



Computer  
Assisted  
Telephone  
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Group

Population Health Monitoring and Surveillance:  
Question Development Background Paper

# Alcohol Consumption in Australia

May 2003

CATI Technical Reference Group  
National Public Health Partnership

Computer Assisted Telephone Interviewing (CATI) is a methodology widely used for surveillance of health behaviours and health outcomes in populations in Australia. The National CATI Health Survey Technical Reference Group (CATI TRG) is an advisory committee to the National Public Health Information Working Group under the National Public Health Partnership. Members of the CATI TRG include representatives from State/Territory Health Departments, the Commonwealth Department of Health and Ageing (DoHA), the Australian Bureau of the Statistics, the Australian Institute of Health and Welfare and the Public Health Information Development Unit at the University of Adelaide. Since its inception in 1999, the CATI TRG has been a forum for the development and promotion of national standards, valid methods and capacity for CATI health surveys and health surveillance.

To embark in the efforts towards 'harmonisation' of CATI health surveys in Australia, the CATI TRG has identified the need to develop question modules for behavioural risk factor and chronic disease topics based on well-developed conceptual frameworks that underpin the data requirements for health surveillance. The proposed question modules are set to undergo a rigorous process of cognitive and field-testing under the guidance of the CATI TRG and the results will be published in a question module manual as a key reference to those interested in CATI health surveys in Australia.

This paper has been prepared by the CATI TRG as part of a series, with funding predominantly from the DoHA. Its preparation has involved input from all State and Territory jurisdictions, DoHA, the Australian Bureau of Statistics, the Australian Institute of Health and Welfare and the Public Health Information Development Unit at the University of Adelaide as well as recognised content experts.

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## Alcohol Consumption in Australia

# 1 Introduction

The purpose of this background paper is to present the conceptual framework that underpins the concepts and data requirements for the ongoing monitoring and surveillance of alcohol in Australia. This will assist in the development of nationally agreed computer assisted telephone interview (CATI) survey questions to monitor the prevalence of alcohol and its associated impact on individuals.

Alcohol consumption that adversely affects health is second only to tobacco as a preventable cause of drug-related morbidity and mortality in the Australian population. The Australian Institute of Health and Welfare estimated that in 1998 there were 43,032 net hospital episodes related alcohol use (AIHW 2001). Among persons aged 0-64 years, there were 2,085 alcohol-related net deaths. The net harm associated with alcohol use is estimated at around 2.2% of the total burden of disease.

Alcohol consumption does not always pose a risk to an individual's health. Many people who consume alcohol in Australia do so at levels that are not considered harmful to health. Furthermore, there is recent evidence which suggests that low levels of alcohol consumption may prove beneficial to health for particular individuals in the population. The Australian Institute of Health and Welfare estimated that in 1998 at least 5,974 deaths were averted due to the protective health effects of alcohol, almost all of these accruing to people aged 65 years or more.

This paper is divided into the following sections. Section 2 provides a summary of the harms, consequences and potential benefits that arise from different levels of alcohol consumption. Section 3 describes the risk factors to health both from short-term and long-term consumption of alcohol. Section 4 identifies data requirements that are necessary and desirable to monitor alcohol consumption, particularly consumption that produces adverse health consequences. Section 5 outlines a number of issues and methodologies applicable to the monitoring of alcohol consumption.

This paper will provide a valuable resource to those interested in the monitoring and surveillance of alcohol consumption.

## 2 Harms, consequences and benefits of alcohol consumption

Excessive alcohol consumption is associated with a variety of adverse health consequences and adverse social and economic consequences. The health consequences of alcohol consumption can be divided into chronic disease from hazardous long-term use and acute conditions from excessive short-term drinking.

The most serious health consequences of alcohol consumption can be quantified from mortality and morbidity data using aetiological fractions and through the measures of 'person years life lost' (PYLL) and 'disability adjusted life years' (DALYs) (NEACA 2001).

### 2.1 Classifying alcohol-related harm

The National Health and Medical Research Council's, Australian Alcohol Guidelines, Health Risks and Benefits (NHMRC 2001) states that classifying the effects of alcohol consumption should take into account the following factors:

- potential harms to individual health, population health and social health, under the law;
- the potential health benefits and social benefits of alcohol;
- the potential to produce harmful alcohol dependence;
- the continuum of risk that exists from zero risk (abstinence) to high risk;
- the effects of alcohol in the short-term and in the long-term;
- the variation in short-term and long-term effects between population groups;
- the variation in the effect on the individual from alcohol consumption due to factors such as body size, gender, inherent characteristics, mood and the amount the person habitually drinks; and
- the variation over time in the drinking patterns and levels, of individuals and populations.

The problems resulting from excessive alcohol consumption can be summarised in three categories:

- alcohol dependence (eg. loss of personal control, withdrawal symptoms, social disintegration, etc.);
- heavy regular use problems (eg. cirrhosis of the liver, cognitive impairment, pancreas damage, heart and blood disorders, ulcers, etc.);
- intoxication and acute alcohol-related problems (eg. alcohol-related violence, risky behaviour, road trauma, injury, etc.) (NHMRC 2001).

Alcohol-related harm, from excessive short-term and long-term drinking, can also be categorised by harmful reactions as per the Rehm & Fischer (1997) conceptual schema (see Table 1 below).

**Table 1: Conceptual schema of alcohol-related harms (adapted from Rehm and Fischer 1997)**

Type of reaction / potential consequences	Potential consequences of single-occasion use	Potential consequences of long-term use
Physiological reactions	<ul style="list-style-type: none"> <li>• overdose</li> </ul>	<ul style="list-style-type: none"> <li>• death (eg. liver cirrhosis)</li> <li>• illness (eg. pancreatitis)</li> </ul>
Psycho-physiological and mental reactions	<ul style="list-style-type: none"> <li>• changed consciousness and control (eg. hangover, suicide)</li> <li>• injury to drinker</li> <li>• accidental death</li> </ul>	<ul style="list-style-type: none"> <li>• alcohol dependence</li> <li>• depression</li> <li>• cognitive loss</li> </ul>
Immediate personal and social/environmental reactions	<ul style="list-style-type: none"> <li>• family, social network and workplace disruption</li> <li>• injury to others, violence</li> </ul>	<ul style="list-style-type: none"> <li>• disruption of family, social and work relationships</li> </ul>
Wider social and cultural reactions	<ul style="list-style-type: none"> <li>• Criminal and informal sanctions</li> </ul>	<ul style="list-style-type: none"> <li>• stigmatisation, coercion to change, treatment, criminalisation of alcohol-related behaviour</li> </ul>

Source: Australian Alcohol Guidelines: Health Risks and Benefits (NHMRC, 2001).

## 2.2 Short-term or acute effects of alcohol misuse

Short-term alcohol consumption produces the following effects and risks to health:

- effects on the brain;
- stress, sleep deprivation and sexual dysfunction;
- gut and pancreas effects;
- heart and circulation effects; and
- behaviour risky to health and wellbeing, injury and death (NHMRC 2001).

For short-term drinking behaviour, the risk of mortality and morbidity increases as alcohol consumption increases (NEACA 2001).

## 2.3 Long-term health consequences of alcohol misuse

Excessive long-term alcohol consumption increases the following risks to health:

- cancers of the lips, mouth, throat and oesophagus;
- cancers of the stomach, pancreas and liver;
- cirrhosis of the liver;
- cognitive problems and dementia;
- Wernicke-Korsakof Syndrome (thiamine deficiency) resulting in tiny brain haemorrhages;
- alcohol dependence;
- increased risk of cardiovascular diseases (eg. hypertension, haemorrhagic stroke, ischaemic stroke, heart failure, and cardiomyopathy);
- peripheral neuropathy (limb muscle weakness);
- fetal alcohol syndrome and related conditions; and
- male sexual impotence (NHMRC 2001).

In some populations, the risks on all-cause mortality and morbidity from long-term drinking behaviour have a J or U shaped relationship as alcohol consumption increases (English et al 1995; reported in Laslett et al 2001). This relationship implies that for some populations, risks to health fall as alcohol consumption increases from abstinence to a health maximising level. At and around this level of alcohol consumption, health benefits outweigh health risks for the population as a whole. Beyond this level, the risk to health increases as alcohol consumption increases so that eventually the risks to health outweigh all positive health effects. Note that this effect may not apply to all individuals or sub-populations.

### **2.4 Social consequences of alcohol misuse**

Excessive alcohol consumption may also produce a range of undesirable social effects:

- physical and sexual violent behaviour;
- verbal abuse and aggression;
- injury;
- homicide; and
- anxiety, depression and isolation (NHMRC 2001).

In general, the risk of adverse social consequences is directly proportional to the quantity of alcohol consumed (NEACA 2001). Alcohol is frequently associated with impaired work performance and productivity, absenteeism, high rates of workplace injury, premature retirement, and relationship and family problems.

### **2.5 Health benefits of alcohol consumption**

A number of health benefits are believed to accrue from low to moderate levels of alcohol consumption. These include:

- reduced strain of chronic stress and negative life events;
- decreased risk of stone formation in the kidney and gall bladder;
- positive development of bone mineral density;
- decreased mortality from cardiovascular disease in middle-aged and elderly populations (NEACA 2001).

It is still not clear whether the health benefits that accrue from consuming low to moderate levels of alcohol compensate for the increase in risk associated with consuming these levels of alcohol when compared with zero alcohol intake (NEACA 2001).

### **2.6 Social benefits of alcohol consumption**

It is widely recognised that alcohol makes a positive contribution to individual and social wellbeing. Alcohol is accepted as an important part of Australian life and culture. It is consumed in religious and cultural ceremonies, social and business functions, and in conjunction with celebrations and recreational activities. For many Australians, 'having a drink' is synonymous with relaxation, socialisation and good times (NEACA 2001).

### 3 Risk to health from consuming alcohol

Excessive alcohol consumption is a major risk factor to the health of individuals. It is useful to separate its adverse health consequences into two categories:

- the harm associated with acute or short-term drinking episodes; and
- the harm resulting from chronic long-term alcohol consumption.

If heavy consumption is regular and ongoing, consumers of alcohol may face risks to health in both the short term and the long term. Short-term alcohol-related harm typically includes road accidents, physical and sexual assault, homicide and overdose. Long-term alcohol-related harm includes cirrhosis of the liver, cancers of the mouth, lips, throat and oesophagus, dementia and alcohol dependence.

#### 3.1 Risk factors for acute or short-term alcohol-related harm

It is desirable to denote short-term alcohol consumption by the risk it poses to health. 'Low risk' drinking defines a level of consumption at which there is only a minimal risk of harm, and for some, the likelihood of health benefits (NHMRC 2001). Risk to health is positively related to consumption above the 'low risk' level.

The short-term risk to health is related to the total amount of alcohol consumed on any given drinking episode, occasion or day. It is necessary to monitor regular and occasional short-term drinking behaviour and hence the risk it poses to health.

The NHMRC's Australian Alcohol Guidelines 2001 define thresholds of 'low risk', 'risky' and 'high risk' drinking behaviour, for males and females, by the risk to health these levels create in the short-term (see Table 2 below). These consumption thresholds do not take into account individual characteristics such as height, weight, predisposition to problems associated with the consumption of alcohol, family history, pregnancy, medications being taken, or existing medical conditions that may be exacerbated by drinking. Individual characteristics such as these are considered in Australian Alcohol Guidelines 4 to 12 (see Appendix).

**Table 2. Australian Alcohol Guidelines for short-term drinking and the level of risk to health, for males and females of average or larger body size (eg. over 160cm in height and 50kg for women, 60kg for men).**

Risk of harm in the short term			
	Low risk (standard drinks) <sup>(a)</sup>	Risky (standard drinks) <sup>(a)</sup>	High risk (standard drinks) <sup>(a)</sup>
Males (on any one day)	Up to 6 on any one day, no more than 3 days per week	7 to 10 on any one day	11 or more on any one day
Females (on any one day)	Up to 4 On any one day, no more than 3 days per week	5 to 6 on any one day	7 or more on any one day

(a) For the definition of a standard drink please refer to Section 4 below.

Source: NHMRC Australian Alcohol Guidelines: Health Risks and Benefits 2001.

The short-term risk pattern of drinking assumes that:

- A person drinks on a maximum of 3 days per week and remains within the levels for long-term harm (see Table 3 below); and
- A drinker is not about to engage in activities involving risk or a degree of skill, is not on medication, does not have a condition which is made worse by drinking, is not pregnant, and is not under 18 years of age; and
- A person is pacing their drinks over time, to moderate the rate of alcohol consumption (eg. for males, two standard drinks in the first hour and one per hour thereafter; and for females, one standard drink per hour).

Without these qualifications the risk to health is increased.

### **3.1.1 General risk factors for acute alcohol-related harm**

“The major risk factor is clearly hazardous alcohol use defined both in terms of the amount consumed on one occasion and other situational and socio-demographic factors which can interact with alcohol use to create additional risk.” (DHAC 2001).

Stockwell et al (1996 reported in DHAC 2001) used alcohol sales and survey data to estimate ‘hazardous per capita alcohol consumption’. This was a measure of the amount of alcohol consumed by a local Western Australian population above ‘low risk’ levels for acute alcohol-related harm. This measure was found to be a better predictor of acute harm when compared to total per capita alcohol consumption because it took into account the pattern of drinking and not just the quantity of alcohol consumed.

In the short-term drinking model (NHMRC 2001), the general risk factor for acute alcohol-related harm is the quantity of alcohol consumed on any one day by an individual at above ‘low risk’ levels. That is, the volume of alcohol consumed in excess of 4 standard drinks per day for women and in excess of 6 standard drinks per day for men. The risk to health is a function of excess consumption of alcohol in each short-term drinking episode.

The National Alcohol Indicators Bulletin No. 3 (Heale et al 2000) reports that at least 51% of all alcohol consumed is drunk on occasions when drinkers put themselves at risk of acute harm. This result is derived from responses to the 1998 National Drug Strategy Household Survey. This proportion is likely to be even higher since self-reported alcohol surveys tend to underestimate total alcohol consumption (WHO 2000).

### **3.1.2 Risk factors for alcohol-related road crashes**

Recent evidence shows that the following risk factors are those most likely to contribute to alcohol-related road accidents (Stockwell 2001).

- higher blood alcohol concentration;
- drinking in certain licensed premises (eg. nightclubs, hotels, pubs, rather than restaurants and social clubs);
- being a young male;
- drinking beer rather than other alcoholic beverages; and
- living in rural areas.

### **3.1.3 Risk factors for alcohol-related violence**

There is a wide body of evidence (Homel et al 1992, Stockwell et al 1992) which concludes that alcohol consumption above 'low risk' levels for acute harm increases the risk of physical and sexual assaults, domestic violence and homicide. Homel et al (1992) cite a combination of crowding, a predominantly young male crowd, boring entertainment, aggressive bouncers, cheap drinks and high levels of intoxication as a particularly risky combination. There is also a correlation between alcohol-related violence and the type of licensed drinking venue. For example, nightclubs, pubs and hotels are more prone than restaurants and social clubs.

The evidence shows that alcohol intoxication by itself is not a sufficient condition for alcohol-related violence, but can increase the risk in situations where there is a degree of conflict or frustration around human interactions (Stockwell 2001).

### **3.1.4 Risk factors for other acute alcohol-related harms**

Allsop et al (1997) identify a number of occupational groups and settings as being at higher risk of alcohol-related harm. These include the retail alcohol industry, journalism, the armed forces and the police. These groups are characterised by easy availability of alcohol, low levels of supervision and a culture supportive of heavy drinking.

Pollizotto et al (1999) identify another group at high risk of 'alcohol overdose' (poisoning, toxicity), those that participate in high risk drinking games. The study found that 75% of respondent tertiary students had participated in a drinking game at some time. Nearly all of these (89%) reported being present when someone had lost consciousness from alcohol intoxication, and had often been left alone to 'sleep it off'.

## **3.2 Risk factors for chronic long-term alcohol-related harm**

As described in the previous section, it is desirable to denote alcohol consumption by the risk it creates to health. This also applies to chronic long-term alcohol consumption. For long-term alcohol-related harm, 'low risk' drinking defines a level of consumption at which there is only a minimal risk of harm, and for some, the likelihood of health benefits (NHMRC 2001). For long-term alcohol-related harm, risk to health is positively correlated to consumption above the 'low risk' level.

The level of long-term risk is associated with regular daily patterns of drinking. It is typically defined by the total amount of alcohol consumed per day or per week. It is necessary to monitor regular drinking behaviour to measure the risk it poses to health.

The NHMRC's Australian Alcohol Guidelines 2001 define thresholds of 'low risk', 'risky' and 'high risk' drinking behaviour, for males and females, by the risk to health these levels of alcohol consumption create in the long-term (see Table 3 below). These consumption thresholds do not take into account individual characteristics such as height, weight, predisposition to problems associated with the consumption of alcohol, family history, pregnancy, medications being taken, or existing medical conditions that may be exacerbated by drinking. Individual characteristics such as these are considered in Australian Alcohol Guidelines 4 to 12 (see Appendix).

**Table 3. Australian Alcohol Guidelines for long-term drinking and the level of risk to health, for males and females of average or larger body size (i.e. over 160cm in height and 50kg for women, 60kg for men).**

Risk of harm in the long term			
	Low risk (standard drinks) <sup>(a)</sup>	Risky (standard drinks) <sup>(a)</sup>	High risk (standard drinks) <sup>(a)</sup>
Males			
◆ on an average day	Up to 4 per day	5 to 6 per day	7 or more per day
◆ overall weekly level	Up to 28 per week	29 to 42 per week	43 or more per week
Females			
◆ on an average day	Up to 2 per day	3 to 4 per day	5 or more per day
◆ overall weekly level	Up to 14 per week	15 to 28 per week	29 or more per week

(a) For the definition of a standard drink please refer to Section 4 below.

Source: NHMRC Australian Alcohol Guidelines: Health Risks and Benefits 2001.

The long-term risk pattern of drinking includes the same assumptions for the short-term risk pattern of drinking (see Table 2 above), and that:

- A drinker does not have a family history of alcohol-related problems, is not on medication, does not have a condition that is made worse by drinking, is not pregnant, and is not in a high risk category for breast cancer.

Without these qualifications the risk to health is increased.

### 3.2.1 Biomedical consequences of long-term alcohol consumption

A number of epidemiological studies have examined the dose-response relationship between average alcohol consumption and a variety of specific diseases using case-control and cohort methodologies (Laslett et al 2001). There is strong evidence from these studies that patterns of regular heavy alcohol consumption are associated with increased overall mortality and many individual diseases. On the other hand, lower overall mortality, longer overall survival and lower mortality associated with ischaemic heart disease has been found in association with regular light to moderate drinking. The relationship between all-cause mortality and alcohol consumption may be summarised in a J or U-shaped curve, although it is not clear whether this is applicable to all sub-populations in Australia (English et al 1995; reported in Laslett et al 2001).

In cancers of the upper aerodigestive tract, it appears that damage increases with increasing alcohol concentration (Jaber et al 1998; reported in Laslett et al 2001). This evidence suggests that behaviours, which lower alcohol concentration, such as consuming lower alcohol content drinks or drinking during meals, may reduce the risk of carcinogenesis.

Another postulated mechanism believed to be associated with cancer involves the breakdown of alcohol into circulating acetaldehyde free radicals (Laslett et al 2001). The risk of overall cancer mortality appears to increase with total alcohol consumption. A review of the literature suggests that further research is required to confirm this effect.

Some research has shown that the risk of ischaemic stroke and heart disease is reduced by low to moderate intakes of alcohol. Protection is most closely associated with a consistent pattern of drinking small amounts of alcohol. The benefit appears to be associated with regular ethanol intake irrespective of beverage type. The benefit begins to occur at 40-45

years of age in men and 45-50 years in women. Further studies are required to determine which drinking patterns produce optimum benefit (Laslett et al 2001).

### **Genetic influences**

There are particular genetic characteristics that increase an individual's susceptibility to health risks from consuming alcohol. The breakdown of alcohol into acetaldehyde is influenced in part by the presence of faster enzymes that increase the concentrations of acetaldehyde. The presence of these enzymes depends on individual genetics and may influence the risk of cancer per se (Laslett et al 2001).

### **Sex**

Women's biological susceptibility to both the acute and chronic effects of alcohol occurs at lower levels of exposure than for men. This is due to women's size, their smaller risk of heart disease compared with men at each age, their greater risk of liver damage and their higher risk of breast cancer. This implies the lower consumption limits at each risk level for women in the Australian Alcohol Guidelines (NHMRC 2001).

### **Age**

Many studies of chronic diseases show that it is in middle age that the health benefits of long-term alcohol use begin to appear. It is not known whether this is the cumulative effect of consumption over many years and/or due to changes in the body over time (Laslett et al 2001).

### **Cultural and social determinants**

Many cultural and social factors affect drinking patterns and may lead to different outcomes in groups with similar drinking patterns. Influences such as personal income, social support and diet interact with alcohol and may affect the development, progression, treatment and outcome of alcohol-related diseases (Laslett et al 2001).

### **3.2.2 Psychological consequences of long-term alcohol consumption**

Excessive alcohol consumption in the long-term is associated with a variety of psychological health consequences such as reduced cognitive performance and psychosocial functioning. Recent evidence associates alcohol intake with mental disorders such as depression (Blanchard 2000, reported in Laslett et al 2001).

While recent studies identify the prevalence of co morbid alcohol use and mental health disorders, the cause of this co morbidity is poorly understood. Lynskey (1998; reported in Laslett et al 2001) suggests that the co morbidity occurs within four broad classes:

- one condition increases the risk of the other condition;
- the conditions may be co morbid because they share the same risk factors;
- the risk factors for both conditions may be separate and distinct but are correlated and it is this correlation that causes the conditions to be co morbid; and
- the conditions may be correlated and co morbid because they are reflections of a common syndrome or vulnerability.

While recent studies have focused on genetic vulnerabilities, the aetiology of these co morbidities remains to be determined. However, there is evidence to suggest that heavy alcohol use may exacerbate mood disorders and that those subject to mood disorders are

predisposed to heavy alcohol use. Furthermore, some medications, when taken concurrently with alcohol may increase the risk of harm to health.

Low to moderate levels of alcohol consumption may be associated with positive mental health. Alcohol can reduce stress and social phobia and moderate consumption is associated with lower prevalence of many mental health disorders (Degenhardt et al 2000; reported in Laslett et al 2001). Again, as the aetiology of these effects is not understood, the resulting harm or benefit is not clear.

In summary, alcohol consumption appears to be associated with some benefits and some detriments to mental health, depending on a number of variables, such as amount consumed, pattern of consumption, and individual characteristics.

### **3.2.3 Social risk factors for long-term alcohol-related harm**

There has been little research on social risk factors for alcohol-related harm. There appears to be some anecdotal evidence to suggest a relationship between social isolation and alcohol consumption that is harmful to health. In a study by Leonard and Rothbard (1999; reported in Laslett et al 2001) it was found that lower alcohol consumption and fewer alcohol-related problems are found amongst married men and women when compared to single and divorced individuals. Also, there is evidence both for and against the proposition that unemployment leads to alcohol-related problems, however there does not appear to be any Australian studies on the topic (Laslett et al 2001).

## 4 Data requirements and concepts to be measured

The data requirements for the ongoing monitoring and surveillance of alcohol consumption are based on the risks to an individual's health from consuming alcohol.

From the previous sections, the minimum core data requirements can be summarised as:

- Alcohol consumption at levels and in patterns that increase the risk of acute alcohol-related harm: excessive alcohol consumption in the short-term or the quantity and frequency of alcohol consumed by an individual at levels above the 'low risk' level for short-term harm.
- Alcohol consumption at levels and in patterns that increase the risk of chronic long-term alcohol-related harm: regular, long-term hazardous alcohol consumption or the quantity and frequency of alcohol consumed by an individual at levels above the 'low risk' level for long-term harm.

The risk to health from alcohol consumption may also be thought of in terms of exposure (eg. duration and intensity of alcohol consumption), and sensitivity to adverse health consequences (eg. individual characteristics that increase the risk of harm).

### Australian Standard Drink

In Australia, the key measure for determining alcohol consumption is the 'Australian Standard Drink', which contains 10 grams or 12.5 millilitres of alcohol (NHMRC 2001). The following alcoholic drinks contain alcohol approximately equivalent to one Australian Standard Drink.

- 425ml of light beer (2.9% alc/vol);
- 285ml of regular beer (4.9% alc/vol);
- 100ml of wine (12% alc/vol);
- 60ml of fortified wine (20% alc/vol); and
- 30ml of spirits / liqueurs (40% alc/vol).

When monitoring patterns of alcohol consumption, it can be useful to express patterns of consumption in terms of 'standard drinks'. The Australian Alcohol Guidelines (NHMRC 2001) are expressed in terms of the number of 'standard drinks'. In Australia, alcoholic beverages sold in containers are required by law to state the number of 'standard drinks' per container.

### 4.1 Monitoring alcohol consumption at levels that increase the risk of acute alcohol-related harm: acute or short-term drinking

Acute drinking or short-term drinking is characterised by the quantity of alcohol consumed during any given drinking episode or on any one day. Drinking episodes are usually referred to as drinking occasions or drinking days.

The quantity of alcohol consumed on any one day may be classified by its level of risk to health. The Australian Alcohol Guidelines: Health Risks and Benefits (NHMRC 2001) denote levels of 'low risk', 'risky' and 'high risk' drinking on any one day, for men and women of

given body type (see Table 2 above). The guidelines for acute drinking assume that alcohol is consumed on not more than three days per week. If alcohol is consumed on average, on more than three days per week, it is possible that drinkers potentially also face a risk to health from excessive long-term consumption.

It is desirable to identify the proportion of a population that participates in acute drinking episodes. To determine the risk of harm from acute drinking behaviour, it is necessary to identify the proportion of a population that undertakes 'low risk', 'risky' and 'high risk' consumption of alcohol in the short-term. It may also be useful to estimate the proportion of alcohol consumed, which increases the risk to health in the short-term, that is, alcohol consumed above the 'low risk' level for short-term related-harm. This is especially relevant for the consideration of prevention policies that affect the total level of in the community (eg. taxation, hours of trading) by indicating what proportion of all alcohol consumed is posing a risk to the drinker's health and safety. Such a calculation can also be made for drinking which poses a short- and/or long-term health risk. Stockwell et al (2002) recently estimated that 67% of all alcohol consumed in Australia as reported to the 1998 National Drug Strategy Household Survey was consumed in a 'risky' or 'high risk' fashion.

### **'Risky' and 'High risk' alcohol consumption in the short-term**

The risks to health in the short-term are increased when individuals consume alcohol at 'risky' and 'high risk' levels. To identify this risk, it is necessary to measure alcohol consumption during any given drinking episode or on any one drinking day.

'Risky' alcohol consumption in the short-term is defined as:

- For women, 5 to 6 standard drinks on any one day; and
- For men, 7 to 10 standard drinks on any one day.

'High risk' alcohol consumption in the short-term is defined as:

- For women, 7 or more standard drinks on any one day; and
- For men, 11 or more standard drinks on any one day.

The risks to health are also a function of the number of short-term drinking episodes. If an individual exceeds the recommended short-term 'low risk' levels on more than one day then that person's risk to health is increased.

### **Alternative measures of excessive drinking behaviour for short-term alcohol-related harm**

Two alternative measures of excessive drinking for short-term alcohol-related harm are (WHO 2000):

- The number or proportion of drinkers, or of the total population, drinking at a level which is above the 'low risk' level for short-term related-harm; and
- The volume of alcohol consumption that is consumed during short-term drinking occasions that is above 'low risk' levels for short-term alcohol-related harm.

#### **4.1.1 Volume of alcohol consumed in the short-term**

The short-term is defined as any discrete drinking episode, occasion or day. It is desirable to determine the volume of alcohol consumed in the short-term because this provides a measure of the risk of acute harm. The number of standard drinks consumed on any given drinking day gives the volume of alcohol consumed in the short-term. It is also desirable to identify discrete short-term drinking days and to estimate the volume of alcohol consumed

on each drinking day because this information identifies the risk associated with each drinking episode.

#### 4.1.2 Patterns of short-term alcohol consumption

In a given reference period, an individual may consume alcohol on more than one day. In addition to measuring the volume of alcohol consumed on discrete drinking days, it is desirable to identify the frequency or pattern of short-term drinking episodes during a given period. The occurrence of short-term drinking episodes, particularly those above 'low risk' levels of harm, is an effective indicator for the level of risk that arises from short-term drinking.

Patterns of drinking may be obtained using the 'Yesterday' method, the 'Last 7 Day' method, the 'Quantity Frequency' method or the 'Graduated Quantity Frequency' method (see Section 5 for more detail). The Graduated Quantity Frequency method is recommended as the best approach to measure short-term drinking patterns (WHO 2000). It is useful to classify short-term drinking patterns by graduated quantity frequency thresholds. Table 4 shows how Graduated Quantity Frequency thresholds relate to the level of risk of acute alcohol-related harm. These thresholds are based on the Australian Alcohol Guidelines (NHMRC 2001).

**Table 4: Graduated Quantity Frequency thresholds by the level of risk of short-term alcohol-related harm, men and women.**

Graduated Quantity Frequency Thresholds	Level of risk in the short-term	
	Men	Women
1-4 standard drinks per day	Low Risk	Low Risk
5-6 standard drinks per day	Low Risk	Risky
7-10 standard drinks per day	Risky	High Risk
11 or more standard drinks per day	High Risk	High Risk

*Sources:* Australian Alcohol Guidelines: Health Risks and Benefits (NHMRC 2001); International Guide for Monitoring Alcohol Consumption and Related Harm (WHO, 2000).

#### 4.1.3 Examples of indicators to monitor short-term drinking behaviour

The following indicators are examples that may be derived to monitor short-term drinking behaviour and its risk to health for young adult males and adolescent females.

##### **'Excessive short-term drinking among males aged 18-24 years'**

The proportion of male respondents aged 18-24 years who report engaging in 'risky' or 'high risk' short-term drinking behaviour during the last 12 months (i.e. consuming 7 or more standard drinks on any one day):

- Not at all during the last 12 months
- Once but less than twice during the last 12 months
- Twice but less than six times during the last 12 months
- Six times but less than 12 times during the last 12 months
- At least once per month but less than once per week during the last 12 months
- Once per week during the last 12 months

- More frequently than once per week during the last 12 months

The reference populations may be all males aged 18-24 years, or males aged 18-24 years that report having at least one standard alcoholic drink in the last 12 months.

### **‘Excessive short-term drinking among adolescent women aged 12-17 years’**

The proportion of adolescent women aged 12-17 years who report engaging in ‘risky’ or ‘high risk’ short-term drinking behaviour during the last 12 months (i.e. consuming 5 or more standard drinks on any one day):

- Not at all during the last 12 months
- Once but less than twice during the last 12 months
- Twice but less than six times during the last 12 months
- Six times but less than 12 times during the last 12 months
- At least once per month but less than once per week during the last 12 months
- Once per week during the last 12 months
- More frequently than once per week during the last 12 months

The reference populations may be all females aged 12-17 years, or females aged 12-17 years that report having at least one standard alcoholic drink in the last 12 months.

The above indicators may be constructed to give drinking levels for population groups at greater risk of acute alcohol-related harm such as young people aged up to about 18 years, young adults aged about 18 to 24 years, and women who are pregnant or soon to become pregnant. Provided there is a demographic identifier, indicators can be formulated for sub-populations, such as Aboriginal and Torres Strait Islander people.

## **4.2 Monitoring alcohol consumption at levels that increase the risk of chronic alcohol-related harm: chronic or long-term drinking**

The harm from chronic or long-term drinking is characterised by the quantity of alcohol consumed at above NHMRC ‘low risk’ levels on a regular basis, usually daily or weekly. The volume and pattern of alcohol consumed in the long-term may be classified by its risk to health. The Australian Alcohol Guidelines (NHMRC 2001) denote levels of ‘low risk’, ‘risky’ and ‘high risk’ long-term drinking, for men and women of given body type (see Table 3 above).

It is desirable to measure the proportion of a population that participates in chronic drinking behaviour. To determine the risk of long-term alcohol-related harm, it is necessary to identify the proportion of a population that undertakes ‘risky’ and ‘high risk’ consumption of alcohol in the long-term. In Australia, the following risk categories specify problematic drinking behaviour for long-term alcohol-related harm.

### **‘Risky’ and ‘High risk’ alcohol consumption in the long-term**

The risks to health in the long-term are increased when individuals consume alcohol at ‘risky’ and ‘high risk’ levels. To identify this risk, it is necessary to measure alcohol consumption on an average day or over an average week.

‘Risky’ alcohol consumption in the long-term is defined as:

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- For women, 3 to 4 standard drinks per day, and 15 to 28 standard drinks per week; and
- For men, 5 to 6 standard drinks per day, and 29 to 42 standard drinks per week.

'High risk' alcohol consumption in the long-term is defined as:

- For women, 5 or more standard drinks per day, and 29 or more standard drinks per week; and
- For men, 7 or more standard drinks per day, and 43 or more standard drinks per week.

### 4.2.1 Volume of alcohol consumed in the long-term

It is desirable to determine the volume of alcohol consumed in the long-term. For long-term alcohol consumption, the volume of alcohol consumed in a given period may be denoted by the number of standard drinks consumed on any given drinking day by the number of drinking days during the same period (WHO 2000).

### 4.2.2 Pattern of long-term alcohol consumption

To measure the volume of alcohol consumed in the long-term, it is necessary to identify the frequency or pattern of long-term drinking behaviour.

Patterns of drinking may be obtained using the 'Yesterday' method 'Last 7 Day' method, the 'Quantity Frequency' method or the 'Graduated Quantity Frequency' method. These methods are discussed in Section 5. The Graduated Quantity Frequency (GQF) method is recommended as the best approach to measure drinking patterns in the long-term (WHO: 2000). It is useful to classify long-term drinking patterns by graduated quantity frequency thresholds. Table 4 shows how Graduated Quantity Frequency thresholds relate to the level of risk of chronic alcohol-related harm. These thresholds are based on the Australian Alcohol Guidelines (NHMRC 2001).

**Table 5: Graduated Quantity Frequency thresholds by the level of risk of long-term alcohol-related harm, men and women.**

Graduated Quantity Frequency Thresholds	Level of risk in the long-term	
	Men	Women
1-2 standard drinks per day / 7-14 per week	Low Risk	Low Risk
3-4 standard drinks per day / 15-28 per week	Low Risk	Risky
5-6 standard drinks per day / 29-42 per week	Risky	High Risk
7 or more standard drinks per day / 43 or more per week	High Risk	High Risk

Sources: Australian Alcohol Guidelines (NHMRC 2001); International Guide for Monitoring Alcohol Consumption and Related Harm (WHO: 2000).

### 4.2.3 Examples of indicators to monitor long-term drinking behaviour

The following indicators are examples that may be derived to monitor long-term drinking behaviour.

#### 'Excessive long-term drinking among adult men'

The proportion of male respondents aged 18 years and older who, during the past 12 months, report having 5 or more standard drinks per day on an average day and 29 or more standard drinks per week for a period of:

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- 1-2 months;
- 3-6 months;
- 7-12 months;
- 13-24 months; and
- greater than 24 months.

The reference populations may be all males aged 18 years and older, or males aged 18 years and older who reported having at least a standard alcoholic drink in the last 12 months.

### **'Excessive long-term drinking among adult women'**

The proportion of female respondents aged 18 years and older who, during the past 12 months, report having 3 or more standard drinks per day on an average day and 15 or more standard drinks per week for a period of:

- 1-2 months
- 3-6 months
- 7-12 months
- 13-24 months
- greater than 24 months.

The reference populations may be all females aged 18 years and older, or females aged 18 years and older who reported having at least a standard alcoholic drink in the last 12 months.

### **'Excessive long-term drinking among pregnant women and women whom might soon become pregnant'**

The proportion of pregnant women and women who might soon become pregnant who report having 7 or more standard drinks over a week, or more than 2 standard drinks on any one day (NHMRC 2001).

Alternatively, another useful indicator to monitor alcohol consumption among pregnant women and those soon to become pregnant is to identify the proportion of those women that consumed at least one standard drink of alcohol per day before and during the pregnancy period. It is also desirable to measure the short-term drinking behaviour among this group, namely those women which consumed more than two standard drinks and more than four standard drinks on any drinking occasion, and the frequency with which this consumption occurred.

The above indicators may be constructed to give hazardous drinking levels for high risk population groups such as young people aged up to about 18 years, young adults aged about 18 to 24 years, and women who are pregnant or soon to become pregnant. Provided there is a demographic identifier, indicators can be formulated for sub-populations, such as Aboriginal and Torres Strait Islander people.

## 4.3 Other related concepts

### 4.3.1 Population that consumes alcohol (alcohol consumption status)

To ascertain the health risks to a population from its alcohol consumption, it is desirable to measure the proportion of a population that consumes alcohol. This proportion is usually derived using the concept of a 'current drinker' or 'recent drinker'. It is also desirable to measure the proportion of a population that abstains from consuming alcohol. Measures of abstinence include 'current abstainers', 'lifetime abstainers' and 'former drinkers'. There are health-related issues behind these definitions, for example, the health of 'former drinkers' may be different to that of 'lifetime abstainers'.

#### **'Current drinker'**

A 'current drinker' may be defined as an individual that has consumed alcohol during the previous period. This period generally refers to the previous month or the previous 12 months.

#### **'Current abstainer'**

A 'current abstainer' may be defined as a person that has not consumed alcohol during the previous month or year. A person in this category may be referred to as a 'former drinker', if that person consumed at least a standard drink of alcohol in an earlier period.

#### **'Lifetime abstainer'**

A 'lifetime abstainer' may be defined as a person that has never consumed a standard drink of alcohol.

### 4.3.2 Per capita alcohol consumption

The per capita alcohol consumption is the total volume of alcohol consumed by a given population divided by the number of persons in that population. Measures can be derived for per capita alcohol consumption across population groups so long as there is consumption data for the respective groups, such as:

- per capita alcohol consumption across the whole population aged 14 years and above;
- per capita alcohol consumption for those identified as 'current drinkers'; and
- per capita alcohol consumption for population groups with particular characteristics based on gender, age, ethnicity, race, health status, pregnancy status or any other demographic characteristic.

It is worth noting that per capita measures are average measures for a population. A per capita measure may be a useful indicator, but it may also mask extremes within a population. This may apply to alcohol consumption in Australia, where it has been calculated that 60% of the alcohol is consumed by only 10% of the population (NEACA 2001). Another shortcoming of this average measure is that it does not provide any information on drinking patterns. The advantages of per capita alcohol consumption are that when regionally and temporally specific per capita data are available in a reliable time series for policy analysis purposes it is cheaper and more informative about trends across time and place than population surveys. Also, as 67% of all alcohol consumed in Australia is in excess of NHMRC Alcohol Guidelines, per capita alcohol consumption is a good indicator of levels

of harm. The National Alcohol Indicators Project shows this to be the case for road crashes, mortality and morbidity (Stockwell et al 2000, 2001).

The volume of alcohol consumed is most commonly expressed in terms of a respondent's volume of ethanol intake during a specified reference period, that is, volume per week, month or year. The volume of ethanol consumed is a function of the number of drinks consumed during that period and the amount of ethanol contained in each drink.

### 4.3.3 'At-risk' populations

Generally, it is desirable to break down population data for particular sub-populations, for example, by age and sex, to identify those at higher risk. The Australian Alcohol Guidelines (NHMRC 2001) identify characteristics and/or events that may put people at greater risk of harm from alcohol consumption. These characteristics are:

- people that participate in activities that involve risk or a degree of skill (Guideline 2);
- people with a social or health problem that is related to alcohol, or made worse by alcohol (including alcohol dependence) (Guideline 4);
- people with a first-degree relative (eg. parent, sibling) or second-degree relative (eg. grandparent, uncle, aunt, cousin) who has, or has had, a problem with alcohol (Guideline 5);
- people with a mental health problem (including anxiety or depression) and/or sleep disturbance (Guideline 6);
- people taking medications or other drugs (Guideline 7);
- older people (Guideline 8);
- young adults, aged about 18-24 years (Guideline 9);
- young people, aged up to about 18 years (Guideline 10); and
- women who are pregnant or soon to become pregnant (Guideline 11).

There may also be other population groups at higher risk of alcohol-related harm. In Australia, this includes Aboriginal and Torres Strait Islander people or some people of non-English speaking backgrounds.

### 4.3.4 Related concepts

There are a number of related concepts to alcohol consumption. These include:

- alcohol-free days;
- the type of alcohol consumed;
- the type of setting in which the alcohol is consumed;
- strategies and motivations for controlling alcoholic intake; and
- motivations for consuming alcohol.

These concepts provide information on what people drink, where they drink, how they drink and why they drink.

## **4.4 Summary of data requirements for monitoring alcohol consumption**

The following data requirements are desirable and/or necessary for monitoring short-term and long-term alcohol consumption.

### **Alcohol consumption status (drinkers and abstainers)**

There is a need to identify the proportion of a population that consumes alcohol. It is also desirable to measure the level of alcohol abstention in a population.

### **Volume of alcohol consumed**

There is a need to identify how much alcohol a population consumes. Research has identified a strong correlation between volume consumed and risk to health. The volume of alcohol consumed during a period is a function of the number of drinks consumed during the same period multiplied by the amount of ethanol in each drink. Therefore, it is necessary to identify the type of, and frequency with which each alcoholic beverage is consumed.

### **Pattern of alcohol consumption**

There is a need to identify patterns of alcohol consumption. For both short-term and long-term alcohol-related harm, it is necessary to identify how often a population is consuming above 'low risk' levels, and how much alcohol they consume. These levels differ for men and women, as they do for short-term and long-term alcohol-related harm.

It is desirable to collect information on drinking patterns and how these patterns relate to levels of risk as identified in Australian Alcohol Guidelines (NHMRC 2001). Tables 2, 3, 4 and 5 above relate the risk to health to patterns of alcohol consumption for men and women.

### **Alcohol-free days**

It may be desirable to measure the presence of alcohol-free-days across consumption patterns in a population. For example, the proportion of a population that has one, two, or more alcohol-free days per week. There is some evidence to suggest that alcohol-free days may be associated with positive health effects (Stockwell et al 2001).

### **Harm minimising behaviour**

It is desirable to collect information on strategies used to control the effects and/or harm from consuming alcohol. For example, whether people pace their drinking, or eat while drinking and whether they conduct risky behaviour after drinking.

### **Drinking setting**

It is desirable to collect information on the types of locations where alcohol is consumed. Some evidence suggests there is a link between setting and risk to health.

### **Type of alcoholic beverage consumed**

It may be desirable to collect information on the type of alcoholic beverage consumed. Some evidence suggests there is a link between type of alcohol consumed and risk to health.

**Motivation for drinking**

It may be desirable to collect information on the motivations for consuming alcohol, and/or the motivations for abstaining. This might include access to alcohol, affordability, health status or other motivating factors.

**Demographic data**

To monitor patterns of drinking and the risk of related harm across a population, it is necessary to collect demographic data such as age, sex, race, ethnicity, pregnancy status, health status and socio-economic status. To monitor the risks from alcohol consumption it is also desirable to collect additional information about people. See Section 4.3.3 'At-risk' populations, above, for more information.

## 5 General requirements for monitoring alcohol consumption

This section discusses the methods and issues involved in measuring alcohol consumption. As described in the previous section, measuring alcohol consumption requires information on whether people drink or abstain, and if they do drink, the volume of alcohol that is consumed and the pattern of their alcohol consumption.

### 5.1 Methods for measuring alcohol consumption

The World Health Organisation (WHO 2000) recommends three methods for asking people to estimate their recent alcohol consumption.

1. 'Last 7 Days' (L7D). This method requires respondents to complete a retrospective diary describing how much alcohol was consumed on each of the last 7 days.
2. 'Quantity-Frequency' (QF). This method asks only two questions: (1) 'How much alcohol do you drink?'; and (2) 'How often do you drink?'.
3. 'Graduated Quantity-Frequency' (GQF). This method asks how often people drink specified amounts of alcohol in one day, usually starting with large amounts and graduating down to smaller quantities so as to encourage full reporting.

Another method to determine alcohol consumption is sometimes used. The 'Yesterday' method asks respondents to identify their alcohol consumption on the previous day.

### 5.2 Length of reference period

One critical factor that will affect the approach used to measure alcohol consumption in surveys is the length of the reference period, that is, the length of the time period for which the respondent is asked to describe his or her drinking (WHO 2000).

A short reference period, such as the 'Yesterday' method or 'Last 7 Days' method, encourages more precise recall of consumption because it asks about the most recent period prior to the survey. Hence, it may yield higher consumption estimates. The disadvantage with this method is that it may ask about a period that is not representative of an individual's alcohol consumption pattern. For instance, using the 'Last 7 Days' method, the preceding 7 days may include a higher proportion of holidays and hence may overestimate alcohol consumption. Alternatively, the consumption of infrequent drinkers may be missed altogether during a 7 day period, and therefore underestimate consumption.

The alternative approach is to ask respondents to describe or summarise their drinking behaviour over a longer period of time, usually the month or year before the survey. World Health Organisation recommends that general patterns of drinking be measured over the previous 12-month period using the Graduated Quantity Frequency method. Graduated Quantity Frequency is preferred over Quantity Frequency because the former overcomes disadvantages of the latter, such as omission of heavy drinking episodes and under-reporting alcohol consumption.

### **5.3 Beverage-specific questions versus overall-consumption questions**

It has been demonstrated that beverage-specific questions yield higher alcohol volume estimates than overall questions that combine all types of alcoholic beverages (WHO 2000).

If beverage-specific questions are chosen, it is desirable to ensure that estimates of total consumption and consumption per day can be calculated. This requires knowing the volume of alcohol contained in each beverage, or the number of standard drinks per beverage type.

### **5.4 Quantity per drinking-day versus quantity per drinking-occasion**

It is important to collect information about the short-term impact of alcohol consumption by linking quantity consumed with short-term consequences (WHO 2000). Drinking days may include more than one drinking occasion, such as, with a midday meal and an evening meal. Hence, measuring consumption per day may overstate the risk of short-term harm. On the other hand, it may be difficult to differentiate between drinking occasions (eg. how far apart can drinks be consumed and still be part of the same drinking occasion?).

Surveys either allow the respondent to define each drinking occasion or only ask for quantity consumed per drinking day. Another option may be to ask about frequency of intoxication to indicate the risk of short-term harm.

### **5.5 Issues in measuring quantity of drinks**

It may be difficult for respondents to know the number of drinks they have consumed, and to estimate the size of these drinks. Topping up drinks or drinking from larger containers (eg. jugs of beer) is common practice in Australia. In situations like this, the best approach is to ask for an estimate of the total amount of each beverage consumed and the number of participants (WHO 2000). From this, the average volume per participant can then be determined.

Recent research (Stockwell 2001) suggests that alcohol consumption is underestimated in population health surveys by as much as 40-60%, when compared to alcohol sales data. This may in part be due to 'open-ended' categories that have the effect of under-reporting alcohol consumption. For example, the category 13 or more standard drinks may significantly under-report consumption if some respondents consume significantly more than 13 standard drinks, say 20 standard drinks, when they regularly consume alcohol. It may be desirable to include categories that identify higher levels of consumption.

Differing vernacular for glass types (eg. middy, pot, schooner, etc.) should be considered when collecting information on alcohol consumption. Providing respondents with a picture showing different beverage and glass types is a way to improve self-reporting of alcohol consumption.

### **5.6 Measuring drink size: actual drinks versus standard drinks**

There are two approaches to measuring the amount of ethanol contained in an alcoholic beverage (WHO 2000). If beverage-specific data is collected, the preferred approach is to ask for the total amount consumed for each type of beverage (eg. number of 375ml bottles of beer

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or 200ml glasses of wine). This amount is then multiplied by the ethanol conversion factor (i.e. the proportion of the beverage's total volume that is alcohol), and summed across beverage types. The amount of ethanol is usually expressed in grams or millilitres, where 1 millilitre of ethanol is equal to 0.79 grams of ethanol. Drinkers typically do not understand quantities expressed in millilitres.

The alternative approach to measuring drink size is to define a 'standard drink', then ask respondent to report their consumption in terms of standard drinks. The main advantage of using a pre-defined measure when asking about consumption of all types of alcoholic beverages combined is that it promotes comparability across respondents regardless of the mix of drinks they consume. The disadvantage is that it forces respondents to convert actual drink sizes into standard drinks.

A better solution is to offer respondents a limited range of glass types and/or containers to indicate the kind they normally use for particular beverages (WHO 2000). Alcohol content can then be derived during the analysis of the data.

## **Appendix NHMRC Australian Alcohol Guidelines 2001: Health risks and benefits**

The National Health and Medical Research Council has published the following Alcohol Guidelines to promote responsible drinking behaviour and to minimise the harm resulting from alcohol consumption. Guidelines 1 to 3 are for the whole population, Guidelines 4 to 12 are for particular groups.

### **Guidelines for the whole population**

#### **Guideline 1**

To minimise risks from alcohol consumption in the short and longer term, and gain any longer term benefits.

Men should:

- Consume an average of no more than 4 standard drinks a day, and no more than 28 standard drinks a week; and
- Consume not more than 6 standard drinks in any one day; and
- Have one or two alcohol-free days per week.

Women should:

- Consume an average of no more than 2 standard drinks a day, and no more than 14 standard drinks a week; and
- Consume not more than 4 standard drinks in any one day; and
- Have one or two alcohol-free days per week.

#### **Guideline 2**

People undertaking activities that involve risk or a degree of skill should not drink alcohol before or during such activities, to avoid the risk of harm to the drinker and others.

#### **Guideline 3**

People responsible for private and public drinking environments:

- should actively promote responsible drinking;
- should strive to make sure that those being served alcohol do not become intoxicated, and suggest alternatives to alcohol;
- should refuse to serve alcohol to people who are intoxicated;
- need to minimise the potential for harm in the setting; and
- should closely supervise or monitor young people.

### **Guidelines for particular groups**

#### **Guideline 4**

People with a health or social problem that is related to alcohol, or made worse by alcohol (including alcohol dependence):

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- should consider not drinking at all;
- are strongly advised to stop drinking for at least several weeks or months;
- might then try to drink at lower levels (well below Guideline 1) under professional supervision;
- should not drink if they have developed severe alcohol dependence;
- should never drink if they have a severe health problem made worse by alcohol; and
- if they have hepatitis C or other forms of chronic viral hepatitis, should consider drinking only infrequently and well below the levels recommended in Guideline 1

### **Guideline 5**

People with a relative (eg. first-degree relatives: parents, siblings; and second-degree relatives: grandparents, uncles, aunts, cousins) who has, or has had, a problem with alcohol:

- are advised to be careful about how much they drink;
- should take particular care to have regular alcohol-free days (one or two days per week); and
- might consider not drinking at all.

### **Guideline 6**

People with a mental health problem (including anxiety and depression) and/or sleep disturbance:

- if they do drink, should take particular care to stay within the levels set in Guideline 1, and should consult with their doctor or pharmacist about possible side-effects;
- may consider not drinking at all, particularly if they find it difficult to keep their drinking within Guideline 1 levels; and
- may need to stop drinking entirely if symptoms persist.

### **Guideline 7**

People taking medications or other drugs:

- should carefully read the labels and pamphlets with their medications (including herbal preparations), to check for harmful interactions with alcohol. Some people may need to reduce their drinking or stop drinking alcohol altogether;
- are advised to be very cautious if drinking alcohol while using benzodiazepines, heroin, methadone or other central nervous system depressants;
- if they are taking a number of medications, are at greater risk of increasing the effects of alcohol and/or decreasing the effectiveness of their medication. These people may need to reduce or stop drinking alcohol;
- should consult their doctor or a pharmacist to discuss any aspect of their medication, including possible interactions with alcohol.

### **Guideline 8**

Older people are advised, if they drink, to consider drinking less than the levels set in Guideline 1.

**Guideline 9**

Young adults or those aged about 18 to 25 years:

- are especially urged not to drink beyond the levels set in Guideline 1;
- should not drink at all for at least several hours before undertaking potentially risky activities (eg. driving, swimming, boating);
- should not mix alcohol with other mood altering drugs.

**Guideline 10**

Young people or those aged up to about 18 years:

- should follow the recommendations under Guideline 9; and
- if they choose not to drink should be supported in this decision;
- in settings where alcohol is available to them, should be supervised by adults at all times;
- should keep any drinking to a minimum;
- most importantly, should not drink to become intoxicated; and
- to become responsible adult drinkers, a gradual, supervised introduction to alcohol is recommended.

**Guideline 11**

Women who are pregnant or might soon become pregnant:

- most importantly should never become intoxicated;
- if they choose to drink, should have less than 7 standard drinks over a week, AND no more than 2 standard drinks spread over at least two hours on any one day;
- may consider not drinking at all; and
- should note that the risk is highest in earlier stages of pregnancy, including the time from conception to the first missed period.

**Guideline 12**

People who choose not to drink alcohol should not be urged to drink to gain any potential health benefit, and should be supported in their decision not to drink.

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# **Population Health Monitoring and Surveillance:**

- **CATI Information Question and Module Development Principles and Practices**
- **Question Development Background Papers**
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