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Prevention Research Quarterly

June 2009
ISSN 1832-6013

Australian alcohol guidelines: from research to practice

 **DF** Australian
Drug Foundation
• preventing drug problems •

 State Government
Victoria Department of
Human Services

Prevention Research Quarterly

ISSN 1832-6013

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DrugInfo Clearinghouse is an initiative of the Australian Drug Foundation and the Victorian Government.

Contents

Australian alcohol guidelines: from research to practice

Issues Paper no. 9

1

Reading and Resource List no. 27

12

Australian guidelines to reduce health risks from drinking alcohol: from research to practice

Rosemary McClean

Preventing or minimising the adverse impact of alcohol on the community is an ongoing challenge. Many strategies, approaches and initiatives aimed at various target groups are employed across a range of sectors, from population-wide strategies (such as pricing and taxation) to strategies focused on individuals (such as brief interventions and alcohol education) with varying levels of effectiveness. Central to designing, delivering or evaluating any alcohol harm prevention program is a definition of the alcohol-related behavior being sought as an outcome. Guidelines on drinking alcohol have long been used in many countries to define “safe” or “low risk” levels of alcohol consumption. The National Health and Medical Research Council (NHMRC) recently released new guidelines, *Australian alcohol guidelines to reduce health risks from drinking alcohol* (NHMRC 2009) that are significantly different in many ways from the previous ones (NHMRC 2001), which they now replace. This Issues Paper will examine the new guidelines and issues related to communicating these to the wider community; it will also look at how an “alcohol guidelines” document can be used. The paper is designed to be of assistance to anyone who has responsibility for using the guidelines in their work, for example health and welfare workers; counsellors; teachers and community educators; and health planners. A broad range of health, education, research and policy practitioners have been consulted in the development of this paper and their contribution is gratefully acknowledged.

The guidelines: a new approach

The *Australian guidelines to reduce health risks from drinking alcohol* (NHMRC 2009) differ from the previous guidelines in a number of ways.

- ▶ A population health approach has been taken, focusing on improving overall health in the community.
- ▶ The number of guidelines has been reduced to four (Figure 1). There are now two universal guidelines for healthy adults, a specific guideline for children and young people, and one for pregnant or breastfeeding women. Additional information for consideration relates to certain groups and situations.
- ▶ The guidelines are based on the concept that the risk of harm increases progressively with the amount of alcohol consumed. The more you drink, the higher the risk.
- ▶ Rather than providing prescriptive advice on how much people can/should drink, the guidelines have moved to defining the risk—to assist people in making an informed choice about how much they choose to drink.
- ▶ The guidelines for healthy adults are based on calculating the **cumulative lifetime risk** of alcohol-related injury or disease associated with many drinking occasions (Guideline 1) and the **immediate increase in risk of injury** from drinking on a single occasion (Guideline 2).
- ▶ There is no difference between the guidelines for men and women.
- ▶ The guidelines for children and young people, and for women during pregnancy and breastfeeding, are more conservative than in the previous guidelines.

Guideline 1

Reducing the risk of alcohol-related harm over a lifetime

The lifetime risk of harm from drinking alcohol increases with the amount consumed.

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

...

Guideline 2

Reducing the risk of injury on a single occasion of drinking

On a single occasion of drinking, the risk of alcohol-related injury increases with the amount consumed.

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

...

Guideline 3

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

A: Parents and carers should be advised that children under 15 years of age are at the greatest risk of harm from drinking and that for this age group, not drinking alcohol is especially important.

B: For young people aged 15–17 years, the safest option is to delay the initiation of drinking for as long as possible.

...

Guideline 4

Pregnancy and breastfeeding

Maternal alcohol consumption can harm the developing foetus or breastfeeding baby.

A: For women who are pregnant or planning a pregnancy, not drinking is the safest option.

B: For women who are breastfeeding, not drinking is the safest option.

Understanding risk

The concept of risk is central to these guidelines, so a clear understanding of risk—and associated concepts such as probability—is essential for understanding and communicating these guidelines.

Risk can be defined in a number of ways, one of the simplest being

'Risk = the probability of an unwanted event which may or may not occur'.

The guidelines use the epidemiological definition of risk: a person's risk of experiencing an adverse outcome in a specified time period (Figure 2).

A number of risk-related terms are used:

- ▶ lifetime risk—the accumulated risk from drinking either on many drinking occasions, or on a regular (e.g. daily) basis over a lifetime. Lifetime risk of death is a common outcome used for measuring risk from exposures to hazardous substances
- ▶ relative risk—the risk of harm in drinkers relative to the risk of harm in non-drinkers
- ▶ absolute risk—the actual risk of injury or disease from drinking
- ▶ cumulative effects—the effects of many drinking occasions over time.

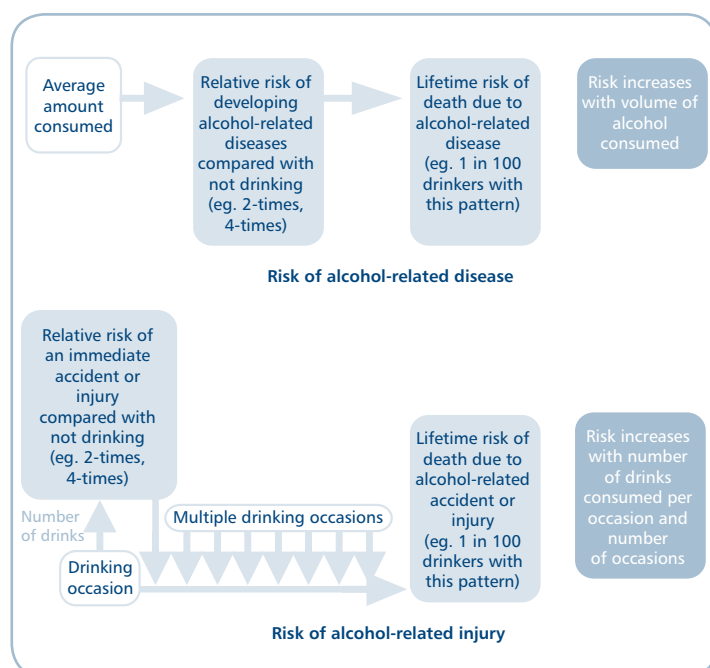


Figure 1. The four key guidelines in the *Australian guidelines to reduce health risks from drinking alcohol* (NHMRC 2009).

Figure 2. Alcohol related risks for different patterns of drinking. (Source: NHMRC 2009.)

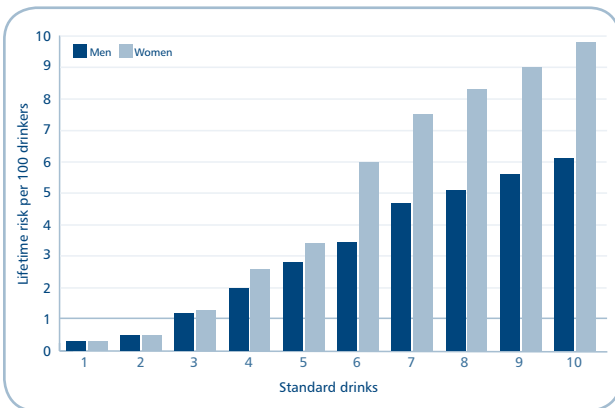


Figure 3. Lifetime risk of death from alcohol-related disease per 100 drinkers, by number of standard drinks per occasion, Australia 2002.

(Source: NHMRC 2009.)

Communicating about risk

Risk is a difficult concept to convey, given that every individual brings different perspectives on what is a reasonable level of risk for them, and places varying values on the benefits (real or perceived) that they receive from taking that risk. The communication of risk can often involve complex cognitive processes (Ghosh & Ghosh 2003).

The NHMRC have chosen a *lifetime risk of dying from alcohol-caused disease or injury of 1 in 100 (i.e. one death for every 100 people)* as the basis of an acceptable risk from drinking in the context of present-day Australian society. This is approximately equivalent to the risk involved with riding a bike 62km a week, driving a car 1857km a week or smoking five cigarettes a week (Wilson 1979).

Guideline 1

Guideline 1

Reducing the risk of alcohol-related harm over a lifetime

The lifetime risk of harm from drinking alcohol increases with the amount consumed.

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

Key points

This is the level of drinking at which the risk of alcohol-related harm remains low over a lifetime (compared with not drinking), in relation to risk of death from alcohol-related disease and to risk of hospitalisation or death from alcohol-related injury (NHMRC 2009).

The lifetime risk of death from alcohol-related disease or injury remains below 1 in 100 if no more than two standard drinks are consumed on each drinking occasion, even if the drinking is daily.

Every drink above this level continues to increase the lifetime risk of both disease and injury.

Lifetime risk is associated with patterns of drinking as well as levels of drinking.

Drinking less frequently over a lifetime (e.g. drinking weekly rather than daily), and drinking less on each drinking occasion, reduces the lifetime risk of alcohol-related harm.

For alcohol-related disease: as the average volume of alcohol consumption increases, the lifetime risk of death from alcohol-related disease increases. For both men and women, the lifetime risk of death from alcohol-related disease more than triples when consumption increases from two to three standard drinks a day.

For alcohol-related injury: lifetime risk of death or hospitalisation due to alcohol-related injury increases with frequency of drinking, for both men and women.

The risk of death from injury remains below 1 in 100 if a person always drinks two drinks or less on an occasion—even if the occasion is every day (Figure 3).

How the level of risk varies with different levels and frequencies of drinking is presented in an extensive collection of tables (Appendix 5, NHMRC 2009).

Guideline 2

Guideline 2

Reducing the risk of injury on a single occasion of drinking

On a single occasion of drinking, the risk of alcohol-related injury increases with the amount consumed.

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

Key points

This differs from Guideline 1 in that it is concerned with risk of alcohol-related *injury* (rather than “alcohol-related disease or injury”) associated with drinking on a *single occasion* (not over a lifetime).

However, each separate drinking occasion also contributes to the lifetime risk of alcohol-related harm.

A criticism of the draft proposed guidelines (NHMRC 2007) was the lack of information or advice on the risk of “special occasion” drinking, and youth pattern “binge” drinking, when people are likely to exceed the two standard drinks per day. In response, this further guideline was developed.

A single occasion is defined as “a sequence of drinks taken without the blood alcohol concentration returning to zero in between”.

The identification and calculation of the risk involved studying and re-analysing existing data sets such as from emergency departments—as well as devising a harm score derived from data from the *2004 National Drug Strategy Household Survey* (AIHW 2005)—based on responses to a series of questions on self-reported problems from drinking (Livingston & Room 2009).

According to the Guidelines, the available evidence on single occasion drinking suggests that:

- any consumption of alcohol increases the risk of injury on a single drinking occasion
- having four drinks on a single occasion more than doubles the relative risk of an injury in the six hours afterwards
- the relative risk rises more rapidly above the level of four drinks on an occasion
- each drinking occasion contributes to the lifetime risk of alcohol-related injury and disease, as noted in the discussion of Guideline 1
- the lifetime risk of death from injury remains below 1 in 100 for both men and women if they always drink two drinks or less on an occasion, even if the occasions are every day
- the lifetime risk of hospitalisation from injury is about 1 in 10 for men and 1 in 12 for women with a drinking pattern of four drinks on an occasion about once a week.

Guideline 3

Guideline 3

Children and young people under 18 years of age

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

A: Parents and carers should be advised that children under 15 years of age are at the greatest risk of harm from drinking and that for this age group, not drinking alcohol is especially important.

B: For young people aged 15–17 years, the safest option is to delay the initiation of drinking for as long as possible.

Key points

This guideline is based on evidence indicating that the risk of harm (accidents, injuries and self-harm) is high among drinkers under 18 years and that drinkers under 15 years experience even greater likelihood of risky or anti-social behaviour. It also takes into account research indicating that consumption of alcohol has implications for brain development and can cause alcohol-related problems later in life.

Self-reported harm scores were also developed (Livingston & Room 2009) from the *2004 National Drug Strategy Household Survey* (AIHW 2005). Two separate scores were calculated: a hazardous behaviour score and a delinquent behaviour score. Results showed that the scores tend to be higher for 12–14-year-olds than for any other age group.

A recent Australian study (Moore et al. 2009), which tracked young people and their drinking patterns from 14 to 21 years old, shows drinking in teenage years is linked to higher risks of alcohol dependence problems in young adulthood, even when drinking is at “low-risk” levels. These results confirm earlier Australian research that found the drinking patterns of adolescents in the final years of secondary schooling (high, moderate and low level) is predictive of their drinking in the subsequent early adult years (Toumbourou et al. 2004).

The position taken by this guideline has also been adopted in recent advice issued by the UK Chief Medical Officer (Donaldson 2008).

Recognition is given to the important role that parents or carers have in ensuring that where drinking

by teenagers does occur, the context should be made as safe as possible by ensuring appropriate supervision and avoiding intoxication.

This guideline does not advocate that young people drink or that adults provide them with alcohol, but that if drinking does occur it should be at a low-risk level and in a safe environment, supervised by adults. Drinking to intoxication is particularly risky in this age group.

This addresses the dilemma faced by families where it has been the cultural tradition to introduce children and teenagers to small amounts of alcohol within a social, cultural or religious context.

There is a need to take into account the issue of secondary supply. In most jurisdictions in Australia it is legal for any adult to supply alcohol to a minor in a private residence. This has particular importance in the context of teenage parties.

Serving drinks to young people under the age of 18 years by parents, carers or other adults may be subject to legislation. Supervision of drinking by young people should take account of local legislation.

Guideline 4

Guideline 4

Pregnancy and breastfeeding

Maternal alcohol consumption can harm the developing foetus or breastfeeding baby.

A: For women who are pregnant or planning a pregnancy, not drinking is the safest option.

B: For women who are breastfeeding, not drinking is the safest option.

Key points (A) Alcohol and pregnancy

This guideline is based primarily on consideration of the risk to the foetus, not risk to maternal health. Exposure to alcohol *in utero* is linked to a broad range of harms to the foetus, encompassed in the term Fetal Alcohol Spectrum Disorders (FASD). The need for more research into the link between maternal alcohol consumption and incidence of FASD is noted (Elliott et al. 2007).

The Guidelines state that providing definitive advice on this issue is difficult, given the complexity of the issue and the quality of the research evidence available from human studies.

A 'no-effect' level has not been established, and limitations in the available evidence make it impossible to set a 'safe' or 'no-risk' drinking level... A conservative, public health approach has therefore been taken in recommending that 'not drinking alcohol is the safest option...'

A review of policy on alcohol in pregnancy (O'Leary et al. 2007) reports a broad range of positions and lack of specific advice. The guidelines from many countries are in agreement that a safe level has not been established, and propose that the safest option is not to drink while pregnant; however many give qualifying advice that low levels of drinking carry minimal risk. The previous Australian Guidelines (NHMRC 2001), while advising pregnant women to consider not drinking at all, advised those who did to have less than seven standard drinks per week, with no more than two per day. These new guidelines represent stronger and more definitive advice.

It has been reported that up to 47 per cent of pregnancies are unplanned, with 59 per cent of women continuing to drink while pregnant (Colvin et al. 2007). The need to sensitively communicate advice for women who have consumed alcohol while pregnant, is recognised.

Women who drank alcohol before they knew they were pregnant or during their pregnancy should be reassured that the majority of babies exposed to alcohol suffer no observable harm.

There are concerns that this abstinence position may lead to feelings of guilt, concern and fear among pregnant women, causing stress, anxiety and a disinclination to access medical and other support services.

The Guidelines offer the following advice or women who are pregnant or planning a pregnancy.

- Not drinking alcohol is the safest option.
- The risk of harm to the foetus is highest when there is high, frequent, maternal alcohol intake.
- The risk of harm to the foetus is likely to be low if a woman has consumed only small amounts of alcohol before she knew she was pregnant or during pregnancy.
- The level of risk to the individual foetus is influenced by maternal and foetal characteristics and is hard to predict.

Key points (B) Alcohol and breastfeeding

Again, a lack of research evidence from human studies prevents definitive advice being given, and a conservative approach has been taken.

The guidelines acknowledge that the abstinence message may discourage breastfeeding—which is of concern given that only 12 per cent of infants are being exclusively breastfed by six months of age (Scott et al. 2006). The major review cited (Giglia and Binns 2006) provides some practical advice for lactating mothers who drink in order to minimise the risk to the infant (Table 1).

Table 1. Time taken for alcohol to be cleared from breast milk

		Australian standard drinks						
		1	2	3	4	5	6	7
Maternal weight (kg)	50	1.51	3.34	5.35	7.27	9.18	11.11	13.03
	59	1.42	3.26	5.09	6.52	8.36	10.19	12.02
	66	1.37	3.15	4.53	6.31	8.10	9.48	11.26
	70	1.33	3.07	4.41	6.15	7.50	9.24	10.57

(hours: minutes)

(Source: NHMRC 2009.)

Advice for breastfeeding mothers

- ▶ Not drinking alcohol is the safest option.
- ▶ Women should avoid alcohol in the first month after delivery until breastfeeding is well established.
- ▶ After that:
 - alcohol intake should be limited to no more than two standard drinks a day
 - women should avoid drinking immediately before breastfeeding
 - women who wish to drink alcohol could consider expressing milk in advance.

Further advice

The universal Guidelines 1 and 2 are designed for healthy adults. To assist in tailoring advice for specific groups and situations, further advice is given. Factors such as the situational context of the drinking (e.g. engaging in high risk activities); the risk conveyed to others (e.g. supervising children); having higher risk profiles (young adults, older people) and pre-existing physical or mental health conditions are all considered and discussed.

Summary of further advice

A. Situations when drinking increases the immediate risk of harm due to the acute affects of alcohol				
<i>Situations</i>	Activities such as driving, water activities, snow sports, aviation, operating heavy machinery	Supervising such activities	Supervising children	
<i>Advice</i>	Not drinking is the safest option			
B. People who should be aware they have an increased risk				
<i>Groups</i>	Young adults (18–25 years)	Older people (over 60 years)	People with a family history of alcohol dependence	People who use drugs illicitly
<i>Advice</i>	Planning and taking precautions before drinking	Consult health professional	Reduce drinking levels below Guideline 1. Consult health professional.	Be aware of increased risks of consuming alcohol together with illicit drugs
C. People who should seek professional advice about drinking				
<i>Groups</i>	Anyone taking medication, either over-the-counter or prescription	People with alcohol-related or other physical conditions that can be made worse or affected by alcohol	People with mental health conditions	
<i>Advice</i>	Check with doctor or pharmacist	Consult health professional	Consult health professional. Temporary or permanent abstinence	

Table adapted from Appendix A1 (NHMRC 2009).

How the guidelines were developed

The National Health and Medical Research Council (NHMRC) is responsible for developing and reviewing the Australian drinking guidelines. The first Australian Drinking Guidelines appeared in 1987, were revised in 1992 (NHMRC 1992) and again in 2001. The last version of the guidelines, *Australian Alcohol Guidelines. Health Risks and Benefits* (NHMRC 2001) consisted of 12 guidelines covering the general population and particular groups. These guidelines differed from previous ones in that, for the first time, patterns of drinking were taken into account as well as overall levels of consumption. They also introduced the concept of low risk, risky and high risk drinking levels.

The latest guidelines are the result of a process that commenced in 2006. The review and development process involved:

- ▶ establishment of an expert working committee
- ▶ a literature review of alcohol-related epidemiological studies
- ▶ new modelling to estimate lifetime risk of death from alcohol-related injury or disease of less than 1 in 100 people (Rehm et al. 2008; Taylor et al. 2008)
- ▶ public consultation which involved the release of a public consultation document (NHMRC 2007); 162 submissions were received
- ▶ re-examination of datasets to estimate levels of drinking on a single occasion associated with harm
- ▶ investigation of the risk of being hospitalised for injury in relation to alcohol intake
- ▶ analysis of the *2004 National Drug Strategy Household Survey*, looking at gender patterns in hazardous behaviour and delinquent behaviour.

The review process has been extensive and subject to national and international peer review. Therefore, this Issues Paper does not seek to critique or review the research. The reader is referred to the guidelines document (NHMRC 2009) for more information on the process.

Significant changes to the guidelines

How and what advice is given differs from the previous guidelines on a number of key issues. Considering and understanding these differences will assist in translating these guidelines for use with various target groups and programs.

Lowering of advised levels

In comparison with the previous Guidelines (NHMRC 2001), the advised levels are lower across all guidelines, with more conservative advice. This has created concern that the guidelines will be unacceptable to many in the community (The Australian 2007, SMH 2009) and that they will be “hard to sell”.

For those with responsibility for using and communicating the guidelines there are a number of significant points to note which may help in explaining and promoting the guidelines to different groups.

The guidelines are based on a rigorous review of the most current available evidence: “This is what the research says, even if we don’t like it.”

The basic premise of the guidelines is very different from previously. They do not aim to give a “safe” or “no-risk” drinking level, or prescribe a level. Rather they define what the level of risk is, so individuals can make an informed choice about how much they choose to drink. This is quite a sophisticated concept and will take some explanation.

The level of two or less standard drinks per day has already been adopted by some countries, e.g. France, Slovenia and Sweden (ICAP 2009).

The current expert advice about drinking in relation to prevention of cancer is even more conservative (WCRF 2009).

Gender differences

In contrast with previous Guidelines, the same advice has been given for both men and women.

At the levels recommended (i.e. below two standard drinks per day) there is minimal difference in the risk of alcohol-related harm between men and women.

Gender differences do appear in levels of risk as levels of consumption increase, with the lifetime risk of alcohol-related disease increasing more quickly for women and the lifetime risk of alcohol-related injury increasing more quickly for men.

On a single occasion, women may reach higher blood alcohol levels than men consuming the same amount of alcohol; however, men are more likely to incur an injury as they are more likely to engage in risk-taking behaviour when drinking. Hence the advice for a

single occasion, i.e. less than four standard drinks on a single occasion, is also the same for both sexes.

Delivering the previous message that women should not drink as much as men did meet some resistance from young women, who frequently viewed this advice as sexist and found the message lacked credibility, especially in the context of the rising trend of harmful levels of alcohol consumption by young women (AIHW 2008). This standardisation of message for both sexes removes that difficulty but does represent a significant shift, especially for practitioners who have worked hard to get the higher risk message across to women.

Alcohol-free days advice

The recommendation/advice in the previous Guidelines (NHMRC 2001) of having one or two alcohol-free days per week has been omitted. While this advice was considered good practice and a prudent approach to adopt, there is insufficient evidence that having alcohol-free days causes a significant lowering of risk. However, the Guidelines do acknowledge the role that alcohol-free days play in reducing the overall number of occasions of drinking.

Further reductions in the lifetime risk of alcohol-related disease or injury can be achieved by reducing the number of occasions of drinking across a lifetime, for example through regular alcohol-free days. (NHMRC 2009, p. 39)

These Guidelines do not preclude advice being given to individuals to include alcohol-free days as part of an alcohol management plan, especially when the social and behavioral context of their drinking is being taken into account.

Weekly limits

The practice of setting maximum weekly limits has been discontinued. The approach taken by these Guidelines does not involve setting prescribed levels or upper limits, so weekly limits have become redundant. A criticism of the use of weekly limits in the past has been the tendency for drinkers to “save up” their weekly ration for use over one or two occasions. The use of weekly limits also relied heavily on people’s accurate understanding and use of the concept of a standard drink and their ability to remember and account for their drinking over a week.

Health benefits of alcohol

The potential health benefits of consuming alcohol have not been factored into advice as previously. Current research evidence indicates that the health benefits of alcohol had been over-estimated (Fuchs & Chambless 2007). With regard to protective cardiovascular benefits, the evidence suggests that any potential benefits can be attained by drinking within the levels recommended in Guideline 1 (WHO 2007) or can be gained by adopting other lifestyle changes such as exercise or diet. There is some evidence that light to moderate alcohol intake has some benefits for older people (with regard to bone loss, coronary heart disease and cognitive impairment) but is associated with increased risk of falls and adverse medication interactions. Personalised advice from a health professional is recommended.

Gradual supervised introduction to alcohol

Unlike the previous Guidelines (NHMRC 2001) which advised the early introduction of supervised drinking by young people as a strategy for parents to assist them to become “responsible adult drinkers”, these Guidelines strongly recommend the avoidance of alcohol by all young people under the age of 18 years, with special emphasis on under-15 year olds. Families who follow the practice of serving young family members small amounts of alcohol within a cultural and/or religious context may find this advice difficult to accept; likewise, the parents of teenagers who are already engaged in drinking. The further advice given on the need to provide supervision and limit drinking to low risk levels is especially relevant to these groups.

The role of drinking guidelines

Drinking guidelines are used in a number of ways within research, policy, practice and prevention. They provide a standard against which to assess current drinking levels and patterns and they set a target for alcohol strategies and programs to attain.

According to the International Centre for Alcohol Policy (ICAP 2009), guidelines are developed to educate the public by presenting information about potential outcomes at different consumption levels and patterns of drinking. At the community level, drinking guidelines are generally used to provide practical information to individuals to assist them to make decisions about their drinking.

Many countries have developed drinking guidelines and a study of these shows a vast range of recommended levels and qualifying advice (ICAP 2009). Some provide advice on daily limits, others on weekly levels not to exceed. The language and terminology used also varies greatly e.g. *Safe drinking limits; Sensible drinking recommendations; Responsible drinking guidelines; Responsible choices about drinking; and Low-risk drinking levels*. Advice differs according to gender in some, not in others. Some guideline documents provide additional advice for special groups such as pregnant women; others don't. Central to the recommendations is the concept of the standard drink or unit; however what this constitutes varies greatly—from 8g to 19.75g of alcohol.

The processes used to develop guidelines also vary but are generally based on reviews of scientific evidence, epidemiological studies and other relevant data.

Research on the effectiveness of drinking guidelines is limited (Babor et al 2003). A review of the evidence for prevention of substance use (Loxely et al. 2004) rated them as having limited effectiveness, with sufficient evidence for implementation; however the authors concluded that it is difficult to assess their effectiveness in isolation from other strategies and policies. Guidelines are recognised as providing support to other measures such as social marketing campaigns and brief intervention (Preventative Health Taskforce 2008).

While drinking guidelines can be used to support and inform other strategies, there are limitations in depending upon them to have significant impact by themselves. Provision of information alone is unlikely to lead to behaviour change.

How these guidelines will be used

The NHMRC, when discussing the scope of the Guidelines, identify the following intended uses:

- ▶ establish clear guidance for Australians
- ▶ provide a base for future policies and community resources
- ▶ provide a resource for health professionals, professional organisations and industry
- ▶ inform policy-makers, planners, decision-makers, and those responsible for providing alcohol.

The point is made that the Guidelines are intended as a technical document and not designed to be a primary resource for the community. It is now the

role of various professional groups, organisations and individual practitioners to develop information and resources for use with their specific target groups and clients, taking into account the Guidelines and the further advice as relevant.

The Guidelines will be used in different contexts, in a range of settings and for a variety of purposes.

Education context

School settings: all education materials designed for use in school alcohol education will need to take the new guidelines into account, especially with regard to Guideline 3. The position on not drinking alcohol before the age of 18 years creates a huge challenge for educators, given the level of—and acceptance of—underage drinking in the community.

Careful attention will be needed in communicating and explaining the evidence base for the new guideline to teachers.

Community settings: the broad variety of groups requiring information and education on the new guidelines means that all the guidelines and additional information are relevant. A range of formats (print, graphic, audiovisual) and styles will be required to effectively communicate with different groups.

Parents and carers: Guideline 3 requires particularly careful communication to parents and carers responsible for young people less than 18 years of age. A clear understanding of the evidence behind this guideline will help reinforce the need for this position. Assisting and encouraging parents in the implementation of the guideline—in the face of current youth drinking levels and acceptance—may also require support and training in parenting skills. The Guidelines can be used to support and reinforce those parents who are seeking to limit and delay the use of alcohol by their children.

Clinical context

The way in which these guidelines relate to and inform the clinical practice of alcohol and other drug professionals is evolving. The current clinical guidelines (NDARC 2003) are being reviewed and revised in relation to the 2009 Guidelines and are expected to be released in mid-2009.

Communicating the idea of risk to patients is a fairly common practice for doctors as they are often called upon to assess risk in relation to a range of

factors. Strategies which assist in communicating risks to patients have been identified (Palling 2003). The Guidelines provide estimates of risks associated with particular patterns of drinking (NHMRC 2009, Table 13) which may be used to interpret individual risk levels.

Brief interventions for alcohol in primary health care settings are recognised as having value (NHPT 2008, VAAP 2008). Essential to the delivery of these interventions are information and advice on what constitutes recommended levels and patterns of drinking.

Research context

How the guidelines will impact on the research sector is unknown. There may be some debate as to how research pre- and post- these guidelines should be reported and interpreted. The levels of low risk, risky and high risk drinking, introduced in the previous guidelines (NHMRC 2001), are frequently used to classify drinking levels reported in studies of population groups. Survey questions may now need to be rephrased. For comparison of data from surveys across time, there may be a need to recalculate whole data from original data sets.

What is happening

In the preparation of this Issues Paper it became apparent that, given the recent release of the Guidelines, their practical application is just starting to be addressed by many sectors and organisations.

A brief overview of some of the work being undertaken is presented below.

The **Commonwealth Department of Health and Ageing** has developed a communication and dissemination plan and has appointed a research consultant to advise on how best to communicate the Guidelines to the community. A range of brochures and posters is being developed and will be disseminated nationally.

Australian Drug Foundation: brochures and posters have been developed for use by a range of health and education workers in their work with various target groups. This first phase of resources will be subject to review and modification depending upon the feedback from users. Information on the various ADF websites has also been updated and modified. See www.druginfo.adf.org.au for further information.

The Lifescripts project is a national initiative, promoting risk factor management in general practice and primary health care services. The alcohol-related content of the Lifescripts resources is being reviewed in relation to the new alcohol guidelines. See www.health.gov.au/lifescrpts for more information.

The National Alcohol Standard Drink Awareness Campaign is a project of the Pharmacy Guild of Australia. It involves distribution of prescription repeat folders that depict standard drinks and include a health message about alcohol consumption. The Guild is conducting a campaign incorporating the new Guidelines.

The Alcohol and Pregnancy Project, a project of the Telethon Institute for Child Health in Perth, supports and promotes health professionals' practice with their clients and patients around the issue of alcohol use in pregnancy. A series of evidence-based resources has been developed and disseminated. These are currently being updated to reflect the new Guidelines and will be made available through the project's website www.ichr.uwa.edu.au/alcoholandpregnancy

The National Centre for Education and Training on Addiction (NCETA) has published a fact sheet, 'Making Sense of Australia's Alcohol Guidelines; An NCETA workforce development tool'. This provides simple information to health and human services workers about the Guidelines, addresses some common questions about them and suggests ways that they might be used in day-to-day practice. The fact sheet can be accessed at www.nceta.flinders.edu.au

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Australian guidelines to reduce the health risks from drinking alcohol

This list is intended as a guide and a starting point for the researcher. It does not aim to be comprehensive of the subject. For further information, please search the library online public access catalogue or contact DrugInfo for assistance. This list is sorted chronologically and by author within each time period. All of the following resources are available in the DrugInfo Clearinghouse library.

Guidelines

Australia

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

The revised guidelines aim to communicate evidence concerning the risks of drinking alcohol to the Australian community to allow individuals to make informed decisions regarding the amount of alcohol that they choose to drink.

DrugInfo Clearinghouse no. BB AUS

www.nhmrc.gov.au/publications/synopses/_files/ds10-alcohol.pdf

International

AIM—Alcohol in Moderation *What is a drink? [explanation of UK low-risk drinking guidelines]*, online text at www.drinkingandyou.com/site/uk/what.htm (accessed 6 May 2009)

Alcohol Advisory Council of New Zealand (ALAC) *Drinking levels*, online text at www.alac.org.nz/LowRiskDrinking.aspx (accessed 6 May 2009)

Centre for Addiction and Mental Health *Low risk drinking guidelines [Canada]*, online text at www.lrdg.net/guidelines.html (accessed 6 May 2009)

ICAP (2007) *International drinking guidelines*, online text at www.icap.org/PolicyTools/ICAPBlueBook/BlueBookModules/19DrinkingGuidelines/tabid/179/Default.aspx (accessed 5 May 2009)

General statistics

Books and reports

Australian Bureau of Statistics 2008 *Apparent consumption of alcohol ABS 4307.0.55.001* Canberra: Australian Bureau of Statistics

This publication contains estimates of the quantity of beer and wine available for consumption in Australia for the years 2004–05 to 2006–07. Estimates of pure alcohol available for consumption from these products, as well as from spirits, are also included, together with the apparent per person consumption of pure alcohol from these products by persons aged 15 years and over.

www.abs.gov.au/AUSSTATS/abs@.nsf/DOSSbytitle/36101757F6BF22C3CA256F1D0079B0D2?OpenDocument

Australian Institute of Health and Welfare 2008 *2007 National Drug Strategy Household Survey: detailed findings*, Canberra: Australian Institute of Health and Welfare

This report presents the summary preliminary results from the 2007 National Drug Strategy Household Survey. It includes the most recent statistics on a broad range of aspects relating to alcohol consumption within Australia.

DrugInfo Clearinghouse no. STATS NATIO

www.aihw.gov.au/publications/phe/ndshs07-df/ndshs07-df.pdf

Australian Bureau of Statistics 2006 *Alcohol consumption in Australia: a snapshot, 2004–05*
Canberra: Australian Bureau of Statistics

This article provides an overview of the level, prevalence and type of alcohol consumption; the health status, risk factors and demographic characteristics for alcohol users; as well as information on mortality and health costs. It uses data from the 2004–05 National Health Survey (NHS), the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and the ABS Causes of Death Collection.

www.abs.gov.au/ausstats/abs@.nsf/mf/4832.0.55.001?OpenDocument

Alcohol-related harm

Books and reports

Collins DJ & Lapsley HM 2008 *The avoidable costs of alcohol abuse in Australia and the potential benefits of effective policies to reduce the social costs of alcohol* Canberra: Commonwealth of Australia

In 2004/05 the social costs of alcohol abuse in Australia were estimated to be over \$15 billion. This study estimates the extent to which these costs could be reduced by the implementation of appropriate public policy interventions. The study estimates both the proportion of Australian social costs which are potentially avoidable and the values of the potential benefits of the identified interventions. [www.nationaldrugstrategy.gov.au/internet/drugstrategy/publishing.nsf/Content/0A14D387E42AA201CA2574B3000028A8/\\$File/mono70.pdf](http://www.nationaldrugstrategy.gov.au/internet/drugstrategy/publishing.nsf/Content/0A14D387E42AA201CA2574B3000028A8/$File/mono70.pdf)

Cummins RA, Woerner J, Gibson A, Lai L, Weinberg M & Collard J 2008 *The wellbeing of Australians: links with exercise, nicotine and alcohol*, Melbourne: Deakin University

The Australian Unity Wellbeing Index monitors the subjective wellbeing of the Australian population. The first survey was conducted in April 2001 and this report concerns the 19th survey, undertaken in April 2008, where there was a focus on the use of alcohol and tobacco, and exercise.

http://acqol.deakin.edu.au/index_wellbeing/Survey_19_Part_A.pdf

Doran C, Vos T, Cobiac L, Hall W, Asamoah I, Wallace A, Naidoo S & Byrnes J 2008 *Identifying cost-effective interventions to reduce the burden of harm associated with alcohol misuse in Australia* Deakin: Alcohol Education and Rehabilitation Foundation

This study provides an analysis of the cost-effectiveness of interventions to reduce the burden of harm associated with alcohol misuse in Australia. The key findings suggest that all the prevention interventions modelled are more cost-effective in reducing alcohol-related harm than those that treat alcohol dependence.

www.aerf.com.au/showcase/MediaReleases/2008/Doran%20AERF%20report.pdf

Lewis S, Campbell S, Proudfoot E, Weston A, Cotter T & Bishop JF 2008 *Alcohol as a cause of cancer* Sydney: Cancer Institute NSW

Alcohol consumption is a known risk factor for cancer. This literature review provides a summary of the current evidence relating to the relationship between alcohol consumption and cancer.

www.cancerinstitute.org.au/cancer_inst/publications/pdfs/pm-2008-03_alcohol-as-a-cause-of-cancer.pdf

Nicholas R 2008 *Understanding and responding to alcohol-related social harms in Australia: options for policing*, Hobart: National Drug Law Enforcement Research Fund

This discussion paper discusses several domains of alcohol-related social harms including; alcohol attributable crime, alcohol-attributable road trauma, alcohol-related violence and alcohol-related reductions in public perception of safety. The report examines policing strategies aimed to reduce alcohol-related social harm. Measures include those aimed at restricting the availability of alcohol (licensing legislation, economic measures) and other harm reduction measures to reduce social harms such as sobering up units.

DrugInfo Clearinghouse no. MT24 NIC

www.ndlrf.gov.au/pub/Alcohol%20Paper%20-%209%20May%202008.pdf

Preventative Health Taskforce 2008 *Preventing alcohol-related harm in Australia: a window of opportunity*, Canberra: Preventative Health Taskforce

This report investigates the key trends in alcohol consumption and related harm in Australia, highlighting effective approaches to preventing and reducing alcohol-related harm and identifying the gaps and opportunities for preventative action.

DrugInfo Clearinghouse no. GC48 AUS

<http://preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/tech-alcohol>

Rabinovich L, Tiessen J, Janta B, Conklin A, Krapels J & Stolk C 2008 *Reducing alcohol harm: international benchmark*, Santa Monica: Rand Corporation

This report outlines a study undertaken by National Audit Office (NAO) to examine alcohol-harm prevention and treatment services in England, focusing specifically on NHS services for alcohol misusers. Five countries, broadly comparable to England in terms of alcohol trends and other socioeconomic indicators, have been examined for this project: Australia, Canada, Germany, the Netherlands and the United States.

DrugInfo Clearinghouse no. JB22 RAB

www.rand.org/pubs/technical_reports/2008/RAND_TR592.pdf

Ward B & Snow P 2008 *The role of families in preventing alcohol-related harm* Melbourne: Australian Drug Foundation

This paper explores how the family environment can influence adolescent choices relating to alcohol.

www.druginfo.adf.org.au/downloads/Prevention_Research_Quarterly/IP_08Jun_youngpeople.pdf

Journal articles

Livingston M 2008 "Recent trends in risky alcohol consumption and related harm among young people in Victoria, Australia", *Australian and New Zealand Journal of Public Health* 32:3, pp. 266–71

This study examines recent trends in the proportion of young people who drink at risky levels and the rate of alcohol-related harms experienced by young people in Victoria, Australia. The current increasing trends in alcohol-related harms for young people in Victoria suggest the need for immediate public health interventions.

DrugInfo Clearinghouse no. vf LIVINGSTON 08

Single-occasion drinking (binge drinking)

Books and reports

Anderson P 2008 *Binge drinking and Europe: report* Hamm: Deutsche Hauptstelle für Suchtfragen

This report discusses the consequences of drinking relatively large amounts of alcohol on any one occasion (described as binge drinking), and how these consequences might be reduced.

www.dhs.de/makeit/cms/cms_upload/dhs/binge_drinking_report.pdf

Journal articles

Dawson DA, Li T & Grant BF 2008 "A prospective study of risk drinking: at risk for what?", *Drug and Alcohol Dependence* 95:1–2, pp. 62–72

Risk drinking poses a threat of many types of harm, both directly and indirectly through its association with smoking initiation and nicotine dependence. These findings have illustrative value for prevention programs, and they indicate that frequent risk drinking is a strong marker for alcoholism.

Gmel G, Gaume J, Faouzi M, Kulling J-P &

Daeppen J-B 2008 "Who drinks most of the total alcohol in young men: risky single occasion drinking as normative behaviour", *Alcohol and Alcoholism* 43:6, pp. 692–7

This study analysed the distribution of risky single-occasion drinking (RSOD) among 19-year-old men in Switzerland. It was found that, among young men, RSOD constitutes the norm. Prevention consequently must address the total population and not only high-risk drinkers.

Kelly AB & Masterman PW 2008 "Relationships between alcohol-related memory association and changes in mood: systematic differences between high- and low-risk drinkers", *Alcohol and Alcoholism* 43:5, pp. 551–8

Negative mood changes predicted alcohol-related memory associations (AMAs) in high-risk drinkers but not in low-risk drinkers, and the opposite was found for positive mood changes. The negative mood–AMA association appeared to be related to risky drinking, and these subtle implicit cognitive processes may warrant a special focus in intervention programs for high-risk drinkers.

Kuntshe S, Plant ML, Plant MA, Miller P & Gmel G 2008 "Spreading or concentrating drinking occasions: who is most at risk", *European Addiction Research* 14:2, pp. 71–81

This study compares acute negative consequences for people who drink a given amount of alcohol on few occasions (concentrators) per week in comparison with the consequences for people who drink the same amount on more days in a week (spreaders) and investigates whether these associations are cross-culturally stable. Analysis is based on general population surveys of adults conducted in seven European countries.

Brewer RD & Swahn MH 2005 "Binge drinking and violence", *JAMA* 294:5, pp. 616–8

This article looks at the link between binge drinking and preventable deaths and injuries.

DrugInfo Clearinghouse no. vf BREWER 05

O'Connor T 2007 "Alcohol is a brain-altering substance with high social costs", *VicHealth Letter* 31, pp. 8–9

This article discusses some of the harms associated with excessive drinking, noting that at least 80 per cent of all alcohol consumed in Australia in 2001 put the health and safety of drinkers at risk of acute harm (such as alcohol-related injuries) or chronic harm (such as cancer or alcoholic liver cirrhosis). Potential harms include accidental death, memory loss and blackouts, impaired brain development, and long-term alcohol dependence.

Children and young people under 18 years

Books and reports

Galanter M (ed) 2006 *Alcohol problems in adolescents and young adults: epidemiology, neurobiology, prevention and treatment*, New York: Springer

This book presents a clinical overview of teen drinking—epidemiology, neurobiology, behavioural phenomena, diagnostic and assessment issues, prevention and treatment data—in a developmental context.

DrugInfo Clearinghouse no. GC58 GAL

White V & Hayman J 2006 *Australian secondary school students' use of alcohol in 2005*, Canberra: Department of Health and Ageing

This monograph describes the results of the eighth national survey on alcohol use by secondary school students in Australia. The survey was carried out in 2005 and included results from 21 805 students from government, Catholic and independent schools from all over Australia.

DrugInfo Clearinghouse no. JE22 NDS 58

www.nationaldrugstrategy.gov.au/internet/drugstrategy/publishing.nsf/Content/mono58

King E, Taylor J & Carroll T 2005 *Alcohol consumption patterns among Australian 15–17 year olds from 2000 to 2004*, Sydney: Australian Government Department of Health and Ageing

This report discusses an evaluation of alcohol consumption among 15 to 17 year olds, based on the findings of five national surveys carried out between 2000 and 2004.

DrugInfo Clearinghouse no. AD15 KIN

Journal articles

Lavikainen HM & Lintonen TP 2009 "Alcohol use in adolescence: identifying harms related to teenager's alcohol drinking", *Journal of Substance Use* 14:1, pp. 39–48

This study examines experienced harms of alcohol drinking among Finnish teenagers using two methodologically different question sets: open-ended versus structured questions. Teenagers report quite a variety of harms due to their own alcohol drinking. However, the most commonly reported alcohol-related harms were substantially different, depending on the method of answering. Therefore, particular attention should be paid to the question method when researching alcohol-related consequences among adolescents.

Moore E, Coffey C, Carlin JB, Alati R & Patton GC 2009 "Assessing alcohol guidelines in teenagers: results from a 10-year prospective study", *Australian and New Zealand Journal of Public Health* 33:2, pp. 154–9

This article assesses the values of drinking guidelines applied in adolescence for predicting alcohol-related outcomes in young adulthood. The authors conducted an eight-wave, population based cohort study in Victoria between 1992 and 2003. The findings support the emphasis in the NHMRC guidelines on abstaining from alcohol during the adolescent years. Any drinking, even at the low risk level, may not be appropriate in adolescence. However, refinements that could better capture the risk of adolescent drinking in women would be useful.

Afitska K, Plant MA, Weir I, Miller P & Plant ML 2008 "The relationship between teenage 'binge' drinking: age of first alcohol consumption and intoxication", *Journal of Substance Use* 13:3, pp. 205–18

This paper is an investigation into the relationships between "binge" drinking in adolescence, and ages of first drinking alcohol (beer, wine, spirits) and of first intoxication. These relationships are examined using

data collected as part of the UK component of the European School Project on Alcohol and Other Drugs (ESPAD). With one exception, boys/girls who first drank wine or spirits earlier in life were more likely to "binge" drink than individuals of the same gender who first drank wine or spirits later in life or who have never consumed wine or spirits. The exception was boys who first drank wine at 15–16 years of age; they were less likely to drink in "binges" than boys who have never drunk wine. This exploration suggests that early first drinking experience with any type of alcoholic beverage is not necessarily a risk factor for "binge" drinking among UK teenagers.

Peele S 2006 "Reducing harms from youth drinking", *Journal of Alcohol and Drug Education* 50:4, pp. 67–87

Recent international research has found that societies in which men and women consume their alcohol in bursts have more drinking problems. The same cultures have high rates of adolescent drunkenness. The report found that approaches that focus on preventing problems rather than on abstinence may have value in reversing problems created by drinking during adolescence.

Pregnancy and breastfeeding

Books and reports

Soby JM 2006 *Prenatal exposure to drugs/alcohol: characteristics and educational implications of fetal alcohol syndrome and cocaine/polydrug effects*, 2nd edn, Springfield: Charles C Thomas

This book describes the characteristics of children affected by prenatal drug/alcohol exposure and explores strategies to circumvent this damage in order to maximise the individual's remaining strengths. Information and suggestions are primarily for the professionals in education who can provide supportive coordination for caregivers, mental health, and medical service providers.

DrugInfo Clearinghouse no. EE28 SOB

Alcohol and Pregnancy Project 2007 *Alcohol and pregnancy: health professionals making a difference*, Perth: Telethon Institute for Child Health Research

This booklet aims to provide information and guidelines to health professionals in Western Australia, to encourage them to discuss alcohol use with women during pregnancy.

www.ichr.uwa.edu.au/files/user9/Booklet.pdf

British Medical Association 2007 *Fetal alcohol spectrum disorders: a guide for healthcare professionals* London: British Medical Association

This report focuses on the adverse health impacts of alcohol consumption during pregnancy and in particular the problem of fetal alcohol spectrum disorders.

DrugInfo Clearinghouse no. GJ34 BMA

Journal articles

Mennella JA & Pepino MY 2008 "Biphasic effects of moderate drinking on prolactin during lactation", *Alcoholism: Clinical & Experimental Research* 32:11, pp. 1899–908

Thirteen lactating women participated in a four-session, double-blind, 2 × 2 within-subject study to test several hypotheses related to the effects of alcohol on prolactin (PRL) responses and milk yield over time.

Mundy J 2008 "The bottle and the baby: alcohol & the unborn child", *Of Substance* 6:2, pp. 16–9

Fetal alcohol spectrum disorder (FASD) is an umbrella term used to describe a range of disabilities and a continuum of effects that may arise when alcohol passes freely through the placenta during pregnancy, raising the blood alcohol level of the foetus equal to that of the mother. It is a lifetime, incurable disability that is preventable.

Clemens SL, Matthews SL, Young AF & Powers JR 2007 "Alcohol consumption of Australian women. Results from the Australian Longitudinal Study on Women's Health", *Drug and Alcohol Review* 26:5, pp. 525–35

This study examines longitudinal changes in the patterns of alcohol consumption associated with harm in the long term (chronic) and short term (acute) as defined by the Australian National Health and Medical Research Council.

Dunnagan T, Haynes G, Linkenbach J & Summers H 2007 "Support for social norms programming to reduce alcohol consumption in pregnant women", *Addiction Research and Theory* 15:4, pp. 383–96

The results of the investigation showed a consistent and dramatic pattern of overestimation of peer alcohol use norms compared to actual norms. These findings support the application of intervention strategies designed to correct misperceptions of drinking norms in pregnant women as a way to reduce actual drinking rates.

Giglia RC & Binns CW 2007 "Alcohol and breastfeeding: what do Australian mothers know?", *Asia Pacific Journal of Clinical Nutrition* 16 supp.1, pp. 473–7

The majority of participants were aware of recommendations regarding alcohol during pregnancy and felt that a similar level of information was required to provide direction and support during lactation.

DrugInfo Clearinghouse no. vf GIGLIA 07

Peadon E, O'Leary C, Bower C & Elliot E 2007 "Impacts of alcohol use in pregnancy: the role of the GP", *Australian Family Physician* 36:11, pp 935–9

This article discusses the clinical features of fetal alcohol spectrum disorders (FASD) and the role of the general practitioner in prevention and management.

DrugInfo Clearinghouse no. vf PEADON 07

www.racgp.org.au/Content/NavigationMenu/Publications/AustralianFamilyPhys/2007issues/afp200711/200711Peadon.pdf

Chang G, McNamara TK, Orav EJ & Wilkins-Haug L 2006 "Alcohol use by pregnant women: partners, knowledge, and other predictors", *Journal of Studies on Alcohol*, 67:2, pp. 245–51

This article emphasises the importance of accurate identification of previous alcohol consumption. Also, healthy pregnancy behaviours may exert greater impact if they are shared with that woman's partner.

Kyskan CE & Moore TE 2005 "Global perspectives on fetal alcohol syndrome: assessing practices, policies, and campaigns in four English-speaking countries", *Canadian Psychology* 46:3, pp.153–65

Maternal alcohol consumption during pregnancy places the fetus at risk for a number of neurological abnormalities and functional impairments. These deficits are 100 per cent preventable by abstaining from alcohol use during pregnancy. Nevertheless, the worldwide prevalence of Fetal Alcohol Syndrome (FAS), the most severe outcome of prenatal alcohol consumption, is estimated at 0.97 cases per 1000 live births. This paper examines the issues of alcohol and pregnancy, government policies, and awareness of FAS within four English-speaking countries: Canada, United States, United Kingdom, and Australia.

www.mothercraft.ca/database/projects_publications/FAS%20global%20perspectives.pdf

Ephemera

"Alcohol (How drugs affect you)" 2009 [brochure] Melbourne: Australian Drug Foundation

This pamphlet includes statistics on alcohol use in Australia, effects upon the body, interaction with other drugs, tolerance and dependence, treatment, withdrawal, tips for harm reduction and telephone numbers for services in every state.

DrugInfo Clearinghouse no. vf ADF 06

"Alcohol, other drugs and pregnancy: fact sheet for women who are pregnant or considering pregnancy" 2005 [fact sheet] Melbourne: Australian Drug Foundation

DrugInfo Clearinghouse no. vf DRUGINFO 05

www.druginfo.adf.org.au/article.asp?ContentID=aod_pregnancy

"Alcohol, other drugs and pregnancy" 2009 [booklet] Melbourne: Australian Drug Foundation

This booklet aims to inform both men and women about the effects of alcohol and other drug use, before and during pregnancy. It includes information about legal and illegal drugs, as well as complementary, prescribed and over-the-counter medicines. Also discussed are concerns about withdrawal, and drug use during breastfeeding.

Audiovisual materials

Catalyst—teen alcohol 2007 [videorecording] Sydney: Australian Broadcasting Corporation

This Catalyst story reviews recent research into the long term damage from underage drinking. Themes covered include: alcohol's impact on the still developing adolescent brain; trends in underage alcohol consumption; and new evidence of a link between starting drinking age and later alcohol dependence.

DrugInfo Clearinghouse no. av AN68 NEW

Pregnancy lifescrpts: alcohol 2007 [videorecording] Manuka : Australian General Practice Network

The aim of this DVD is to provide general practitioners with simple, evidence-based tools to assist in the provision of structured, consistent lifestyle advice on alcohol to pre-pregnant, pregnant and breastfeeding women.

DrugInfo Clearinghouse no. av EE24 AUS

All material listed is available from the Australian Drug Foundation library.

Membership to the library is open to professionals in Victoria who work in the areas of health, welfare and education.

Members are able to borrow from the collection as well as access other services provided by the library. Membership is free to these groups.

For more information about membership or how to access material:

Tel: (03) 9278 8121 (Monday to Friday, 9am to 5pm)

Fax: (03) 9328 3008

Email: library@adf.org.au

Or visit our website at:

www.druginfo.adf.org.au/library



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