboriginal and Torres Strait Islander health programs (120) identified general principles utilised by successful initiatives. In brief, these principles emphasise the need for holistic programs which value Indigenous culture and beliefs and include local community engagement. Long-term funding and comprehensive evaluations were also found to be important¹⁸.

Recent years have seen myriad interventions aiming to reduce alcohol consumption (as well as other risky behaviours) among Aboriginal and Torres Strait Islander populations. However, while significant resources are being allocated to 'closing the gap', to date there has been variable success in achieving significant progress. Many Indigenous people are exposed to numerous forms of disadvantage, including discrimination, poverty, stress, and ongoing grief and trauma related to colonisation (121). Thus, interventions which do not address these issues within a social determinants framework are unlikely to result in lasting change. Furthermore, interventions for this population must be developed, implemented and evaluated in a culturally safe and

¹⁸ For a more comprehensive examination of these principles, see: Osborne K, Baum F, and Brown L, *What works? A review of actions addressing the social and economic determinants of Indigenous Health*. Canberra: Commonwealth of Australia, 2013.

appropriate manner. Without consideration of these factors, inequalities in alcohol consumption and alcohol-related harms between Indigenous and non-Indigenous Australians are unlikely to be rectified.

People in rural/remote areas¹⁹

Individuals who reside in rural and remote areas have disproportionately high levels of alcohol consumption compared to their urban counterparts (9). People who live in these areas are subject to a range of unique stressors which may impact on their health status and behaviours. These include the impact of droughts, the economic downturn and poor employment opportunities. Social and cultural norms regarding alcohol use may also differ in rural compared to urban areas, with a greater tolerance of excessive consumption in the former. Furthermore, typical avenues for health promotion and support may be unfeasible in rural and remote locations, with less access to healthcare, specialist services, law enforcement and media/telecommunications.

It is important for interventions targeting alcohol use in rural areas to take these unique social determinants into account during project design, implementation and evaluation. One example of this is the Alcohol Action in Rural Communities (AARC) project. AARC was a community-action program to reduce alcohol-related harm in 20 rural communities in NSW. Completed in 2012, it utilised a prospective randomised controlled trial design, as well as a benefit-cost analysis. AARC combined 13 interventions over five years, and resulted in fewer risky drinkers, alcohol-related street offences and alcohol-related crimes. It was estimated that for every \$1 invested in AARC, communities received benefits of between \$1.37 and \$1.75²⁰ (122).

Young people

Minimising alcohol consumption and alcohol-related harms among youth has long been a concern of most Western countries (123). One approach has been the implementation of prevention programs within school and/or family settings. The former may involve education, social and peer resistance skills, normative feedback, or development of behavioural norms and positive peer affiliations, while the latter supports the development of positive parenting skills. A combination of both settings ('multi-component interventions') may also be used (124).

A recent Cochrane systematic review (124) found some support for the efficacy of school, family and multi-component interventions, although the quality of studies was generally poor. School-based programs had mixed results, but those based on psychosocial or developmental approaches were more likely to report positive effects over several years. Most studies of family-based initiatives reported small but consistent positive effects which were persistent into the medium-long term. Some evidence also existed for the efficacy of multi-component interventions.

NCETA (125) similarly conducted a systematic review of school-based alcohol interventions. Key effective and ineffective program aspects are summarised in Table 1. Importantly, it was noted that information presented

¹⁹ Interventions for rural and remote areas often overlap with those targeting Indigenous peoples, and many of the same principles apply.

²⁰ For a more detailed description of the methods and results, see:
<http://ndarc.med.unsw.edu.au/sites/default/files/ndarc/resources/AARC-FARE-Report.pdf>.

in school-based programs is received and acted upon differently by different populations of students, according to their personal experiences, peer and family influences, media and community contexts.

Table 1. Components of school-based alcohol programs

ALCOHOL EDUCATION PROGRAMS/RESOURCES SHOULD:	ALCOHOL EDUCATION PROGRAMS/RESOURCES SHOULD NOT:
Be based on accurate information and supported by empirical research	Be based largely on ‘factual’ aspects of alcohol (such as physical effects)
Go beyond providing ‘factual’ information about alcohol	Seek primarily to enhance self-esteem, psychological wellbeing and/or social competence
Use interactive teaching and learning styles	Rely on the use of ‘scare tactics’
Have clear, appropriate, achievable goals and objectives	
Be supported by adequate teacher training and support	
Be consistent with a whole-of-school approach	

The improved knowledge base in regard to a variety of strategies to reduce or prevent risky drinking among young people is encouraging. However, it has not yet been ascertained whether interventions that demonstrate reasonable effectiveness are equally beneficial across all groups of young people. Research regarding the best way to target alcohol consumption among different populations of young people is needed.

Older people

Older Australians’ alcohol consumption is an emerging area of concern, and is implicated in a broad range of health outcomes. The health of older people has been identified as particularly susceptible to social determinants (126). However, many interventions targeting older people do not take these determinants into account, and assume that the elderly have the same opportunity and capacity to change their behaviours as other populations (127). Furthermore, the majority of interventions for this population have not been evaluated²¹ (128).

One response to these issues is the ‘healthy ageing’ movement. Healthy ageing is conceptualised as dependent on a broad range of individual, community, socioeconomic and political factors. As Renehan and colleagues (128) state:

Some of these factors are within the control of the individual, usually referred to as lifestyle factors, and others are outside the individual’s control. Social determinants of health, such as income and education, influence the choices that individuals can make and create life circumstances which limit opportunities for healthy lifestyle and create health inequalities.

²¹ For a review of the evidence regarding interventions for elderly populations, see: Proude E, Lopatko O, Lintzeris N and Haber P. The Treatment of Alcohol Problems: A Review of the Evidence. University of Sydney for the Commonwealth Department of Health and Ageing. 2009.

Thus, social, personal and behavioural determinants interact with the physical environment and access to health services to enable or prevent active ageing. Gender and culture may be particularly strong influences on healthy ageing, as they can shape other determinants (128). Interventions which seek to reduce alcohol use among this population should therefore do so within a healthy ageing paradigm.

Pregnant women

Current drinking guidelines recommend the consumption of no alcohol during pregnancy (129). Maternal prenatal alcohol use can have severe impacts on the health and wellbeing of both the mother and the child (130). Moreover, such impacts on the child can be severe and permanent, resulting in a lifetime of disability and disadvantage (131). As a result, considerable attention has been directed towards preventing or minimising alcohol consumption during pregnancy. A systematic review found that brief screening questionnaires, particularly T-ACE, TWEAK and AUDIT-C, could be effective in identifying risky drinking among pregnant women (132).

A 2009 Cochrane review similarly assessed the efficacy of interventions for reducing alcohol consumption in pregnant women (133). However, few appropriate studies were identified and study quality and results were inconsistent. It was concluded that there was some evidence that psychological and educational interventions may result in increased abstinence from alcohol, or reduced alcohol use among pregnant women, but that more research in this area is needed.

Vulnerable populations

Homeless People

There is a complex and multifaceted relationship between alcohol use and homelessness (72). Housing security is a fundamental element of good health, and severe alcohol problems can either contribute to homelessness (e.g. through job loss), or exacerbate other contributory factors (e.g. mental health problems). Few Australian interventions have addressed this issue. An exception to this is Michael's Intensive Supported Housing Accord (MISHA), which provides long-term, stable accommodation for homeless men, as well as integrated support services, assertive case management, psychological services and activities. Preliminary evaluations suggest participants in the program feel safer and are more connected to community and support networks and essential services (134).

Housing First is a similar American program which provides immediate, permanent, low-barrier, supportive housing to chronically homeless people. Importantly, it does not require a commitment to abstinence from alcohol and other drugs (135). Studies have found that this type of harm reduction approach can facilitate housing attainment and maintenance among homeless people with severe alcohol problems (135, 136).

Another potential approach for this vulnerable population is the use of managed alcohol programs (MAPs). MAPs provide controlled amounts of alcohol on a daily schedule in an effort to retain individuals in treatment, decrease consumption and improve social functioning. However, a recent Cochrane review (137) found no appropriate studies of MAPs, and as such further research is required.

Prisoners

Prisoners and law enforcement detainees are high-risk groups for excessive alcohol use and/or related problems. Alcohol is also known to be closely associated with offending and re-offending, with many crimes perpetrated while under the influence of alcohol (138). Prisons provide a setting for opportunistic interventions, and a number of strategies have been employed to control or reduce alcohol use and dependence, including treatment programs, education and peer support (72). However, there is little information available on their effectiveness (72). Furthermore, it has been noted that the range of alcohol-specific programs in prisons is considerably less comprehensive than those targeting illicit drugs (139).

In a review of drug and alcohol treatment programs for offenders, Bahr and colleagues (140) found evidence of effectiveness for drug courts, therapeutic communities, cognitive behaviour therapy (CBT), contingency management (CM) and pharmacological treatment. On this basis, they made the following recommendations:

- The use of therapeutic communities should be expanded for prisoners and others in residential settings.
- The use of drug courts should be expanded for offenders on probation and in the community.
- Within therapeutic communities and drug courts, CBT, CM and pharmacological treatments should be made readily available.

CALD

While CALD communities in Australia tend to have lower levels of alcohol consumption than the general population, a need for targeted alcohol programs among CALD groups has been identified as an equity issue (141). Importantly, different CALD communities may have different patterns and prevalence of alcohol use, as well as different risk factors or predictors for use (142). As such, universal approaches are unlikely to be effective, and interventions should be directed towards specific groups (141). Renicow and colleagues (142) argue that the first step towards developing culturally sensitive interventions is to gain an understanding of ethnic and cultural differences in the predictors and determinants of substance use. However, they note that relatively little research on these issues has been conducted, with few studies examining how CALD groups respond to interventions.

Refugees

Evidence on the patterns of alcohol use among resettled refugees and people who have experienced forced displacement is limited and weak (143, 144). Australian cross-sectional convenience studies suggest lower prevalence of alcohol consumption among settled refugees than among the Australian general population (e.g. (145, 146)). However, there is anecdotal evidence that disengaged resettled refugees may be consuming alcohol at risky levels (e.g. (147)). The lived experiences (143, 148), settlement stressors (145, 146, 149), and potential for multiple health problems (150) are risk factors that make these populations vulnerable to risky patterns of alcohol use.

Many of the social determinants contributing to risky alcohol consumption can also be found in these populations. These include younger, primarily male populations, pre-displacement alcohol use, socioeconomic

factors (143), trauma-related conditions (143, 148), family separation and bereavement (151), cultural and linguistic differences, difficulties in navigating multiple delivery service models (149), persistent high levels of life dissatisfaction (152, 153), and social and economic concerns such as affordable housing and the need to build social networks (154, 155).

Foundation House, the Victorian Foundation for Survivors of Torture, has developed guidelines for caring for refugee patients in general practice (156). The guidelines provide extensive information for general practitioners on screening, assessment and care for refugee patients. In western Melbourne, two capacity-building alcohol-related projects have been implemented to support young male refugees: the Brimbank Young Men's Project and the Engaging Youth: Promoting the Wellbeing of Vulnerable Karen Young Men (147). Similarly, in Hobart, a study undertaken with young resettled refugees identified a holistic and comprehensive approach for redressing the inequity experienced by this population. Recommendations included working with youth and counselling services, addressing racism, keeping young people engaged with schooling, bringing parents and young people together and providing affordable activities for young people (145).

LGBTI

Homophobia and discrimination may result in lesbian, gay, bisexual, transgender or intersex (LGBTI) individuals finding it difficult or uncomfortable to access treatment for alcohol use (157). Correspondingly, some research has shown that LGBTI individuals entering treatment tend to have more severe problems than heterosexual clients (42). There is some evidence that LGBTI individuals experience better outcomes when services offer LGBTI-specialised treatment (158). However, an American study found relatively few organisations offered such programs (159).

Cochran and Cauce (42) identified four recommendations for improving the substance use treatment of LGBTI individuals, noting that they may require changes at both the administrative and individual staff level. These were:

- Asking about clients' sexual identities, attractions and behaviours
- Being aware of personal heterosexist assumptions and homophobia
- Respecting clients' sexual identities and behaviours
- Inquiring about relationships between sexual or gender identity and substance use problems.

3.3. Individual health-related factors

Interventions at this level seek to change individuals' health-related attitudes and behaviours in order to decrease alcohol consumption. This section of the report considers interventions which target individuals in particular settings, and at primary, secondary and tertiary levels. However, there is potential for these interventions to be disproportionately utilised by advantaged populations. That is, participants who could gain most from engagement in individual interventions may be precluded from doing so by social and economic constraints – for example, children who are regularly away from school, casual workers and those with limited financial means.

3.3.1. Settings

Settings such as schools, workplaces, health services and communities offer opportunities for implementing comprehensive interventions aimed at changing individual behaviour. Such settings also provide opportunities to differentially target high-risk groups and to ensure that any interventions do not inadvertently increase inequities. Consequently, the application of tailored and targeted alcohol-related interventions for a wide variety of vulnerable groups has received growing attention. Key examples are highlighted below.

Schools

Some school-based programs have been shown to be effective in reducing the frequency of intoxication and binge drinking among adolescents (160, 161), although gender, baseline alcohol use and ethnicity may modify the effects of these interventions (161)²². A review by Roche and colleagues (162) identified three school-based programs with good evidence of effectiveness: Climate Schools, Project ALERT and All Stars. They further identified several features which are common to effective programs: approach, implementation process, timing, program elements, content, mode of delivery and support (Table 2).

²² School-based interventions are also considered in section 3.2.7.

Table 2. Features of effective programs

Feature	Domains
Approach	Social influence Normative approach Theory driven
Implementation process	Program fidelity
Timing	Introducing alcohol education
Program elements	Comprehensive Socio-culturally relevant Positive relationships Needs of target group
Content	Single substance focus Materials Media literacy
Mode of delivery	Interactive and activity oriented Peer interaction Varied teaching methods
Outcome evaluation	
Support	Supportive school policies and culture Teacher training and skills

Work

As noted, workers in some industry and occupational groups are at much greater risk of engaging in risky alcohol use. There is increased attention being directed towards strategies that specifically target these high-risk groups²³. For example, NCETA and LeeJenn Health Consultants have commenced a randomised controlled trial that aims to reduce alcohol-related harm in the manufacturing industry by delivering a whole-of-organisation change program, targeting the organisation's working conditions and culture, and the behaviour of the workforce (163). NCETA has also undertaken an early intervention program targeting young trainees employed in the commercial cookery sector of the hospitality industry (164, 165). This program was implemented in recognition of the high risk of alcohol-related harm, concomitant mental health issues, and problems of social isolation and marginalisation common among this occupational group.

Webb and colleagues (166) have identified four strategies that have the potential to produce health behaviour change within workplaces. These strategies are:

- Health promotion
- Brief interventions
- Peer interventions
- Psychosocial skills training.

²³ For a discussion of interventions which seek to modify workplaces' environment and culture, see section 3.2.6.

Similarly, a recent review of alcohol-related workplace interventions (167) found that the most commonly identified beneficial factor was alcohol screening. Secondary prevention and low-intensity intervention activities may also be effective for those identified as risky drinkers. Health and wellbeing promotion activities and alcohol testing did not appear to have an impact on drinking rates.

The most effective workplace interventions tend to involve a ‘whole of organisation’ approach. As illustrated in Table 3, while no single program may be effective, a comprehensive strategy is likely to reduce alcohol-related harm.

Table 3. Strengths and limitations of workplace strategies for responding to alcohol-related issues

STRATEGY	STRENGTHS	LIMITATIONS
Policy	Necessary basis for any response	Not an intervention strategy per se Needs to incorporate other strategies
Education and training	Necessary for response dissemination and implementation	Some workplaces may not have resources required to develop and deliver programs
Counselling/treatment	Necessary as a ‘treatment’ strategy	Can be difficult for individual workplaces to access individual service providers Focus on individual ‘problem’ workers
Employee assistance programs (EAPs)	Provides ready access to treatment/counselling services	Focus on individual ‘problem’ workers
Testing	Relatively easy to implement	Focus on individual ‘problem’ workers Can have unexpected negative outcomes
Health promotion	Focus on a range of health issues	Alcohol and other drugs not the main issue
Brief interventions	Relatively easy to implement	Needs to be part of additional strategy (e.g. health promotion, education program)

Source: Pidd K & Roche A, 2008.

Sporting organisations

Sporting organisations are increasingly the focus of behaviour change strategies. However, a Cochrane review found no rigorous studies evaluating the effectiveness of policy interventions organised through sporting organisations to increase healthy behaviours, attitudes, knowledge or the inclusion of health-oriented policies within the organisations (168)²⁴.

Licensed drinking venues

Licensed drinking venues and their surrounds have important social and economic value. However, alcohol-related harms in and around licensed drinking venues have increasingly become an issue of concern (169).

²⁴ For a discussion of community-level interventions in sports clubs, see section 3.2.

Some interventions, such as the Safer Bars program in Canada, seek to educate staff and managers about alcohol-related harms, with some success in reducing aggression (170). However, a review of situational and environmental strategies conducted by Deehan (171) found that a comprehensive approach is most effective in licensed premises, involving partnerships that include law enforcement, licensees and other stakeholders (such as local government and health authorities).

An example of a comprehensive approach to reducing the harm associated with licensed drinking venues can be found in the suite of interventions implemented in Geelong and Newcastle during the past two decades. Interventions included ID scanners, taxi ranks, safety campaigns, undercover police and alcohol-free areas, among other strategies²⁵. Subsequent to the introduction of the interventions, Newcastle reported reduced intoxication, assaults and injuries. However, results for Geelong were more equivocal, with little independent effect of interventions implemented at the community level (172). Furthermore, it should be noted that interventions targeting licensed venues have the potential for unintended consequences such as encouraging 'pre-drinking', and as a result must be implemented with care (173).

Technology

Technology (e.g. mobile phones, computerised games, online social networks, apps etc.) is now commonly used to reduce and/or prevent risky alcohol consumption, among other health behaviours. While many technological interventions initially targeted younger audiences, they are increasingly being applied to diverse age groups and populations. In a systematic review, Tait & Christensen (174) found that web-based interventions were as effective in reducing consumption among young drinkers as in-person brief interventions, although they were less efficacious in preventing the onset of consumption among non-drinkers. Video games designed to increase alcohol-related knowledge, resistance skills and/or normative education have also shown promising results (175). Other technologies which have been examined to ascertain their effectiveness in delivering alcohol-related interventions are shown in Table 4.

Social marketing²⁶ interventions are also beginning to utilise new technologies. A recent meta-analysis (176) found that online interventions targeting voluntary behaviour change are typically as effective as print interventions, but with the added advantage of lower costs and larger reach. In particular, social media sites such as Twitter have the potential to reach large audiences without the equally large costs associated with paid advertising (177). However, the internet also provides a forum for the promotion of alcohol consumption, resulting in the proliferation of conflicting messages (177). In general, more research is needed on the use of online technologies for administering alcohol-related social marketing interventions.

²⁵ For a comprehensive list of the interventions utilised, see:
<http://www.ndlrf.gov.au/sites/default/files/publication-documents/monographs/monograph43.pdf>.

²⁶ Social marketing interventions use marketing principles to change individual behaviour.

Table 4. Technological interventions

AUTHOR (YEAR)	TECHNOLOGY	PURPOSE	PARTICIPANTS	FINDINGS
Maier et al., 2014	Online social networks	Effectiveness of online social network health behavior interventions	Review. No specific population.	9/10 studies reported significant improvements in some aspect of health behavior change or outcomes (effect sizes ranged from -0.05 to 0.84). Participant attrition ranged from 0-84%. Most studies achieved between 5-15% fidelity. Very modest evidence that interventions incorporating online social networks may be effective.
Rodriguez et al., 2014	Computerised serious educational games (SEGs)	Efficacy of computerised SEGs for alcohol and other drugs	Review. Adolescents.	N = 8 studies. SEGs can increase content knowledge of alcohol and other drugs. Evidence concerning impacts on negative attitudes and alcohol and drug use is limited.
Struzzo et al., 2013	Alcohol reduction website	Randomised controlled trial of primary care-based alcohol reduction website	Study Protocol. Primary healthcare populations.	Domestic use of computers is not widespread in Italy and community involvement might be important.
Keurhorst et al., 2013	Internet-based brief intervention	Cluster randomised factorial trial to test the effectiveness of referral to internet-based program	Study Protocol. Healthcare providers.	Designed to address healthcare providers' motivation and lack of knowledge. Trial completed in December 2013.
Savic et al., 2013	Smartphone applications	To explore functions, foci and user experiences of addiction applications	N = 87 Content analysis. Military population.	Apps provided information on recovery and content to enhance motivation, to promote social support and tools to monitor progress. Support from app users. Little formal evaluation of apps has occurred.
Cucciare, et al., 2013	Web-based	Brief alcohol intervention (BAI)	Veterans.	Web-based BAIs using normative feedback may not have any additional benefit over usual treatment for older veterans with high rates of comorbid mental health concerns.
Vodopivec-Jamsek et al., 2012	Short Message Service (SMS) and Multimedia Message Service (MMS)	Mobile phone messaging interventions	Review. No specific population.	Limited evidence that mobile phone messaging interventions support preventive healthcare, improve health status or health behaviour outcomes. High quality information only available for smoking cessation interventions. Long-term effects, risks and limitations, and user satisfaction uncertain.
White et al., 2010	Online interventions	Efficacy of online interventions for alcohol misuse	Review. No specific population.	17 studies included. Users can benefit from online alcohol interventions and that this approach could be particularly useful for women, young people and at risk users.
Reid et al., 2009	Mobile phones	Real-time monitoring of young people's everyday mood, stress and coping behaviours	Young people (N = 29).	Engagement with the mobile program was high, with 76% of 504 possible entries completed and 94% (17/18) of participants reporting that the program adequately captured their moods, thoughts and activities.
Kypri et al., 2005	Telephone, correspondence-based and computerised interventions	Enhancing or substituting practitioner-delivered treatments	Review. Primary healthcare populations.	Strong support among users. Potential for being cost-effective and for expanding the reach of interventions.

Importantly, technologically based interventions may not be appropriate for disadvantaged groups who have limited technological literacy and/or access to computers. These groups include low income earners, rural and remote populations, and older people. For example, among Australian households earning less than \$40,000 a year, 57% are internet users, compared to 98% of those earning \$120,000 or more (178). In 2010-2011, only 50% of people in the lowest income bracket had access to the internet (179).

Newman and colleagues (180) recently examined disadvantaged Australians' use of digital information and communication technologies (ICTs). Access to and use of ICTs was found to vary considerably, based on:

- English literacy (even where English was the first language)
- Technological literacy
- Education
- Income and employment status
- Housing situation
- Social connection
- Trust.

The Australian Human Rights Commission²⁷ similarly conducted a review of initiatives aimed at addressing the unequal access to technology experienced by older Australians and people with disabilities. Many of the barriers identified in the review are also applicable to low income earners:

- Cost of access to computers and internet connection
- Limited public access to facilities for people who cannot afford their own equipment
- Need for awareness, and training in use of, available options
- Connection problems.

This unequal access to technology has been dubbed the 'digital divide'. Importantly, the digital divide may compound issues of social exclusion (relating to obtaining information, employment and education) for vulnerable populations. Figure 8 details recommendations from Stanford University to overcome the disparities in access to technology (181). Although written for an American audience, the initiatives are also applicable in Australia.

²⁷See: <http://www.humanrights.gov.au/building-bridges-over-digital-divide>.

What Needs to Happen?

The digital divide, as a whole, remains an enormous and complicated issue – heavily interwoven with the issues of race, education, and poverty. The obstacle, however, is by no means insurmountable if broken down into specific tasks that must be accomplished. Aside from the obvious financial barriers, the following would help narrow the gap:

Universal Access

As the use of computers and the Internet increases, so does the necessity for access. In the public sector, policy makers and community members must recognize the importance of such resources and take measures to ensure access for all. While increased competition among PC manufacturers and Internet Service Providers has substantially reduced the costs associated with owning a computer and maintaining a home connection, for many households the costs remain prohibitive. Like basic phone service, the government should subsidize Internet access for low-income households. At the same time, the private sector must commit to providing equal service and networks to rural and underserved communities so that all individuals can participate.

More Community Access Centers, Continued Support of Those Already Existing

Community access centers (CACs) are a critical resource for those without access to computers and the Internet at school or work; such programs should continue to receive funding in order to expand and strengthen. According to data collected in 1998, minorities, individuals earning lower incomes, individuals with lower educations, and the unemployed – the exact groups affected most by the digital divide – are the primary users of CACs. In fact, those using the CACs "are also using the internet more often than other groups to find jobs or for educational purposes" (NTIA Falling through the Net 99). Community access centers, therefore, are clearly worthwhile investments.

Additional, Well-Trained Technical Staff

Computers and other technologies alone are not enough. Communities and schools must train and preserve additional, and more qualified staff, alongside new technologies to promote the best application of resources. In addition to understanding the new technologies, the staff must be able to teach others.

Change of Public Attitude Regarding Technology

At the same time, much of society needs to change its attitude concerning technology. Rather than perceiving computers and the Internet as a superfluous luxury, the public should view them as crucial necessities. The public must come to realize the incredible power of new technologies and embrace them as tools for their future and the future of their children.

Source: The Digital Divide, Stanford University – <http://cs.stanford.edu/people/eroberts/cs201/projects/digital-divide/start.html>.

Figure 8. Overcoming the digital divide

3.3.2. Primary interventions

Primary interventions target the whole population, regardless of their level of vulnerability to risky alcohol consumption and alcohol-related harms.

Public health campaigns

Public health campaigns use the media to promote public health messages. They may seek to reduce alcohol consumption in general, or target specific alcohol-related harms.

Social determinants campaigns

American research conducted by the Robert Wood Johnson Foundation (182) has explored the best ways to engage audiences in discussions about the social determinants of health. Effective messages were found to contain three elements:

1. Connecting with the audience through an aspirational statement, compelling metaphor or emotionally-compelling, attention-grabbing statement
2. Describing the problem in a concrete, visual and evocative manner

3. Proving a principled solution or example that illustrates how the problem can be addressed in a way that inspires hope or increases memorability.

While further research is required to establish whether these elements generalise to an Australian setting, they illustrate that the concept of social determinants can be successfully and accurately communicated to a lay audience.

Alcohol-related traffic injury campaigns

There is some evidence for the effectiveness of media promotion programs in preventing alcohol-related traffic injury (183, 184). Such campaigns seem to reduce serious crashes, particularly during high alcohol use hours (184). Media campaigns may also result in substantial savings in medical costs, property damage and productivity. For example, Tay (184) found that Victorian media campaigns cost \$403,174 per month but saved \$8,324,532 per month.

Random breath testing

Random breath testing (RBT) is an effective intervention for reducing alcohol-related crashes, particularly among young people and other vulnerable groups. The visibility and promotion of RBT appears to successfully influence potential drink drivers' perceptions of their risk of being detected (185). In a recent study conducted in Queensland and Western Australia (185), it was found that for every increase in the percentage of RBTs, the number of alcohol-related traffic crashes reduced. Similarly, another study found that RBT had substantially reduced traffic accident mortality in Victoria, New South Wales, Queensland and Western Australia since it was introduced, particularly among 17-20 and 21-30 year olds (186). This strategy is likely to be effective across all SES groups, and is unlikely to have a negative effect or widen any existing social gradient.

Fire alarms

Heavy drinkers are often also tobacco smokers (187). As a result of the combination of these two behaviours, such individuals are at increased risk of dying or being injured in a fire (usually a house fire) that results from the sedating effects of the alcohol causing drowsiness or sleep while the drinker is smoking. Since 1 August 1997 it has been compulsory in Victoria for self-contained smoke alarms to be installed in all residential dwellings, and there is evidence that such fire alarms may reduce the risk of mortality from fire for alcohol-affected people who are capable of being alerted and escaping (188).

3.3.3. Secondary interventions

Secondary prevention occurs when serious risk factors become apparent. The goal at this point in time is to prevent or reduce harm to individuals and the wider community. Preventing problems among vulnerable populations from escalating can make an important contribution to promoting equal health outcomes across the social gradient.

Drink driving

There is a cluster of social and economic circumstances associated with recidivist drink drivers' risky alcohol consumption. Rather than taking a punitive approach, addressing problems underlying recidivism and daily living conditions may improve outcomes for individuals and the community. Key drink driving interventions are discussed below.

DWI/S and DUI Courts

Driving While Impaired/Suspended (DWI/S) or Driving Under the Influence (DUI) Courts use principles developed in drug courts to target the underlying causes of 'hard-core' drink driving offenders (189). By addressing alcohol or drug dependency and even psychiatric co-morbidity, DWI Courts seek to change the behaviour of offenders to reduce recidivism and protect the community (189). Richardson (189) has proposed that a DWI Court List be established as a pilot program in Victoria to provide Victorian magistrates with a way of dealing with offenders who appear to be undeterred by other sanctions. Such a List would utilise existing powers contained in Part 3A of the *Sentencing Act 1991* (Vic) to create community correction orders that are tailored to the repeat drink driver and, in particular, use judicial monitoring to supervise offenders while they complete their order.

Ignition Locks

The alcohol ignition interlock is an in-vehicle DWI control device that prevents a car from starting until the operator provides a BAC test below a set level (190). Systematic reviews have consistently shown that Interlock programs are effective in reducing drink driving recidivism for both first-time and repeat offenders while the device is installed (191-193). However, there is little, if any, residual effect in preventing impaired driving after the device is removed (191, 192). For certain offences in Victoria the alcohol interlock program is mandatory, with a particular focus on young drivers, high-BAC offenders and recidivists (194).

Vehicle Impounding

There is growing recognition of the problem presented by illicit vehicle operation by those whose licence has been suspended for driving while intoxicated. This has led to the increasing use of vehicle sanctions, such as impounding and forfeiture (195). A review of these laws by Voas and colleagues (195) showed that they reduce recidivism while the vehicle is in custody. A large number of US states have laws providing for vehicle forfeiture, but this sanction tends to be limited to multiple offenders and therefore impacts fewer drivers.

Screening

Screening is intended to indicate the presence or absence of problems that might need further investigation. Proude and colleagues (196) reviewed the evidence regarding the role of screening in alcohol treatment. This section is adapted from their review.

Risky drinking needs to be identified and addressed in its early stages in order to reduce its impact on the individual and the community. Given the pervasiveness of risky alcohol consumption in Australia and the

seriousness of associated health consequences, methods for detecting risky consumption have been evaluated in a wide range of healthcare settings. Favourable locations for screening include:

- General practice and relevant specialists
- Hospitals, including emergency, mental health and general wards
- Welfare and general counselling services.

Quantity–frequency estimates are the recommended way to detect levels of consumption in excess of the National Health and Medical Research Council 2009 guidelines. AUDIT is the most sensitive of the currently available screening tools and is endorsed for use in the general population (196).

Brief interventions

A brief intervention is an opportunistic intercession that takes very little time, even as little as 30 seconds. Brief interventions are usually conducted in a one-on-one situation and can be implemented anywhere on the intervention continuum. They seek to raise awareness, share knowledge and motivate behaviour change.

Brief interventions are effective in reducing alcohol use in people with risky patterns of consumption, and in non-dependent drinkers experiencing alcohol-related harms. They should be routinely offered to these populations (196). The effectiveness and efficacy of brief interventions has been examined in a broad range of settings and populations, including:

- Primary healthcare (e.g. (197))
- Tertiary care (e.g. (198, 199))
- Emergency departments (e.g. (200))
- Young people (e.g. (201, 202))
- ‘Problem users’ (e.g. (203))
- Pregnant women (e.g. (133, 204)).

A recent systematic review of reviews (205) found that evidence consistently supports the use of brief interventions for addressing hazardous and harmful alcohol use in primary healthcare, particularly for middle-aged, male drinkers. However, further research was noted to be required regarding their use for groups such as women, older and younger drinkers, minority ethnic groups and dependent/comorbid drinkers. Thus, care must be taken when implementing brief interventions among vulnerable populations, in order to ensure that inequalities in consumption are not increased.

3.3.4. Tertiary interventions

Tertiary interventions target the relatively small number of people who are drinking at harmful levels and/or experiencing high levels of alcohol-related harm. Public health services are essential for enhancing access to treatment for alcohol-dependent persons, and are a key feature of addressing social determinants at the tertiary level. However, their use relies on disadvantaged populations being aware of, and being able/willing to access, healthcare services (206). Other relevant aspects of tertiary interventions are discussed below.

Treatment cost-effectiveness

Corry and colleagues (207) calculated the cost-effectiveness of evidence-based healthcare for harmful alcohol use and alcohol dependence in the Australian population. Outcome was calculated as years lived with disability (YLD) averted. They concluded that there is substantial evidence for the cost-effectiveness of treatment (Table 5).

Table 5. Cost-effectiveness of evidence-based healthcare for alcohol. Source: Corry J et al., 2004.

OPTIMAL CARE COST	COST PER YLD AVERTED	
	Harmful use	Dependence
\$73 million	\$96,813	98,095

Similarly, an Australian health economic evaluation found that interventions addressing alcohol use were generally effective (208). However, interventions targeting younger persons (< 25 years²⁸) tended to perform less well than those targeting adults (> 25 years²⁹). Importantly, this differential level of efficacy indicates that treatment has the potential to widen inequalities in alcohol consumption and related harms between older and younger individuals. Research into the most efficacious treatments for young people is required to combat this.

3.3.5. Service delivery

There is a broad range of public and private services available to treat people with alcohol problems and dependence. Traditionally these have been 'stand-alone' facilities with their own models of service delivery and care. However, in recent years there has been a trend towards collaboration and partnership approaches across sectors. Areas in which these collaborative initiatives are occurring include comorbidity services and service delivery in rural and remote areas.

Comorbidity

Co-occurring mental health and substance use problems ('comorbidity') are common, and are often reported by service providers to be the expectation rather than the exception (209). The combination of two highly stigmatised conditions (i.e. mental health issues and alcohol use) can lead to difficulties in both diagnosing problems and accessing appropriate treatment. Moreover, both of these conditions are strongly associated with a range of other adverse effects and outcomes, including inter-personal violence, injury and homelessness. Receiving the right treatment at an appropriate point in time is challenged further if individuals come from marginalised groups (such as Aboriginal and Torres Strait Islanders, CALD or LGBTI groups); are located in a rural or remote area; or are economically disadvantaged.

²⁸ Median cost/QALY/DALY/LY²⁸ < A\$41,200.

²⁹ Median cost/QALY/DALY/LY < A\$16,000.

While collaborative care has the potential to improve outcomes for clients, reconciling alcohol-related and mental health-related service approaches continues to be challenging (210). Systematic problems include differing:

- Institutional cultures
- Aetiological concepts
- Philosophical underpinnings
- Educational requirements
- Administrative arrangements
- Screening and treatment approaches.

Rural and Remote Services

Rural and remote service delivery presents opportunities for comprehensive primary healthcare. This approach is consistent with addressing the social determinants of health at a community level (206).

Comprehensive primary healthcare in rural and remote regions may involve education, transport and housing, and community members taking action to promote health (206). A recent study (211) suggested that such a broad approach may be more common within rural and remote areas. Three advantageous mechanisms were identified that were more likely to be present for rural (compared to urban) projects:

- External communication and relationships (83% vs 70%)
- Sensitivity to service users and settings (49% vs 40%)
- Funding and resourcing (40% vs 35%).

Promising rural and remote treatment initiatives include the Alcohol Intervention Training Program (AITP) and New South Wales Rural Mental Health Support Lines. The purpose of the AITP program is to enhance nurses' capacity to discuss and respond to people with alcohol-related problems in rural communities (212, 213). In a review of the program, nurses found the training provided new – or built on existing – knowledge of alcohol misuse and offered practical, 'real life' skills (214). Level of engagement with clients increased, as did perceptions of work performance (213). The purpose of the New South Wales Rural Mental Health Support line is to improve rural communities' access to mental healthcare by providing 'warm transfers' (215). The main tasks of support line staff involve providing referral to drought support, counselling and mental health services, and supporting callers (215).

Similarly, the Mental Health Emergency Care-Rural Access Program (MHEC-RAP) aims to improve access to emergency mental healthcare for communities throughout western New South Wales. A review found that the MHEC-RAP is a practical and transferable solution to providing specialist emergency mental healthcare, and support for local providers, in rural and remote areas. The program further offers potential to impact upon recruiting and retaining a mental health workforce in rural and remote regions (216).

3.4. Summary

Numerous interventions have been implemented in Australia and overseas with the aim of reducing alcohol consumption and related harms. At the socioeconomic, political and cultural level, interventions include:

- Alcohol policies and guidelines
- Limiting the availability of alcohol
- Regulating alcohol marketing and advertising.

At the daily living conditions level, interventions typically target the following areas:

- Early childhood development
- Social connectedness
- Physical environment
- Crime and violence
- Sport
- Employment
- Vulnerable populations.

Finally, interventions which target individual health-related factors may take place in various settings (including schools, workplaces, sporting organisations and licensed venues), and can be divided into three levels:

- Primary interventions (targeting the whole population)
- Secondary interventions (targeting at-risk populations)
- Tertiary interventions (targeting problematic drinkers).

Section 4 of this report will explore the extent to which the interventions considered above have potential to reduce inequalities in alcohol consumption and alcohol-related harms, as well as opportunities for future research.

Section 4: Summary and next steps

This section summarises the findings of the review, including recommendations for future research and implications for strategies to reduce inequalities in alcohol consumption and related harms. Interventions are categorised according to their cost-effectiveness, and their potential to decrease inequalities in consumption and harms. It is important to note that interventions which are classified as ineffective in reducing inequalities may still be effective in reducing per capita alcohol consumption and harms.

4.1. Effectiveness of interventions

4.1.1. Cost-effectiveness

Several studies have explored the most cost-effective ways in which to decrease alcohol consumption and related harms. However, no studies were identified which did so using a social determinants perspective. In order to reduce alcohol use and harms across the population (i.e. without consideration of inequalities), the following strategies have been found to be cost-effective (1, 81, 217):

- Making alcohol more expensive and less available
- Banning alcohol advertising
- Brief interventions
- Random breath testing
- Increasing the minimum legal drinking age to 21 years
- Mass media 'drink driving' campaigns.

4.1.2. Effectiveness in reducing inequalities

This report identified and critiqued a number of interventions which have been implemented in Australia and abroad, aiming to reduce alcohol consumption and alcohol-related harms. However, these interventions are likely to have different levels of effectiveness in reducing inequalities therein. A summary of interventions, categorised according to their degree of effectiveness in reducing inequalities in alcohol consumption and related harms, is therefore provided below.

Interventions with the greatest potential to decrease inequalities

A number of interventions identified in this report are likely to be effective in reducing inequalities in alcohol consumption and alcohol-related harms, although they are typically not explicitly designed to do so. For example, town planning, zoning and licensing authorities can ensure that alcohol outlets are not disproportionately located within disadvantaged areas, and are not clustered too closely together.

Interventions which specifically target the social determinants affecting vulnerable populations (e.g. Aboriginal and Torres Strait Islanders) can also help to reduce the excessive alcohol-related harms experienced by these groups.

Interventions with weak–moderate potential to decrease inequalities

Other interventions may also be effective in preventing the escalation of alcohol-related problems among vulnerable groups. These include:

- Screening
- Brief interventions
- Early childhood interventions
- Interventions within schools, workplaces and sports clubs.

However, such interventions rely on at-risk groups having equal access to the intervention sites and related support mechanisms (e.g. attending healthcare services, schools and workplaces). They also assume that all members of a particular group will react to the intervention in a similar way (e.g. male and female Indigenous Australians). Thus, strategies to ensure that disadvantaged populations are not overlooked in recruitment processes must be implemented, along with appropriate ongoing resources and support. Tailoring interventions for sub-groups (e.g. gender and age) may also be required.

Interventions with neutral impact on inequalities

Several interventions considered in this report are likely to affect all drinkers equally. Thus, while they may not reduce inequalities in consumption and harms, they are unlikely to worsen the problem. These include random breath testing; minimum drinking age; and maximum BAC. If implemented appropriately, these strategies may prevent or minimise alcohol consumption and alcohol-related harms across the population, without unduly influencing the behaviour of more advantaged groups.

Interventions which may increase inequalities

However, there are also a number of interventions which may exacerbate or widen inequalities in alcohol consumption and related harms. These include:

- National guidelines or campaigns. These may be more easily understood and acted upon by advantaged populations.
- Interventions which rely on the use of technology. These may be inappropriate for or inaccessible to disadvantaged groups.
- Street drinking bans. These disproportionately affect disadvantaged groups, who are more likely to drink in public spaces. They also have potential to increase alcohol-related harms as drinkers move to more covert but less safe areas.

Interventions which require further research

In addition, there are a number of interventions which require further research regarding their impact on inequalities in alcohol use and harms. These include:

- Increases in the price of alcohol. These confiscate a higher proportion of low-SES drinkers' income (compared to more advantaged drinkers), potentially contributing to other forms of disadvantage or deprivation³⁰.
- Restricting alcohol trading hours
- Social participation initiatives
- Banning alcohol marketing and advertising
- Fire alarms
- Ignition locks/vehicle impounding/DUI Courts.

Without studies exploring these interventions in more detail, it is difficult to predict how they may affect alcohol-related inequalities.

4.1.3. Implementing interventions: complexities and implications

A key finding of this report is that linear relationships often do not exist between social determinants (such as SES), patterns of alcohol consumption and related harms. Instead, risky consumption and harms appear as 'clusters of problems', affecting different groups in different ways. Harms may stem from long-term or acute use, and different groups are at risk of different patterns and types of harms. This complexity means that there is no single broad-brush policy approach which will reduce alcohol-related harms on a community-wide basis.

As a result, it is important to be clear about the nature of the harms that are being targeted by a given intervention, as well as the potential for unintended consequences. This requires a better understanding of the ways in which alcohol adversely affects different groups. A potential response may be a series of programs targeting specific demographic groups experiencing, or at risk of experiencing, particular harms. A key policy priority is therefore the application of the best available evidence to implement a blend of measures appropriate for particular groups and settings. Using the three layers of influence provided by Fair Foundations, these measures would aim to address: socioeconomic, political and cultural factors; daily living conditions; and individual health-related factors in order to reduce specific harms among particular groups. This appears to be the most effective way of reducing inequities in alcohol consumption and related harms.

Furthermore, as our understanding of community patterns of alcohol consumption and related harms becomes more sophisticated, flexible primary, secondary and tertiary prevention workforces will be required to respond to the social determinants of health and meet the needs of vulnerable groups. Responses that are sensitive to equity issues require all health workers and professionals to have a comprehensive understanding of the mechanisms and manifestations of alcohol-related inequalities. As illustrated throughout this report, this is a largely under-examined area. There is a general dearth of knowledge and little relevant data available. For improved workforce responses to be possible, a wide-scale program is required to bring workers up to speed on alcohol-related issues and their complex relationships with inequities across society. Without

³⁰ This strategy for reducing alcohol consumption and related harms is acknowledged to have particularly complex implications, which are discussed in section 3.1.2.

intensive professional development initiatives that target policy makers, preventative workers, clinicians and administrators, it will be difficult to make significant progress in this area.

4.2. Gaps in current knowledge and recommendations for future research

One of the principal gaps identified in this report was the lack of relevant data, or the lack of attention directed to available data, on this issue. Overall, there is very little Australian (or international) information on alcohol consumption that can be disaggregated by socioeconomic factors beyond age and sex. There are also very few published studies of interventions to reduce alcohol-related harm which focus on equity or the distribution of impacts within the population. Efforts to improve data collection and its disaggregation will enhance capacity to monitor the differential impacts of policies and interventions on social groups, and increase knowledge about how best to reduce inequities in alcohol-related harm.

A number of specific issues have also been identified which require further investigation from a social determinants perspective. Specifically, more research is required concerning:

- Those with comorbid physical or mental health problems

- Those living in rural or remote areas

- Refugees

- Older people

- Aboriginal and Torres Strait Islanders.

4.3. Where to from here?

Indications suggest that health inequalities will continue into the future. In an environment where alcohol is increasingly available, and as alcohol use patterns extend well into older age, it becomes imperative to undertake much needed research into effective mechanisms to curtail alcohol-related inequities. Moreover, it is essential to ensure that unintended consequences and/or displacement effects do not result from policies introduced to manage alcohol problems. To inform and improve policy decision making and intervention selection, WHO has recently developed an alcohol checklist (Figure 9). The checklist outlines key considerations to employ when determining the allocation of resources or the development of alcohol-related policies. As an initial step forward in this area, it is recommended that the checklist be widely disseminated and applied among decision makers and its principles applied when scope exists to do so.

Checklist: are you on track?	
1.	Do you routinely measure alcohol consumption and alcohol-related harm by socioeconomic group (e.g. gender, ethnicity, education level)?
2.	Have you identified which groups experience most harm (health and/or social) from alcohol, and are they clearly prioritized in your strategies and plans?
3.	Do you routinely assess the equity impact of alcohol control policies and plans before they are implemented?
4.	Can the most marginalized groups in society meaningfully participate in decision-making processes about alcohol control policies?
5.	Do you have robust policies in place with the following specific goals? <ul style="list-style-type: none"> a. To increase the price of alcohol. b. To reduce availability of alcohol, especially in disadvantaged areas. c. To improve access to primary care, alcohol services, and social support. d. To reduce the harmful consequences of alcohol in vulnerable groups (places to sober up, community patrols, and so on).
6.	Do you have effective policies in place to address the root social determinants of inequities in alcohol-related harm? Such measures should include: <ul style="list-style-type: none"> a. social protection, especially for families with children and the unemployed; b. high-quality early childhood education and parenting support; c. active labour force programmes for unemployed people, including skills development; d. policies to reduce social exclusion; e. policies to reduce household overcrowding; f. improving psychosocial working conditions for low-income workers.
7.	Do you evaluate the impact of all alcohol control interventions on different social groups?
8.	Have you set targets for reducing alcohol-related harm in different social groups?
9.	Is there clear accountability and leadership for reducing inequities in alcohol-related harm?

Figure 9. WHO Checklist for Developing Alcohol Policies. Source: Loring B, 2014.

Appendix A: Search terms and strategy

The subject terms detailed below were combined to form search strategies which were conducted in the following databases:

- Medline
- Scopus
- Web of Science
- PubMed
- PsycInfo.

In addition, targeted searches were conducted using Health Evidence; Cochrane Library and Google Scholar. The search was modified slightly to meet the requirements of each individual database. Further references were identified through searches of government and research centre websites, high quality Australian datasets and hand searches of relevant reference lists.

Search strategy

Alcohol and equity: (1 AND 2) AND 7

Alcohol and social determinants: (1 AND 2) AND (3 OR 4 OR 5 OR 6)

Alcohol, equity, and social determinants: (1 AND 2) AND (3 OR 4 OR 5 OR 6) AND 7

Alcohol interventions: (1 AND 2 AND 8)

Alcohol interventions and equity: (1 AND 2 AND 8) AND 7

Alcohol interventions and social determinants: (1 AND 2 AND 8) AND (3 OR 4 OR 5 OR 6)

Alcohol interventions, equity, and social determinants: (1 AND 2 AND 8) AND (3 OR 4 OR 5 OR 6) AND 7

Search terms

Note: / = MESH term; .mp = title/abstract/keyword

1. Alcohol

Alcohol related disorders/
Alcohol induced disorders/
Alcoholic intoxication/
Alcoholism/
Binge drinking/
Alcohol consum*.mp
Alcohol use.mp
Alcohol misuse.mp
Alcohol abuse.mp
Alcohol drink*.mp
Alcohol dependence.mp
Alcohol problem*.mp
Alcohol addict*.mp

2. Australia

Australia/
Australia*.mp
Northern Territor*.mp
Tasmania*.mp
Victoria*.mp
New South Wales.mp
Queensland*.mp

3. Demography

Age factors/
Sex factors/
Rural populations/
Demography/
Residence characteristics/
Poverty areas/
Family characteristics/
Marital status/

4. Personal Factors

Lifestyle/
Social perception/
Attitude to health/
Consumer participation/
Health Knowledge, Attitudes,
Practice/

5. Groups

Disabled persons/
Homeless persons/
Minority groups/

Emigrants and immigrants/
Refugees/
Population groups/
Prisoners/
Sexuality/
Vulnerable populations/
Aboriginal*.mp
Indigenous.mp
Torres Strait Island*.mp

6. Social Factors

Socioeconomic factors/
Culture/
Social class/
Social mobility/
Hierarchy, social/
Social conditions/
Social control, formal/
Social control, informal/
Social environment/
Career mobility/
Government regulation/
Law enforcement/
Social control policies/
Public policy/
Poverty/
Family/
Educational status/
Employment/
Unemployment/
Family conflict/
Family violence/
Family characteristics/
Single parent family/
Spouse abuse/
Child abuse/
Income/
Prejudice/
Housing/
Social environment/
Social support/
Social isolation/
Social marginalization/
Social planning/
Social problems/
Social welfare/
Socialization/
Health education/
Peer groups/
Workplace/

Marketing/
Risk factors/
Health policy/
Community networks/
Community health planning/
Resilien*.mp
Discrimat*.mp
Social*.mp
Socio*.mp
Norm*.mp
Value*.mp
Infrastructure.mp
Transport*.mp
Environment*.mp
Stigma.mp
Locality.mp
Rurality.mp
Neighbourhood.mp
Occupation*.mp
Healthcare.mp
Community.mp

7. Equity

Health status disparities/
Afford*.mp
Access*.mp
Equity.mp
Inequity.mp
Equality.mp
Inequality.mp
Disparity.mp
Social determinant*.mp

8. Interventions

Health promot*.mp
Public health.mp
Program*.mp
Intervention*.mp
Advoca*.mp
Service*.mp
Initiative*.mp
Review*.mp
Rehab*.mp
Treat*.mp
Project*.mp
Approach*.mp
Guid*.mp
Best practice*.mp

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